The Long Shadow of Conflict on Human Capital: Intergenerational Evidence from Peru

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Abstract

This paper estimates the intergenerational impacts of mothers' exposure to the 1980-2000 Peruvian civil conflict on their children's socio-emotional skills development. We combine longitudinal data, which measures skills across a child's life, with historical geo-located conflict data. Exploiting spatial and temporal variation in conflict episodes, we find that mothers' exposure to conflict has adverse intergenerational effects on their children's socio-emotional outcomes of agency and pride. These effects are present at ages 8 and 12 and are robust to alternative specifications. At age 15, mothers' conflict exposure increases children's propensity to engage in crime-related risky behaviour. The analysis of mechanisms highlights the role of reduced parental investments in children, driven by constrained household resources, a quality-quantity trade-off, and diminished maternal empowerment. Finally, an examination of the mother's migration history reveals that migration decisions of her parents during the conflict partially mitigated the adverse effects on the socio-emotional development of their grandchildren.

Keywords: civil conflict, long-run effects, intergenerational, socio-emotional skills, Peru
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1 Introduction

Civil conflicts have risen sharply since the Second World War, becoming the most common form of conflict, particularly in low- and middle-income countries. Currently, nearly one in six people live in areas affected by conflict—defined as at least one conflict-related event or victim in the past year (Raleigh and Kishi, 2024). In 2023 alone, over 147,000 conflict events were recorded, reflecting a 40% increase since 2020. In 2021, the Global Peace Index reported that violence-related losses amounted to 10.9% of global GDP (IEP, 2022). Understanding the full scope of these conflicts and informing policy responses is therefore crucial.

While macroeconomic indicators often recover post-conflict (Chen et al., 2008; Waldinger, 2016), research shows that conflict leaves lasting scars on human capital, social norms, and institutions, with effects persisting long after the violence ends (Blattman and Miguel, 2010; Verwimp et al., 2019; Vesco et al., 2025). This study contributes to the emerging literature on how the long shadow of armed conflict extends to the next generation through intergenerational human capital development. While some evidence suggests that the negative effects of conflict manifest in the next generation through in-utero exposure (Bundervoet et al., 2009), few studies examine how the human capital of those born after the conflict ends is shaped by parental exposure (Akresh et al., 2023; Phadera, 2021).

Our research builds on this limited body of evidence to evaluate the intergenerational effects of civil conflict on socio-emotional skills—an increasingly recognized yet underexplored dimension of human capital. Socio-emotional skills, such as self-esteem, agency, self-efficacy, and teamwork, are now viewed as essential components of human capital (Deming, 2022) and have demonstrated strong predictive power for future success in both developed (Heckman et al., 2006; Almlund et al., 2011) and developing countries (Berniell et al., 2016; Cunningham et al., 2016; Mitchell et al., 2023).

We investigate how maternal exposure to Peru's prolonged civil conflict (1980–2000) affects the socio-emotional outcomes of their children, who were not directly exposed to violence. By combining longitudinal data from the Young Lives cohort study with geo-coded information on conflict incidents, we exploit variation in mothers' birth date, location, and the intensity and timing of violence. Our findings reveal that maternal exposure to conflict negatively affects children's socio-emotional skills, specifically agency and pride, at age 8. One additional year of maternal exposure to fatal violence reduces socio-emotional outcomes by 0.016 standard deviations (SD). Given the average maternal exposure of 1.12 years, this translates to a 0.018SD decline. The effect is robust across alternative specifications and sensitivity analyses.

Using novel data on maternal migration history, we find suggestive evidence that parental migration during the conflict partly mitigated the adverse effects on the children's socio-emotional skills. Specifically, the impact of conflict exposure—adjusted for maternal migration—is smaller but remains significant. Disaggregating maternal exposure by life stages shows that conflict during early

childhood (ages 0–5) and adolescence (ages 11–19) has the strongest impact on children's socio-emotional development, aligning with the findings of Akresh et al. (2023) for other dimensions of child development.

The negative effect persists at age 12 but diminishes by age 15 in terms of socio-emotional skills. However, by age 15, children of conflict-exposed mothers show a higher propensity for risky behaviors, particularly criminal activity. This suggests that while direct socio-emotional deficits may fade over time, maternal conflict exposure re-emerges in other behavioral domains during adolescence, shaping long-term well-being and life outcomes.

Using a conceptual framework derived from Cunha and Heckman (2008) and Cunha et al. (2010), we examine how conflict affects key inputs in a child's socio-emotional skill production function: parental investments and the socio-emotional and cognitive skills of parents. Our analysis emphasizes the critical role of parental investments. We find that maternal conflict exposure reduces investments in children, particularly in educational expenditure and reading-related activities. This reduction is driven by a quality-quantity trade-off, constrained household resources, and diminished maternal empowerment. Conflict exposure lowers household expenditures, increases maternal fertility, reduces the age at first birth, and limits mothers' ability to make household decisions.

The contributions of this paper are threefold. First, we deepen the understanding of the long-term effects of conflict. Previous studies have documented the impact of conflict on the human capital of exposed individuals, affecting health and nutrition (Bundervoet et al., 2009; Akresh et al., 2011; Akresh et al., 2012), education and skills (Shemyakina, 2011), social capital (Cassar et al., 2013; Adhvaryu and Fenske, 2023), mental health (Singhal, 2019; Swee, 2015), and labor market outcomes (Kondylis, 2010; Bozzoli et al., 2013). To our knowledge, only two studies have examined whether these effects extend to future generations not directly exposed to conflict. Akresh et al. (2023) analyze the impacts of the Nigerian civil war (1967–1970) on the health and educational outcomes of the second generation, while Phadera (2021) investigate the intergenerational effects of the Nepali civil conflict (1996–2006) on child health. We contribute to this literature by demonstrating that socio-emotional (or non-cognitive) skills in the next generation may also be adversely affected. Using unique maternal migration history data, we also show that while migration is driven by conflict exposure, it neither reduces overall exposure nor fully mitigates the adverse effects on children's socio-emotional development.

This research contributes to the literature on the formation of socio-emotional (or non-cognitive) skills. Studies in developed countries show that non-cognitive skills are sensitive to childhood investments and shocks (Cunha and Heckman, 2008). These skills are shaped by maternal education, time with children, parenting styles, and family income, and can be intergenerationally transmitted (Carneiro et al., 2013; Fletcher and Wolfe, 2016; Fiorini and Keane, 2014; Attanasio et al., 2020). This paper highlights that adverse events in a mother's life—such as exposure to armed conflict, even years before giving birth—can disrupt the development of non-cognitive skills in her children.

