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A Framework for Guiding Transformative Growth After High School Shootings

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Abstract

For the last 20 years, gun violence has severely compromised safety, learning outcomes, social development, and psychological well-being in many high school communities. An emerging body of international research describes strategies developed to support students and staff members in the wake of school shootings. However, these protocols are typically designed to help administrators manage the immediate sequelae of these incidents, leaving survivors to handle the lasting consequences of their experiences on their own. This article presents a broad framework for facilitating long-term psychological growth that can be integrated into high school curricula. It is based on the complementary theories of Post-Traumatic Growth (PTG) and Transformative Learning (TL), which explain how positive psychological change can occur after a traumatic event disrupts a person's assumptive worldview. The three segments of the TL process—questioning, exploring, and

experimenting—facilitate PTG by transforming established beliefs into broader meaning perspectives that accommodate present realities. The framework below provides an organized approach to guiding high school students, staff, and communities through the full process of rebuilding global schemas after a shooting occurs. It can be implemented alongside existing crisis-response models, resulting in an expansion of their utility. Its guided-growth strategies can also be leveraged to reshape school culture and encourage collective action in the surrounding community, maximizing the possibility of positive worldview development.

When high schools become sites of gun violence, entire communities suddenly find themselves living in the aftermath of the unthinkable. Inundated with trauma and grief, survivors struggle to come to terms with experiences that have shattered their prior worldviews and assumptions of safety. Nonetheless, not long after a shooting occurs, students, school staff, and teachers are expected to resume ordinary educational tasks. How should high schools approach these activities in the wake of such a tragic and destabilizing event?

A high school shooting occurs when a gun is discharged on the property of an educational institution with students in grades 9–12 (during school hours or at an official event) and someone other than the shooter receives a bullet wound [adapted from *Education Week* (Blad et al., 2019)]. School shootings are a persistent problem in the United States (U.S.; Blad et al., 2019; Maxwell et al., 2019), where they have occurred most frequently at high schools (Livingston et al., 2019), but they also happen in several other parts of the world (Grabow & Rose, 2018). An emerging body of international research describes strategies to support the psychosocial well-being of students and staff members following these events, as well as the limitations of existing crisis-response plans. For example, although these guides provide useful recommendations, they often rely heavily on community mental health resources, which are scarce in many communities. This was the case in Parkland, Florida (FL), where students and alumni of Marjory Stoneman Douglas High School decried insufficient therapeutic resources, as well as stigma against seeking therapy, as they were pressured for “everything to return to normal” just 1 year after the shooting that upended their lives (Nashrulla, 2019, para. 14).

Existing crisis-response strategies also overlook survivors’ potential for Post-Traumatic Growth (PTG) after events like high school shootings, a phenomenon that is well-documented in the clinical literature. PTG refers to the significant positive life changes that a person can experience as a result of their struggle with a traumatic event (Tedeschi & Calhoun, 2004). The developmental context of adolescence creates fertile ground for high school students to gain benefits from the PTG experience (Meyerson et al., 2011). Through their responses to high school shootings, school leaders may establish conditions that foster PTG throughout the school community.

Transformative Learning (TL) theory, from the education field, describes a process in which learners (a) become aware of unconsciously held socialized worldviews, (b) critically examine these pre-existing beliefs they use to make sense of the world, and (c) develop replacement schemas that are more accurate and personally meaningful (Mezirow, 1991). The conception of worldview varies wildly across psychology, but is conceived of here as the set of schemas that collectively engender one’s ontological interpretation of oneself and the external world (Koltko-Rivera, 2004). As both educational institutions and centers of social life for developing adolescents, high schools are well-positioned to help survivors explore and experiment with new, thoughtfully considered beliefs. This article presents a framework that applies the TL process to the worldview disruption caused by the trauma of a school shooting, explaining how PTG can be facilitated in high school communities. It also provides examples of ways that non-clinical responders can use the framework to support survivors’ PTG in the classroom, throughout the school, and in the surrounding community.

Psychosocial Effects of School Shootings

Emerging research shows that school shootings have a variety of effects on the psychosocial health of students, educators, school staff, and members of the community. To date, studies have primarily focused on mental health problems that arise after these events, and on the personal and environmental risk factors connected to these outcomes. Depression, anxiety, and Post-Traumatic Stress Disorder (PTSD) may leave survivors struggling to cope with guilt, fear of future violent events, sleep disturbances, and disillusionment with a world they no longer believe to be safe or just (Suomalainen et al., 2011). After the shooting at Virginia Tech in 2007, researchers found that nearly one-sixth of students surveyed reported PTSD symptomatology, including flashbacks, emotional numbness, hypersensitivity, and pervasive anxiety (Hughes et al., 2011). There is also some evidence of survivors feeling socially isolated (Green et al., 1983; Mears, 2007), as well as students, in particular, struggling to be present and engaged in their classes (DeBacher & Harris-Moore, 2016). A more recent study showed increased use of antidepressants among youth living in U.S. localities where school shootings occurred between 2008 and 2013 (Rossin-Slater et al., 2019).

