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RESEARCH ARTICLE

The Interplay between Posttraumatic Stress and Grief Reactions in Traumatically Bereaved Adolescents: When Trauma, Bereavement, and Adolescence Converge

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Abstract: ***Background and Scope of the Problem.*** High prevalence rates of deaths by accidents, suicides, and homicides, coupled with expanding social networks, place adolescents at significant risk for traumatic bereavement occasioned by the traumatic deaths of their friends, romantic partners, and family members.

Conceptual Analysis. This conceptual paper focuses on the interplay between posttraumatic stress symptoms and grief reactions that can arise following traumatic bereavement in adolescence. We begin with a review of "building block" key concepts needed to construct a scientifically sound and clinically useful theory of traumatic bereavement in adolescence. We briefly review earlier conceptual contributions and discuss the utility of unpacking and distinguishing between *trauma exposure* and *bereavement* as theorized causal risk factors, and *posttraumatic stress reactions* and *grief reactions* as their respective primary causal consequences.

Multidimensional Grief Theory. We introduce multidimensional grief theory as a useful framework for conceptualizing a broad range of grief reactions, both adaptive and maladaptive, in traumatically bereaved adolescents. We use the theory to explore the interplay between posttraumatic stress and grief reactions, including ways in which each set of reactions may exacerbate the other and contribute to adverse outcomes.

Implications for Evidence-based Assessment. We conclude with recommendations for trauma- and bereavement-informed risk screening, clinical assessment, and case formulation of potential consequences of traumatic bereavement in adolescence across multiple psychosocial domains. These domains include posttraumatic stress and grief reactions, school functioning, suicide ideation and behavior, risk-taking behavior, and developmental progression.

Keywords: Bereavement, grief, posttraumatic stress disorder, traumatic bereavement, adolescence, evidence-based assessment.

1. INTRODUCTION

Bereavement is one of the most frequently reported adversities experienced by young people. The lifetime prevalence of minors bereaved by the death of one or both parents was 151 million worldwide in 2011 (UNICEF, 2013), not including bereavement by the death of other loved ones including siblings and other caregivers. Bereavement is also markedly prevalent in general population samples, with epidemiological studies consistently identifying bereavement as not only the most common, but also the most distressing type

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of adverse life event in both adult and youth samples (Breslau *et al*., 2004; Kaplow, Saunders, Angold, & Costello, 2010). Bereavement is also prevalent among youth receiving mental health services, with approximately 32% reporting the death of a loved one in a clinic-referred national sample (Pynoos *et al*., 2014).

Growing recognition of the widespread prevalence, stressful nature, and potentially serious consequences of bereavement has led to the recent incorporation of bereavement-related disorders into diagnostic taxonomies. The DSM-5, published by the American Psychiatric Association (2013), includes *Persistent Complex Bereavement Disorder (PCBD)* as a provisional diagnosis in its appendix (Kaplow, Layne, Saltzman, Cozza, & Pynoos, 2012). Of particular relevance to this paper, proposed PCBD criteria include a Traumatic Bereavement Specifier, which is intended to serve as a marker of risk for a more severe and persisting clinical course. This specifier invites much-needed examination of ways in which the traumatic deaths of loved ones—and more precisely, traumatogenic elements embedded within the circumstances of the death of a loved one—may predict and influence the course of grief reactions over time. The specifier also invites the development of a conceptual framework that can explain various ways in which posttraumatic stress and grief reactions may intersect across different developmental stages following traumatic bereavement. This growing recognition of bereavement as a subject of clinical concern and study is further demonstrated by the World Health Organization's inclusion of *Prolonged Grief Disorder* in its forthcoming International Classification of Diseases **(**ICD-11**)**, which will reach an even wider medical and psychiatric audience worldwide than DSM-5 upon its release in 2018. The importance of traumatic bereavement as a potential causal risk factor for serious health-related outcomes is of special concern to WHO given that many countries that will adopt the ICD-11 have high mortality rates due to war, terrorism, disasters, and disease (Bryant, 2014)—that is, deaths that occur under tragic and often traumatic circumstances.

The inclusion of bereavement-related disorders within these two diagnostic taxonomies constitutes an open call to action to carefully study and describe grief-related constructs (Kaplow, Layne, & Pynoos, 2014a) and contextual variables theorized to contribute to the causal origin, causal consequences, clinical manifestations, and course of grief reactions over time and across different developmental stages (Layne, Beck, *et al*., 2009). Responding to this call requires the development and evaluation of assessment tools and interventions for various types of maladaptive grief reactions that may arise following the deaths of loved ones (Layne, Kaplow, & Youngstrom, 2017; Nader & Layne, 2009). Accordingly, a promising area for the types of research invited by DSM-5 and ICD-11 lies at the conceptual intersection of six elements: (a) *bereavement* occasioned by the death of a loved one*,* (b) *trauma exposure* occasioned by the violent and/or horrific manner of death*,* (c) *posttraumatic stress reactions* to the manner of death, (d) *grief reactions* to the loss, (e) the *interplay* (reciprocal relations and influences) between posttraumatic stress and grief reactions*,* and (f) *adolescence* as a developmental period of high risk for exposure to, and vulnerability to the harmful effects of, traumatic bereavement.

1.1. Adolescence—a Developmental Period at High Risk for Traumatic Bereavement

Adolescence (defined, for purposes of this paper, as spanning 13-19 years of age) is of special concern for those who study and treat the effects of traumatic bereavement given that this developmental period is at high risk for, and vulnerable to the adverse effects of, traumatic death due to a confluence of factors. These factors include increased autonomy, the bestowal of driving privileges in many societies, increased access to alcohol and drugs, impulsivity, sensation-seeking, peer pressure, risky behavior, immature executive functioning skills, and heightened neuroplasticity (Steinberg, 2014; Steinberg *et al*., 2017). Four concerns emerge from this literature that carry special relevance for the current analysis. First, adolescents and young adults are at higher risk than any other age group for dying under traumatic circumstances. A nationwide analysis of leading causes of death for 2014 conducted by the U.S. Centers for Disease Control and Prevention (Heron, 2016) found that the age range of 10-24 years carried the highest risk for death due to "external" (non-disease-related) causes. The leading cause of death was *unintentional injuries* (*e.g*., auto accidents, 39.7% of deaths); followed by *suicide* (17.4% of deaths); then *homicide* (13.6% of deaths). By extension (and of particular concern to the study of

bereavement in adolescence), adolescents are at heightened risk for exposure to the traumatic deaths of their close friends, romantic partners, classmates, and other peers.

Second, adolescence is of special concern because both sudden loss, and witnessing violent injury or death, are among the most prevalent types of trauma exposure among adolescents. For example, McChesney, Adamson, and Shevlin (2015) found that *experiencing the sudden death of someone close* was the most prevalent type of potentially traumatic experience (30.2%), followed by *witnessing the injury or death of someone* (12.9%) in a nationally representative sample of 10,123 adolescents aged 13 to 18.