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Finally, our findings contribute to the body of work examining the specific legacy of the civil conflict in Peru. The literature so far has shown a variety of immediate and lasting impacts on the exposed generation. Exposure to episodes of violence led to a decrease in years of education (León, 2012), earnings and quality of jobs (Galdo, 2013), height among women (Grimard and Laszlo, 2014), the probability of incarceration (Sara, 2020), the likelihood of voting and its perception of importance (Chavez and Malasquez, 2021) and an increase in the probability of experiencing domestic violence (Gallegos and Gutierrez, 2016). Our paper contributes to this literature by showing for the first time that the adverse effects also extend to the next generation.

The paper is organized as follows: Section 2 outlines the conceptual framework. Section 3 provides background on the Peruvian civil conflict. Section 4 describes the data. Section 5 explains the identification strategy. Section 6 presents the results, followed by a discussion of mechanisms in Section 7. Section 8 concludes.

2 Conceptual framework

Parental exposure to armed conflict—whether during childhood, adolescence, or adulthood—can influence the socio-emotional development of their offspring, even when the children themselves are not directly exposed to violence (second generation effects). To illustrate this, drawing on the theoretical frameworks of Cunha and Heckman (2008) and Cunha et al. (2010), we consider the following static production function for the socio-emotional skills of children:

$$S^C = f(I^P, S^P, C^P, \theta) \tag{1}$$

where S^C, the socio-emotional skill set of the children, is determined by investments made by parents (I^P), parent's own stock of socio-emotional skills (S^P) and cognitive skills (C^P), as well as other factors (θ) that are not directly observed. The production function $f(.)$ is assumed to be monotone increasing in its arguments.

Parents choose investments (I^P) based on their resources and preferences. Exposure to conflict can disrupt parental education, health, and labor market opportunities, leading to long-term reductions in earnings and wealth (León, 2012; Galdo, 2013; Grimard and Laszlo, 2014; Swee, 2015). These economic disruptions diminish the resources available to parents—key factors for fostering socio-emotional development in children (Fletcher and Wolfe, 2016; Mitchell et al., 2023).

Exposure to conflict can also shift parents' investment decisions by disrupting family planning and altering the perceived costs and benefits of having children, particularly in economically vulnerable conditions. Conflict may lead to an increase in early marriages and higher fertility rates (Castro Torres and Urdinola, 2019; Ajefu and Casale, 2021), as families often view children as economic assets resulting in larger families with fewer resources per child. Consequently, following Becker's "quantity-quality" trade-off hypothesis, limited resources—such as time, finances, and emotional support from parents —can hinder each child's development (Becker and Lewis, 1973).

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Recent evidence indicates that increases in family size adversely affect the formation of children's socio-emotional skills (Briole et al., 2020).[1]

Adolescent mothers, in particular, may lack the parenting skills, maturity, and knowledge required for optimal investments in their children's development. They often have limited bargaining power within the household, reducing their influence on decisions about children's cognitive and non-cognitive skills (Perez-Alvarez and Favara, 2023). Conflict further exacerbates gender inequalities and heightens women's economic dependence on partners, restricting mothers' autonomy in child-rearing decisions (Ajefu and Casale, 2021; La Mattina, 2017).

Uncertainty about returns on investments in children, which are often realized far in the future, can further shape parental decisions. Risk and time preferences play a crucial role in influencing how parents allocate resources to develop children's skills (Tanaka and Yamano, 2015). Evidence suggests that exposure to conflict increases risk aversion and raises discount rates (Voors et al., 2012; Vesco et al., 2025), potentially discouraging long-term investments in children's development.

Research shows that socio-emotional skills are transmitted across generations (Grönqvist et al., 2017; Attanasio et al., 2020). Exposure to conflict is strongly associated with the onset of mental disorders in parents (Swee, 2015; Singhal, 2019; Vesco et al., 2025), which can disrupt family dynamics and adversely impact children. Caregivers grappling with emotional distress may struggle to form secure attachments or provide consistent parenting practices, such as engaging positively with their children, taking an active interest in their activities, and offering comfort during distress. These difficulties can perpetuate negative developmental cycles (Cummings et al., 1994; Sánchez-Ariza et al., 2023). In low- and middle-income countries (LMICs), parents exposed to violence often adopt harsher parenting practices, including corporal punishment, further undermining children's socio-emotional health (Mitchell et al., 2010; Morales and Singh, 2016). A recent study by Sánchez-Ariza et al. (2023) found that a psychosocial program for caregivers affected by conflict and displacement in Colombia improved not only caregivers' mental health but also the quality of child-caregiver interactions and children's socio-emotional development.

Finally, parental cognitive skills also exert a significant influence on children's socio-emotional development (Carneiro et al., 2013). A substantial body of evidence indicates that conflict devastates educational outcomes in both the short and the long run—damaging school infrastructure, increasing student and teacher absenteeism, and reducing perceived returns to education (León, 2012; Shemyakina, 2011; Swee, 2015; Vesco et al., 2025)—thus potentially impairing parents' cognitive foundations and, by extension, their children's socio-emotional growth.

In the framework presented above, the arguments of the child's socio-emotional skills production function can be affected by parent's exposure to conflict at all stages of their life (see Vesco et al., 2025 for a recent review). In the rest of this paper, we focus on the transmission of maternal exposure to conflict rather than parental exposure more broadly. This choice reflects the fact that

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[1]Conversely, while focusing family resources on an only child can boost their human capital, exclusive parental attention may foster overindulgence, and the absence of sibling interaction can hinder the development of socio-emotional attributes valued in the labor market (Chen et al., 2023).

mothers are often the primary caregivers in LMICs. In the Young Lives dataset, which we use for our analysis, 98% of mothers were identified as the primary caregivers in the baseline round. As primary caregivers, mothers spend the most time with children and make critical decisions regarding their well-being and development during formative years. This role positions them at the center of the intergenerational transmission of trauma and resilience, particularly in contexts of conflict exposure.

Lastly, note that some second-generation effects discussed here may reflect third-generation impacts. Conflict exposure during a parent's childhood or adolescence can reduce resources for their children (second generation) if their own parents were affected, limiting investments in them and indirectly impacting grandchildren (third generation). As our data cannot disentangle these effects, we abstract from these differences, and only consider net intergenerational effects based on mother exposure to conflict.

3 The Peruvian Civil Conflict (1980-2000)

The civil conflict in Peru during the 1980s and 1990s is regarded as the most violent period in the country's republican history and one of the longest-running conflicts in Latin America. In the mid-1970s, the "Communist Party of Peru – Shining Path" (PCP-SL), inspired by the Chinese Cultural Revolution, initiated a "popular war" that escalated into an armed conflict with the Peruvian government. This occurred against the backdrop of significant institutional changes and unfavorable socioeconomic conditions, including a poverty rate of 60%, extreme income inequality (with the richest 10% controlling 45% of wealth), high unemployment, and political instability, despite growth in higher education (Gonzales de Olarte et al., 1991).