Across the literature, PTSD following a school shooting has also been associated with certain demographic and pre-incident characteristics of individual survivors. There are higher incidence rates of PTSD among females, those with prior mental health concerns, those who were physically closer to the actual event, and those with fewer sources of social support (Lowe & Galea, 2017). A more limited research base highlights the impacts that school shootings have on the surrounding community. These incidents can fracture social groups and alter collective values (Räsänen et al., 2014). They can produce conflict among affected citizens and cause them to question the safety and security of their neighborhood or town (Räsänen et al., 2014). For example, a study in Finland revealed heightened divisions between youth and adults, social stigmatization, and collective guilt, in spite of a brief rise in social solidarity immediately following an episode of gun violence (Nurmi et al., 2012).

Existing Crisis-Response Strategies

Many factors make it difficult to research crisis-response strategies that address psychosocial needs following a school shooting. They include (a) the relative rarity of these traumatic events (Paradice, 2017), (b) difficulties devoting resources to evaluation in the midst of crisis (Crepeau-Hobson et al., 2012; Crepeau-Hobson & Summers, 2011), and (c) some victims' reticence to participate in research (Kiilakoski et al., 2014, Siebert et al., 2018). Consequently, insights into existing response strategies are drawn from a limited body of empirical research, as well as from guides written for professionals responding to school-based emergencies.

In both empirical studies and crisis guides, responders' actions are simultaneously shaped by the timing of their response, relative to the incident, and by the need to address the diverse needs of people differently affected by the tragedy. Key post-trauma timeframes include the "recoil phase," immediately following the event; the "postimpact phase," days and weeks after the event; and the "recovery and reconstruction phase," months and years following the event (Brock et al., 2016, p. 29). For example, Psychological First Aid (PFA; Brymer et al., 2012) aims to alleviate distress in the recoil phase, while Skills for Psychological Recovery (SPR, Berkowitz et al., 2010), which is designed to follow PFA, can be delivered in the postimpact or recovery and reconstruction phases. Crisis responses are also shaped by the needs of the population group they target. The three population groups identified in Figure 1 parallel the "multi-tiered system of supports" approach that many schools use to address academic and behavioral needs (Samuels, 2016).

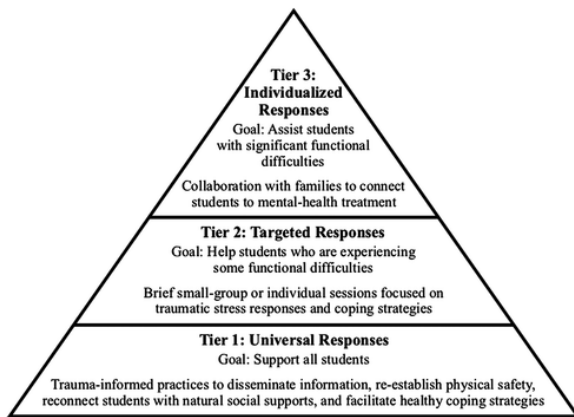


Figure 1.

In the immediate hours and days following a crisis, most guides advise responders to address universal (Tier 1) needs (e.g., Brock et al., 2016; Brymer et al., 2012; National Education Association [NEA], 2018). This involves reunifying children with their families and preexisting social supports; providing accurate and timely information about the crisis event; creating safe spaces for people to interact informally; addressing people’s basic physical needs; assessing and triaging psychological needs; and providing information about traumatic stress and coping strategies. Responses to shootings at a college in Finland, two high schools in the U.S., and a college in the U.S. also prioritized these needs in the recoil and postimpact phases (Crepeau-Hobson et al., 2012; Crepeau-Hobson & Summers, 2011; Siebert et al., 2018; Turunen et al., 2014).

Days and weeks after a school shooting, the attention shifts to helping all staff and students return to the school building and routine (Crepeau-Hobson et al., 2012; NEA, 2018), and to assessing survivors for ongoing stress reactions (Tier 1; Brock et al., 2016). Individuals needing higher levels of support are encouraged to participate in brief individual and small-group counseling sessions (Tier 2). For example, once the environment has stabilized enough to allow ongoing engagement with a facilitator, modular interventions like SPR can help survivors strengthen healthy coping skills (Berkowitz et al., 2010).

Many responses in the recoil and postimpact phases do not require professional mental- health training. Rather, non-clinicians can provide support after receiving training in a specific intervention model (e.g., PFA) or through non-clinical modes (e.g., distributing food). During the week after the 2007 school shooting in Jokela, Finland, youth workers provided such support in their community, keeping the youth center open 24 hr a day to provide students with a place to gather and mourn (Kiilakoski et al., 2014).

Most crisis-response guides do not provide detailed strategies for the recovery and reconstruction phase. Those that do, like the PREPaRE model, primarily recommend making evidence-based psychotherapies available to individuals who continue to show traumatic stress symptoms (Tier 3; Brock et al., 2016). Another notable exception is Turunen et al. (2014) comprehensive response to the 2008 shooting in Kauhajoki, Finland. Throughout the 28-month study period, they continued screening all participants for PTSD (Tier 1); facilitated group sessions to address trauma and grief reactions, strengthen coping skills, and augment peer support (Tier 2); and provided individual therapy and accompaniment to emotionally difficult events (Tier 3).

