Building a translational science on children and youth affected by political violence and armed conflict: A commentary

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Abstract

Articles in this timely Special Section represent an important milestone in the developmental science on children and youth involved in political violence and armed conflict. With millions of children worldwide affected by past and present wars and conflicts, there is an urgent and growing need for research to inform efforts to understand, prevent, and mitigate the possible harm of such violence to individual children, families, communities, and societies, for present as well as future generations. The four programs of research highlighted in this Special Section illustrate key advances and challenges in contemporary development research on young people growing up in the midst or aftermath of political violence. These studies are longitudinal, methodologically sophisticated, and grounded in socioecological systems models that align well with current models of risk and resilience in developmental psychopathology. These studies collectively mark a critically important shift to process-focused research that holds great promise for translational applications. Nonetheless, given the scope of the international crisis of children and youth affected by political violence and its sequelae, there is an urgent global need for greater mobilization of resources to support translational science and effective evidence-based action.

Political violence and armed conflict represent global threats to children and their socioecological contexts on a staggering scale worldwide. The articles in this Special Section capture the progress and challenges in contemporary developmental science aimed at understanding such violence and translating this knowledge into effective action. Collectively, they represent an ambitious effort to move beyond descriptive research to studies of processes linking violent political conflict with diverse pathways of individual development from a socioecological perspective.

World War II engendered widespread concern about the impact of war and political conflict on children (Masten, Narayan, Silverman, & Osofsky, 2015). During and following this devastating global conflict, child clinicians and developmental scientists began to study the consequences of war for children, both as victims and as participants. Early studies were limited by the exigencies of war itself, methods available at the time, and the many challenges of implementing science in a context of large-scale violence or its aftermath. Over the years, the science of children in war and conflict has gradually improved, both conceptually and methodologically. Nonetheless, major challenges and gaps remain in this literature.

This commentary has four sections. The first section briefly highlights conceptual advances in the developmental research on children and youth in relation to political violence, both broadly in the literature and specifically with reference to the empirical studies included in this Special Sec-

tion. The second section is focused on methodological advances, again drawing on the present studies for illustrative purposes. The third section highlights features and findings of the empirical studies included in this special section, and the concluding fourth section looks to the future, discussing the ongoing challenges and remaining gaps in this domain of research along with emerging areas of promising research.

Conceptual Advances: Risk, Adaptation, and Resilience in Developmental Systems Models

Current conceptual frameworks for research on children and youth in war and political conflict reflect a broad shift in contemporary developmental science toward developmental systems theory (Lerner, 2006; Overton, 2013; Zelazo, 2013), particularly as the shift has been articulated in models of risk and resilience (Masten, 2015; Masten & Cicchetti, 2016) and developmental psychopathology (Cicchetti & Toth, 2009; Cummings & Valentino, 2015). These approaches integrate ideas from ecological theory (Bronfenbrenner, 1979; Bronfenbrenner & Morris, 2006), biology (Gottlieb, 2007; Lickliter, 2013), and family systems theory (Goldenberg & Goldenberg, 2013; Masten & Monn, 2015; Walsh, 2016), as well as developmental psychopathology and resilience science. Central to this broad conceptual framework is the idea that the development of a person emerges from continuous interactions among interacting systems at multiple levels of function, both within and external to the individual but integrated in development. These interactions span systems from the level of molecular genetics to the macrosystem levels of culture and societal policies. Indi-

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viduals as whole, living systems are connected to many other systems in their social, cultural, and physical contexts, both proximal and distal. The individual is always changing as a result of the ongoing interactions of process, person, context, and time (Bronfenbrenner & Morris, 2006). Higher order systems, such as families or communities, also change through interactions of systems spanning multiple levels (Masten & Monn, 2015). Whether one is considering an individual person or a system composed of multiple individuals, the interplay of many interconnected systems influences the course of development. The complexity of these interactions produces many different pathways of potential development (Cicchetti & Rogosch, 1996; Gottlieb, 2007). The interconnectedness of systems shaping human development also leads to phenomena described as *developmental cascades*, referring to spreading effects of changes across domains, levels, or generations in dynamic systems that alter the course of development (Masten & Cicchetti, 2010).