These conditions fueled the spread of revolutionary ideas by the PCP-SL in the late 1970s.[2] The PCP-SL's plan aimed for staged domination—first in rural highland areas, followed by cities, and ultimately the capital, Lima (McCormick, 1992). The first violent act occurred in 1980 in Ayacucho, a southern highland region. As violence spread, the Peruvian government deployed the Armed Forces to Ayacucho in 1982. Anti-terrorist operations by the police and military involved widespread human rights violations, trapping civilians between state forces and insurgents.[3]

Figure 1 illustrates the geographical spread and intensity of violence from 1980 to 2000. The pattern reflects the PCP-SL's strategy, advancing from rural to urban areas. Official records attribute approximately 24,000 fatalities to the PCP-SL, MRTA, and government forces during the conflict (Truth and Reconciliation Commission, 2004b).[4] The peak period of violence occurred

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[2]By the end of 1982, the Marxist-Leninist group Tupac Amaru Revolutionary Movement (MRTA) was also established, contributing to terrorist violence during the 1980s and 1990s, albeit to a lesser extent (Truth and Reconciliation Commission, 2004b).

[3]The PCP-SL was estimated to be responsible for 53.68% of deaths and disappearances, whereas state agents, self-defense committees, and paramilitaries were responsible for 37.26% (Truth and Reconciliation Commission, 2004a).

[4]Peru's Truth and Reconciliation Commission (TRC) estimated the true number of deaths and disappearances

between 1983 and 1993, with two critical surges. The first, in 1983, followed the government's launch of anti-terrorist operations. The second peak, in 1989, marked the PCP-SL's strategic shift to prioritize urban warfare, particularly in Lima. This period saw intensified violence and greater mobilization in both rural and urban areas (Truth and Reconciliation Commission, 2004a). For detailed yearly victim counts, see online appendix Table A1.
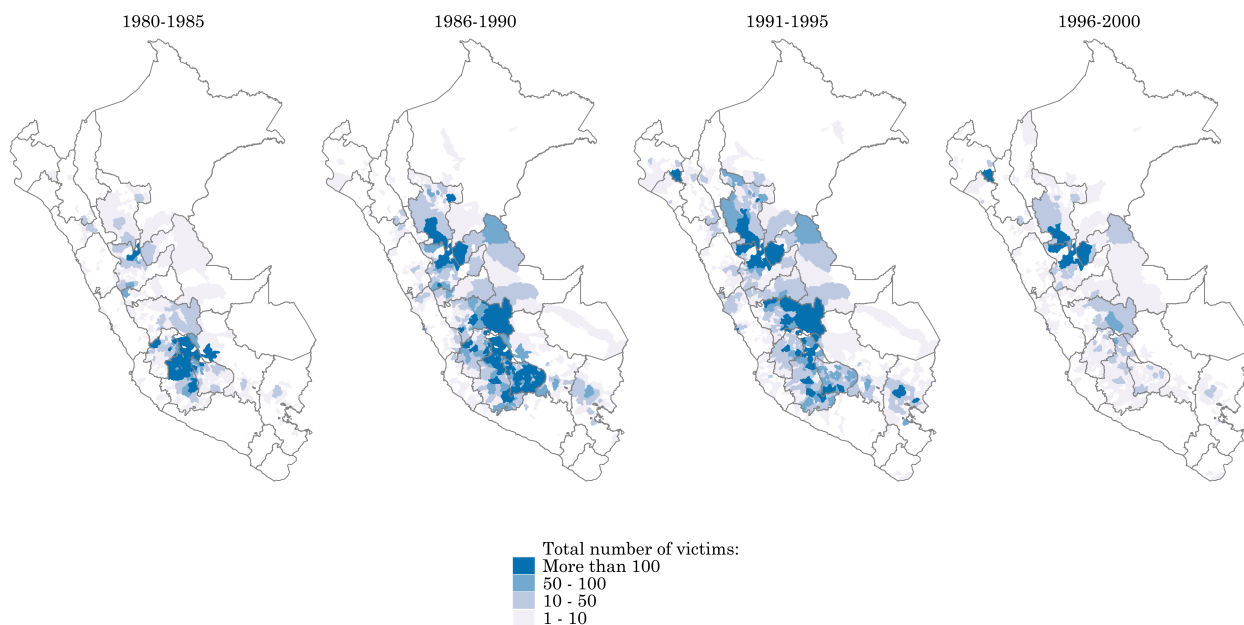

<div align="center">
1980-1985   1986-1990   1991-1995   1996-2000
</div>

Total number of victims:
More than 100
50 - 100
10 - 50
1 - 10

FIGURE 1 – GEOGRAPHICAL EXPANSION OF THE CONFLICT: NUMBER OF VICTIMS, BY DISTRICT

Notes: The figure shows the variation over time in the total number of victims of violent acts (e.g., forced disappearances, torture, murder, kidnapping) in each district from 1980 to 2000.
Source: Truth and Reconciliation Commission.

In 1992, the capture of the PCP-SL leader and much of the central committee led to a sharp decline in violent activity and diminished insurgent influence. However, human rights violations continued for several years. By 2000, the end of Alberto Fujimori's regime and the marginalization of the PCP-SL in the jungle regions marked the close of Peru's "terrorism era".

4 Data

This section outlines the primary data sources and key variables used in the analysis. First, we describe the data from the Peruvian Truth and Reconciliation Commission (TRC), which provides information on the temporal and spatial trajectory of violence during the conflict in Peru at the district and year levels. Second, we introduce the Young Lives survey, which is used to examine the intergenerational impacts of the conflict. We then detail the key variables for the analysis, including

at 69,280, with a 95% confidence interval between 61,007 and 77,552.

the intergenerational conflict exposure measure (linking TRC and YL data) and the socio-emotional skill assessments available in the YL survey. Finally, we present descriptive statistics for the sample.

4.1   Peruvian Truth and Reconciliation Commission (TRC)

Data on the Peruvian armed conflict are drawn from Peru's Truth and Reconciliation Commission (TRC), established in 2001 to construct a "historical memory" of the Civil War period. The TRC documented human rights violations committed by terrorist organizations, state agents, and paramilitary groups between 1980 and 2000, culminating in the publication of the Final Report in 2003.[5]

The TRC collected testimonies from victims or their relatives through public hearings and regional offices set up across Peru. These testimonies were validated using records from NGOs, the Red Cross, and human rights organizations (Truth and Reconciliation Commission, 2004a; León, 2012). Each violent act was systematically coded by location, date, victims, perpetrators, and type of act (e.g., murder, disappearance, rape, torture, kidnapping). Although the Final Report was published in 2003, victims could continue to submit testimonies, and the database has been updated since then. The latest dataset, accessed via the Ministry of Justice's transparency portal (https://www.transparencia.gob.pe) in 2022, includes over 36,000 violent events. A breakdown of cases by type of violence is provided in Table A2 of the online appendix.