While “community solidarity” is identified as a key part of healing (Brock et al., 2016, p. 256; NEA, 2018), the literature provides limited guidance for community-level responses to school shootings. Nevertheless, student groups, like Virginia Tech’s Hokies United, have successfully organized on-campus events to facilitate remembrance and mourning, provide a distraction for students, and raise funds to aid survivors in the aftermath

of these events (Schneider & MacEachran, 2008). Other responders have orchestrated community events including religious services, vigils, and encounters with therapy dogs (Siebert et al., 2018).

Problems With Existing Responses to High School Shootings

Existing crisis-response guides leave students, teachers, staff, and community members with many unanswered questions in the wake of school shootings. These protocols typically focus on post-trauma identification of psychological difficulties, rather than on preparedness or long-term community responses (Séguin et al., 2013). As the school routine resumes, individuals with ongoing needs are encouraged to pursue evidence-based psychotherapies, in spite of the high probability that there will not be enough licensed clinicians available to treat them (Crepeau-Hobson & Summers, 2011). This may leave survivors, schools, and communities without the ongoing support they need to come to terms with circumstances that may have shattered their prior assumptions of safety.

As DeBacher and Harris-Moore (2016) point out, “there is not much that shines a light on what it means to teach when both teacher and student are traumatized” (para. 3). In the aftermath of a school shooting, young survivors are continuously bombarded with reminders of the tragedy, and may be pressured to intellectualize or reflect upon the event too quickly (DeBacher & Harris-Moore, 2016). Teachers who have not been trained to address trauma-related topics without further harming students are unsure whether it is better to directly address emotions and other difficult topics, or simply move forward with their regular curricula (DeBacher & Harris-Moore, 2016). They may also experience a variety of dilemmas related to their multiple roles in post-trauma situations (Keeling & Piercy, 2008). At the same time that they are struggling with being victims and survivors of a horrific event, they are faced with increasingly demanding professional responsibilities as mentors, counselors, and parental liaisons, as well as teachers (Keeling & Piercy, 2008).

Responses that fail to account for the stigma associated with mental illness and psychological treatment may inhibit help-seeking behavior and negatively influence school culture (Keeling & Piercy, 2008). Many survivors “would rather endure intense suffering than speak to others about their pain” (Keeling & Piercy, 2008, p. 24). This is reinforced by widespread use of telecommunication technologies, which often results in people confronting problems alone (Räsänen et al., 2014). Schools also risk perpetuating feelings of “victimhood” and building co-dependency when they bring in crisis responders who offer assistance with disempowering messages (e.g., “Oh you poor thing, you need someone to do things for you;” Mears, 2007, p. 4).

In a wider social context, interventions that neglect the community’s psychosocial needs can exacerbate the traumatic impact of high school shootings. For example, assertions that the tragedy could have been prevented if parents and educators had been more vigilant can be divisive as survivors struggle to accept that their prior assumptions about the world, the way it operates, and their place in it are no longer valid (Janoff-Bulman, 1992; Mears, 2007). Crisis response plans that treat communities as single, homogeneous entities—ignoring existing racial, ethnic, and cultural differences—can also interfere with the healing process by exacerbating social schisms (Jones, 2008; Mears, 2007). In addition, outsiders may urge community members to return to their previous routines and rush them to normalize their behavior, which is inappropriate, given their traumatic experience (Zinner & Williams, 1999).

In the aftermath of school shootings, it is important to assess the needs of those affected before attempting to help them develop new worldviews that incorporate their recent trauma and loss (Jones, 2008; Mears, 2007). This involves recognizing that their prior assumptions have been invalidated, enabling them to explore different perspectives and beliefs, and providing them the opportunity to experiment with new ways of being (Mezirow, 2000; Taylor, 2008). Although some crisis-response guides cite positive individual and system-level outcomes as indicators of effectiveness (e.g., Brock et al., 2016), none have been specifically designed to maximize survivors’ potential for such long-term growth. The theories of PTG and TL provide an organized approach to guiding

students, school faculty and staff, and communities through the process of rebuilding global schemas to fit new perceptions of reality in the wake of traumatic events.

Post-Traumatic Growth and Transformative Learning Theories

Post-Traumatic Growth

PTG occurs when a person experiences positive and significant psychological change as a result of their struggle with difficult life circumstances (Tedeschi & Calhoun, 2004). However, not all life circumstances set the stage for experiencing PTG—it is only those that sufficiently challenge the veracity of a person’s global and personal assumptions, as well as their personal identity, future outlook, and feelings of safety (Tedeschi & Calhoun, 2004). The growth process begins with trauma-related distress, which leads to intrusive thoughts focused on the discrepancy between pre-trauma schemas and present realities (Calhoun & Tedeschi, 2006). Schemas are psychological organizing systems that govern thoughts, information interpretation, and behavior. They guide individuals’ perceptions and shape their internal representation of the world, as well as their understanding of their place within it (DiMaggio, 1997). Schemas arise, in part, through the social expectations of various communities and are closely associated with worldview (Janoff-Bulman, 1989; Liu, 2002). As involuntary reactivity to their intrusive thoughts decreases, people are more able to deliberately reflect on trauma-related discrepancies in their worldview. This creates opportunities for them to derive new meaning from their experience, which increases the likelihood of PTG (Calhoun & Tedeschi, 2006; Meyerson et al., 2011).