Third, adolescents are at high risk for traumatic bereavement due to their large and expanding social networks. In their meta-analysis of age-related social network changes (N = 277 studies), Wrzus, Hänel, Wagner, and Neyer (2012) found that global social network size increased through adolescence up until young adulthood, then tapered off steadily. Adolescents' social networks are characterized by high levels of perceived support, closeness, and intimacy with same-age friends and romantic partners (Furman, McDunn, & Young, 2008). Death-induced disruptions to youths' social networks can detract from their capacity to furnish the social provisions youths need to achieve key developmental tasks (Brent *et al*., 2012; Hill & Tyson, 2009; Layne, Warren, *et al*., 2009). Consequently, adolescents' propensity to emotionally connect with more people—including not only family, but also friends and romantic partners who are also at heightened risk for dying by accident, suicide, or homicide—increases the risk that adolescents will be bereaved under traumatic circumstances.

A fourth observation, introduced by developmental neuroscience, centers on adolescence as a second *critical period* of heightened brain plasticity (a restricted developmental period during which the nervous system is especially sensitive to the effects of experience, the first being 0-3 years). As noted by Steinberg (2014), the increased malleability of the adolescent brain is a two-edged sword, making adolescents not only maximally adept at acquiring new information and abilities through observation and experimentation, but also more vulnerable to damage from physical and psychological harms, including drugs, toxins, stress, and trauma. Steinberg proposes that the developmental tasks of adolescence are launching earlier and extending later (currently 10-25 years old), forming a window of neural "re-wiring" in which brain systems that manage rewards, relationships, self-regulation, and planning for the future, each mature and are highly susceptible to disruptions.

In summary, findings that adolescence is characterized by among the highest prevalence rates of traumatic deaths and by enlarging social networks suggest that this highly consequential developmental period carries heightened risk for traumatic bereavement occasioned by the traumatic deaths of youths' friends, romantic partners, and family members. Thus, a focus on adolescent traumatic bereavement not only adheres to public health principles of targeting high-risk/high-vulnerability populations, but also facilitates the construction of a developmental lifespan theory of bereavement-related risk and resilience (Kaplow & Layne, 2014).

Given these observations and the advent of DSM-5 and ICD-11, the aim of this conceptual paper is to map the convergence between trauma, bereavement, and adolescence that arises when adolescents are traumatically bereaved. We begin with a brief review of prior conceptual contributions that helped to clarify the *interplay* between posttraumatic stress and grief reactions that may arise following traumatic deaths, and encouraged its study within a broad ecological context. We then review key concepts needed to build a theory of traumatic bereavement in adolescence, including the utility of distinguishing between posttraumatic stress reactions evoked by the circumstances of the death versus grief reactions evoked by the loss, and potential pathways through which the death and its circumstances may influence ongoing adjustment. We then present multidimensional grief theory (Kaplow, Layne, Saltzman, Cozza, & Pynoos, 2013; Layne, 2012) as a framework for conceptualizing a broad range of grief reactions. We use multidimensional grief theory to conceptually unpack the interplay between posttraumatic stress and grief reactions that may arise in traumatically bereaved adolescents, and propose various pathways through which posttraumatic stress and grief reactions may reciprocally influence one another and contribute to adjustment. We conclude with recommendations for applying principles of

evidence-based assessment to traumatically bereaved adolescents, calling attention to developmentally sensitive domains that merit special attention in clinical assessment and case formulation. These domains include posttraumatic stress and grief reactions, school performance, suicide risk, risky behavior, and developmental progression.

2. EARLY CONTRIBUTIONS TO THE INTERPLAY BETWEEN POSTTRAUMATIC STRESS AND GRIEF REACTIONS

Although the childhood bereavement empirical literature is considerably less well-developed than the adult bereavement literature, a historical strength of the former has been its careful attention to the interplay between responses to trauma and responses to loss, including ways in which posttraumatic stress and grief reactions may co-occur (*e.g*., Goenjian *et al*., 2009; Laor *et al*., 2002; McClatchey & Vonk, 2005), mutually influence one another, and jointly contribute to severe persisting distress (Pynoos, 1992). Indeed, "traumatic grief" has received considerable attention across the years in the bereavement literature, with historical roots reaching back to large-scale disasters such as the 1942 Boston Cocoanut Grove fire, which killed 492 people (see Rynearson, 2001). Horowitz, Bonanno, and Holen (1993) advanced the field by hypothesizing that healthy grieving involves a combination of both purposeful reminiscing and avoidance of grief reactions, given that grieving is effortful and requires intermittent avoidance as a healthy respite. In contrast, a heavy reliance on either process to the exclusion of the other may constitute unhealthy grieving. Excessive avoidance impedes development of the capacity to tolerate sadness and anguish over the loss, confront one's changed life situation, and reorganize one's life accordingly. Shedding light on the interplay, maladaptive coping that involves excessive avoidance of loss reminders and associated grief reactions may impede efforts to recover from traumatic experiences that involve confronting the reality and manner of the death.

Subsequent clinical-descriptive and empirical studies (Eth & Pynoos, 1985; Nader, Pynoos, Fairbanks, & Frederick, 1990; Pynoos, 1992) further mapped the ecological contexts surrounding traumatic death. This work included outlining the influential roles of intrinsic and extrinsic factors, including developmental maturation, personality characteristics, family and cultural milieu, family history, relationship to the deceased and to the surviving parent, circumstances of the death, secondary adversities (*e.g*., financial strain), and the mediating roles that trauma reminders and loss reminders play in evoking posttraumatic stress symptoms versus grief reactions, respectively. Of particular relevance is the theorized *interplay* between posttraumatic stress and grief reactions evoked by traumatic death. Pynoos (1992) proposed that posttraumatic stress reactions can keep youths' minds focused on the circumstances of the death, detracting from their capacity to grieve and adjust to the loss. Children are especially vulnerable to experiencing difficulties in coping with the dual demands of trauma mastery and the work of grieving, given that efforts to relieve traumatic anxiety (which is fear-based) generally take psychological priority over mourning (which is loss-based).

More recent contributions include working through the clinical implications of the encroachment of posttraumatic stress reactions on grief reactions (Cohen, Mannarino, Greenberg, Padlo, & Shipley, 2002; Mannarino & Cohen, 2011; Salloum, 2004), efforts to clarify the conceptual boundaries between posttraumatic stress and grief reactions (Layne, Kaplow, & Youngstrom, 2017), and to assess and intervene in affected systems (Nader, 1997; Nader & Salloum, 2011). Other contributions include calls for developmentally appropriate, multi-method assessment tools (Kaplow, Layne, & Pynoos, 2014a; Nader, 2008; Nader & Layne, 2009), and assessment-guided modularized treatment for traumatized, bereaved, and traumatically bereaved youth that tailors sessions in accordance with youths' posttraumatic stress and grief reaction profiles (Saltzman *et al*., 2017).

Notwithstanding these advances, considerable diversity still exists among theoretical perspectives regarding key risk factors, pathological processes, and clinical manifestations postulated to underlie maladaptive grief reactions (Nader & Salloum, 2011). For example, different theorists highlight disruptions in primary attachment relationships, excessive avoidance, and dysfunctional core beliefs as key causal risk factors (*e.g*., Boelen, van den Hout, & van den Bout, 2006). In contrast, other theorists underscore the key roles of expo-

sure to traumatic circumstances of the death and ruminative preoccupation over its circumstances as contributors to bereavement-related distress (*e.g*., Pynoos, 1992; Rynearson, 2001). Taken together, these theoretical contributions underscore the need for guiding theory that can explain the convergence of trauma and bereavement in adolescence, shed light on a broad range of grief reactions, and clarify their implications for risk screening, assessment, and intervention (Kaplow *et al*., 2013).

