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Towards a person-centered approach to the developmental psychopathology of trauma --Manuscript Draft--

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Towards a person-centered approach to the developmental psychopathology of trauma

Exposure to trauma in childhood and adolescence is a transdiagnostic risk factor for psychopathology [1]. Although most youths who have experienced a traumatic event are exposed to multiple events by the time they reach adulthood [1, 2], previous research has largely focused on psychopathology outcomes associated with individual traumatic experiences. This is surprising given evidence for markedly increased risk of psychopathology among youths with polytrauma [3]. In “*A latent class analysis of trauma based on a nationally representative sample of US adolescents*,” [4] the authors go beyond a “single trauma, single outcome” approach to examine how various trauma profiles relate to a wide range of psychopathology in a population-based study of U.S. youths. This research highlights the need for a better understanding of the developmental mechanisms linking trauma experiences with youth psychopathology.

McChesney, Adamson, and Shevlin [4] utilized a person-centered latent class analysis (LCA) to classify adolescents who experienced particular clusters of traumatic events using data from the National Comorbidity Survey Adolescent Supplement (NCS-A). They then examined the associations of these trauma clusters with socio-demographic factors and individual and comorbid mental disorders, including mood, anxiety, and substance-use disorders. This approach revealed four distinct trauma profiles: *low risk* (i.e., low probability of experiencing a traumatic event), *sexual assault risk* (relatively high probability of experiencing sexual assault), *non-sexual risk* (relatively high probability of experiencing non-sexual interpersonal violence and traumatic events that are not interpersonal), and *high risk* (i.e., high probability of experiencing any trauma). When compared to the *low risk* group, youths classified in the other three trauma profiles were more likely to live with one or fewer biological parents, consistent with previous research on this sample [2], and were at elevated odds of having any lifetime mental disorder and comorbid disorders.

This research contributes to our understanding of trauma and developmental psychopathology in several ways. First, in contrast to many studies of single trauma types, the authors investigated the associations of specific types of polytrauma with psychopathology across a wide range of traumatic events. Overlooking the co-occurrence and impact of multiple traumas may lead to specious conclusions regarding outcomes associated with particular traumatic events. Second, the use of LCA allows for a person-centered examination of how specific types of trauma cluster together among youth as opposed to the standard approach of utilizing a count of traumatic events, regardless of trauma type. This LCA approach reveals a somewhat unintuitive clustering of trauma types, such as seen in the *non-sexual risk* group that included both interpersonal violence (e.g., beaten by someone other than parent or partner) and non-interpersonal traumatic events (e.g., accidents). Identifying trauma clusters in this way might pave the way for identification of novel risk factors associated with seemingly disparate types of trauma. Finally, death of a loved one had high endorsement across all trauma classes, including the *low risk* group, suggesting that the change to the definition of trauma in the Diagnostic Statistical Manual of Mental Disorders- Fifth Edition (DSM-5) [5], whereby death of a loved one is considered a trauma only for violent or accidental death of close family member or friend, is justified.

This research highlights several important directions for future research on trauma and developmental psychopathology. Given the strong links between trauma exposure and the onset of virtually all commonly occurring forms of psychopathology [1, 3], identifying the

mechanisms underlying these associations is critical for prevention and intervention. In particular, there is a dearth of research examining mechanisms linking specific trauma profiles to subsequent risk for psychopathology utilizing a person-centered approach. Specifically, next steps for the field include: 1) careful measurement of trauma exposure and other co-occurring adversities in order to distinguish the combined and differential effects of trauma and adversity; and 2) examination of how trauma, severity, chronicity and developmental timing influence developmental outcomes within different trauma clusters.

First, future research should incorporate careful measurement and examination of the differential and combined effects of *adversity* versus *trauma exposure*. Adversity encompasses a broad set of life experiences that are likely to require significant adaptation by the child and that represent a deviation from the expectable environment [6] ranging from poverty to separation from caregivers to specific types of traumatic events, including physical abuse, sexual abuse, and other forms of violent victimization. Distinguishing between different forms of trauma and adversity is essential for identifying mechanisms linking these experiences with psychopathology. Recent conceptual models have outlined specific dimensions of adversity that are likely to have distinct influences on developmental processes that ultimately confer risk for psychopathology[7]. For example, children exposed to physical abuse exhibit selective attention to and rapid identification of anger in others, whereas children exposed to neglect—an adversity but not a traumatic event—have greater difficulty distinguishing between different emotional expressions [8]. Few studies within the trauma literature adequately measure co-occurring adversities in order to disentangle the unique effects of trauma exposure over and above other adverse experiences or to determine whether the presence of other adversities modifies the effects of trauma exposure on psychopathology or other developmental outcomes. Greater attention to the context in which trauma exposure occurs is an important next step for the field and has relevance for identifying developmental mechanisms linking trauma with downstream mental health outcomes.

Second, the impact of severity, chronicity, and developmental timing of traumatic events requires greater consideration in future research, particularly when investigating how various traumatic experiences cluster together. Many studies of child trauma have a relatively limited scope of trauma measurement, either utilizing a count of events or measuring trauma in a dichotomous fashion (i.e., whether the event happened or not). However, even among children who experienced the same type of traumatic event, severity, chronicity, and developmental timing influence the developmental processes that are disrupted by the experience and ultimately increase risk for psychopathology. Although the impact of trauma severity and chronicity on the development of psychopathology have been examined in previous research, little is known regarding how severity and chronicity impact the clustering of traumatic events and their influence on cognitive, emotional, social, and neurobiological development. It is possible that trauma severity plays a larger role in explaining how traumatic events cluster together as opposed to trauma type. For example, chronic exposure to physical abuse and sexual abuse may be more likely to cluster together and predict similar disruptions in developmental outcomes as opposed to a single experience of physical or sexual abuse.

Although outcomes related to the developmental timing of trauma exposure have been investigated previously, considerable gaps remain in our understanding of how timing impacts specific developmental mechanisms. From a developmental psychopathology perspective, the competencies or abilities that are undergoing the most rapid development when a traumatic event happens are most likely to be disrupted by the experience[9]. For instance, the loss of a parent is

likely to have vastly different effects on attachment if it occurs at an early age as opposed to during adolescence [10]. In contrast, we know far less about how the effects of some of the most common and impactful traumatic events—such as exposure to interpersonal violence—may differentially influence developmental pathways depending on the timing of exposure. This is a key area for future research.

In sum, McChesney and colleagues' [4] recent work utilizes a person-centered framework for examining the association between trauma profiles and youth psychopathology. In order to bridge the gaps linking trauma exposure, developmental mechanisms, and psychopathology, it is necessary for future investigations to utilize this type of nuanced approach regarding the experience of trauma. A better understanding of how traumatic events cluster together hinges upon careful measurement of other adverse childhood experiences in order to understand the context in which trauma occurs as well as dimensions of severity, chronicity, and developmental timing. Discernment of developmental mechanisms related to specific trauma profiles could provide a platform for the creation of targeted, mechanism specific interventions that may interrupt the developmental pathways linking trauma with youth psychopathology.

Conflict of Interest Statement

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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