PTG may bring about a number of significant, substantive changes in a person’s values and behavior (Calhoun & Tedeschi, 2006; Martin & Kleiber, 2005, Tedeschi & Calhoun, 1996). These may include:

- new life priorities,
- increased personal strength and self-confidence,
- decreased materialistic desires,
- decreased focus on social status or achievement goals,
- renewed appreciation of life and its meaning,
- improved personal relationships, and
- greater spiritual development.

Tedeschi and Calhoun (2004) assert that global and personal schemas must be established prior to the traumatic event for PTG to occur, which means that it is less likely to be experienced by children. One meta-analysis supportive of this argument concluded that “growth experiences may be optimal during late adolescence/emerging adulthood” (Meyerson et al., 2011, p. 962).

A core assumption of PTG theory is that growth can be a direct outcome of traumatic stress. It can even occur in the presence of pathology, as studies have shown that PTG and PTSD symptoms often coexist (Bhushan & Hussain, 2007; Wu et al., 2016). Given that survivors of school shootings often experience these symptoms (Suomalainen et al., 2011), it is important to identify processes that will lead students to concurrently experience PTG, as well. However, growth following trauma is not a reflection of *recovery*, which is often defined as a gradual return to pre-trauma levels of functioning as episodic psychiatric symptoms resolve (e.g., PTSD; see Bonanno, 2004). PTG engenders *change* in the wake of crisis, as evidenced by the development of new personal and/or global schemas. As a result, an individual may come to possess personality traits, values, and motivations that differ significantly from those they held prior to the traumatic event (Calhoun & Tedeschi, 2006). These changes can be conceptualized as a trauma-driven moratorium similar to the moratoriums already

experienced by adolescents in the natural construction of identity, where pre-existing self-identifications feel insufficient and catalyze reformation (Marcia, 1966; Stephen et al., 1992).

Transformative Learning

PTG may result in salient growth opportunities for those who have experienced a school shooting, it is fundamentally understood as a clinical phenomenon, and its applications cannot be readily understood within a high school context without some synthesis. Given this nature of PTG as a process that is individually unguided and unassisted by any knowledgeable cohort, embedding the principles of PTG within the framework of a pre-existing model of learning provides greater insights into its utility for post-school-shooting environments. The educational theory of TL aims to cause lasting changes in learners' socialized worldviews by challenging and replacing their pre-existing beliefs and schemas in a manner that parallels PTG. Its purpose is to "... transform our taken-for-granted frames of reference (meaning perspectives, habits of mind, mind-sets) to make them more inclusive, discriminating, open, emotionally capable of change, and reflective so they may generate beliefs and opinions that will prove more true or justified to guide action" (Mezirow, 1991, pp. 7–8). According to TL theory, learning only occurs when assumptive worldview perspectives are altered and expanded. This diverges greatly from more traditional schooling, which focuses on didactic acquisition of skills and content (Hein, 1998). As with PTG, the student must have already constructed and internalized some worldview perspective, which limits the applicability of the theory to adolescent and adult populations (Meyerson et al., 2011).

Both PTG and TL begin with the same catalyst: an experience that cannot be readily explained and interpreted within a person's pre-existing worldview schema. In the case of PTG, it is an uncontrolled event of severe trauma, while in TL theory it is a "disorienting dilemma," which is intentionally disruptive and taxing, but not traumatizing or debilitating. Both of these processes initiate similar types of growth toward worldview reevaluation and suggest that such self-expansion is neither binary nor driven by any severity threshold. The dilemma, however mundane or intense, serves to cause a disequilibrium in one's worldview framework that cannot be corrected using the individual's current meaning perspectives. Transformative growth is, therefore, driven by necessity, rather than a simple desire for change. It is similar to a process described by Stephen et al. (1992), in which disruptive events can initiate moratorium explorations in adolescents, even after they have achieved a stable identity. In all of three of these transformation processes, the greater the disruption to one's assumptive worldview, the greater the potential for growth. Thus, the traumatic event that creates an opportunity for PTG can be understood as an extremum of TL theory's disorienting dilemma.

In its original form, TL theory was built upon a 10-step process with the "disorienting dilemma" being only the first (Mezirow, 1991). The remaining steps involved engaging in individualized self-reflection, questioning sociocultural and sociohistorical assumptions, and exploring alternatives to those assumptions. In the three decades since its inception, both the process and application of TL theory have evolved, and the rigidity of those original steps has been shown to be more fluid and holistic than initially conceived (Kitchenham, 2008). Although there are several perspectives on the degree to which transformation is centered upon the individual versus their social and institutional context (Taylor, 2008), TL can be broadly described as comprising three segments: (a) questioning premises of assumptive worldviews; (b) exploring alternative meaning-making perspectives and schemas; and (c) experimenting with and adopting new worldview perspectives. All three segments are especially important during adolescence, as young people engage in the key developmental task of establishing a more concrete sense of self in relation to their positionality in the world (e.g., Erikson, 1968; Marcia, 1966).