3. Towards a Theory of Traumatic Bereavement in Adolescence

In an early paper, Clark, Pynoos, and Goebel (1994) advocate that adolescent bereavement be studied within a broad ecological context that incorporates individual characteristics (*e.g*., age, sex, developmental stage), vulnerability factors (*e.g.,* prior history of psychopathology), protective factors (social support), reactions of the surviving parent, the home environment, and living circumstances. Also key are theorized causal mechanisms (*e.g*., etiologic risk factors), primary mediators (*e.g*., trauma reminders, loss reminders, secondary adversities), primary correlates (*e.g*., posttraumatic stress reactions, depression) and causal consequences of both adaptive and maladaptive grief reactions as outcomes (*e.g*., functional impairment, suicide risk, risky behavior, or resilient recovery) (Nader & Layne, 2009). Efforts are currently underway that utilize this matrix of theorized contextual variables to draw clinically useful distinctions between adaptive versus maladaptive grief reactions (Layne, 2014).

3.1. Conceptual Building Blocks

We propose that three types of variables are key to conceptualizing the wide array of reactions that may arise in the aftermath of traumatic deaths (Layne, Beck, *et al*., 2009; Layne, Steinberg, & Steinberg, 2014). These include: (1) *Trauma exposure* occasioned by exposure to traumatogenic elements embedded within the circumstances of the death of a loved one. These elements are theorized to serve as primary causal risk factors for posttraumatic stress reactions (Eth & Pynoos, 1994). (2) *Bereavement* (the act of losing a loved one through death) and ensuing *loss* created by the deprivation of social provisions and other valued resources previously furnished via one's relationship with the deceased (Layne, Warren, *et al*., 2009), are theorized to serve as primary causal agents that evoke grief reactions (Pynoos, 1992). The confluence of traumatic death, bereavement, and loss result in (3) *traumatic bereavement* (the act of losing a loved one under potentially traumatogenic circumstances, *e.g*., homicide), which is theorized to impart an increased risk for posttraumatic stress reactions, grief reactions, and their interplay. Further, *interplay* refers to potentially complex ways in which posttraumatic stress and grief reactions may intersect, reciprocally influence, exacerbate, and interfere with one other. This interplay is theorized to arise when the circumstances surrounding the death of a loved one contain traumatogenic elements that evoke posttraumatic stress reactions to the manner of death, evoke grief reactions to the loss, and set in motion an array of consequences. These consequences may include reminders of the traumatic circumstances of the death (*trauma reminders*), reminders of the ensuing loss (*loss reminders*), reminders of consequent changes in one's life (*change reminders*), and hardships precipitated or exacerbated by the death and ensuing loss (*secondary adversities*) including financial strain, relocation, family conflict, and participation in legal proceedings (Pynoos, 1992; Layne *et al*., 2006).

3.2. Differentiating Between Posttraumatic Stress and Grief Reactions

An additional conceptual building block is the recognition that although posttraumatic stress and grief reactions often correlate strongly in studies of bereaved children and adolescents (*e.g*., Melhem, Moritz, Walker, Shear, & Brent, 2007), they are nevertheless meaningfully distinct. The interplay that emerges between co-occurring posttraumatic stress and grief reactions is theorized to serve as a potent contributor to the clinical manifestations and course of children's adjustment (Kaplow *et al*., 2012, 2013; Layne, Pynoos, & Cardenas, 2001; Layne *et al*., 2008; Pynoos, 1992). Nevertheless, the overlapping subfields of childhood trauma and childhood bereavement are still in the early stages of delineating—both conceptually and empirically—the boundaries between posttraumatic stress reactions and grief, and the diverse ways in which posttraumatic symptoms and grief reactions can intersect to produce impairment in children and teens. The current literature underscores the utility of distinguishing between posttraumatic stress reactions and grief reactions given

that the two constructs may be accompanied by different configurations of causal risk factors, vulnerability factors, protective factors, and causal consequences (*e.g.*, Layne, 2014; Nader & Layne, 2009; Nader & Salloum, 2011), and call for different treatment components (Saltzman *et al*., 2017). Indeed, clinicians' ability to formulate effective treatment plans for traumatized and bereaved youth—including prescribing appropriate *trauma-informed* versus *bereavement-informed* treatment components for youth with varying histories of trauma, bereavement, or traumatic bereavement—depends on their ability to accurately assess and discriminate between posttraumatic stress symptoms versus grief reactions using properly constructed tools (Layne *et al*., 2017; Saltzman *et al*., 2017).

Early evidence supporting the need to differentiate between posttraumatic stress and grief reactions emerged from a study of bereaved children exposed to a schoolyard sniper shooting, which found that the presence of both sets of reactions increased the risk for a more severe and prolonged clinical course. Further, although posttraumatic stress symptoms exhibited a dose of exposure-response effect, grief reactions did not (Nader, Pynoos, Fairbanks, & Frederick, 1990). Further evidence of this distinction is provided by findings that, after controlling for posttraumatic stress symptoms, maladaptive grief reactions are independently associated with functional impairment in bereaved youth (Melhem *et al*., 2007; Spuji *et al*., 2011).

Clinically relevant evidence of the differences between posttraumatic stress and grief reactions is also furnished by treatment outcome study findings that maladaptive grief and posttraumatic stress reactions differentially respond to trauma- versus grief-focused treatment components. For example, Cohen and her colleagues (Cohen, Mannarino, Greenberg, & Padlo, 2004; Cohen, Mannarino, & Knudsen, 2006) found that both posttraumatic stress and traumatic grief scores improved during a trauma-focused treatment module, whereas only traumatic grief scores improved during a grief-focused treatment module. The authors concluded that children's traumatic grief reactions encompass more than just PTSD symptoms. More recently, an evaluation of a modularized trauma- and grief-focused treatment for adolescents found that the selective use of a loss-focused therapeutic narrative was linked to a steeper reduction in maladaptive grief reactions compared to posttraumatic stress reactions (Grassetti *et al*., 2014). The authors concluded that the differing response to trauma-versus bereavement-focused treatment components suggests that the two sets of reactions are clinically distinct.

4. DO THE CIRCUMSTANCES OF THE DEATH MATTER?

Understanding the ways in which traumatic bereavement can evoke both posttraumatic stress symptoms (as reactions to the circumstances of the death) and grief responses (as reactions to the loss) is key to conceptualizing the interplay between posttraumatic stress and grief reactions that may arise in the aftermath of a traumatic death. This interplay may manifest in a variety of forms, including through a prolonged clinical course, increased severity, periodicity (*i.e.*, more rapid or pronounced fluctuations over time), or more severe causal consequences of each set of reactions (*e.g.*, functional impairment, risky behavior) (Nader *et al*., 1990; Pynoos, 1992). The child and adolescent clinical-descriptive literature proposes various ways through which the traumatic circumstances of a death may interfere with the child's ability to grieve adaptively and adjust to the loss (Cohen *et al*., 2002, 2004; Mannarino & Cohen, 2011; Pynoos, 1992). Children who witness a gruesome death may suffer from recurrent intrusive images that interfere with positive reminiscing about the deceased (Pynoos, 1992). Nevertheless, children who do not witness the death may "know what they aren't supposed to know" (Bowlby, 1979) and experience distressing fantasies regarding the manner of death, which may contain imagined features that are worse than what actually occurred (Rynearson, 2001). Such observations underscore the value of sharing factual details regarding the death in developmentally appropriate ways (Kaplow, Howell, & Layne, 2014).