Research on children in the context of war and political violence may focus on the behavior or adaptation of a particular system at one system level, including the level of individual children, families, communities, or groups in conflict. At the same time, however, investigators recognize the complexity and interconnectedness of the many systems that shape the course of a single life as well as the course of a political conflict over time. Individual lives are complex adaptive systems comprising many levels and a multiplicity of processes linking them to many other adaptive systems (Reiman, Rollenhagen, Pietakäinen, & Heikki, 2015).

Developmental systems models underscore the importance of studying the processes by which ecological and biological systems influence the course of individual function and development through their interactions. Many of the most potent threats to human development, including war and natural disasters, involve disturbances that reverberate through multiple systems (Masten et al., 2015). Resilience in a developing system can be conceptualized as the capacity for successful adaption to disturbances that threaten that system's function, viability, or development (Masten, 2014a, 2014b). The capacity of a child or a family as a dynamic system to adapt to major disturbances will be distributed across a network of processes linking interacting systems, including their own resources, personal support systems based on relationships, and the capabilities of the emergency systems in their community. It follows that the resilience of children or youth will depend on the resilience of other systems important to their adaptation, including the resilience of family, peer support networks, schools, and communities.

It is notable that the four empirical studies included in this special section, as delineated further below, are based on dynamic and process-oriented social–ecological systems models in which individual development is conceptualized as embedded in and influenced by many interacting systems. All of these studies assume that multiple systems operating at multiple levels influence the impact and legacy of experiences with political violence. All of the studies are grounded in models where multiple ecological systems interact with developing young people to shape developmental pathways. Context is central to these studies, with respect both to developmental context and to the socioecological aspects of their contexts before, during, and following active conflict.

Methodological Advances

It is notoriously difficult to study adaptation during and following mass-trauma experiences, including political violence as well as natural and technological disasters (Masten et al., 2015). Challenges include ethical issues for conducting research among people devastated by extensive trauma; risks and dangers to participants and researchers from ongoing trauma and hazards, carrying out field-based research in remote regions or damaged environments where the normal infrastructure supporting research may not be readily available; finding suitable measures validated for use in the cultures or languages of the participants; relocating participants for longitudinal research; and the constraints on research designs in communities disrupted by extreme adversity (Masten & Narayan, 2012). It is also challenging to acquire the financial and human resources to carry out research in a timely manner in "trauma zones."

The investigative teams featured in this Special Section demonstrate what can be achieved when commitment and persistence; developmental, cultural, and contextual sensitivity; conceptual and methodological sophistication; and wisdom on the ground are aligned with financial support and human capital to study adaptation over time among children in regions engulfed in current political violence or its aftermath. In the collaborative description of challenges confronted in their research with conflict-affected youth, Dubow et al. provide rare "inside" perspectives on an array of practical, ethical, and methodological issues, including threats to internal and external validity and disruptions due to conflict itself. As highlighted further below, these teams have managed to collect longitudinal data suitable to the study of intraindividual and interindividual change, despite extremely challenging situations fraught with unpredictability and danger. Various teams have successfully studied mediating and moderating processes, as well as multilevel cascades over time.

Examples of Research Advances and Challenges

The empirical articles in this Special Section represent substantial progress in the evolving developmental science on young people in war and conflict. Notable features of each study, including strengths and limitations, are highlighted here.

Coping processes and resilience among war-affected youth from Sierra Leone

The study of coping and resilience processes among war-affected youth by Sharma, Fine, Brennan, and Betancourt in this special section is part of a groundbreaking, ongoing longitudinal study of adaptation in young people affected

by the devastating civil war in Sierra Leone that lasted more than a decade (1991–2002). A team led by Betancourt in collaboration with a country-level nongovernmental organization initiated a study of young people (ages 10–17) affected by the war in 2002, including former child soldiers. As Sharma et al. describe, the study was subsequently expanded to include additional youth and assessment waves.