Unguided Post-Traumatic Growth

Where there has been an emphasis on the negative trajectories of post-school-shooting environments in both the literature and the media, TL theory allows for an examination of organic, positive growth in the same

communities. For example, following the tragedy in Parkland, FL, a group of students took the initiative to engage in their own social-emancipatory transformation toward activism. Their growth was manifested through empowerment to affect societal change as they collectively lobbied for sweeping changes in gun legislation (Flowers, 2018).

This highly public and vulnerable approach to transformation may not be appealing to most school shooting survivors, who may prefer to focus on personal development instead. In 2007, the community of Virginia Tech made a coordinated effort to create an environment of caring, empowerment, interdependent belonging, and cultivation of self-worth (Geller, 2008). According to Steven Schneider, a university administrator involved with the student-run volunteer organization, Hokies United, this provided social support for the entire student body, and prompted outside community members to make tangible contributions to their cause (e.g., thousands of candles were donated for the vigil; Schneider & MacEachran, 2008). Schneider also commented on the student leaders' PTG: "In the end, the students of Hokies United learned about themselves and their real potential to make a difference. Alongside the participants in their events, they learned to cope with tragedy and become effective citizens within their community" (Schneider & MacEachran, 2008, p. 26). Geller (2008) analysis supported this anecdotal observation and emphasized the critical role of student leadership in the aftermath of the tragedy. Through the Hokies' interdependent community model, students achieved intrapersonal and interpersonal gains, clearly illustrating how increased group cohesion can contribute to transformative growth.

In the above manifestations of growth following school shootings, many factors coalesced to enable some students to experience positive gains in the aftermath of their tragedies. These instances of growth arose organically through the complex and unique circumstances in these communities; however, their processes were ultimately unguided.

Guided Growth

potential avenues of which may be leveraged to, providing a community with pathways to intentionally promote growth. After a school shooting, engaging students in the process of TL can help them re-invest in learning in the spaces where their prior assumptions of safety were shattered. The general process and methods employed to achieve this are broadly defined here as *guided growth*. Its objective is not to guarantee that all high school students individually experience positive change following a traumatic event, but rather to establish environmental conditions and community practices that may increase the likelihood of PTG as students attempt to rebuild a coherent and meaningful worldview. Coupled with the support of parents, siblings, friends, and other family members, guided growth has a significant role to play in survivors' recovery and flourishing after high school shootings.

An exploration of these conditions and practices may be understood through the lens of TL theory, with the trauma associated with school shootings serving as an extreme form of a disorienting dilemma. Given the severity of the psychological distress inherent to these situations, it is important to implement guided growth protocols concurrently with existing school crisis-response plans and trauma-informed practices (National Child Traumatic Stress Network, 2017), to support students' use of healthy coping strategies. As mentioned earlier, the trauma associated with high school shootings serves as an extreme form of TL theory's disorienting dilemma. The three segments of the TL process—questioning, exploring, and experimenting—represent critical pathways that facilitate the PTG process following these events. In order to examine the potentiality of TL to support survivors of high school shootings, it is necessary to explore each of the three segments in greater depth, as well as to understand how this process could best be introduced into an education system. The proceeding section proposes a broad framework for integrating guided-growth processes into classroom, school, and community activities.

Framework for Facilitating Guided Growth

When a school shooting abruptly upends pre-conceived worldviews, guided growth processes become essential. After a traumatic experience, survivors will inevitably reconstruct a new worldview, whether driven by growth and introspection or by fear and regression. High school faculty can play a central role in ensuring students have an opportunity to experience the former. Ideally, the process and perspective of guided growth would be introduced and embedded in the school culture prior to the destabilizing event. TL is more holistic than standard approaches to teaching, which tend to over-intellectualize learning and development (Taylor, 2008). As mentioned previously, informationalizing crises can lead to negative psychological outcomes for students (DeBacher & Harris-Moore, 2016). Introducing growth-based strategies to the academic environment helps maximize the possibility of positive worldview and schema development after any traumatic incident. This requires adjustments to the curriculum in content, structure, and relationality with students, but would not necessarily deviate from the general topic area of the course.

Training faculty on guided growth can also illuminate a teacher's own process of positive change in the wake of a high school shooting. The trauma exacted upon adults may devastate their worldviews as much as it does the adolescents'. Faculty and staff must go through the same process of recovery, stabilization, and, ideally, growth, all while attempting to maintain the professional, familial, and financial aspects of their lives. Further, a community-wide tragedy may greatly expand the roles and expectations of teachers in their capacities as educators, mentors, confidants, and family liaisons, adding considerable professional pressure to the stressors they are already experiencing. Learning how to assist adolescents through guided growth may provide self-reflective opportunities as educators become consciously aware of their ongoing struggles and schema reconstitution. Efficacious guided-growth trainings will address the psychological mechanisms of growth after tragedy for all parties, as well as ideas for practical implementation in the lives of students, teachers, the school environment as a whole, and the broader local community.

A template for a workshop that gives teachers hands-on experience with integrating guided-growth strategies to adapt or create their own lesson plans is provided below (see Figure 2). These training programs should be divided into three distinct segments to emphasize the core elements of the TL process: questioning, exploring, and experimenting. They are not expected to provide a complete and comprehensive knowledge base to every teacher, but rather a rational and thorough introduction to the guided-growth process.