Conversely, the empirical evidence is mixed regarding the relative *contribution* of the manner of death (*e.g.*, cancer, suicide, sudden natural death) to a variety of outcomes, including mental health status, behavioral problems, and functional impairment. On one hand, losing a parent under traumatic circumstances has been linked to more complicated (Kaltman & Bonanno, 2003; Laor *et al*., 2002) and more severe (Pfefferbaum *et al*.,

2001; Silverman *et al*., 2000) psychopathology. On the other hand, some studies report only very modest relations between circumstances of the death and grief reactions (Brown *et al*., 2008). Although Melhem *et al*. (2007) did not find evidence that complicated grief scores of children bereaved by parental suicide differed from those of children bereaved by sudden natural death, the suddenness characterizing both types of deaths may have been too similar to detect significant differences in children's reactions (Kaplow *et al*., 2012). In another study, traumatically bereaved adolescents reported higher levels of complicated grief reactions than adolescents bereaved by non-violent means, as measured by the Inventory of Complicated Grief (Dillen, Fontaine, & Verhofstadt-Deneve, 2009).

One possible explanation for the ambiguity in the literature is that studies examining links between circumstances of the death and youth adjustment have not adequately assessed more subjective—yet traumatic—elements of *anticipated* losses from a youth perspective. In particular, for children and adolescents, the circumstances surrounding anticipated deaths (*e.g*., exposure to graphic medical procedures, images of the dying parent, prolonged exposure to severe distress of other family members) could be as traumatogenic as exposure to sudden unexpected death (Kaplow *et al*., 2012; McClatchey & Vonk, 2005; Saldinger, Cain, & Porterfield, 2003). This possibility is supported by Kaplow *et al*.'s (2014) finding that youth bereaved by the anticipated death of a caregiver reported higher levels of posttraumatic stress symptoms and maladaptive grief than youth bereaved by the sudden death of a caregiver. Another possible explanation is that some elements of deaths may be potentially more traumatogenic for youth than for adults. This could arise from youths' less developed cognitive capacity to make sense of the circumstances, loss of a sense of security and safety following the death of a primary caregiver, and greater reliance on caregivers to facilitate their self-regulation and grief reactions (Clark *et al*., 1994; Kaplow *et al*., 2012; Lieberman, Compton, Van Horn, & Ghosh Ippen, 2003). Taken together, these mixed findings underscore the need for an explanatory framework that helps to organize, describe, and explain these diverse conceptual building blocks and pieces of empirical evidence—a primary task for which multidimensional grief theory was developed.

5. MULTIDIMENSIONAL GRIEF THEORY

Multidimensional grief theory (Kaplow *et al*., 2013; Layne, 2012) is based on a developmentally-informed multidimensional conception of grief. Its conceptual domains both encompass and extend beyond existing models of both normative and pathological grief, including DSM-5 PCBD diagnostic criteria. These three conceptual domains include *Separation Distress, Existential/Identity-Related Distress,* and *Distress over the Circumstances of the Death*. The theory is based on the assumptions that both maladjustment and positive adjustment can manifest within each domain, and that positive and negative adjustment processes can and frequently do co-occur within a given domain. In particular, multidimensional grief theory proposes that each of the three primary grief domains encompasses both adaptive and maladaptive responses to a central challenge specific to that domain. The *extent* to which a given bereaved youth engages in specific grief responses—both adaptive and maladaptive—within each domain, and across domains, makes up their individual grief profile.

Multidimensional grief theory also proposes that *multiple* causal factors may differentially contribute to *multiple* dimensions of grief. In particular, an individual's profile of grief reactions and adjustment is the joint product of multiple causes and intervening variables (*i.e*., mediators and moderators, such as developmental level, coping style, trauma and loss reminders, secondary adversities, and parenting style) located within different levels of the ecology (Layne, Beck *et al*., 2009). The theory thus places a strong emphasis on conceptualizing, assessing, and intervening with bereaved youth within a broad ecological framework that includes their immediate caregiving systems, families, broader social networks, living circumstances, communities, and culture. Multidimensional grief theory proposes that, amidst ongoing developmental changes, children and adolescents depend heavily on their caretaking environments to facilitate their grieving and mourning (Clark *et al*. 1994; Kaplow, Layne, & Pynoos, 2014b). Thus, efforts to differentiate between positive adjustment versus maladjustment in bereaved youth must address grief reactions within the broader context of both individual (*e.g*., age/maturity, coping strategies) and socioenvironmental (*e.g*., parent–child communication) factors that diminish or

promote these outcomes (Kaplow *et al*., 2012; Pynoos, Steinberg, & Wraith, 1995). This perspective differs from conceptualizations of ''complicated'' or ''prolonged'' grief in adults, which depict a disorder that arises largely from internalized representations of early attachment relationships, dysfunctional beliefs, and maladaptive coping strategies that are largely independent of developmental stage or the social ecology (Nader & Salloum, 2009). Below, we describe each of the three primary conceptual domains of multidimensional grief theory, the central challenge of each domain, and theorized primary manifestations of both adaptive and maladaptive responses to that challenge.

Separation distress. The central challenge for separation distress centers on "How can I continue to feel connected to the person who died, so that they remain an important part of my life?" Expectable initial manifestations of separation distress are typically characterized by missing the deceased person; heartache over his or her failure to return; and pining, yearning, and longing to be reunited with him/her—often as evoked by loss reminders (Kaplow *et al*., 2013). These early reactions serve the adaptive functions of helping the bereaved youth to accept the reality of the loss and engage with others who can furnish comfort, support, and protection (Wolfelt, 1996). Such reactions typically recede over time, reducing in their frequency, intensity, and distractibility as the youth finds ways to feel psychologically and spiritually connected to the deceased (Clark *et al*., 1994).

In contrast, maladaptive responses to the challenge of separation distress are theorized to manifest in various ways, including: (a) Identifying with unhealthy or dysfunctional elements of the deceased's life, values, or behaviors as a way of feeling close to them. (b) Anguish over strains and injuries to one's relationship with the deceased prior to their death ("I feel so bad about what I said to my dad before he went back to the front lines. That was the last time I saw him. I never got to say goodbye.") (c) Developmental slowing or regression (motivated by desires to stay connected with the deceased by remaining stuck in the same developmental stage, life circumstances, or immature/self-defeating behavior patterns one was in while they were still alive). (d) Persisting suicidal ideation motivated by a wish to be reunited in an afterlife with the deceased. And (e) excessive behavioral or cognitive avoidance of loss reminders that interfere with accepting the reality of the death, remembering, reminiscing, and mourning ("I can't bear to see mom's picture"). In cases of caregiver loss, youths' separation distress may intensify if (f) the relationship with the surviving caregiver is strained, or the surviving caregiver (g) has difficulty talking about the deceased, or (h) is also experiencing intense separation distress (Kaplow, Layne, & Pynoos, 2014b; Sandler *et al*. 2003; Shapiro, Howell, & Kaplow, 2014).