The TRC database provides a detailed account of the conflict's progression over time at the district level, documenting the number and nature of violent acts and their perpetrators. To facilitate data collection, the TRC established regional offices, assemblies, and public hearings in 509 districts, complemented by local administrative offices and mobile teams that traveled to more remote areas. Additionally, since data collection occurred after the conflict, reports of violence often originated from locations different from where testimonies were recorded. Testimonies were also gathered from relatives of victims, further expanding the geographic scope of the data. As a result, the TRC was able to construct a comprehensive record of the conflict's impact across Peru.[6] To address concerns about potential bias in self-reported violence due to unobserved characteristics, our primary measure of violence focuses on fatal events (deaths or disappearances) at the district level, as these types of acts are less likely to be under-reported or misclassified. We later demonstrate that our results remain robust to alternative measures of conflict exposure.

4.2   Young Lives longitudinal study for Peru

Data on the outcomes of interest for both mothers and their offspring come from the Young Lives (YL) longitudinal study in Peru, an international cohort study on childhood poverty. YL conducted five rounds of in-person surveys in 2002, 2006, 2009, 2013, and 2016, referred to as Rounds 1 through 5. The study tracked approximately 2,000 index children born in 2001–2002

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[5]The full report is publicly available at: https://www.cverdad.org.pe/ifinal/

[6]According to the TRC, 1166 districts in the country (out of 1864) were affected by some type of violence.

(the "Younger Cohort") at ages 1, 5, 8, 12, and 15 during each survey round.[7] The timeline of the study is illustrated in Figure 2.

The YL sample was selected through a multistage sampling procedure, beginning with the random selection of 20 districts in Peru (excluding the wealthiest 5%) based on a district-level poverty map. Within these districts, manzanas or centros poblados (blocks or clusters of housing, referred to as sentinel sites) were randomly chosen. Finally, 100 eligible households with a child aged 6 to 18 months were randomly selected from each sentinel site (Escobal and Flores, 2009). Although YL was not designed to be nationally representative, Escobal and Flores (2009) provide statistical evidence that key wealth and living standard indicators in the overall YL sample closely tracked Peru's regional distribution at the time of the first survey.[8] Notably, YL achieved exceptionally low attrition rates compared to similar longitudinal studies in LMICs, with an annual attrition rate of only 0.6% (Sánchez and Escobal, 2020).
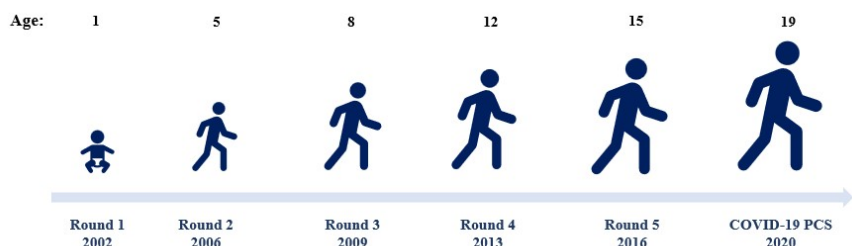

FIGURE 2 – YOUNG LIVES STUDY TIMELINE

The YL survey was designed to analyse the drivers and impacts of child poverty (Wilson et al., 2006). The survey captures a wide range of information on the index child, parents, household, and community, including socio-emotional dimensions such as agency, pride, and risky behaviors. Key variables for this research include the mother's date and place of birth. The mother's date of birth is deduced from her reported month of birth (collected in 2013) and age at the time of the interview. Place of birth (at the district level) was collected in 2006 as part of a special migration history module which recorded detailed lifetime migration histories of mothers, including geographical locations and time references for all movements up from birth to 2006.

This analysis restricts the sample to YL participants whose mothers are primary caregivers, with available data on their place and date of birth, and for whom relevant covariates, and socio-

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[7]The study also tracked an "Older Cohort" of approximately 800 individuals aged 7.5 to 8.5 years old in Round 1. This cohort is excluded from the present study to avoid including individuals directly affected by the civil conflict.

[8]Their comparison of the YL Peru Round 1 sample (2002) with two nationally representative surveys – the Living Standard Measurement Survey 2001 (ENAHO) and DHS 2000 – shows that (i) poverty rates in the YL sample align with national urban and rural averages from ENAHO, and (ii) the wealth distribution in the YL sample mirrors that of DHS.

emotional outcomes are available.[9],[10] Our primary analysis emphasizes the earliest socio-emotional measurements, collected in 2009 (YL round 3) when participants were 8 years old.

4.2.1 Measuring conflict exposure using YL and TRC data

To impute maternal exposure to violence, we use data on fatal events (deaths or disappearances) that occurred in the mother's district of birth from the time she was born, recorded at the month-year level.[11] A mother is considered affected by conflict in a given month if at least one fatal event occurred in her district of birth during that time. Since the conflict spanned 20 years, potential cumulative exposure ranges from 0 to 240 months. For simplicity of interpretation, we divide the total by 12 to express exposure in years. This yields the primary conflict exposure variable, defined as:

$$\text{MotherExposure}_{dtm} = \textit{Years of conflict}_{d,tm} = \frac{\sum_{tm=1}^{240} \mathbf{1}(\text{casuality}_{d,tm})}{12} \tag{2}$$

$$\text{where } \mathbf{1}(\text{casuality}_{d,tm}) = 1, \text{ if casuality}_{d,tm} > 0$$

Here, *Years of conflict*$_{d,tm}$ represents the cumulative years of exposure to conflict in district d, where t and m denote the year and month of the mother's birth, and tm covers all month-year combinations since birth. The variable casuality$_{d,tm}$ reflects the number of casualties in district d for a given month-year period. For the primary analysis, we consider only months with fatal events—deaths or disappearances—to minimize potential bias from self-reported violence. To reduce measurement error and avoid over-reliance on extreme cases, we use a binary indicator for the presence of violence (casualty >0), ensuring the results are not driven by outliers or inconsistencies in casualty reporting. In Section 6.2, we show that the results remain robust when non-fatal events are included and when using casualty counts as a measure of conflict intensity. While the primary analysis uses cumulative years of conflict exposure, we also examine how the results vary based on the mother's exposure at different stages of her life (Section 6.4). This measure also assumes no migration occurred between the mother's birth and the first YL survey in 2002, an assumption that is relaxed and tested in Section 6.3.

By combining individual-level YL data with district-level conflict data from the TRC, we construct measures of maternal exposure to violence, allowing for an assessment of intergenerational impacts. YL mothers were born between 1954 and 1989, overlapping with the Peruvian civil con-

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[9]To assess whether this data limitation introduces bias, we compare the original YL sample with the analytical sample. As shown in Table A3 of the online appendix, the analytical sample does not differ significantly from the original YL sample across a range of maternal, household, and child characteristics, suggesting that the restriction is unlikely to bias the results.

[10]Information on place of birth is available for only a non-random subset (68%) of fathers, limiting the inclusion of paternal exposure.

