

## **THE PSYCHOLOGICAL IMPACT OF EXPOSURE TO HIGH INTENSITY ARMED CONFLICT AND COMMUNITY VIOLENCE ON ADOLESCENTS: WHAT WE KNOW AND HOW TO ADDRESS KNOWLEDGE GAPS**

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This paper presents a review of the literature using systematic approaches in order to explore the psychological impact of exposure to high intensity armed conflict and community violence on adolescents. This review identified 20 studies that met the inclusion criteria in the period from 2009 to 2020. Most of the literature focuses on psychological outcomes in the form of PTSD, much less on depression and anxiety. Evidence confirms a worrying prevalence of mental health outcomes among adolescents exposed to armed conflict; however, further work is needed to disentangle whether these effects are significantly worse for adolescents than children. Age disaggregated evidence is particularly lacking on the effects of community violence. Most of the work relies on simple quantitative approaches and the evidence concentrates disproportionately on the Middle East. Despite some efforts underway, knowledge gaps will not be closed unless more purposeful data and mixed methods are developed with a focused view on adolescents.

*Key words:* Adolescence, mental health, armed conflict, community violence

*JEL Classification:* D74, I31

### **1. Introduction**

Adolescence is a critical period of cognitive, emotional, physical and sexual development with consequences that reach far into adulthood (UNICEF Office of Research, 2017). Because adolescence constitutes a unique stage of development, this population group is particularly susceptible to certain threats and risks that create specific needs and greater vulnerability. In fact, half of all mental health disorders developed in adulthood start by age 14 (WHO, 2016). The increase in sensation seeking that is experienced during the

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adolescent years is associated to an increase in depressive symptoms, substance abuse and participation in risky behaviors, which suggests that adolescence is a particularly critical age of risk (Romer & Hennessy, 2007). While these vulnerabilities are increasingly worrisome in all contexts, they are more so in emergency settings, and more particularly, in war and armed conflict (Plan International, 2016; Slone, Shur, & Gilady, 2016, Cuesta & Leone 2020). As Machel describes, “war affects the psychological and social well-being of adolescents at a time of life when they are deeply focused on establishing their identity” (2001: p.83).

In spite of the specific vulnerabilities adolescents face, “young people on the cusp of social responsibility have somehow become, in terms of program development and donor support, mostly ignorable” (Sommers, 2001: p.5). Assistance in emergency settings, for example, has typically focused on the urgent needs of under-five and primary school-age children, while adolescents are often over-looked (UNICEF, 2004: p.6). While it is well-known that war and armed conflict have an impact on young children, the impact on adolescents is significantly less explored (Barber, 2009b). Given the high concentration of youth and adolescents in developing countries (UNDESA Population Division, 2017) – where most wars and armed conflict occur – and given initial evidence that adolescents are disproportionately exposed to or participate in political violence (Barber, 2009b), it is pressing to understand the impact of conflict and violence on this specific population group.

So far, the empirical findings on the impacts of exposure to traumatic events caused by war and armed conflict and community violence have been inconclusive and limited, as they do not adhere to established definitions of adolescents – often conflating adolescents and children – while also casting doubts on the relationship between mental health outcomes and exposure to violence (Slone et al., 2017). Instead, it has been found that some adolescents are markedly resilient and adaptive in the face of conflict (Barber, 2013; Machel, 2001; Slone & Roziner, 2013), a message that has the potential to change a predominantly negative outlook that views adolescents, and young people more generally, as a security threat. Instead, adolescents constitute the greatest hope and resource for rebuilding war-affected communities (Machel, 2001), which makes it especially surprising that they have not held a more prominent role in the literature (Cuesta & Leone, 2020).

Given existing shortcomings, the purpose of this paper is to review the literature exploring the psychological effects of exposure to armed conflict and community violence on adolescents. The paper is structured as follows: the second section defines key concepts and explains the criteria used for inclusion. The following section describes the methodology. Results of the review are then presented along with a summary of the main characteristics of the papers and their findings. The paper next discusses key priorities to address knowledge gaps and suggestions for further research, and is followed by Conclusions.

## 2. Key Concepts

This literature review covers the psychological effects of exposure to high intensity armed conflict and community violence on adolescents. The inclusion criteria are explained in greater detail below:

*Adolescents.* We adopt the standard definition of adolescence used by UNICEF including those aged 10 to 19. However, studies including any participants in this age group are also considered and we report disaggregated results for adolescents whenever possible, that is, when they are available or reported in the primary analysis. Because the term ‘adolescents’ is not often used in the literature, the terms ‘children’ and ‘youth’ are also used in our search.

*Exposure to high intensity armed conflict.* This review uses Uppsala Conflict Data Programme (UCDP) and UNODC data to establish intensity limits. According to UCDP, an armed conflict is “a contested incompatibility that concerns government and/or territory where the use of armed force between two parties, of which at least one is the government of a state, results in at least 25 battle-related deaths in one calendar year” (UCDP, 2020: n.d.). In order to cover the populations that have a greater likelihood of exposure to armed conflict, countries that have experienced high-intensity conflict—at least 1,000 battle-related deaths in a year have occurred—are included (see Table 1). Because UCDP’s definition of armed conflict is restrictive (it only covers active conflicts between clearly established parties), we expand that definition to consider studies of affected populations in countries that have the highest global levels of community violence. To measure community violence, we look at homicide rates per 100,000 population using the most recent data from UNODC, where countries from the Latin America and Caribbean region are overrepresented (see Table 2). As a result, our review focuses on *exposure* of adolescents to armed conflict and community violence, as opposed to *direct involvement*, which corresponds to a different branch of the literature that looks at adolescents as protagonists or aggressors in the conflict (for example, as child soldiers or participants of gang-related crime).

*Psychological/mental health impact.* Because adolescents are at a particularly vulnerable age in the development of psychological disorders, the present review focuses on the psychological impact that armed conflict and community violence has on this population group. As such, physical impacts that could be a consequence of conflict, such as stunting due to malnutrition, the spread of sexually transmitted infections, among others, will be excluded from the review. That literature has been recently reviewed by others (see References in Cuesta & Leone (2020)).

*Time period:* This review includes the most recent evidence available. Because the country with the highest number of battle-related deaths is Syria, and its civil war beginning in 2011 is perhaps one of the most drawn out armed conflicts of this century, it seems natural to include this as a starting point for our analysis. However, we do not include a rigid cut-off point that might result in the exclusion of additional valuable evidence by including analyses *circa* 2011 (up to two years earlier) if those studies meet the other inclusion criteria outlined.

*Geographical location.* There is ample evidence that war and armed conflict affect low and middle-income countries disproportionately (Guha-Sapir et al., 2013). Data produced by UCDP illustrates that in the period from 2010 to 2018 (year for which the most recent data is available), the countries with the highest number of high intensity conflicts with at least 1,000 battle-related deaths were Syria, Afghanistan and Somalia (Table 1). These and countries listed in Table 2, which illustrate the countries with the highest homicide rate on average for 2010 to 2018, will be considered in the literature search.