Existential/identity distress. The central challenge for existential/identity distress centers on "Who am I as a person, and what is the purpose of my existence, now that this loved one is physically absent from my life?" Expectable existential/identity distress is theorized to involve efforts to cope with typical disruptions in one's sense of self, daily routines, and life plans; to find a renewed sense of purpose and fulfillment in one's life; and to find alternative sources of gratification after a loved one has died. This also involves coping with secondary adversities brought about or exacerbated by the death, such as taking over roles formerly provided by the deceased, and dealing with financial hardships and uncertainties (Kaplow *et al*., 2013). In most cases, bereaved youth are able to meet such challenges through processes of adjustment and accommodation (*e.g*., making room in my life for mom's new boyfriend), growth (taking on new roles and responsibilities, forming new relationships), making meaning of the loss (clarifying what is truly important, carrying on their life work and legacy), and finding new meaning in one's personal life (*e.g*., altruistic service, new hobbies) (Clark *et al*., 1994; Rando, 2015).

In contrast, maladaptive manifestations of existential/identity distress are theorized to involve a severe persisting identity and/or existential crisis precipitated by the loss. This crisis may manifest as a perceived loss of personal identity (''A big part of me died with him;'' "I don't know who I am without her"); the loss of a sense of life purpose and meaning ("I don't have anything that makes me want to get out of bed in the morning"); existential nihilism (''I've lost what I cared about most, so nothing else matters''); survivor guilt or the sense that one's ''true'' fate was thwarted by remaining alive ("I should have died with them. I shouldn't still be here''); or hopelessness, despair,

or resignation in anticipation of a grim future that has been irreparably blighted by the death (*e.g*., "I'll never find anyone like him"); the sense that life has lost its savor; and beliefs that current relationships or activities are no longer gratifying and worth investing in (Kaplow *et al*., 2013; Rando, 2015). In contrast to PTSD, a symptom of which is the sense of a *foreshortened* future ('I feel like I won't live long"), existential/identity distress is theorized to reflect the sense of a *blighted* future—one expects to continue physically existing, but in a world that lacks personal meaning, fulfillment, and is not worth investing in or hoping for. Loss-related existential or identity crises may manifest in adolescents as extreme risk-taking or recklessness, tempting fate, or indifference to one's safety or well-being (''I don't care if I live or die''), neglect of self-care, or a lack of realistic yet positive life aspirations (Kaplow *et al*., 2013).

Circumstance-related distress. The central challenge for circumstance-related distress centers on *"How do I manage my distressing thoughts, beliefs, wishes, fantasies, emotions, and impulses evoked by how this person died?"* Circumstance-related distress is evoked by the specific manner of death and is theorized to become more prominent following deaths that contain potentially traumatogenic and otherwise deeply troubling and tragic elements. In the short-term aftermath of such deaths, a range of expectable distress reactions may appear including anger ("The doctors lied when they told us how much longer she had to live. They shouldn't have got our hopes up like that."), disgust ("No one should have to die like that"), horror and indignation ("He deserved better"), and troubling thoughts and mental images ("It's hard to focus on her life when she died so badly"). Although painful, circumstance-related distress generally recedes over time and is often accompanied by an increasing capacity to access positive and comforting memories of the loved one (Kaplow *et al*., 2013; Pynoos, 1992).

Adaptive *responses* to circumstance-related challenges are theorized to consist of prosocial activities that represent a constructive answer to the manner of death (Saltzman *et al*., 2017). Multidimensional grief theory posits that horrific deaths can evoke powerful responses that motivate individuals, communities, and society to take action to prevent similar deaths in the future and to punish those responsible as a means of restoring moral order and upholding the social contract. Rather than general altruism (which may reflect a response to the core challenge of existential/identity-related distress), constructive responses to circumstance-related distress are thematically linked to the specific manner of death and can be conceptualized as vicarious wish fulfillment in preventing, protecting against, repairing, or seeking appropriate retribution for similar deaths; or reducing the suffering those deaths inflict. The wish fulfillment inherent in many constructive responses can be illuminated by reframing the response as a counterfactual "if-then" contingency: *"If this had been in place before ___ died, then it might have prevented ___'s death;"* or "*If this had been available at the time ___ died, it would have made it easier to bear."* Examples include volunteerism and advocacy (to ease the burden for other victims); aspiring to be a detective, attorney, or judge (who removes dangerous people from society); counselor (who helps youth in crisis), paramedic or doctor (who saves injured people); dietician (who helps prevent heart attacks), scientist (who discovers cures for fatal diseases), engineer or architect (who designs safer planes and buildings), and lawmaker (who passes safety and victim assistance legislation) (Kaplow *et al*., 2013). On a societal level, many safety-related innovations including outward-opening doors with panic bars, emergency exit signs, fire escapes, air bags, suicide hotlines, life boats, earthquake building codes, tsunami warning systems, Mothers Against Drunk Driving, Amber Alert, America's Most Wanted, self-defense/assertiveness skills training courses, odorized natural gas, and dynamite are constructive responses actuated by horrific deaths.

In contrast, maladaptive responses to circumstance-related distress are theorized to involve the encroachment of severe persisting distress reactions to the *way* the person died on adaptive grieving and mourning (Pynoos 1992). Examples include (a) efforts at positive reminiscing involuntarily segue into intrusive distressing mental images, thoughts, and emotional reactions to the manner of death ("Whenever I want to think about my sister, I start feeling sick and angry thinking about what her last moments were like"); (b) intense guilt or shame (feeling ashamed about stigmatized deaths such as suicide or overdose); (c) persistent psychic numbing that inhibits grieving and mourning ("I'm too numb to cry"); (d) intense preoccupation with retaliatory fantasies and desires for revenge; (e)

intense preoccupation with fantasies about how the death could and should have been prevented, protected against, or reversed through altering the events leading up to it ("They should have done more to save him"; "I missed my friend's last call before he killed himself—if only I'd taken that call."); and (f) excessive, reckless, or socially destructive efforts to prevent future victimization ("I want to become an arms dealer so I'll never be unarmed again;" inappropriate aggressiveness; becoming a bully) (Kaplow *et al*., 2012; Layne *et al*., 2001; Rynearson, 2001).

Risk for clinically significant circumstance-related distress is theorized to increase when the manner of death contains highly distressing and traumatogenic features to which the youth has been directly or indirectly exposed, including through hearing, seeing, or reading accounts and photographs about what happened. These distressing features varyingly include *violence* (*e.g*., gruesome or mutilating deaths), *volition* (malicious intent), the *violation of the social contract* (negligence, indifference, malpractice) (Rynearson 2001), or extreme *tragedy* (*e.g*., excruciating pain, premature or senseless death). Although the PCBD Traumatic Bereavement Specifier is currently restricted to suicide and homicide only, multidimensional grief theory proposes that a variety of causes of death (*e.g*., witnessing the progressive deterioration of a parent dying of cancer, intense physical suffering, emotional agony over the impending loss) may also contain traumatogenic elements capable of evoking circumstance-related grief reactions, PTSD, or both (Kaplow *et al*., 2014). Pynoos (1992) proposes that circumstance-related distress may be especially prominent in youth who both are exposed to direct life threat themselves and witness the traumatic death of a close person, given that they must contend with *both* posttraumatic stress and grief reactions. An example is a gang attack in which a youth's life is threatened while he witnesses his brother's murder (Layne *et al*., 2001).

In summary, the primary challenge of circumstance-related distress can be conceptualized as emanating from *how* the person died, whereas the challenges of separation distress and existential/identity distress emanate from the fact *that* the person died regardless of the circumstances. This core proposition of multidimensional grief theory—that different causal risk factors can differentially contribute to different dimensions of grief—increases its explanatory power, breadth, and the flexibility with which clinicians can assist youth bereaved under diverse circumstances, including both "traumatic" and "non-traumatic" deaths.