Earlier studies by this team documented the severity of trauma experienced by many war-exposed youth of Sierra Leone, as well as the importance of the recovery environment and cultural influences for psychosocial adjustment and symptoms (Betancourt et al., 2010; Betancourt, Borisova, et al., 2013; Betancourt, McBain, Newnham, Brennan, 2013). Sharma et al. drew on data from three waves of assessment to examine the differential roles of *approach coping* versus *avoidance coping* as psychological processes that may mediate the effects of specific traumatic war exposures on mental health over time. Avoidance coping was defined by efforts to move away from stressors (e.g., through distraction, denial, or escape), whereas approach coping refers to active management of stressors (e.g., through efforts such as planning, problem solving, and seeking support). Either style of coping could be adaptive, depending on the nature of the stressors. Avoidance, for example, may be adaptive when there is exposure to uncontrollable and overwhelming stressors (including many aspects of war trauma), even though this strategy often is viewed as "negative."

Analyses focused on three war exposures that the team earlier found to be particularly traumatic: injuring/killing someone, being sexually assaulted, and losing a parent. For Time 3 mental health outcomes, the reported experience of killing/wounding someone in the war was significantly related to worse outcomes for internalizing, externalizing, and posttraumatic stress symptoms and marginally related to adaptive/prosocial behaviors. In contrast, experiences of rape/sexual assault were not associated with any of the outcomes at Time 3. Loss of a parent also was related to posttraumatic stress symptoms. Avoidant coping styles were associated with lower internalizing symptoms and posttraumatic stress, potentially functioning as mediators of the observed effects of parental death in the war on changes in these aspects of mental health. Approach coping in contrast showed promotive effects, relating directly and positively to more adaptive prosocial behavior, without evidence of mediating effects.

The regression strategy utilized in this study focused the analyses on predictors of interindividual change in the mental health behaviors, controlling for earlier symptoms in the same domains as well as gender and age. Coping measures had some significance, although effects were modest and somewhat difficult to interpret given the coincident timing with the outcome measures. Moderating effects of coping were not investigated, primarily because the coping measures were assessed at Time 3. On the whole, considerable unexplained variance remained in these models.

As the authors have noted, the passage of time, combined with a host of additional experiences and developmental processes, may have played a substantial role in the results of this study. Trajectory analyses from the same data set published earlier suggested considerable resilience among these youth over time for internalizing symptoms (Betancourt, McBain, et al., 2013). Complex recovery processes may be unfolding in these individuals, who are diverse in age as well as experiences before, during, and after war.

This rare long-term longitudinal study of youth severely traumatized by war experiences, including the specific analyses included in this monograph, illustrates key advances in research on children and youth in war (Masten et al., 2015). The study was conceptualized from a social–ecological perspective, with impressive sensitivity to the needs of the youth involved, and implemented in a formidably difficult context following a prolonged civil war. From the outset, assessments included positive aspects of recovery and the context, broadening the scope of research to emphasize resilience without minimizing the severity of trauma these young people experienced. Investigators conducted a culturally sensitive and trauma-informed longitudinal investigation of risk and resilience with repeated measures tailored to the situation, language, and culture. Moreover, their results have been disseminated to inform recovery and intervention efforts in Sierra Leone and elsewhere.

Perceived emotional security in Belfast as a mediating process

The research from Belfast reported by Cummings et al. in this special section also exemplifies progress in studies of young lives entangled in chronic conflict zones. This study represents quintessential developmental systems science, with a well-developed conceptual framework focused on processes linking multiple-system levels, a longitudinal design well suited to capture intraindividual mediating effects, a large sample, and a deep knowledge of the historical and community context of the conflict under study.

Their primary goal was to test the hypothesis that emotional insecurity about the community mediates the connection between sectarian community violence and adjustment problems in youth, utilizing methods that allowed for intraindividual analyses of change, a "person-centered" strategy. Previous *interindividual* analyses from the same project (Cummings et al., 2011) had already supported the hypothesis based on emotional security theory (Cummings & Davies, 2011; Davies & Cummings, 1994) that youth who feel unsafe and insecure in the community are vulnerable to dysregulation, which has consequences for maladaptive behavior. The new results, utilizing additional waves of data, supported the forecast based on their mediating model of community insecurity. When individual youth reported higher (compared to their own average level) exposure to sectarian violence, their perceived insecurity scores were higher and they reported more problems. Results were stronger for girls, who reported greater community insecurity and showed a stronger link between sectarian violence exposure and insecurity.