**Table 1.** Countries with the highest number of high intensity conflicts and battle-related deaths, 2010-2018

Country	Number of high-intensity* conflicts 2010-2018	Best estimate for battle-related deaths (2010-2018)**
Syria	13	283820
Afghanistan	12	122395
Somalia	8	16074
Yemen (North Yemen)	7	22065
Pakistan	6	19342
Nigeria	6	17664
Iraq	6	48691
Sudan	5	8025
Ukraine	3	6588
Turkey	2	7583
DR Congo (Zaire)	2	6647
Libya	2	6467
Philippines	1	5124
South Sudan	1	5194
Israel	1	1879

**Table 2.** Countries with the highest rates of community violence measured through homicide rates, average for 2010-2018

Country	Homicide average rate 2010-2018
El Salvador	64.5
Honduras	63.6
Venezuela	51.4
Saint Kitts and Nevis	49.2
United States Virgin Islands	48.2
Jamaica	44.0
Belize	36.5
Lesotho	36.3
Nigeria	34.5
South Africa	32.8
Bahamas	32.3
Guatemala	31.4
Trinidad and Tobago	30.1
Colombia	30.0
Brazil	27.3

### 3. Review Methodology

We initially surveyed the literature using Web of Science (WoS) databases, which contain peer-reviewed articles in the areas of social sciences, economics, humanities and development. The inclusion criteria, or search terms used include a combination of the following terms:

- Youth, adolescence, children;
- Armed conflict, war, community violence;
- Middle East, Africa, Latin America and the Caribbean and individual countries listed in Tables 1 and 2;
- Impact, psychological impact, mental health impact, or post-traumatic stress disorder.

We focused initially only on peer-reviewed articles, including systematic literature reviews and original research articles found in the WoS search. Next, we explored reference lists of WoS articles that met inclusion criteria as well as grey literature to identify additional material for the review. Records in the form of policy documents and grey literature were identified through other sources including Google Scholar and grey literature databases (Better Care, Relief Web). Documents that met the search criteria and addressed how adolescents were impacted in settings of armed conflict without specifying mental health were also considered, as they could shed light on how adolescents are impacted *vis-à-vis* other population groups. Dissertations, book chapters, other media (documentaries), and works in progress were excluded from this review.

While clear inclusion criteria were set to limit the scope of the review, we recognize that there are several limitations. First, there is a large body of evidence documenting the impacts of interventions and programs aimed to mitigate the impacts of exposure to violent conflict (see for example, Bennouna et al., 2019; Brown et al., 2017; Datta et al., 2020; Robjant et al., 2019; Wilker et al., 2020) schools play a central role in supporting these families through the challenges of adjustment. Policymakers and educators in several high-income countries have begun to invest in efforts to support these young forced migrants not only academically, but also socially and emotionally. This study reviews the published and grey literature on 20 school-based programs aimed at improving the mental health and psychosocial wellbeing of adolescent forced migrants in high-income countries from 2000 to 2019. This review seeks to inform a more comprehensive and detailed understanding of the types of program options available to schools, while also identifying gaps in the current literature related to factors influencing program implementation. We find several common approaches and challenges to supporting adolescent forced migrants, as well as their families, communities, schools, and service providers. The reviewed programs faced recurring challenges related to intercultural exchange, gaining access to communities, promoting care-seeking, school capacity limitations, and sustainability. The lessons learned from these programs indicate that several steps can be taken to mitigate these challenges, including adapting services to individuals and their contexts, taking a multi-layered approach that addresses multiple levels of young people's social ecologies, and building

trusting, collaborative partnerships with schools, communities, and students.”,”container-title”.”Social Science & Medicine (1982. While clearly important, we have purposefully excluded this literature from the review as it falls outside the realm of our subject of inquiry, which is centered on the impact of conflict itself and not on the impacts of programs aimed to mitigate such impacts. However, we acknowledge the existence of this body of evidence. Second, the reviewed literature has been limited predominantly to publications in English. Since the countries in Table 1 are not Spanish-speaking countries, this will not significantly bias our results. For countries listed in Table 2, we have made targeted efforts to search for content on Latin America and the Caribbean in peer-reviewed journals in English.

## **4. Findings**

### ***4.1 A Brief Description of the Evidence Base***

In practice, the search on Web of Science (WoS) for “impact of armed conflict on adolescents” restricted to the years 2010-2018 delivered 19 articles. Instead, the search term “effect of armed conflict on adolescents” restricted to the same time period yielded 26 articles, and “impact of armed conflict on children” yielded 124 articles. After conducting searches through WoS, Google scholar and grey literature databases, and reviewing titles and abstract of the different search results, we found that only 20 of those studies met the criteria established (see Annex 1).

The studies that met our inclusion criteria typically refer to children as the main subject of analysis, but also include adolescents in their samples. Interestingly, only a small handful of studies follows the UNICEF definition of adolescence, which encompasses 10 to 19 years of age, nor did the studies usually disaggregate by age group. Those exceptions include Dubow et al., (2010); Salama and Dardagan (2013); and a handful of studies reviewed in Vossoughi, Jackson, Gusler, & Stone (2016) and Dimitry (2011).<sup>1</sup> Harel-Fisch et al., (2010), Dubow et al., (2010), and Neal, Stone, and Ingham (2016) presented disaggregated findings for each of the three age groups considered in their samples, comparing outcomes for older adolescents to the younger adolescents. In total, only six of the twenty studies included samples with subjects who were all adolescents.

Studies were mostly peer-reviewed academic articles (16), consisting either of systematic or non-systematic literature reviews or meta-analysis drawing on past evidence (five) or quantitative studies exploring associations between exposure to conflict, war and community violence, and mental health outcomes (nine); only one used a mixed methods approach, and only one study identified was fully qualitative. Of the quantitative studies, all but one used a cross-sectional design and only one was longitudinal. Four documents were considered grey literature.

In terms of the geographical reference of the studies, nine were confined to the Middle East, with most original research being largely focused on the Israel-Palestine conflict (six studies). Syria was addressed in one literature review and was the central theme of one

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<sup>1</sup> Prior literature reviews that were not included in this article due to their date of publication also confirm that studies on youth and political violence have not focused specifically on adolescents (Barber & Schluterman, 2009).

report, but it was also mentioned in two reports including several countries (see Table 3). Iraq was included in two systematic literature reviews and South Sudan was the focus of two original research articles. The review also identified several relevant articles on Latin America, with three original research articles (two on Brazil, one on Colombia).