Next, we use multidimensional grief theory as a set of interrelated lenses through which to conceptualize the interplay between posttraumatic stress and grief reactions following traumatic bereavement. We enrich this discussion with an understanding of the roles that *trauma reminders, loss reminders, change reminders,* and *secondary adversities* may play in mediating the links between traumatic bereavement and ongoing adjustment in adolescents.

6. WAYS IN WHICH POSTTRAUMATIC STRESS SYMPTOMS CAN INTERFERE WITH ADAPTIVE GRIEVING

Building on the work of prior studies in mapping out potential mechanisms through which posttraumatic stress reactions evoked by the circumstances of the death can encroach upon and interfere with adaptive grieving (*e.g*., Cohen *et al*., 2002; Nader & Salloum, 2011; Pynoos, 1992), multidimensional grief theory proposes a variety of potential mechanisms of interference. These include: (a) interference by intrusive re-experiencing posttraumatic stress symptoms into remembering and reminiscing (*e.g*., "Every time I start missing my brother, I keep picturing his blue face when we found him"). (b) Cognitive and/or behavioral avoidance (*e.g*., "I just try not to think about him at all"). (c) Functional impairment that impedes efforts to carry on the legacy of the deceased (*e.g*., "I'm never going to be able to graduate like Dad wanted because I can't stop thinking about his suicide and I can't concentrate in class"). And (d) interference with youths' ability to make meaning of the death (*e.g*., "I want my brother's death to mean something. But when I start warning kids about drinking and driving, my mind goes right back to the night we identified his body at the ER, and then I just can't talk about it at all").

Posttraumatic stress reactions can also evoke avoidance and interfere with bereaved youths' ability to grieve and mourn communally with others. Traumatically bereaved youth have been observed to report such inner experiences as, "I don't have any feelings at all," "I feel zoned out. It's like

it didn't really happen," and "I just feel numb–like I'm frozen inside. I haven't even cried," Interpersonal tensions may also arise if such behavior is perceived by others as calloused, unfeeling or lacking in love or loyalty towards the deceased ("I guess she doesn't miss him as much as I do"). Differences in relationship to the deceased, degree of exposure to the death, coping style, maturity, and symptom profiles can also create dyssynchronies in how family members grieve and mourn that lead to poor communication, social withdrawal, estrangements, and exacerbation of posttraumatic stress or maladaptive grief reactions (Kaplow, Layne, & Pynoos, 2014b; Pynoos, 1992; Saltzman *et al*., 2011). Efforts to grieve and mourn may be impeded further by subsequent exposure to trauma reminders of the circumstances of the death, including through forensic and judicial proceedings. For example, as a consequence of ongoing efforts to recover and identify remains of people killed in the September 11th attacks, some bereaved families were sent multiple sets of remains belonging to their loved one over an extended period.

7. WAYS IN WHICH GRIEF REACTIONS CAN INTERFERE WITH TRAUMA RECOVERY

Multidimensional grief theory also proposes that grief reactions may reciprocally interfere with recovery from posttraumatic stress reactions. Theorized mechanisms of potential interference include: (a) Inability to accept the reality of the death ("I don't want to talk about it. I still don't really believe he's dead.") (b) Shame, guilt, or stigma connected to the manner of death interferes with processing its traumatic circumstances ("If I told you how he died, you would think less of me, or of him."). (c) Avoidance of loss reminders interferes with confronting the reality and manner of death ("Any time anyone mentions my dad's name, it hurts so much I leave the room."). (d) An existential crisis precipitated by the loss may induce demoralization, nihilism ("nothing matters anymore"), and motivation to recover, including through participation in treatment. And (e) more broadly, intense sorrow and loneliness induced by the loss, as well as stress evoked by secondary adversities (*e.g*., financial strains, legal proceedings), and loss reminders ("I hate going home to an empty house"), can impede recovery from posttraumatic stress reactions by compromising physical and mental health ("I just don't have the energy to talk about it") (McEwen, 2007). Given their prominent role as theorized mediators of the links between the death of a loved one and youth adjustment, we focus next on trauma reminders and loss reminders (Howell *et al*., 2014; Layne *et al*., 2006).

8. THEORIZED MEDIATING VARIABLES: TRAUMA REMINDERS AND LOSS REMINDERS

Pynoos, Steinberg, & Wraith (1995) propose that links between traumatic experiences and psychological adjustment are influenced by a range of proximal and distal mediating and moderating variables, including the circumstances of the death, reminders of the event, secondary adversities, family adjustment, and coping. Both *trauma reminders* (cues that evoke memories or responses associated with traumatic experiences) and *loss reminders* (cues that focus attention on the deceased's ongoing or future absence) are among the most proximal and recurrent stressors that traumatized children and families are likely to experience (Layne *et al*. 2006). Trauma and loss reminders may consist of either *external cues* (things that are seen, heard, smelled, touched, or tasted in the external environment) or *internal cues* (cognitions, mental images, feeling states, or interoceptive cues including physiologic/kinesthetic sensations). Youths' frequency of exposure to trauma and loss reminders, the intensity of distress reactions evoked by reminders, and the use of adaptive versus maladaptive coping strategies to deal with distressing reminders, are theorized to mediate the links between trauma, bereavement, and subsequent functioning (Benson *et al*. 2011; Howell *et al*., 2014). Of particular concern, family and close friends who were involved in what happened can be among the most potent, proximal, portable, and persisting types of trauma reminders and loss reminders, creating interpersonal strains and estrangements and undermining social support (Layne *et al*., 2001; Saltzman *et al*., 2011)--even accompanying refugee families fleeing their homelands and struggling to leave their former lives (especially reminders) behind (Isakson, Legerski, & Layne, 2015).

Trauma reminders and loss reminders are key to conceptualizing the specific contexts in which adaptive versus maladaptive grief reactions may

arise in the aftermath of deaths. In particular, multidimensional grief theory proposes that loss reminders act as mediators that evoke primarily separation and existential/identity distress in the aftermath of the death of a loved one, regardless of its circumstances. In contrast, trauma reminders are theorized to mediate the effects of traumatic deaths by evoking primarily circumstance-related distress *and* posttraumatic stress reactions (Layne, 2014; Layne *et al*., 2006). The mediating effects of trauma reminders and loss reminders may be exacerbated by the use of maladaptive coping strategies, including avoidance and emotional suppression (Howell *et al*., 2014), that can increase the risk for maladaptive grief reactions across each of the three primary domains.

9. IMPLICATIONS FOR RISK SCREENING, CLINICAL ASSESSMENT, AND CASE FORMULATION

The convergence of posttraumatic stress and grief reactions following traumatic bereavement reflect different forms of distress that can interfere with one another in complex ways. These include additive, interactive, and synergistic effects (Layne, Beck *et al*., 2009) that prolong distress and increase the risk for a variety of psychological and behavioral problems (Nader *et al*., 1990). Below, we identify five psychosocial domains—*posttraumatic stress and grief reactions, school performance, suicide ideation and attempts, risky behaviors,* and *developmental disruptions*—for which traumatically bereaved youth may be at particular risk. We discuss the implications of each domain for trauma- and bereavement-informed assessment (Layne *et al*., 2017) and case formulation (Layne, Steinberg, *et al*., 2014).