[11]This definition aligns with the literature on the impacts of the Peruvian civil conflict. See: León (2012): pp. 1006, Galdo (2013): pp. 800, Morales and Singh (2016): pp. 14-15, Grimard and Laszlo (2014): pp. 142 and Chavez and Malasquez (2021): pp. 14.

flict from 1980 to 2000. The timeline of the conflict and YL data collection rounds is shown in Figure 3, while Figure A1 in the online appendix illustrates the overlap between YL mothers' birth years and the conflict period. Based on the mother's district of birth, the YL sample spans 428 districts, representing 22.8% of all districts in Peru. Of these, 66.1% experienced at least one victim of violence (fatal or non-fatal) during the conflict, higher than the national distribution of affected districts (54.2%). Descriptive statistics on maternal exposure to violence are presented in Section 4.3.
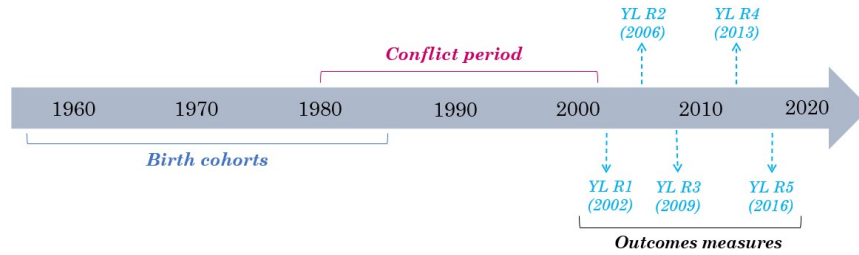

FIGURE 3 – CIVIL CONFLICT IN PERU AND YOUNG LIVES STUDY TIMELINE

4.2.2 Socio-emotional skills

Socio-emotional skills, also sometimes referred to as "non-cognitive" skills, include behavioral attributes such as motivation and self-esteem. These skills are vital for adolescent development and are positively correlated with future social and economic opportunities (Heckman et al., 2006). Additionally, the development of cognitive and socio-emotional skills is mutually reinforcing, with gains in one domain supporting progress in the other (Heckman et al., 2006; Dercon and Krishnan, 2009; Mitchell et al., 2023; Cunha and Heckman, 2008).

In the YL study, socio-emotional skills were measured through indicators such as agency and pride, derived from educational psychology literature and adapted to the cultural context through extensive piloting.[12] Agency refers to an individual's perception of control over their life, signifying the belief that outcomes result from one's actions rather than external factors such as luck, fate, or others' involvement (Rotter, 1966). Individuals with high levels of internal agency, or locus of control, attribute outcomes to their own efforts or behaviors (Bandura et al., 2006). In the YL study, the agency scale is adapted from existing scales of locus of control developed by Rotter (1966) and Bandura (1977), modified to be relevant for children. It focuses on specific life domains such as time use, school, and work, ensuring cultural and contextual relevance (Ogando and Yorke, 2018). Pride, on the other hand, assesses an individual's self-evaluation and is a modified version of the Rosenberg Self-Esteem Scale (Rosenberg, 1965), and is linked to specific aspects of the child's living circumstances such as school, employment, attire and housing (Dercon and Krishnan, 2009).

The YL study measures socio-emotional skills from age 8 through self-reported assessments of agency and pride, administered in the 2009, 2013, and 2016 survey rounds. Each indicator consists

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[12]For details on measurement and validation during the YL surveys, see Ogando and Yorke (2018).

of five statements rated on a 4-point Likert scale, from strong disagreement to strong agreement, as detailed in Table A4 of the online appendix. Additionally, assessments of self-efficacy (Schwarzer and Jerusalem, 1995), linked to the concept of agency, and self-esteem (Shavelson et al., 1976), associated with pride, were collected at ages 12 and 15.[13] For the main analysis, we focus on data collected at age 8 (agency and pride), which provides the earliest measurement of socio-emotional skills. Results using later rounds of agency and pride, as well as additional measures of self-efficacy and self-esteem, are presented in Section 6.4.

The construction of these indices followed a systematic process: statements with negative connotations were reverse-coded to ensure higher scores represent more positive outcomes. Each item was standardized by the child's age to have a mean of zero and a standard deviation of one. The final indices were calculated as the simple mean of non-missing standardized item scores.[14] Histograms of the standardized scores are presented in the online appendix Figure A3 and Figure A4.

4.3 Descriptive statistics

Table 1 presents descriptive statistics for the balanced sample of 1,752 YL index children and their mothers (sample without missing values in outcomes or relevant variables). Results are reported for the full sample (columns 1-2) and disaggregated by whether the mother was ever exposed to conflict (columns 2-3 and 4-5, respectively). Panel A summarizes maternal characteristics: on average, mothers were 27 years old in 2002, 14% had some tertiary education, 30% had an indigenous native tongue, and 30% were born in a location different from their residence during the first-round interviews in 2002.

Panel B provides child-level characteristics: 50% of YL individuals are female, 39% were the mother's firstborn, and they started first grade at an average age of 5.65. On average, they were about 12 months old during the first wave. Panel C presents maternal conflict exposure: 64% of mothers experienced conflict at some point in their lives, with an average exposure of 1.13 years for the full sample (column 1) and 1.76 years for those exposed (column 2). A similar pattern holds across different age periods.

Finally, column 7 of Table 1 tests differences in mother and child characteristics based on whether the mother was ever exposed to conflict. Exposed mothers are more likely to have lower education levels, an indigenous native tongue, a rural background, and belong to larger households (Column 4). In contrast, there are no significant differences in children's demographic characteristics based on maternal exposure to conflict.

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[13]Details on the statements comprising each variable can be found in Table A4.
[14]Following Onatski and Wang (2021), this method was preferred over principal component analysis (PCA).