**Table 3.** Adolescence and Exposure to Armed Conflict and High-level Community Violence Database by Country and Type of Analysis

Country	Original research article	Systematic literature review or meta-analysis	Report
Syria	Dajani et al., 2018	Neal et al., 2016	Dardagan & Salama, 2013 Plan International, 2016 Thompson, 2015 Save the Children, 2017
Afghanistan			Plan International, 2016 Thompson, 2015
Iraq		Vossoughi et al., 2016 Dimitry, 2011	Plan International, 2016 Thompson, 2015
Yemen			Thompson, 2015
Nigeria			Thompson, 2015
Pakistan		Vossoughi et al., 2016	Plan International, 2016
Somalia			Thompson, 2015
Sudan		Vossoughi et al., 2016	Plan International, 2016 Thompson, 2015
Ukraine			
Turkey		Vossoughi et al., 2016	
South Sudan	Muller et al., 2017 Meyer et al., 2018		Thompson, 2015
Israel/Palestine	Harel-Fisch et al., 2010 Dubow et al., 2010 Slone & Shoshani, 2017	Vossoughi et al., 2016 Dimitry, 2011	Thompson, 2015
		Slone et al., 2017	
	Slone & Mayer, 2015 Al-Krenawi & Graham, 2012		
Colombia	Cuartas & Leventhal, 2020		
South Africa		Foster & Brooke-Gunn, 2015	
Brazil	Avanci et al., 2009 Paula et al., 2008		
<b>Total</b>	11	5	4

#### **4.2 What We Know about the Psychological Effects of Exposure to High Level Armed Conflict and Community Violence: Key findings**

From the systematic review, overall, the current literature on the impact of armed conflict on adolescents' psychological and mental health is not abundant; however, a few generalizations can be made in terms of the psychological impact of exposure to conflict during adolescence.

**1. Literature is heavily focused on PTSD.** The largest share of articles and papers included in the review focused on PTSD, with all unanimously agreeing that experiences of war and violence are linked to a higher prevalence of PTSD. The degree of prevalence varies significantly and most studies do not include control/comparison samples with children and adolescents who have not been exposed to armed conflict. Barber, author of *Adolescents and War*, agrees that the main focus of the literature exploring adolescents and political violence “has been to correlate political violence (most often exposure to it) with assessments of individual psychological difficulty,” often measured as PTSD or other negative psychological states (2009b: p.10). The most updated meta-analysis included in this literature review found indeed that exposure to war violence was associated with more severe PTSD symptoms (Vossoughi et al., 2016).

**2. There is suggestive evidence linking exposure to violence to psychological outcomes other than PTSD.** Other—few—studies included in the review have also explored the link beyond PTSD and looked at violence exposure and development of other mental health problems. They include depression, anxiety, as well as engagement in risky behavior and delinquency. There is a wider empirical base consisting of early studies that have confirmed the development of depressive symptoms among children and adolescents who experience war and conflict (for example, Baker, 1990; Lien et al., 2006; Macksoud & Aber, 1996) and these results are confirmed in at least three current studies. Recent studies also confirm that exposure to violence increases the probability of participation in risky and aggressive behavior (Al-Krenawi & Graham, 2012; Dubow et al., 2010; Vossoughi et al., 2016).

According to social learning models (for example, Bandura, 1977), the increased risk for aggression in children and adolescents exposed to violence accrue from learnt violent behavior by modeling and imitating others (Barber & Schluterman, 2009). In addition, the peak of aggressive behavior tends to be in early adolescence, from 11 to 13 years of age (Tremblay, 2000). However, to truly understand whether exposure to violence leads to aggressive behavior, Punamaki (2009) argues that it is necessary to consider the combined effects of social and child-related preconditions and mechanisms, including a genetic predisposition for aggression, but also cultural, political and personal characteristics of the individual in question. As Barber points out, the effect of political conflict and war on adolescents should be broadened to include an assessment of outcomes that adequately explore the “entirety of adolescents' experiences with conflict” as well as the range of cultural, political and social forces that shape their experiences (2009b: p.4). According to Punamaki (2009), adolescents who are exposed to war and violence may be more at

risk for developing aggressive behaviors if their emotional responses are inclined toward impulsive actions instead of more comprehensive and reflective emotional processing.

**3. *Compelling evidence of a more adverse impact of war and violence contexts on adolescents vis-à-vis other population groups—especially children—is limited.*** According to Thompson (2015), on a global scale, the proportion of children who die as a result of injury increases as they get older, with those aged 15 to 19 constituting over 40% of deaths. In addition, evidence indicates that loss of life due to intentional injuries, including homicide, also increases as children become adolescents. In 2012, almost one in five homicide victims were under the age of 20 (UNICEF, 2014).

Although data is not normally disaggregated by age groups in the literature reviewed, there is initial evidence that adolescents are affected disproportionately in war and conflict settings. Data for the Syrian war indicates that older children outnumber younger children among the victims: Of the 11,420 children who were killed in the Syrian conflict and recorded, and of the 7,841 children for which age was available, 20.4% were in the age group 3 to 7, 35% in the age group 8 to 12, and 37.4 % in 13 to 17 (Dardagan & Salama, 2013). The authors conclude that 13 to 17 year-old boys “may represent the most at-risk of all children in the Syrian conflict” (2013: p.5).

According to Slone (2009), numerous studies confirm that older children report the highest levels of exposure to political violence. The author reasons that this could be because older adolescents may get involved more actively in political events, which increases their exposure (2009). In addition, it seems likely that families and communities supervise and protect children differently according to their age (and gender), resulting in significant differences in the risk of exposure to violence (2009).

Furthermore, there is some evidence that adolescents’ mental health suffers more as a consequence of exposure to armed conflict in comparison to younger children, although a large part of the literatures does not normally disaggregate effects by age groups. In their review of 95 studies looking at the effects of political violence on adolescents, Barber and Schluterman (2009) find that less than 20% of the studies tested for age differences in the prevalence of outcome measures or on the strength of the effect between political violence and those outcomes. They find a few studies that reported higher levels of certain difficulties among older youths.

In a systematic literature review of the mental health of children and adolescents living in areas of armed conflict in the Middle East, including Israel, Palestine, Lebanon and Iraq, Dimitry (2011) the Middle East has been troubled with numerous long-standing armed conflicts and wars. Children and adolescents were not spared the trauma and its consequences. Exposure to traumatic events can result in mental, behavioural and emotional problems in children and adolescents. To date, this is the first paper that aims to systematically review the literature on the mental health of children and adolescents living in areas of armed conflict in the Middle East, specifically Israel, Palestine, Lebanon and Iraq. It explores factors that mediate between exposure to armed conflict and mental, behavioural and emotional problems and places them in a cultural context. Pubmed was searched and papers were identified using specific inclusion criteria. Seventy-one eligible

studies were included. The main findings are that children and adolescents living in these conflict zones are exposed to high levels of traumatic experiences. Number of conflict-related traumatic experiences correlates positively with prevalence of mental, behavioural and emotional problems. Prevalence of post-traumatic stress disorder in children and adolescents is estimated to be 5–8% in Israel, 23–70% in Palestine and 10–30% in Iraq (insufficient data for Lebanon found that older children have a higher exposure to violence than younger children, but also that older children have more PTSD than younger children. Harel-Fisch's study examining the impact of exposure to armed conflict in Israel and Palestine found that younger Jewish and Arab Israelis, and West Bank children showed higher levels of positive life perceptions (2010), which could be a consequence of lower levels of exposure to violence or greater resilience to these events among the younger study participants. In a study on children and adolescents in Palestine, Dubow et al., (2010) also found that adolescents (14 year old's) reported higher levels of exposure to conflict than children (8 year old's), but also that early adolescent boys were at a greater risk of developing PTSD symptoms in comparison to the younger children. Likewise, Fazel et al., (2011) point out that there is some evidence indicating that those who experience conflict-related trauma before the age of 12 were not at increased risk of PTSD as adults, unlike those who were exposed after the age of 12.