Posttraumatic stress and grief reactions. When identified through risk screening, traumatic bereavement calls for thorough clinical assessment that includes potential posttraumatic stress reactions linked to the circumstances of the death (Nader, 2008), and grief reactions to the ensuing loss (*e.g*., Layne, Kaplow, & Pynoos, 2014). Assessment should cover the specific circumstances of the death, as well as trauma reminders and loss reminders that may prolong distress or evoke fluctuations in reactions over time (Layne *et al*., 2006).

Given evidence that youth tend to select and benefit from treatment components that correspond with which reactions (posttraumatic stress vs. grief) are most elevated (Grassetti *et al*., 2014), we recommend assessing both sets of reactions, and to negotiate the goals, priorities, and sequencing of treatment components as an integral part of treatment planning and engagement (Layne *et al*., 2001). Youth experiencing posttraumatic stress reactions to the manner of death may benefit more from treatment components (*e.g*., trauma narrative construction) that focus on reducing re-experiencing and avoidance symptoms that can interfere with adaptive grieving (Pynoos, 1992). In contrast, bereaved youth experiencing maladaptive grief reactions without prominent posttraumatic stress symptoms may benefit more from intervention components that promote adjustment to the loss (*e.g*., connecting with the deceased, legacy building). Modularized interventions (*e.g*., Saltzman *et al*., 2017) that use trauma- and bereavement-informed assessment tools (Layne *et al*., 2017) to address posttraumatic stress reactions, grief reactions, and their interplay by flexibly selecting and sequencing trauma- versus bereavement-focused components, may be especially useful for traumatically bereaved youth.

School Performance. Few empirical studies have directly examined whether traumatic bereavement is associated with academic adjustment. Nevertheless, preliminary evidence suggests that loss of a parent is associated with lower academic achievement (Abdelnoor & Hollins, 2004; Berg, Rostila, Saarela, & Hjern, 2014), lower academic aspirations (Brent, Melhem, Masten, Porta, & Payne, 2012), and a greater likelihood of school failure (Berg *et al*., 2014). More recently, using a nationally-representative sample of high school students aged 13-18, Oosterhoff, Kaplow, and Layne (2017) found that sudden loss (*e.g*., due to accident, murder, suicide, fatal heart attack at young age) was independently associated with lower academic achievement, school belongingness, and beliefs that teachers treat youth fairly; poorer self-reported concentration and learning abilities, and less liking of school, after statistically accounting for demographic variables and other types of trauma.

The social and psychological consequences of traumatic bereavement may pose special risks to adolescent academic and social functioning. Post-

traumatic stress symptoms and maladaptive grief reactions can interfere with concentration and learning (Lyons, 1987) and prompt school disengagement (Voisin, Neilands, & Hunnicutt, 2012). Further, given that social support facilitates academic performance, particularly among disadvantaged youth (Malecki & Demaray, 2006), the loss of social support occasioned by the death, coupled with interpersonal estrangements that can arise after traumatic events, can reduce social resources youths need to perform well at school (Layne, Warren *et al*., 2009; Ringler & Hayden, 2000) and to develop healthy identities (Ragelienė, 2016). The loss of a loved one may also evoke existential or identity-related challenges that undermine youth's future outlook, life ambitions, and motivation for school (Layne, Pynoos, & Cardenas, 2001).

Suicide Risk. Large nationally-representative and epidemiological studies have identified links between parental bereavement during childhood and suicide attempts over the following year (Thompson & Light, 2011), as well as later in life (Wilcox *et al*., 2010), including increased risk for suicide at a 25-year follow-up (Guldin *et al*., 2015). Risk for suicide attempts in children bereaved by the death of a parent appear to be greatest when the parent died by suicide (Kuramoto *et al*., 2010) or, in the case of accidental parental death, if the child was under age 12 at the time (Wilcox *et al*., 2010). Links have also been found between parental bereavement, maladaptive grief reactions, and suicide ideation. Melhem *et al*. (2007) found positive associations between complicated grief and suicide ideation among parentally bereaved youth. More recently, Hill, Kaplow, Oosterhoff, & Layne (2018) found an indirect association between grief reactions and suicide ideation in bereaved adolescents, which was mediated by thwarted social belongingness (*i.e*., social alienation). The link between grief reactions and suicide ideation was stronger among youth who also perceived themselves as posing a burden to others.

A substantial literature also highlights associations between bereavement due to suicide and increased risk for suicide ideation and attempts among youth exposed to the suicide of a peer, though these findings are mixed (Brent *et al*., 1993; Feigelman & Gorman, 2008; Prigerson *et al*., 1999). Brent *et al*. (1993) reported that youth who lost a peer to suicide were at greater risk for suicide ideation, but not suicide attempts, over the seven months following the death. Data from the National Longitudinal Study of Adolescent to Adult Health indicate that youth bereaved by the suicide of a friend are at increased risk for both suicide ideation and attempts during the following year (Feigelman & Gorman; 2008); and further, that exposure to the suicide death of a family member or friend is associated with future onset of suicide ideation in adolescents (Hill, Oosterhoff, & Kaplow, in press). The link between suicide exposure and suicide-related behaviors in adolescents may also help to explain suicide clusters (*i.e*., *suicide contagion* or *copycat suicides*), which have been linked to media coverage of suicide deaths in general (Gould, Kleinman, Lake, Forman, & Bassett Midle, 2014) and celebrity suicide deaths (Stack, 2003).

Risky behavior. Evidence that cumulative exposure to trauma and loss increases the risk for a variety of risk-taking behaviors in clinic-referred adolescents (Layne, Greeson, *et al*., 2014) should be viewed against the backdrop of adolescence as a developmental period characterized by extensive reorganization, flux, and transition. Namely, adolescents are primed for sensation-seeking and are more susceptible to peer influences, yet possess still-maturing self-regulation capacities and are more inclined to engage in risky behavior, than adults (Steinberg *et al*., 2014, 2017). Age and gender differences are also apparent, in that older adolescents and boys report both lower perceived risk and a higher frequency of risky behaviors than younger adolescents and girls (Gullone, Moore, Moss, & Boyd, 2000). Although empirical studies of risk-taking behavior among bereaved youth are limited, multidimensional grief theory and traumatic stress theory (*e.g*., Pynoos *et al*., 1995) propose a variety of mechanisms linking traumatic bereavement to risky behavior for further study and clinical evaluation (Saltzman *et al*., 2017). These include: (a) the adolescent drive to assert mastery over danger and over their fear reactions to the traumatic death; (b) self-distraction through excessive thrill-seeking; (c) self-medication through substance abuse; (d) acting out intervention thoughts or retaliatory fantasies through risky re-enactment or enactment behavior; (e) identification with a powerful aggressor to avoid becoming a helpless victim; (f) maladaptive grieving by over-identifying with unhealthy aspects of the de-

ceased's values or behavior, including re-enacting harmful habits or manner of death; (g) suicide ideation that reflects reunification fantasies stemming from intense separation distress; (h) nihilism or tempting fate ("I don't care if I live or die") evoked by an intense identity/existential crisis; (i) aggressive behavior reflecting biased over-appraisal of threat from ambiguous cues; (j) severe emotional/behavioral dysregulation, especially as evoked by reminders; (k) trauma-induced impairment in moral development and conscience functioning (Goenjian *et al*., 1999); and (l) impaired ability to discriminate between safe and unsafe people, places, and activities (Saltzman *et al*., 2017).