TABLE 1 – SUMMARY STATISTICS, BY MOTHER'S EXPOSURE TO VIOLENCE

	Total		Exposed		Not exposed		Difference
	Mean	SD	Mean	SD	Mean	SD	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Mother characteristics							
Mother's age (years), 2002	27.04	(6.68)	26.90	(6.83)	27.29	(6.40)	0.39
Mother has complete primary or less	0.49	(0.50)	0.52	(0.50)	0.44	(0.50)	-0.08**
Mother has complete (or incomplete) secondary	0.37	(0.48)	0.34	(0.47)	0.41	(0.49)	0.06**
Mother's native tongue is indigenous	0.30	(0.46)	0.38	(0.49)	0.15	(0.36)	-0.23***
Mother lived in a different district than her birthplace by 1999	0.30	(0.46)	0.30	(0.46)	0.30	(0.46)	0.00
Mother lived in urban area, 2002	0.69	(0.46)	0.66	(0.47)	0.73	(0.44)	0.07**
Caregiver is the head's household	0.07	(0.25)	0.08	(0.27)	0.06	(0.23)	-0.02
Household size, 2002	5.69	(2.33)	5.77	(2.39)	5.53	(2.20)	-0.25*
Mother's number of children, 2002	2.69	(2.09)	2.77	(2.20)	2.54	(1.88)	-0.23*
Wealth index, 2002	0.43	(0.24)	0.43	(0.24)	0.42	(0.22)	-0.01
Mother does not have a permanent partner, 2002	0.12	(0.33)	0.14	(0.34)	0.10	(0.30)	-0.04*
Panel B: YL child characteristics							
YL is female	0.50	(0.50)	0.50	(0.50)	0.49	(0.50)	-0.01
Age in months, 2002	11.55	(3.53)	11.49	(3.51)	11.65	(3.58)	0.17
YL is the oldest sibling	0.39	(0.49)	0.39	(0.49)	0.37	(0.48)	-0.03
Child's age at start of grade 1	5.65	(0.55)	5.66	(0.56)	5.62	(0.52)	-0.04
Panel C: Mother's exposure to conflict							
Mothers affected by conflict (percent)	0.64	(0.48)	N.A.	N.A.	N.A.	N.A.	N.A.
Mother's exposure to conflict	1.13	(2.25)	1.76	(2.60)	N.A.	N.A.	N.A.
Mother's exposure to conflict at ages 0-5	0.16	(0.61)	0.24	(0.74)	N.A.	N.A.	N.A.
Mother's exposure to conflict at ages 6-10	0.27	(0.72)	0.42	(0.86)	N.A.	N.A.	N.A.
Mother's exposure to conflict at ages 11-19	0.44	(1.04)	0.69	(1.23)	N.A.	N.A.	N.A.
Mother's exposure to conflict at ages 20+	0.25	(0.98)	0.40	(1.20)	N.A.	N.A.	N.A.

Notes: The conflict exposure variables are defined as the total number of months a mother was exposed to at least one fatal event due to conflict in her birth district across a given period of her life (the variable is re-scaled in years). The wealth index is a measure of multidimensional poverty used in YL (see Briones, 2017). Summary statistics are reported for the full sample (Columns 1-2), and according to whether or not the mothers were ever exposed to the conflict (Columns 3-6). Column 7 tests for differences between means among non-exposed and exposed mothers. Significance levels at the 1, 5, and 10 percent levels denoted by $***$, $**$, and $*$, respectively.

5 Empirical Strategy

Following León (2012), the identification strategy relies on the nature of the Peruvian Civil Conflict (1980-2000), in particular the exogenous temporal and geographical variation of violent acts. As discussed in Section 3, the strategy used by the PCP-SL was political and used erratic, violent forces designed to establish a generalised sense of terror and fear in the Peruvian territory.

The following equation is used to estimate the effect of the conflict on the socio-emotional skills of the next generation:

$$Y_{oidtm} = \beta_0 + \beta_1 MotherExposure_{dtm} + X'_{oidt}\beta + Z'_p\varphi + \gamma_r + \delta_t + \theta_o + \phi_k + \epsilon_{ijdtm} \qquad (3)$$

where Y_{oidtm} is the outcome of the child o, born to a woman i, who was born in district d, in year t and month m. The outcomes are socio-emotional skills of *Agency*, *Pride* and an average of the two (called *Index*). The main independent variable, $MotherExposure_{dmt}$, measures maternal years of exposure to conflict throughout her life, based on the mother's birth in district d in month m and year t. Exposure is calculated in months and rescaled to years for simplicity. The coefficient

β_1 then captures the effect of an additional year of maternal conflict exposure during the Peruvian civil war.

The model includes fixed effects for the mother's region of birth (γ_r, district of birth d belonging to region r) to control for persistent regional effects of violence, and year of birth (δ_t) to account for cohort effects.[15] At the child level, we control for birth cohort (month-year) fixed effects (θ_o) and YL sentinel site fixed effects (ϕ_k), addressing time-invariant site-specific characteristics. Additional controls include child's sex and mother's native tongue (a proxy for ethnicity) in vector X_i and pre-conflict provincial characteristics in vector Z_p (province of birth p belonging to region r), drawn from the 1972 Peruvian census.[16] The error term, ϵ_{ijdt}, captures unexplained variation in the outcome, and standard errors are clustered at the YL sentinel site level, reflecting the multistage sampling procedure (Abadie et al., 2023).

The crucial assumption is that any relationship between exposure to violence and children's development outcomes is unlikely to be driven by omitted variables once geographic and cohort-specific variables are controlled for, such as differential inequality trends within the country. Section 6.3 discusses these factors and how they could affect our main results.

6   Main Results

6.1   Intergenerational effects of conflict

Table 2 presents the effects of maternal conflict exposure on children's socio-emotional outcomes at age 8, including agency, pride, and a combined socio-emotional index. The results show that maternal exposure to conflict has a significant negative impact on these outcomes, measured years after the conflict ended. Each additional year of exposure lowers the agency index by 0.016SD, the pride index by 0.017SD, and the combined socio-emotional index by 0.016SD — all statistically significant at the 1% level. For the average exposure of 1.13 years, this corresponds to a reduction of 0.018SD. As shown in Table A5 in the online appendix, the point estimates remain stable with the inclusion of additional controls and fixed effects.

For the main specification, we use the number of years a mother was exposed to any type of fatal event as a proxy for her cumulative conflict exposure. However, the results are robust to alternative definitions of violence, holding regardless of the type of violent act considered—whether deaths, disappearances, sexual violence, or torture—as detailed in subsection 6.2. Additionally, the results are not driven by selective migration or region-level inequality, as demonstrated in subsection 6.3.

To contextualize our results, we compare the estimated impact of maternal conflict exposure with other adverse events affecting children's agency and pride at this age. Sánchez (2017) report that a one standard deviation increase in height at age 1 (a proxy for improved early-life nutrition)

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[15]Month of birth fixed effects are excluded due to limited variation in the relatively small sample.

[16]Pre-conflict provincial controls include population size (log), female illiteracy rate, and access to piped water, with data available only at the provincial level.

TABLE 2 – INTERGENERATIONAL EFFECT OF CONFLICT EXPOSURE ON CHILD'S
SOCIO-EMOTIONAL OUTCOMES AT AGE 8

	Agency (1)	Pride (2)	Index (3)
Mother's exposure to conflict	-0.016***	-0.017***	-0.016***
	(0.004)	(0.005)	(0.003)
Observations	1,752	1,752	1,752
R-squared	0.099	0.108	0.136
Estimated mean effect	-0.018	-0.019	-0.018
	(0.004)	(0.005)	(0.003)

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). Index outcome refers to the average of both agency and pride indexes. Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). The estimated mean effect coefficient is calculated by multiplying the coefficient and the average exposure of the mother to conflict. Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

enhances socio-emotional skills at age 8 by 0.026SD. Similarly, Bedoya et al. (2020) find that maternal exposure to alcohol-induced intimate partner violence (IPV) reduces a child's agency score at age 8 by 0.14SD. The intergenerational effects observed in our study are slightly smaller but align with broader literature suggesting that external shocks generally have limited impacts on socio-emotional skills—both in absolute terms and relative to cognitive skills. For instance, Cunha and Heckman (2008) find that parental investments yield smaller effects on non-cognitive skills (0.15SD) compared to cognitive skills (0.23SD). Similarly, Dercon and Sánchez (2013) show that while maternal socio-emotional skills significantly predict child development, they explain only a modest share of the variation in children's socio-emotional outcomes.