<p>Segment 1 Questioning premises of assumptive worldviews</p>	<p>Focus: Enabling students to question and evaluate the sociocultural and sociohistorical origins of their assumptive worldviews</p> <ul style="list-style-type: none">• Introduce teachers to assumptive worldview construction and premise questioning• Help teachers identify practical examples of assumptive worldview elements• Create frameworks of curriculum development that acknowledge the ontological and epistemological subjectivity of human experience and meaning making• Design activities that will allow students to discover their own assumptive worldview elements
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<p>Segment 2 Exploring alternative perspectives, habits of mind, and meaning schemes</p>	<p>Focus: Providing students opportunities to examine cultural values, structures, norms, and beliefs that differ from their own upbringing and experiences</p> <ul style="list-style-type: none"> • Strengthen teachers’ abilities to research and identify diverse and divergent cultural perspectives • Show teachers how to present divergent cultural worldviews in an objective, non-judgmental manner that does not unduly influence students’ perspectives • Identify ways teachers can help students explore alternative perspectives
<p>Segment 3 Experimenting with new worldview perspectives</p>	<p>Focus: Encouraging students to experiment with various new ways of thinking and perceiving in their own lives</p> <ul style="list-style-type: none"> • Explain ways that schema experimentation may manifest behaviorally and emotionally • Create assignments to help students apply their new schemas and perspectives in consciously self-aware ways • Design reflective activities for students that examine the effectiveness of their new schemas and perspectives

Figure 2.

Questioning Assumptive Worldviews

Questioning assumptive values, beliefs, and constructs is often the starting point for unseating long-held misconceptions or unhealthy schemas. Providing opportunities for adolescents to reflect on the ways that sociohistorical and sociocultural paradigms influence the development of their identities can increase their consciousness of indoctrinated assumptions that run counter to their intrinsic desires. However, prior to effectively questioning the premises of assumptive worldviews, they must recognize that worldviews are epistemologically and ontologically subjective. High school students do not typically realize that the foundations of their schemas are questionable in the first place, since they have only recently acquired the neurological capacity for complex, abstract thought (Meyerson et al., 2011; Mezirow, 1991; 2000). However, these nascent cognitive abilities, coupled with the salience of identity formation, make adolescence an ideal time to engage young people in the process of schema evaluation (Zarrett & Eccles, 2006). High school teachers can selectively adapt course content to enable their students to see, question, and evaluate the origins of their meaning perspectives. This need not come at the expense of mandated curriculum requirements—existing lesson plans can be implemented in a manner that promotes conscious reflection and encourages students to question elements of their assumptive worldviews.

Exploring Alternative Worldview Schemas

As students begin to consciously reflect upon and question their assumptive worldviews, they may become more willing to explore alternative perspectives, as well as the ways that schemas are acquired by individuals and communities. The second segment of the guided-growth framework encourages high school students to actively investigate and comprehend other ways of thinking and perceiving. These exercises should help them examine their intrinsic strivings in new ways that promote healthier pro-social valuations of empathy, altruism, humility, and community contribution, while discouraging extrinsic, conformity-based materialism that may lead to anti-social tendencies (James, 2017, 2020; Kasser & Ryan, 1993, 1996). Often, such learning opportunities

involve exposing students to cultures they do not interact with on a regular basis, which allows them to examine social values, structures, norms, and beliefs that differ from their own. After gaining a broader appreciation of various worldview perspectives, students should be encouraged to compare and contrast the validity of commonly held views, both within and across cultures.

Experimentation and Adoption of New Worldview Schemas

The final segment of the guided-growth process provides experiential opportunities for students to adopt new meaningful perspectives about their world and their place within it. It requires space for them to enact (i.e., “test out”) new ways of being derived from their experiences of different cultural perspectives, to assess their intrinsic resonance and social acceptability. Identity-based experimentation is a critical part of how adolescents define and shape their developing sense of themselves and their role in the world (Zarrett & Eccles, 2006). To this end, this third segment aligns well with the structural moratoriums of this stage of development, particularly humanism-based social experimentations (Côté & Levine, 1987). These enactments may be facilitated through a wide variety of experiences, activities, or knowledge encounters that can be tailored to specific classroom settings.

Given the experimental nature of this guided-growth process, it is critical for educators, family, and members of the larger community to be supportive and patient. While some enactments may not produce ideal outcomes, thought processes, or behaviors, they are part of the growth process and should be encouraged. Akin to adolescent moratoriums, experimentations may occur with identity composition in areas such as hedonism and restraint, logic and emotion, or nihilism and existentialism. Experiential navigations among these facets, even when imbalanced, provide valuable intrinsic insight for the individual. Experimentation and adoption of new worldviews will likely occur both in and out of the classroom, and teachers will need strategies to help them connect with their students’ out-of-class experiences. Teacher training should focus on creating meaningful assignments and activities that will help students reflect on and contextualize their enactments of new ways of being.