Developmental disruptions. Traumatic events, losses, and other co-occurring risk factors can accumulate in number early in life, accrue in their adverse effects, and cascade forward across development in *risk factor caravans* (Layne, Briggs *et al*., 2014). These caravans are theorized to increase the risk for subsequent exposure to, and vulnerability to the effects of, subsequent risk factors and adverse outcomes that encompass a wide range of social and physical problems. These problems may include adolescent risk-taking behavior (Layne, Greeson *et al*., 2014), difficulties in achieving developmental tasks (Brent *et al*., 2012), mental health problems (Keyes *et al*., 2014; Kristensen, P., Weisæth, L., & Heir, T. (2012); physical illness (McEwen, 2007), premature aging (Tyrka *et al*., 2016), and reduced life expectancy (Brown *et al*., 2009). Evidence of early trauma and loss, especially when it co-occurs in constellations, points to the need to routinely screen adolescents for bereavement and other major life stressors in youth service settings, including schools (see Oosterhoff *et al*., in press), to create windows of opportunity for early case identification and intervention designed to halt pernicious developmental cascades (Saltzman *et al*., 2017).

When histories of trauma and loss are identified, follow-up clinical assessment can usefully cover potential disruptions in key domains of adolescent development, including school performance, peer relationships, family relationships, dating, extracurricular and leisure activities, and involvement in the workforce (Layne *et al*., 2017). Of particular concern are *lost developmental opportunities* and *disrupted developmental tasks and transitions* occasioned by severe distress reactions, maladaptive coping (*e.g*., excessive avoidance of reminders), severe injuries and physical disabilities, and other secondary adversities (Pynoos *et al*., 1995). For example, a teen who lost a kidney after a gang shooting identified being forced to quit his soccer team as the most painful part of the entire experience because it destroyed his aspiration to become a professional athlete. Another student who witnessed her best friend being severely injured by stray gunfire identified their ensuing estrangement ("she told me she didn't want to see me anymore because I remind her of what happened") as the most painful part of her experience (Layne, Pynoos, & Cardenas, 2001). Also of concern are *developmental regressions, interruptions, delays,* and *precocious developmental accelerations* that may fundamentally alter youths' developmental trajectories. Affected domains may include education and career plans, aspirations for marriage and family life, rate of physical maturation, plans to leave home, conscience development, and preparation for full citizenship in young adulthood (see Saltzman *et al*., 2017, Module IV; Steinberg, 2014). The incorporation of strength-based intervention components (*e.g*., recruiting and offering social support, altruism, constructive social action) also shows promise for cultivating *resource caravans* that can prevent, protect against, and offset the harmful effects of risk factor caravans (Layne, Briggs, *et al*. 2014; Layne, Steinberg, *et al*. 2014).

A caveat about conflation. Given the broad range of death circumstances within which maladaptive grief reactions can arise, we conclude with a caution that the frequent co-occurrence between posttraumatic stress reactions and grief reactions following traumatic bereavement creates a risk for both *conflating* these two constructs at a conceptual level, and methodologically *confounding* their measurement and interpretation in research study designs (*e.g*., Brown & Goodman, 2005). Indeed, posttraumatic stress and grief reactions have at times been conceptually conflated, assessed, and therapeutically treated as if they were essentially the same entity (Nader & Layne, 2009). For example, *childhood traumatic grief* has been defined as a special case of posttraumatic stress disorder (PTSD) in which PTSD symptoms evoked by the circumstances of the death encroach upon and interfere with the child's ability to engage in essential grief-related tasks—thereby calling for primarily trauma-focused treatment com-

ponents to assist bereaved children (*e.g*., Cohen *et al*., 2002; Mannarino & Cohen, 2011). We fully agree that it is possible for posttraumatic stress reactions to impede children's ability to manage their grief, but conversely assert that grief reactions can also impair children's ability to manage and recover from their posttraumatic stress reactions. We thus caution that defining maladaptive grief as a special-case variant of PTSD can blur important conceptual distinctions between the two constructs and obscure clinically meaningful distinctions between *trauma-informed* versus *bereavement-informed* assessment, case formulation, and intervention (Layne *et al*., 2017).

Of particular concern, risk screening efforts that conflate grief with posttraumatic stress reactions may fail to detect and serve a significant subgroup of youth who are *bereaved,* but not *traumatically bereaved,* and who do not report elevated posttraumatic stress symptoms yet still experience clinically significant distress and dysfunction. As a case example, a youth's grandmother, who raised him and to whom he is very attached, dies a peaceful death incident to old age, evoking severe separation distress and an existential crisis in which he is frequently truant and abuses drugs and alcohol with deviant peers. The youth regularly encounters distressing *loss* reminders that evoke intense grief pangs and feelings of loneliness, being lost, and despair, but not *trauma* reminders linked to the manner of death. Maladaptive coping with loss reminders (*e.g*., avoidance, emotional suppression, binge drinking, substance abuse) intensify and prolong his distress and impairment (Howell *et al*., 2014). Given this profile, the youth meets diagnostic criteria for PCBD without the Traumatic Bereavement Specifier (Layne *et al*., 2014) and for a substance use disorder (Saltzman *et al*., 2017). We thus advocate that posttraumatic stress symptoms and maladaptive grief reactions be assessed and conceptualized as often co-occurring, yet clinically distinct, constructs that can be jointly evoked by the same event (*traumatic bereavement*), but can also be differentially evoked by different events (*e.g*., physical abuse, *and* bereavement under peaceful circumstances, respectively) (Kaplow *et al*., 2014).

SUMMARY

High prevalence rates of deaths by accident, suicide, and homicide, coupled with increased autonomy, expanding social networks, increased sensation-seeking, and immature self-regulation, place adolescents at significant risk for traumatic bereavement. To improve our understanding of traumatic bereavement, including its manifestations and developmental consequences in adolescence, we must first differentiate between and unpack *trauma exposure* and *bereavement* as causal risk factors, and *posttraumatic stress reactions* and *grief reactions* as their respective primary causal consequences. Early theoretical contributions, combined with more recent work, help to clarify the interplay between posttraumatic stress reactions and grief reactions, including the capacity of each set of reactions to interfere with the other. Multidimensional grief theory shows particular promise for identifying specific grief-related challenges and for differentiating between adaptive versus maladaptive grief reactions. The theory also carries implications for trauma *and* bereavement-informed risk screening, assessment, case formulation, and treatment planning with traumatically bereaved adolescents (Layne *et al*., 2017). Developmentally sensitive assessment batteries are needed that cover exposure to a range of types of trauma and bereavement, including traumatic bereavement, that are prevalent within a given population of interest. When potential traumatic bereavement is detected through risk screening, its potential psychological and behavioral consequences should be assessed, including posttraumatic stress reactions and grief reactions, impaired school performance, suicide risk, risk-taking behavior, and developmental disruption.

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ETHICS APPROVAL AND CONSENT TO PARTICIPATE

Not applicable.

HUMAN AND ANIMAL RIGHTS

Not applicable.

CONSENT FOR PUBLICATION

Not applicable.

CONFLICT OF INTEREST

Drs. Layne, Kaplow, and Pynoos are authors of the *Persistent Complex Bereavement Disorder Checklist* (PCBD Checklist), and co-authors of *Trauma and Grief Component Therapy for Adolescents* (TGCTA, Cambridge University Press). Dr. Pynoos is primary author of the *UCLA PTSD Reaction Index: DSM-5 Version* (RI-5).

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