Finally, Table A6 in the online appendix explores heterogeneous effects by sex, socioeconomic status (bottom tercile of wealth distribution), and area of residence (urban vs. rural). The results indicate no significant differences by wealth or area of residence. However, maternal conflict exposure has a stronger negative impact on girls compared to boys, highlighting potential gendered vulnerabilities in socio-emotional development.

6.2 Robustness checks

This subsection demonstrates the robustness of the results to alternative definitions of violence exposure, including variations in the type of violence experienced by mothers, the exclusion of mothers least or most affected by violence, and alternative standard error clustering.

We test the robustness of the main results by using alternative definitions of conflict. While our preferred measure focuses on maternal exposure to fatal violence (deaths and disappearances) to minimize reporting errors, we expand this to include both fatal and non-fatal violent events. Panel A of Table 3 shows that the results remain qualitatively consistent with those in Table 2.

The findings also hold when restricting the measure to non-fatal violent events.

Next, we assess robustness by replacing years of exposure with the number of victims reported in the mother's birth district after her birth.[17] Using detailed data from the TRC dataset, we calculate victims under the following classifications: total victims (fatal and non-fatal), total fatalities (deaths and disappearances), and non-fatal victims (sexual violence, torture, and other violent events).[18] Panel B of Table 3 shows that higher victim counts in all these categories consistently have adverse effects on children's socio-emotional outcomes irrespective of the type of violent act. Notably, the coefficients for the sub-component sexual violence are larger than those for other types of violence.

In our primary specification, the main independent variable is the number of years of exposure (calculated with month-level precision), with 35% of mothers in the sample having zero months of exposure. This zero value may reflect two scenarios: either the mother was born in a district unaffected by violence throughout the conflict, or she resided in a district that experienced violence, but not the fatal types included in our definition (deaths and disappearances). To account for potential systematic differences in districts never affected by violence, we restrict the sample to mothers from districts that experienced at least some fatal violence during the Peruvian civil war. Results presented in Table A7 of the online appendix remain consistent with the baseline findings, showing that maternal conflict exposure negatively affects children's socio-emotional development. To further confirm that our results are not driven by extreme events, we also re-estimate our baseline results by excluding the most heavily affected region (Ayacucho). Once again, the results are robust (Table A8 of the online appendix).

Finally, while we have followed Abadie et al. (2023) to cluster the standard errors at the YL sentinal site level to account for the YL survey sampling process, the results are also robust to clustering at the level of the district (Table A9 of the online appendix).

6.3   Threats to identification

In this subsection we discuss several potential challenges to our identification strategy. First, we examine the role of migration in biasing the results. Second, we explore whether region-level inequality trends might explain our main results. Furthermore, we carefully assess the composition of our sample, as any inherent biases or demographic differences could significantly affect the generalizability of our conclusions. Finally, we check for attrition-related bias in long-term follow-up surveys.

Internal Migration

A critical implicit assumption in our analysis has been that mothers stayed in their district of birth during the conflict years (1980-2000). In reality, internal migration — particularly from rural to urban areas — was common in Peru, often in search of better opportunities or marriage. Further-

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[17]The regression coefficients reflect the effect of each additional 100 victims for the corresponding type of violence.

[18]Other non-fatal violent events include physical violence, wounded or injured victims and kidnapping.

TABLE 3 – ALTERNATIVE MEASURES OF MOTHER'S EXPOSURE TO CONFLICT
VIOLENCE

	Agency (1)	Pride (2)	Index (3)
Panel A. Measured in number of:			
i. Years (at least one fatal or non-fatal violent victim)	-0.013***	-0.010**	-0.012***
	(0.004)	(0.005)	(0.003)
ii. Years (at least one non-fatal victim)	-0.017**	-0.012*	-0.014***
	(0.006)	(0.006)	(0.004)
Panel B. Measured in number of victims of violence:			
i. Total victims (fatal and non-fatal)	-0.016***	-0.014***	-0.015***
	(0.005)	(0.003)	(0.003)
ii. Fatal victims	-0.026***	-0.023***	-0.025***
	(0.006)	(0.005)	(0.004)
a. Death	-0.039***	-0.034***	-0.036***
	(0.009)	(0.008)	(0.006)
b. Disappearance	-0.078***	-0.068***	-0.073***
	(0.021)	(0.012)	(0.011)
iii. Non-fatal victims	-0.018*	-0.014***	-0.016***
	(0.009)	(0.003)	(0.005)
a. Sexual violence	-0.238*	-0.130**	-0.184**
	(0.129)	(0.049)	(0.067)
b. Torture	-0.024**	-0.018***	-0.021***
	(0.010)	(0.005)	(0.006)
c. Other events	-0.036***	-0.028***	-0.032***
	(0.013)	(0.005)	(0.007)
Observations	1,752	1,752	1,752

Notes: Each row corresponds to an independent regression. Independent variables for Panel B stand for the total number of victims per 100 individuals per affectation type in a given year in the mother's birth district due to the conflict. Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Index outcome refers to the average of both agency and pride indexes. Standard errors clustered at the YL sentinel site (location in 2002) and presented in parenthesis. Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

more, there might be a relationship between violence and migration. As violence escalated due to the dual threats of the PCP-SL insurgency and government counterinsurgency operations, residents of vulnerable rural areas were often forced to migrate to safer urban centers, with Lima emerging as a primary destination (Truth and Reconciliation Commission, 2004a). Previous research highlights that exposure to violence influences migration decisions, which may introduce bias in the estimated effects of conflict (Pivovarova and Swee, 2015). If wealth and the formation of socio-emotional skills are positively correlated and transmitted between generations (Sánchez-Ariza et al., 2023), greater exposure to conflict-induced migration could lead to a downward bias in our estimates. In contrast, as noted by León (2012) and Sara (2020), migrants often face discrimination, including

limited labor opportunities and imperfect access to public goods and services, which can negatively affect maternal mental health and well-being. In this case, relocation may fail to improve children's development, potentially introducing upward bias in the estimates.

To examine the role of internal migration, we begin by comparing mothers who migrated to those who did not. As shown in Table 1, 30% of mothers migrated (i.e., moved to another district) at least once between their birth and the first YL survey in 2002. Table A10 in the online appendix provides demographic comparisons between migrant and non-migrant mothers. The results indicate that mothers who migrated during the conflict period were more likely to come from wealthier and larger households and less likely to speak an indigenous language as their mother tongue.