**4. *Armed conflict affects adolescent boys and girls differently.*** According to UNICEF (2014), boys are more at risk of physical violence than girls (as cited in Plan International, 2016) and adolescent boys are more vulnerable to suffering certain injuries because they are less closely supervised and are more frequently involved in risky behavior engagement. Reports indicate that adolescent boys 10 to 19 years old are significantly more likely to be killed or injured during the course of fighting and a conflict than women and girls (Thompson, 2015). Evidence from research also shows that boys report greater exposure to political violence than girls, with evidence spanning across different regions (Barber, 2008; Muldoon & Trew, 2000) applied professionals and policy makers against overly-simplistic Conclusions and interventions when attempting to understand and serve the large populations of the world's youth who endure conflict. A variety of forms of data and their analyses from one research program are utilized to show how distinctly two cohorts of youth (Bosnian and Palestinian).

The report on Syria by Dardagan & Salama (2013) points out that older boys are more likely to be mistaken for adults, or to be considered potential threats and therefore deliberately targeted. The authors found that of the 11,420 children who have been victims of the Syrian conflict, boys outnumbered girls more than 2 to 1, but the ratio of boys to girls rose in the oldest age group (13 to 17), to more than 4 boys for every girl (2013). Dimitry (2011), however, argues that the evidence regarding whether boys are more exposed to violence is not conclusive: Several studies in that review indicate that boys have higher levels of objective exposure to violence than girls, although others show no gender difference (for example Haj-Yahia, 2008).

There is ample evidence that girls in armed conflict settings are more affected by targeted violence, especially sexual violence (Plan International, 2016; Cuesta & Leone,

2020), but also that conflict may have an effect on marriage patterns. A report by Save the Children (2014) found that in humanitarian emergencies, including violent conflict, children are at increased risk of early marriage; but girls are disproportionately affected. A review on the impact of armed conflict on adolescent reproductive and sexual health found that in six of the studies reviewed, an increase in marriage was reported during a period of conflict. For example, the proportion of registered marriages in Jordan among Syrian under-18 refugee women had increased from 12% in 2011 to 18% in 2012, and younger teenagers were particularly affected by the increased rates of marriage (Neal et al., 2016) economic deterioration and the breakdown of community structures and services. This paper presents the findings of a systematic review of quantitative literature reporting how key sexual and reproductive health (SRH). Likewise, in Neal et al.'s review, evidence was found in five studies of an increase in fertility during a period of conflict (2016).

Unsurprisingly, mental health outcomes in violent settings also appear to be gendered. Slone and Shoshani (2017) note that as a result of exposure to stress, most research findings indicate a greater degree of internalizing symptoms – characterized by problems such as excessive withdrawal, anxiety, and depression – among girls, and externalizing symptoms – such as inappropriate externally directed behaviors in the form of delinquent or aggressive conduct – among boys. The research included in Dimitry's review also shows that girls report more PTSD, depression and separation anxiety, while boys have more behavioral problems, including more aggression and hyperactivity than girls (2011), findings that are also reported in Dimitry's work (2011).

The study by Harel-Fisch et al., (2010) exploring the impact of exposure to armed conflict on children and adolescents in Palestine and Israel found that Jewish and Arab Israelis and West Bank girls showed higher levels of psychosomatic symptoms than the boys, while boys showed higher levels of involvement in risky behaviors; specifically, in youth violence. Finally, in a study exploring the effects of exposure to political violence among adolescents in the West Bank and Gaza, Al-Krenawi and Graham (2012) found that girls reported more mental health symptoms and PTSD symptoms when compared to boys, while boys reported more problems in social functioning and more aggression, confirming the established findings on gendered mental health outcomes.

### ***5. The psychological impacts on adolescents in countries affected by high levels of community violence appear to be similar to the effects of armed conflict or war.***

Reviews of this literature show a significant positive correlation between exposure and psychological symptoms, including PTSD, but also other internalizing and externalizing behaviors (Buka et al., 2001; Gorman-Smith et al., 2004; Lynch, 2003). Although most of these studies are confined to high income countries, particularly the United States, there is emerging evidence from LMICs and countries with high rates of community violence that point to similar findings. In a review of the literature on the exposure to violence and mental health problems in LMICs, Ribeiro et al., (2009) confirmed that most of the studies included (not all were focused on adolescents) were designed to assess the prevalence of PTSD. In a systematic review of quantitative studies looking at child

and adolescent exposure to community and war violence, and children's mental health outcomes in four African countries, including South Africa<sup>2</sup>, Foster and Brooks-Gunn (2015) found that the studies included identified positive associations between exposure to violence with health problems. Such health issues include PTSD, depression, anxiety and distress as well as externalizing problems including antisocial behaviors, aggression, conduct problems and substance use.

In Colombia, a recent study on the impacts of community violence on children's mental health using a quasi-experimental approach found that exposure to a violent crime in children's residential block was associated with increases in their mental health problems. The study measured impacts on mental health by computing a summary problem score ranging from zero to 24, depending on reported symptoms derived from the WHO's Reporting Questionnaire for Children (RQC)<sup>3</sup> (Cuartas & Leventhal, 2020). In a quantitative study exploring mental health problems of adolescents in Southeastern Brazil using logistic regressions, Paula et al., (2008) found that adolescents who had experienced violence were two times more likely to have mental health problems than those who had not experienced violence. In a study exploring the association between withdrawal and depressive behavior of school children aged 6 to 13 in Rio de Janeiro, Avanci et al., (2009) found that not having experienced violence in the home, school or the community was associated to the absence of withdrawal/depressive behavior. This body of evidence further suggests that the findings on the impact of community violence on psychological outcomes for adolescents may be similar to those observed in armed conflict.

Regarding gendered findings, Foster and Brooks-Gunn (2015) found that being of an older age and being male were associated with more exposure to violence in Africa, while girls were more exposed to sexual violence. Similarly, Chavez Villegas et al., (forthcoming) found that people in age brackets between 15 and 39 years of age have the highest relative incidences of community violence (measured through homicide) in Guatemala and El Salvador. The lowest incidences in both countries are for children and youth under 15 as well as adults above 45 years of age, which highlights that both adolescents and youths are at greater risk of being victims of community violence (homicide) in comparison to younger adolescents and children as well as older men. At the same time, the homicide rates for men in Guatemala and El Salvador are seven and 14 times larger, respectively, than the rate of homicide for women (Chavez Villegas et al., forthcoming). These findings are similar to the literature focusing on armed conflict. In short, although most authors writing on community violence do not disaggregate effects on mental health by gender, those few studies in the literature that do are suggestive of girls exhibiting internalizing symptoms.

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<sup>2</sup> South Africa is one of the countries with the highest homicide rate globally. See Table 2.

<sup>3</sup> This instrument is used to assess children's mental health problems and includes items such as not being able to sleep, being scared or nervous, among others.