This study has numerous conceptual and methodological strengths. In additional to the longitudinal design and nested

models of change, it is exemplary in conceptual grounding and sensitivity to the political–historical context. Measures were tailored to the context, and the design was thoughtfully executed to engage the study population. There are shortcomings, noted by the authors, such as the reliance on self-report measures. Nonetheless, this study reflects a number of advances over earlier generations of research on political violence, particularly in its theory-driven testing of process models and analytical strategies. Moreover, this kind of process-focused research has high potential for translational applications.

Aggression processes mediating political violence in Palestinian and Israeli youth

The study by Huesmann et al. in this special section also has notable strengths that reflect the innovative and culturally sensitive, longitudinal research this group has conducted with a large sample of Palestinian and Israeli (Arab as well as Jewish) youth. Based on three waves of data, utilizing a convergent longitudinal design and structural equation modeling, these investigators tested a variable-centered (rather than a person-centered) model linking exposure to political violence over time with peer aggression in youth, mediated by changes in social–cognitive and emotional processes believed to promote aggression, including normative beliefs about aggression, aggressive script rehearsal, and distress. In a rare, prospective test of a multiple-level change model, an important previous report from this group indicated cascading effects from macrolevel ethnopolitical violence exposure to nonpolitical violence at the microsystem level in community, family, and school, to increases in aggression against peers by individual youth (Boxer et al., 2013). The new analysis, consistent with the process-oriented theme of this Special Section, is focused more closely on psychological processes (social–cognitive and emotional) as mediators of the connections between political violence exposure and peer aggression among young people living in a hot zone of longstanding conflict.

This study tested their social–cognitive–ecological model that exposure to political violence alters social–cognitive processes and emotion regulation in ways that have longer term influences on youth aggression. By utilizing a cross-lagged strategy in structural equation modeling, their analyses offer compelling support for the proposed processes underlying observed effects. With repeated measures over three consecutive years in three age groups, they were able to test likely directions of effects as well as mediation. Like the Belfast investigators, this team tested a psychological process model grounded in socioecological developmental systems theory, except their focus was on psychological changes that mediate the risks for subsequent aggression directed at in-group peers. Their model also emphasized observational learning rather than the sense of security experienced by youth.

An additional conceptual strength of their model was the effort to explain why ethnic–political violence, compared to other forms of violence (e.g., domestic or media), may be particularly influential for youth. They suggested that youth who observe violence in a longstanding conflict situation identify with the victims and/or perpetrators in ways that enhance the effects of observed violence on the psychological processes that contribute to subsequent youth aggression. Consequences include changes in normative beliefs supporting aggression, fantasizing about aggression, and emotional distress.

Measurement and analyses were other strengths in this program of research. Measures were carefully developed; data were collected from parents as well as youth; and psychometric analyses included reliability and testing for structural invariance over gender, age, and ethnic groups. Some measures had marginal internal consistency, but most were reasonably robust. They also tested plausible alterative models.

Attaining three waves of data for large samples in conflict zones is an achievement in itself, and typical challenges of longitudinal research in such regions were evident in this study. Data collection for Wave 2 in Gaza, for example, was briefly delayed by the 2009 surge in the conflict, with Israeli troops moving into Gaza. Finally, these investigators also discussed the translational implications of their work. Particularly notable in the case of their models is the direct conceptual linkage of their study to theory-driven interventions that have an established record of support for reducing aggression through changing the social–cognitive and emotional processes similar to those they have tested in this study.

Intervening to promote resilience in the Congo

The study reported by Aber et al. in this special section exemplifies emerging efforts to develop and evaluate interventions that promote success and well-being in conflict-affected, low-income countries. These efforts aim to address the glaring global gap in evidence on what works to mitigate risk, promote positive development, and interrupt intergenerational transmission of risks and vulnerabilities related to exposure to violent political conflict. They report on a first of its kind, large-scale cluster randomized trial of a universal intervention that was designed by the International Rescue Committee for school children called Learning to Read in Healing Classrooms and implemented in the Democratic Republic of the Congo as well as numerous other countries.