Guiding Transformative Growth After School Shootings

In the wake of the Columbine shootings, Mears (2007) noted that assimilating a different sense of the world required reconnecting with oneself, as well as one’s family, friends, and community. Using the curriculum adaptation ideas above, high school teachers can reinforce their students’ relationships with their primary sources of support and bolster their capacity to deal with difficult situations, which can facilitate PTG (Jones, 2008). Outside the classroom, guided-growth strategies can be leveraged to nurture the evolution of school culture, or even to encourage collective action in the surrounding community. This section provides concrete examples of guided worldview development in three different social contexts.

Fostering PTG in the Classroom

On a regular basis, teachers help high school students differentiate theories from facts, find data related to those theories, and construct sound arguments from that data. These skills can readily be applied to the three segments of TL and PTG. When young survivors experience spontaneous, intrusive thoughts triggered by continuous reminders of a school shooting, educators can guide them through activities designed to facilitate effortful reflection on the discrepancy between their pre-trauma schemas and present realities (Calhoun & Tedeschi, 2006). Such conscious reflection, through journal assignments and other individual tasks, can help adolescents become aware of the subjectivity of their prior worldviews. In small groups or as a class, students can work together to question the sociocultural premises of their assumptions, then redefine commonly understood words and concepts in light of their new knowledge and experiences.

To help students explore alternative perspectives and meaning schemes, teachers can assign anthropological research projects and facilitate group debates or role-playing exercises. Through families, guest speakers, or video testimonials, they can leverage cultural resources for support as habits of mind evolve in the wake of pivotal life experiences. When students are ready to test the intrinsic resonance of new perspectives, teachers can provide in-class opportunities for them to experiment with their new schemas in consciously self-aware ways (e.g., interviews, think-pair-share activities, and personal growth plans). Additional reflective activities, such as group discussions and value mapping, can also help students examine the efficacy of their new perspectives and, ultimately, adopt new worldviews.

TL strategies should be initiated a few weeks after a school shooting occurs, when survivors become open to change and adaptation to their new reality (Haidt, 2006). Lessons informed by TL theory can be taught across disciplines, which reduces the risk of students' falling behind their peers at other schools in any particular subject. As the school routine resumes, there are two different ways to incorporate guided-growth strategies into the school day. Educators can either: (a) integrate the TL activities delineated above into their established curricula; or (b) focus on standard TL exercises for one period per week, helping young survivors work through a unified, modular program in a different class each day. After the implementation plan is selected, educators should notify families of the curriculum changes and recommend ways for them to support their child's engagement with guided growth activities.

Empowering Students and Staff to Reshape School Culture

Creating predictable school-wide practices and rituals is an important part of re-establishing safety in educational environments (Brock et al., 2016). Academic routines both reflect and shape a school's culture, which makes them critical to facilitating guided growth after a shooting. Administrators are typically tasked with establishing, maintaining, and enforcing the core elements of their school's operating procedures. By democratizing this power to shape institutional culture, they can motivate educators and their pupils to play an active role in healing processes.

Inviting a high school community to modify academic routines can foster a stronger sense of belonging, and make these rituals more meaningful in the wake of gun violence. It may also discourage isolation and withdrawal from social connections through overuse of technology (Räsänen et al., 2014). Empowering students and staff in relation to school administrators may also reinforce their sense of personal agency against disempowering messages from outside responders (Mears, 2007). By contrast, administrators who refuse to adapt school rituals to present realities may broadcast their own stigmatizing message: "If you can't get back to business-as-usual, something is wrong with you." Given that fears about being perceived as mentally ill often discourage people from seeking psychological support (Keeling & Piercy, 2008), school leaders should actively and frequently affirm that it is normal and appropriate for people to grapple with the psychosocial consequences of a high school shooting for months and years after the event.

In the aftermath of these incidents, pre-existing practices marking day-to-day momentum, like tests and graded assignments, and developmental milestones of adolescence, such as homecoming or graduation, may lose some of their prior meaning. This may lead students and staff to question an assumptive worldview element built into many aspects of the high school experience: the idea that life is linear, with progress confirmed by predictable and achievable milestones. They might also begin to question the value of completing mundane schoolwork or administrative tasks, thinking, "What's the point?" They may wonder why big, celebratory ceremonies are focused on such a narrow set of accomplishments in the face of the potential for violence and senseless death.

Rather than pressuring students and faculty to reaccept pre-trauma assumptions that are no longer valid, high school administrators can give them opportunities to question the ways things are done, and provide financial and logistical support for desired changes to existing practices. For example, with support from faculty advisors,

a student planning committee could explore why the ritual of prom takes place in the way that it does, and whether it is still a relevant and appropriate event for their school. To reevaluate the purpose of this annual event in the aftermath of a shooting, student leaders might survey their peers to learn what it means to them. With the help of teachers, the student leaders could study a wide range of cultural practices for coming-of-age ceremonies, and for pairing grief with celebration. Parents and older family members could share their prom experiences to teach students how the ritual has changed over time, and students could research what other schools have done to make them meaningful after a tragedy. Student committee members could then experiment with different ways of framing or planning their prom to meet the needs expressed by their peers. For instance, surveyed students might say they want to celebrate their relationships and have fun without ignoring the absence of friends killed in the shooting. In response, committee members could organize a formalwear donation drive, making the dance more affordable and inclusive, and invite local retailers to donate a portion of the proceeds from the sale of formalwear to a memorial fund in honor of their deceased classmates. By creating time and space for students and staff to question established practices, explore alternatives, and experiment with refashioned rituals, administrators can build transformative growth into the school's way of life.