## 5. Improving Evidence on the Exposure to Conflict on Adolescence

Although these generalizations are useful to understand the current state of the literature, there are several evidence gaps that need to be tackled in order to improve the existing evidence base on the psychological consequences among adolescents of exposure to conflict and community violence. This section identifies them and proposes an agenda to address those gaps.

### ***1. There is a need to provide a specific and deliberate look at adolescents exposed to armed conflict and community violence, starting with a standardized definition of adolescence.***

There is still a significant gap in the evidence specific to adolescents. Although all studies included in the present review included *some* adolescents in their samples, the studies did not adhere to the standard definition that considers adolescents as those aged 10 to 19. This makes it difficult to identify differences in mental health outcomes between younger children and adolescents, as the two tend to be conflated. As was previously emphasized, only a handful of studies provided results that were disaggregated by age group and where meaningful Conclusions could be drawn on the impact on adolescents versus younger children. To correct this shortcoming, it is necessary for researchers to use the standard definition and to disaggregate their data by smaller age groups. This is not necessarily a novel observation, as calls for a focus on adolescents have been made over a decade ago (see for example Barber, 2009a). Despite this, the current literature seems not to have moved in this direction.

### ***2. Improving the collection of data specific to adolescents should be a priority investment.***

As discussed in Cuesta & Leone (2020), the current state of evidence reflects the lack of well-established indicators to measure the physical and mental status of adolescents; and many technical and ethical considerations associated with the analysis of the impacts of emergencies on adolescents are still lacking. Considerable data limitations hinder the analysis of the impacts of conflicts and violence on adolescents and data suitable for analyzing the impacts of humanitarian crises and major shocks is simply not available. Some survey tools do not cover adolescents as a distinct group. For example, Demographic and Health Surveys (DHS), collect information only on children ages 0 to 5 years and women ages 15 to 49. Specific information on the 6–14 age group is not collected. Furthermore, these widely used household surveys rarely involve modules that are specifically designed to analyze the effects of conflict and violence or investigate detailed information on underlying mechanisms that might explain psychological impacts of armed conflict.

More recently, measures relevant to the assessment of human capital, well-being and risky behaviors of adolescents have come to be included in household or school-based surveys (such as the WHO's Global School-based Health Survey (GSHS)), but they typically do not refer to conflict or violence. The DHS, for example, and the most recent round of the UNICEF Multiple Indicator Cluster Surveys (MICS) include questions or modules on individuals aged 15 and older on early marriage, early childbearing, attitudes towards female genital mutilation and its prevalence, attitudes towards domestic violence, and knowledge about HIV prevention and discriminatory attitudes towards people living

with HIV (UNICEF, 2020). However, in these new surveys the 10–14 age group remains excluded, and these surveys do not anchor questions around the occurrence of conflict and/or community violence.

**3. More mixed-method studies are required.** Most of the studies included in the literature review were quantitative in nature, adopting cross sectional estimations. Such approach suffers from a series of drawbacks. The extent of exposure to conflict is often self-reported or not precisely identified (Kijewski & Freitag, 2018). In addition, the focus on the effects of political violence on adolescents has been overly simplistic, primarily evaluating stress-related, psychological impairment. In reality, there are multiple intricacies involved in the exposure to this form of violence, which often bring a host of other problems such as displacement, famine, among others. Tracing or attributing such effects of the direct exposure to conflict becomes a very challenging technical proposition that simple statistical methods are typically not well equipped for. Simple cross-sectional analyses cannot disentangle these effects, usually delivering imprecise and biased estimates (Cuesta & Leone, 2020). Furthermore, cross-sectional analyses provide a static picture in time and are usually unable to capture dynamic effects. Accounting for those effects calls for more longitudinal studies that can trace the development of mental health problems among adolescents over time.

The use of a mixed-method approach can help, first, understand the entangled multiple transmission mechanisms and, second, adapt study instruments and interventions by determining their relevance and/or appropriateness in a determined cultural setting, as well as their safety (Betancourt et al., 2011; van Ommeren et al., 1999) anxiety, and social withdrawal. More intervention research is needed to develop valid measurement and intervention tools to address child mental health in such settings. **OBJECTIVE:** This article presents a collaborative mixed-methods approach to designing and evaluating a mental health intervention to assist families facing multiple adversities in Rwanda. **METHODS:** Qualitative methods were used to gain knowledge of culturally-relevant mental health problems in children and adolescents, individual, family and community resources, and contextual dynamics among HIV-affected families. This data was used to guide the selection and adaptation of mental health measures to assess intervention outcomes. Measures were subjected to a quantitative validation exercise. Qualitative data and community advisory board input also informed the selection and adaptation of a family-based preventive intervention to reduce the risk for mental health problems among children in families affected by HIV.. Community-based participatory methods were used to ensure that the intervention targeted relevant problems manifest in Rwandan children and families and built on local strengths. **RESULTS:** Qualitative data on culturally-appropriate practices for building resilience in vulnerable families has enriched the development of a Family-Strengthening Intervention (FSI). However, using panel data to demonstrate convincingly that the psychological impacts of armed conflict or community violence represent the causes of the outcomes remains a key challenge. The location of conflicts and violence is not random. Failing to account for this fact may lead to a bias in the estimated impacts. For example, historically high levels of violence within a district may correlate with the

outbreak of a disease or a food insecurity disaster or past armed conflict. If the bias exists, the estimated coefficients will not reveal the true impact of the shock on the outcomes of interest (Pivovarov & Swee, 2015). Moreover, attrition and selective migration patterns might still be a concern in assessing the effects of conflict and violence over time.

**4. Analytical instruments need to be tailored to non-Western settings.** The literature reviewed has been carried out in non-Western settings. However, these studies have often used scales that are relevant for populations of developed countries and rarely have scales to evaluate psychological impact been validated and verified locally (Betancourt et al., 2011). The studies reviewed do acknowledge that they are using tools often developed in Western contexts, and while in some cases the internal consistencies of their survey items are at acceptable levels, some of the concepts used are not directly transferable nor relevant in some contexts. In addition, it may be that the treatment of mental disorders in developing countries is not always relevant, or is considered a subject of taboo, making it necessary to develop reliable measurement tools to evaluate children and adolescents experiencing mental health problems due to war and violent conflict that are appropriate to such contexts (Attanayake et al., 2009), as well as to consider available resources.

We therefore posit that a standard scale that measures adolescent exposure to armed conflict and violence across different contexts needs to be developed. Multiple instruments exist in this regard, such as the Political Life Events (PLE), which contains 20 items of politically stressful events for which respondents are required to indicate their exposure; the Township Life Event Scale used for South Africa during apartheid, and the Childhood War Trauma Questionnaire, designed to evaluate children's exposure to war trauma in Lebanon, and the Traumatic Event Questionnaire, used in a study of exposure to violence among adolescents in the West Bank and Gaza Strip. However, these instruments –with the exception of the PLE, which has been tested cross-nationally and has yielded good reliability – have been used only locally and are not transferable to other contexts, highlighting the need to develop a general instrument that can compare exposure to violence in different contexts (Slone, 2009).