As the authors note, there is growing global recognition that interventions centered on education have great potential for facilitating recovery of children affected by violent conflicts and also for promoting a more peaceful future (Leckman, Panter-Brick, & Salah, 2014; Masten et al., 2015). The intervention studied here was conceptualized in a socioecological framework and based on a multilevel theory of change. As a result, this intervention evaluation study is highly congruent with the theme of this Special Section focused on psychological processes of change in young people affected by conflict.

The pathways by which political conflict affects child development include massive disruptions in the ecological and sociocultural systems for learning that enhance development and economic advancement in societies. Access to school and

educational learning opportunities have been implicated in many studies of resilience following mass trauma experiences. Schooling plays multiple roles in the development of competence across the world, but the literature on disaster and war suggests that there are special roles of school in the context of severe, community-level trauma, both in natural disasters and in wars or political conflicts (Masten & Narayan, 2012; Masten et al., 2015). Resuming school or establishing functional school settings for learning appears to convey to families and community members alike a powerful message of "getting back to normal," moving on to a "new normal," or hope for the future. For individual children, high-quality schools can provide islands of relative tranquility, opportunities to develop competencies and master new skills, positive adult role models and relationships, and opportunities for supervised peer interactions. As Aber et al. indicate, the quality and values of schools matter because schools also can foster intergroup conflict, aggression, discrimination, and other processes that exacerbate political violence or aggression.

The data reported by Aber et al. in this special section are focused on results after 1 year of the intervention for more than 4,000 students in Grades 2 to 4, from 63 schools nested in 39 clusters (schools with the same master teacher were of necessity clustered in the design). Multilevel structural equation modeling analyses were nested in schools and clusters. Changes in children attending schools receiving the intervention were compared with those in wait-listed schools. Findings are encouraging, although the realities of intervention implementation in a region with a history of chronic conflict posed major challenges. The program was associated with improved academic achievement in several domains (e.g., geometry and reading). In the present analyses, however, intervention schools were perceived as more caring and supportive than wait-listed schools. These perceptions in turn were related to better math scores and mental health and less school victimization, which is consistent with key pathways in the theory of change for this intervention. In general, the findings are congruent with the hypothesized benefits of targeting school ecologies as a strategy for intervention in low-income, conflict-affected countries.

Conclusions

The studies included in this Special Section illustrate notable progress and enduring challenges in efforts to understand the consequences for human development of childhood exposure to violent political conflict. These four studies were conceptualized in socioecological models of human development, with careful attention to cultural and historical contexts that are crucial for understanding impacts of growing up in a war zones or contexts of political violence and translating that knowledge. Informative longitudinal data were secured in each study despite the complexities and challenges of conducting research in areas of ongoing political violence or postconflict tension. The results contribute to the growing knowledge base needed to inform efforts to mitigate risk, support recovery, or promote healthy development in the midst or aftermath of large-scale intergroup violence.

The articles in this Special Section, considered together with numerous other examples of contemporary research, give reason for optimism that developmental scientists are effectively engaged in the difficult but essential business of building a translational science for addressing global challenges posed by children and youth caught up in political conflicts (Garbarino, Governale, Henry, & Nesi, 2015; Masten et al., 2015; Tol, Song, & Jordans, 2013). Nonetheless, it is also clear that the scale and pace of research under way is dwarfed by the scope of the threats posed to children and youth by conflicts around the world at the present time. Moreover, evidence is growing that the consequences of exposure to chronic violence and trauma in individuals, families, and communities can influence subsequent generations through many complex biological and social pathways, including epigenetic changes (Boyce & Kobor, 2015; Masten et al., 2015). Thus, it is imperative for governmental and nongovernmental agencies concerned with preventing exposures and mitigating the negative consequences of political violence and armed conflict on human development, including national and international organizations that support research and humanitarian actions, to motivate the will and mobilize far more resources for translational science and the effective applications of evidence to addressing this global challenge.

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