Encouraging Growth Through Community Contexts

Since individuals, families, and schools are inherently embedded in communities, broader dynamics must also be considered in the wake of high school shootings. Although these incidents happen in educational contexts, many organizations—both formal and informal—that support adolescents are likely to be found off campus. Providing the survivors of these tragedies the full breadth of possible assistance may require connecting with these outside stakeholders (including parents), and their value should not be underestimated (Mears, 2007). Crisis responders also need to understand that social contexts do not guarantee homogenous responses to traumatic events. Although community members' reactions are certainly shaped by familial, racial, ethnic, cultural, and historical factors, each person is affected by the experience in unique ways.

Guided-growth strategies draw attention to the diversity of responses to high school shootings, as well as to the ways that broader ecological contexts can be harnessed to support the three segments of the TL process. At the community level, they would prioritize collective needs, but still allow for a wide range of personal processes as they focus on addressing forces outside of the individual. This would facilitate intentional, collaborative creation of meaning around the tragedy, combating any divisive assertions about its causes (e.g., parents and educators were not attentive to warning signs) without forcing a singular narrative. Finally, since PTG and TL require investment, time, and sustained commitment, they extend the timeframe for psychosocial responses to high school shootings, resisting the pressure that is often manifest to normalize behavior quickly. The guided-growth process may extend long beyond the temporal windows examined in current research, and may also transcend the artificial time pressure imposed by the school-year.

Participatory action research projects and other activities that leverage collective psychosocial resources provide opportunities for community-focused guided growth. For example, community members could produce a documentary that explores the ongoing experiences of their neighbors after a high school shooting. The process could be guided by trained personnel, but focus on giving parents, first responders, local leaders, and other citizens a forum to share their diverse perspectives in ways that improve solidarity and mutual understanding. Collective project development could focus on recognizing and questioning pre-event worldviews, and on describing shifts in collective norms, traditions, and identities since the tragedy occurred. The making of the film itself would involve exploring how the community has and has not changed, and experimenting with new and more intentional ways of interacting with each other. Throughout the project, community participants would be reflecting on their shifting worldviews, both collectively and personally, as well as in engaging with others as they make meaning of their experience. When families of adolescent survivors engage in these processes it

would help them access more holistic support for their children across socio-ecological levels (e.g., schools, neighborhoods, and cultures). Furthermore, this project could improve upon existing crisis-response models by prioritizing the community's needs and perspectives, and focusing on processes that allow time and space for reflection.

Future Directions

Synthesis of PTG and TL theories provides an avenue for guiding growth in the wake of high school shootings that diverges considerably from the paradigms in use today. However, a focus on longer-term transformative growth can be integrated into existing trauma-informed practices and emergency interventions, resulting in an expansion of their utility. All of these processes are necessary and serve different critical functions for individuals, their schools, and their communities.

This novel perspective on responses to high school shootings needs further development to specify how transformative efforts might coalesce within a school community stricken by such a tragedy. In the future, this framework must be refined and adapted in light of the substantive and nuanced differences that arise from implementation in various cultural and socioeconomic contexts (Jones, 2008). Such refinements and adaptations must apply basic practices of scientific inquiry and empirically grounded investigation and implementation procedures, given their potential impact on already traumatized youth. Future research and theoretical development should address additional aspects of application, including, but not limited to, faculty training, curriculum integration, administrative support, school culture, cultural and environmental constraints, and crisis-response integration. Further, it may be fruitful to investigate whether the concept of guided growth might be applicable to pre-adolescent youth. However, given that both PTG and TL are premised on pre-established worldview schemas, a guided-growth process for younger children would likely diverge considerably from that developed here (Meyerson et al., 2011; Tedeschi & Calhoun, 2004). Finally, it may also be possible to apply TL strategies to interrupt cycles of violence in schools and their surrounding communities, facilitating survivors' discovery of pathways for positive growth after trauma.

Further exploration is also needed to address the preliminary limitations of this guided-growth framework. Administrative support in the form of resources, time, and faculty autonomy is essential to effective transformative restructuring of a school environment. School systems often have large organizational structures in place for managing students, and leveraging them to aid in the guided-growth process may provide the greatest opportunity for meaningful impact (Jones, 2008). However, administrators need salient and quantifiable metrics for growth to justify the type of long-term support and resource allocation that transformative growth may require. Given the breadth of schema development in assumptive worldview reconstruction, designing meaningful and valid instruments to measure growth in diverse populations may prove challenging. Nevertheless, directed research may elucidate pathways toward measurement tools that bolster the legitimacy of guided-growth approaches. Regardless of the challenges, a community has an obligation to ensure that its youth have the greatest possibility of fully realizing their potential. For survivors of high school shootings, who have already been bereaved of their normalcy and safety, it is evermore so incumbent upon a society to dedicate its efforts to their flourishing and reclaiming of their lives.

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