**5. Research needs to find a more nuanced way of reporting negative and positive effects of exposure to conflict.** Many scholars now recognize that there is predominantly negative focus in the empirical literature on mental and behavioral problems of adolescents exposed to violence (Barber, 2008). There are, however, a handful of studies that have found that the effects of exposure to political violence are not conclusively negative. In fact, empirical studies that have evaluated elements of youth responding competently to political violence have found evidence for it, including self-determination, tolerance and flexibility towards adversaries, retaining educational aspirations, moral development among others (Barber, 2009a).

In a study comparing the exposure to political violence among Israelis and Palestinians, Slone et al., (2017) found that Palestinians exhibited less PTSD symptoms than Israelis, despite the former being more exposed to violence. According to Barber (2008), many young people adjust well and are remarkably resilient in the face of adversity. As Machel

(2001) points out, the way children and adolescents cope with the effects of conflict may depend on factors such as cultural background, the availability of social support, among others. The recognition that focus must be made on resilience of adolescents does not suggest that mental health outcomes should be ignored; rather, they should both be considered in the literature to provide a more nuanced and holistic understanding of conflict's impact on adolescents.

## **6. Conclusions**

The literature on the effects of exposure to armed conflict on adolescents specifically is still lacking, as most of the literature reviewed has included a broad range of age groups, with rare attention to adolescence. Studies carried out so far have focused on mental health outcomes, with PTSD, depression, anxiety and other symptoms taking precedence in the literature while other important impacts – such as the resilience of adolescents in conflict settings – have been less analyzed. The existing evidence confirms that mental health outcomes suffer among adolescents exposed to armed conflict, and the findings are similar for adolescents exposed to community violence. There is, however, still work needed to disentangle whether both the effects of armed conflict and community violence are significantly (and conclusively) worse for adolescents in comparison to children. This requires more and better (that is, more disaggregated) data collection—particularly in the evidence on community violence where no studies disaggregated findings by age—as well as more compelling mixed analytical instruments. Likewise, there is evidence that armed conflict impacts boys and girls differently and that the impacts on mental health may be gendered, with girls exhibiting more internalizing symptoms and boys exhibiting externalizing symptoms, but not all the evidence is unanimously conclusive on this front. In addition, further work is necessary in other regions of the world where there is a high concentration of adolescent and youth populations and where exposure to violence in other forms is highly prevalent, in addition to a standard scale that measures adolescent exposure to violence across different contexts.

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## ANNEXURE

## Adolescence and exposure to armed conflict and high-level community violence database

Author, year, study	Research aim	Type of document	Methodology/ Research design	Sample and location	Key Findings
Plan International, 2016, <i>A Time of Transition: Adolescents in humanitarian settings</i>	Summarize the data that is available on the specific needs of adolescents in times of crises and propose recommendations to work for adolescents in humanitarian settings.	Report	Review and summary of existing studies looking at the impact of humanitarian disasters on adolescents	Location: Various	<ul style="list-style-type: none"> <li>-Emergency settings have an impact on mental illnesses.</li> <li><b>Gender:</b> Adolescent boys and girls impacted differently by war and natural disasters.</li> <li>-Boys impacted by physical violence and recruitment to violent groups; girls affected by targeted violence, especially sexual violence.</li> </ul>
Dardagan, H., & Salama, H., 2013, <i>Stolen Futures: The hidden toll of child casualties in Syria</i>	Bring together four sources on the casualties of the war in Syria and provide descriptive statistics.	Report	Descriptive statistics	Location: Syria N=11,420, children and adolescents aged 17 years and younger	<ul style="list-style-type: none"> <li><b>Age:</b> 13 to 17 year-old age male group may represent the most at-risk of all children in the Syrian conflict.</li> <li><b>Gender:</b> Male victims outnumber girls, but the ratio of boys to girls killed in the war increases among the 13 to 17 year-olds.</li> </ul>
Thompson, H., 2015, <i>A Matter of Life and Death: Child protection programming's essential role in ensuring child well-being and survival during and after emergencies</i>	Looks at the threats to life and well-being of children in humanitarian emergencies and outlines actions to prevent and respond to violence against children in emergency settings.	Report	Mixed methods Qualitative: Literature review and interviews with key informants Quantitative: Online survey	Location: Various N=16 in-depth interviews with key informants N=120	<ul style="list-style-type: none"> <li><b>Age:</b> The proportion of children who die as a result of injury increases as they get older.</li> <li>-In conflict situations, children over the age of 10 are more likely to be killed or intentionally wounded than younger children.</li> <li><b>Gender:</b> Humanitarian emergencies, including violent conflict place children at increased risk of early marriage; girls are disproportionately affected.</li> <li>- Adolescent boys are significantly more likely to be killed during the course of a conflict than women and girls.</li> <li>- Adolescent girls are one of the most at-risk groups when it comes to sexual violence, abuse and exploitation; however, over the last decade sexual violence against men and boys has been reported in over 25 conflicts worldwide.</li> <li>- Some evidence that individuals who experience conflict-related trauma before the age of 12 were not at increased risk of developing PTSD as adults, unlike those exposed after the age of 12.</li> </ul>

Author, year, study	Research aim	Type of document	Methodology/ Research design	Sample and location	Key Findings
<p>Vossoughi, N., et al., 2016, <i>Mental Health Outcomes for Youth Living in Refugee Camps</i></p>	<p>Examines the mental health outcomes for refugee/ displaced youth in camps across several countries.</p>	<p>Peer reviewed article</p>	<p>Systematic review</p>	<p>Location: Twenty country studies, including Uganda, Iraq, Palestine and Pakistan Included 20 articles, children and adolescents with different age ranges.</p>	<p>-All studies consistently find that youth in refugee camps have high levels of mental health problems. -The prevalence of mental health disorders is shown to vary significantly across context, but in some cases, reaches 87 per cent. -Exposure to great amounts of war violence, stress or traumatic experiences was associated with more severe PTSD and depressive symptoms. <b>Age:</b> Age and gender differences in symptoms were not largely examined. However, the majority of studies that examined age found that older youth had worse symptomatology than younger youth. <b>Gender:</b> Boys displayed more aggression than girls, but it was not found that girls experience more internalizing symptoms, such as depression, as has commonly been found in Western studies. This suggests that refugee youth may be susceptible to internalizing problems, regardless of gender.</p>
<p>Dimitry, L., 2011, <i>A Systematic Review on the Mental Health of Children and Adolescents in Areas of Armed Conflict in the Middle East</i></p>	<p>Systematic literature review of the mental health of children and adolescents living in areas of armed conflict in the Middle East</p>	<p>Peer reviewed article</p>	<p>Systematic literature review</p>	<p>Location: Israel, Palestine, Lebanon and Iraq Included 54 studies, with a total sample of N= 52, 977</p>	<p>- Number of conflict-related traumatic experiences correlates positively with prevalence of mental, behavioral and emotional problems. - Prevalence of PTSD in children and adolescents is estimated to be 5-8% in Israel, 23-70% in Palestine and 10-30% in Iraq. - The main determining factors identified were level and type of exposure, age, gender, socio-economic adversity, social support and religiosity. <b>Age:</b> Older children have higher levels of objective exposure to violence than younger children; age is positively correlated with objective exposure to violence. -Most studies in the review show that older children have more PTSD than younger children.</p>

Author, year, study	Research aim	Type of document	Methodology/ Research design	Sample and location	Key Findings
<p>Harel-Fisch, Y., et al., 2010, <i>Psychosocial Outcomes Related to Subjective Threat from Armed Conflict Events (STACE): Findings from the Israeli-Palestinian cross-cultural HBSC study</i></p>	<p>Investigates the impact of exposure to armed conflict events on mental health (PTSD and psychosomatic symptoms), psychological well-being (positive life perceptions and life satisfaction) and risky behaviors (smoking and involvement in youth violence) of children</p>	<p>Peer reviewed article</p>	<p>Quantitative</p>	<p>Location: Palestine and Israel, but separates populations into four groups: Jewish Israeli, Arab Israeli, West Bank and Gaza                      N=24,935, adolescents aged 11 (6<sup>th</sup> grade), 13 (8<sup>th</sup> grade) and 15 (10<sup>th</sup> grade)</p>	<p>- The higher the exposure to armed conflict –measured through frequency, intensity and subjective fear – the higher the levels of posttraumatic and psychosomatic symptoms, the lower the levels of life satisfaction, and the higher the participation in risky behaviors considered (smoking and youth violence)                      - Findings clearly show that levels of fear among the Palestinian children in the West Bank, and especially those in Gaza are growing amidst armed conflict events.                      - Palestinian children showed both higher levels of armed conflict experience and lower levels of well-being.  <b>Age:</b> Younger Jewish and Arab Israelis and West Bank children showed higher levels of positive life perceptions.  <b>Gender:</b> Jewish and Arab Israelis and West Bank girls showed higher levels of psychosomatic symptoms than did boys.</p>

Author, year, study	Research aim	Type of document	Methodology/ Research design	Sample and location	Key Findings
Dubow, E., et al., 2010, <i>Exposure to Conflict and Violence Across Contexts: Relations to adjustment among Palestinian children</i>	Looked at the relation of exposure to political violence to psychological adjustment among Palestinian children.	Peer reviewed article	Quantitative, longitudinal study	Location: Palestine (West Bank and Gaza Strip) N=600, children and adolescents ages 8, 11 and 14	<ul style="list-style-type: none"> <li>- Respondents largely experienced exposure to conflict and violence: 61% experienced loss of, or injury to, a friend or family member and 73% witnessed actual violence.</li> <li>- Exposure to conflict and violence was a significant predictor of PTSD. The relation of exposure to violence and aggressive behavior was positive but less significant when compared to PTSD.</li> <li><i>Age:</i> 14 year-old children reported higher levels of exposure to conflict than the 8 year old's.</li> <li>- Early adolescent boys seem to be at a greater risk of PTSD symptoms in comparison to younger children.</li> <li><i>Gender:</i> Boys were exposed to higher levels of political violence than girls.</li> <li>- Girls reported higher levels of symptoms of PTSD and boys displayed higher levels of aggression than girls.</li> </ul>
Neal, S., et al., 2016, <i>The Impact of Armed Conflict on Adolescent Transitions: A systematic review of quantitative research on age of sexual debut, first marriage and first birth in young women under 20 years of age</i>	Explore the effect of exposure to conflict on adolescent sexual and reproductive health,	Peer reviewed article	Systematic literature review	Location: several, including Syria, Mali, Tajikistan, Included 21 studies, majority used adolescents 15 to 19 years of age in their samples	<ul style="list-style-type: none"> <li>- In six studies, an increase in marriage was reported during a period of conflict.</li> <li>- There was a clear pattern of younger teenagers experiencing increased rates of marriage. This was not visible among the older teenagers.</li> <li>- Five studies reported an increase in fertility during a period of conflict.</li> </ul>

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Slone, M., & Shoshani, A., 2017, <i>Children Affected by War and Armed Conflict: Parental protective factors and resistance to mental health symptoms</i>	Article examines the moderating role of parenting style and parental warmth for children exposed to war and political conflict.	Peer reviewed article	Quantitative, cross-sectional, hierarchical regressions	Location: Israel N=277, adolescents aged 12 to 14	<ul style="list-style-type: none"> <li>- Greater severity of exposure to war and political conflict was associated with more severe internalizing and externalizing symptoms and general psychological distress.</li> <li>- Authoritative parenting style by the mother and warmth were important as protective factors against children's mental health symptoms.</li> <li><b>Gender:</b> No gender differences were found in the association between exposure and symptoms despite research that shows greater internalizing symptoms among girls and more externalizing symptoms among boys.</li> </ul>
Slone, M., et al., 2017, <i>The Israeli-Palestinian conflict: Meta-analysis of exposure and outcome relations for children of the region</i>	Explored the effects of political violence exposure for Jewish Israeli, Arab Israeli and Palestinian youth from 12 years of research in the Middle East conflict.	Peer reviewed article	Meta-analysis	Location: Israel-Palestine Included 20 studies N=24,651, participants averaged 13 years old, but samples in studies included vary significantly. One study includes age group 2 to 7, another 8 to 14. Only one looks at population 10 to 18 (Slone & Shechner, 2009)	<ul style="list-style-type: none"> <li>- A small effect was visible between exposure to political violence and psychological distress. Overall effect size across different types of exposure was 0.21, a small effect.</li> <li>- Size of the effect was greater for direct exposure to violence when compared to media exposure.</li> <li>- Strongest relation emerged between exposure and posttraumatic symptoms; a weaker relation was found between exposure and psychological/emotional symptoms. These two effects were stronger than the relation between exposure and behavioral symptoms.</li> <li>- Effect size for Jewish Israeli children is significantly larger than for Palestinian children. This means that Palestinian children manifest less increases in symptoms with higher levels of exposure.</li> </ul>

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Muller, B., et al., 2017, <i>When Community Reintegration is Not the Best Option: Interethnic violence and the trauma of parental loss in South Sudan</i>	Explores how children's experiences of armed violence and parental loss affected their lives and mental well-being. Particularly relevant was the question: to what extent was orphanhood associated with traumatic experiences and adverse mental health outcomes?	Peer reviewed article	Mixed methods: Qualitative component based on interviews and focus group discussions Quantitative based on surveys	Location: South Sudan Qualitative: N=N/A, children and adolescents aged 7 to 18 years Surveys: N=330, adolescents aged 12 to 18	-Adult respondents identified witnessing the murder of loved ones as the main reason for psychological distress in children. Symptoms identified included sudden aggression or frequent crying, inability to talk and withdrawal, nightmares, among others. -Significantly higher mean scores for PTSD, anxiety and depression were visible in children with no parents when compared to children with one parent and children who still had both parents. <b>Gender:</b> Only few gender differences emerged. -Females had higher levels of anxiety than males and males had higher levels of risk taking behavior. -Girls who had been exposed to low political violence showed less substance abuse than males, but those with high exposure had similar levels of substance abuse than males.
Stone, M. & Mayer, Y., 2015, <i>Gender Differences in Mental Health Consequences of Exposure to Political Violence amongst Israeli Adolescents</i>	Examines the relation between exposure to political violence and mental health during adolescence and whether there are any gender differences in psychological outcomes.	Peer reviewed article	Quantitative	Location: Israel N=154, adolescents in high school aged 14 to 18	-Participants in the West Bank reported a higher level of exposure to political violence compared to Gaza Strip participants. -West Bank participants also reported higher levels of mental health problems, including depression, hostility and paranoid ideation symptoms, as well as PTSD and higher levels of aggression. -Exposure to political violence was found to be significantly positively correlated with most of the mental-social functioning variables. <b>Gender:</b> Girls reported more mental health symptoms and PTSD symptoms when compared to boys, while boys reported more problems in social functioning and more aggression when compared to girls.
Al-Krenawi, A. & Graham, J. 2012, <i>The Impact of Political Violence on Psychosocial Functioning of Individuals and Families: The case of Palestinian adolescents</i>	Explores how exposure to political violence predicts psychosocial functioning, PTSD, family functioning and aggression among adolescents from the West Bank versus those from the Gaza Strip.	Peer reviewed article	Quantitative, surveys	Location: West Bank and Gaza Strip N=1200, adolescents aged 14 to 18	-Participants in the West Bank reported a higher level of exposure to political violence compared to Gaza Strip participants. -West Bank participants also reported higher levels of mental health problems, including depression, hostility and paranoid ideation symptoms, as well as PTSD and higher levels of aggression. -Exposure to political violence was found to be significantly positively correlated with most of the mental-social functioning variables. <b>Gender:</b> Girls reported more mental health symptoms and PTSD symptoms when compared to boys, while boys reported more problems in social functioning and more aggression when compared to girls.

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Dajani, R., et al., 2018, <i>Hair Cortisol Concentrations in War-Affected Adolescents: A prospective intervention trial</i>	First study to prospectively examine the associations between hair cortisol concentrations (HCC) and self-reports of stress, insecurity, posttraumatic reactions and lifetime trauma	Peer reviewed article	Quantitative	733, including 411 Syrian refugees and 322 Jordanian non-refugees, adolescents aged 12 to 18	<p>Two-thirds of Syrian adolescent refugees (65.2%) had symptoms of intrusion and avoidance consistent with PTSD reaction, as compared to 18.8% of Jordanians.</p> <p>Syrian refugees had higher levels of PTSD, perceived stress, and insecurity relative to Jordanian non-refugees, but their HCC were similar to those of Jordanians at all three time-points.</p> <p>With each percentage point increase in feelings of fear and insecurity, youth were 0.02 times more likely to show hyper cortisol secretion.</p> <p>Results suggest that insecurity and PTSD symptoms predict different patterns of cortisol production over time.</p> <p>Three main findings:</p> <ul style="list-style-type: none"> <li>-Experiencing fear or insecurity was predictive of a trajectory of increased cortisol production, or <i>hypersecretion</i>.</li> <li>-Effective psychosocial interventions may lead to a normalization of cortisol levels in either direction (up -or down-regulation), both of which are likely beneficial.</li> </ul>
Save the Children, 2017, <i>Invisible Wounds: The impact of six years of war on the mental health of Syria's children</i>	Assess the impact of the war in Syria on children and adolescents and provide recommendations to reverse damages they have suffered. Research conducted was the largest and most comprehensive study of its kind in Syria focusing on children's mental health and well-being during the war.	Report	Mixed-methods: surveys, interviews and focus groups	<p>Location: Syria</p> <p>N=458, children, adolescents and adults inside seven of Syria's 14 governorates. It included:</p> <ul style="list-style-type: none"> <li>-313 individual questionnaires completed by 154 adolescents aged 13 to 17 (59 girls, 95 boys) and 159 parents</li> <li>-17 focus groups with 125 children split into four age groups: 5-7, 8-11, 12-14 and 15-17</li> </ul>	<ul style="list-style-type: none"> <li>-Children and adolescents exposed to the war have developed toxic stress.</li> <li>-51% of adults considered in the study said adolescents are turning to drugs to cope with stress.</li> <li>-Programs to address mental health issues and provide psychological support are insufficient.</li> <li>-Damages from the war may be irreversible.</li> </ul>

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Meyer, S., et al., 2018, <i>Protection and Well-Being of Adolescent Refugees in the Context of a Humanitarian Crisis: Perceptions from South Sudanese refugees in Uganda.</i>	To investigate the impact of changes in service delivery and hosting environment due to the arrival of refugees from South Sudan in the most recent wave of displacement.	Peer reviewed article	Qualitative, FGDs	Location: Two refugee settlements in Uganda experiencing a major influx of refugees from South Sudan Caregivers and adolescent refugees (n=325, 183 adolescents and 142 caregivers)	-Adolescents and caregivers perceived caregiver well-being, security and happiness as pivotal for adolescent well-being. -Another important component of psychosocial well-being is uncertainty. The influx of new refugees introduced greater uncertainty about the amount, reliability and quality of provisions of humanitarian support. For many respondents, this reinforced that theirs is a situation of lack of control over many life choices.
Cuartas, J., & Leventhal, T., 2020, <i>Exposure to Community Violence and Children's Mental Health: A quasi-experimental examination</i>	To understand if there is an impact of exposure to community violence on children's mental health in Colombia.	Peer reviewed academic article	Quantitative, quasi experimental research design with linear regression using FE, PSM	Location: Medellin, Colombia Children aged 7 to 11	Exposure to a violent crime in children's residential block was associated with increases in their mental health problems by 0.28 SD to 0.38 SD.

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Foster, H. & Brooke-Gunn, J., 2015, <i>Children's Exposure to Community and War Violence and Mental Health in Four African Countries: A stress process model</i>	To review the mental health consequences of exposure to community and war violence in four African countries.	Peer reviewed academic article	Systematic review of the literature	Location: South Africa, Rwanda, Sierra Leone and Gambia	Identified 20 quantitative studies pointing to associations between exposure to war and community violence and symptoms of PTSD, depression and aggression.
Avanci, J., et al., 2009, <i>Quando a convivência com a violência aproxima a criança do comportamento depressivo</i>	To investigate the relation between withdrawn/depressive behavior of schoolchildren and the presence/absence of violence experienced at home, at school and in the community	Peer reviewed academic article	Quantitative, using multivariate regression analysis	Location: Rio de Janeiro, Brazil Children aged 6 to 13	-Not having experienced violence in the home, school or the community was associated to the absence of withdrawal/depressive behavior.
Paula, C., et al., 2008, <i>Mental Health and Violence among Sixth Grade Students from a City in the State of Sao Paulo</i>	To analyze risk factors for mental health issues among adolescents in one city in Sao Paulo.	Peer reviewed academic article	Quantitative, using logistic regression models	Location: Barretos, Brazil Children aged 11 to 15	-Adolescents who had experienced violence were two times more likely to have mental health problems than those who had not experienced violence ( $p=0.02$ ; 95% CI: 1.12;4.22). - Among 107 students, those exposed to intrafamilial violence were three times more likely to have mental health problems than those exposed to urban violence ( $p=0.04$ ; 95% CI: 1.03;7.55).