The availability of detailed maternal migration histories allows us to conduct a more granular analysis. First, we construct a panel at the individual-year level to examine whether conflict in period $t-1$ predicts migration in period t during 1980–2000.[19] The results in Table A11 of the online appendix provide evidence that conflict influenced migration decisions. Specifically, the occurrence of at least one fatal event in the district of residence in the previous year $(t-1)$ increased the probability of migration in the following year $(t$; column 1) and migration to capital cities (column 2), though it did not significantly predict migration to non-violent areas (column 3). However, when using the number of casualties as an alternative conflict measure, we find that casualties at $t-1$ increased the likelihood of migration to districts without violence (t).

Second, we adjust the main independent variable in Equation 2 to account for migrant mothers' district of residence in each year of the conflict.[20] Replicating our main results with this adjusted conflict exposure variable, we find muted—but still significant—negative intergenerational effects of conflict on children's socio-emotional skills (Table A12 in the online appendix). These results suggest that migration partially mitigated the adverse impacts of conflict on socio-emotional development.

Although the point estimates are smaller, it is notable that our main results remain consistent when using adjusted exposure to conflict. One possible explanation is that migration did not always allow individuals to escape violence entirely. While the early years of the conflict primarily affected rural Andean areas, it later expanded to urban centers. As a result, individuals who migrated from rural to urban areas — whether to escape violence or seek better economic opportunities — may have eventually been affected as well.[21] Using the migration adjusted violence variable, Table A13 of the online appendix compares conflict exposure between migrant and non-migrant mothers. We find that migrant mothers experienced slightly higher exposure (although the difference is not statistically significant). Interestingly, for migrant mothers, adjusted exposure to conflict is 0.188 years higher than unadjusted exposure, suggesting that migration, if used as a strategy to reduce

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[19]The maternal migration history module from the 2006 survey provides retrospective information on birthplaces, migration destinations, and ages at migration, enabling us to reconstruct individual migration panels.

[20]To minimize measurement error, the adjusted violence exposure variable for each year (t) is calculated as the average exposure in the district of residence in t, $t-1$, and $t+1$.

[21]The YL data show that mothers' migration during the conflict period was primarily rural-to-urban, with the capital city being the most common destination.

violence exposure, was not entirely successful. To sum, this analysis highlights that while migration was used as a strategy to mitigate conflict exposure during the Peruvian civil war, it was not entirely successful in offsetting the negative inter-generational effects.

Inequality trends

Another potential threat to our identification strategy arises if region-level inequality trends during the conflict period were correlated with conflict location, such as differences in economic development or infrastructure investment. These factors can influence both political violence and child development. However, we argue this is unlikely, as the conflict's progression was driven by the strategic decisions of the PCP-SL and the government, including the shift from rural to urban areas and retreat to the Amazon jungle— factors unrelated to inequality trends. To address this concern, in addition to the pre-conflict provincial characteristics included in the main specification (Equation 3), we also control for region-specific linear time trends. As shown in Table A14 of the online appendix, our baseline results remain robust.

Sample composition

Our results could also be biased by selective mortality. To assess this, we examine whether birth cohort size correlates with conflict exposure. Using the 2007 Peruvian census data, we construct a district-year panel where the outcome of interest is the district-level birth cohort size for the years covered by the YL sample (1954–1987). As shown in Table A15 of the online appendix, we find no systematic relationship between conflict exposure and cohort size. This result aligns with León (2012), who similarly found no statistically significant impact of conflict exposure on district-level population density using the 1993 and 2007 Peruvian censuses.

Selective attrition in YL sample

The final concern with longitudinal data analysis is attrition, where individuals cannot be located or refuse to participate in later survey rounds, potentially leading to unrepresentative samples. However, this is not a significant issue for our study using the YL dataset, which has one of the lowest attrition rates among longitudinal studies in developing countries (Sánchez and Escobal, 2020). For the younger cohort in Peru, attrition rates were only 5.3% in 2009 and 9.4% in 2016. Furthermore, to investigate the possibility that attrition linked to our primary explanatory variable, we assess the probability of an individual exiting the YL sample by 2009, 2013, and 2016 rounds, conditional on being present in 2001 round and the availability of all relevant maternal variables. Our results show no significant correlation between attrition and conflict exposure, confirming that attrition does not bias our estimates (Table A16 of the online appendix).

6.4 Additional results

This section examines additional findings on the intergenerational impact of conflict. We first investigate whether the effects on children vary based on the mother's age during conflict exposure. Next, we assess the persistence of socio-emotional impacts as children grow older. Finally, given strong linkages between socio-emotional competencies and risky behaviors, we explore whether

maternal conflict exposure influences children's engagement in risky behaviors.

Critical periods of conflict exposure

The timing of conflict exposure is crucial, as understanding which life stages are most affected can inform more effective remedial and intervention strategies. While our primary analysis focuses on cumulative years of maternal conflict exposure, we also examine how the timing of exposure during different stages of the mother's life influences child outcomes.

The critical importance of fetal and early childhood periods (up to age 5) for shaping long-term outcomes has been documented well in the literature (Almlund et al., 2011; Grantham-McGregor et al., 2007). However, there is a growing body of research suggesting that later developmental stages, particularly adolescence, may also play a pivotal role in long-term socio-economic well-being (Akresh et al., 2023; Gangadharan et al., 2022; León, 2012; Sara, 2020; Van den Berg et al., 2014). To investigate this further, we disaggregate maternal conflict exposure into four life-cycle periods: early childhood (0–5 years), primary school years (6–10 years), secondary school years/adolescence (11–19 years), and adulthood (20 years or older). These indicators are constructed following Equation 2, with the violence variable conceptualized as the cumulative months (rescaled to years) of conflict exposure during these critical age intervals.

TABLE 4 – INTERGENERATIONAL EFFECT OF CONFLICT EXPOSURE AT AGE 8: BY DIFFERENT AGE OF EXPOSURE PERIODS

	Agency (1)	Pride (2)	Index (3)
Mother's exposure to conflict at ages 0-5	-0.053**	-0.083***	-0.068***
	(0.021)	(0.022)	(0.019)
Mother's exposure to conflict at ages 6-10	-0.000	0.047	0.023
	(0.022)	(0.030)	(0.018)
Mother's exposure to conflict at ages 11-19	-0.012	-0.030**	-0.021**
	(0.012)	(0.012)	(0.009)
Mother's exposure to conflict at ages 20+	-0.017*	-0.016	-0.017
	(0.009)	(0.023)	(0.014)
Observations	1,752	1,752	1,752
R-squared	0.100	0.110	0.138

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). Index outcome refers to the average of both agency and pride indexes. Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

Table 4 shows a negative impact of maternal conflict exposure on the socio-emotional development of offspring, with early childhood (0–5 years) and adolescence (11–19 years) being particularly significant. Each additional year of maternal conflict exposure during early childhood and adolescence is associated with a 0.07SD and 0.02SD decrease in the child's socio-emotional index, respectively. This evidence contributes to the expanding literature identifying later childhood stages as

crucial periods for development.

Persistent effects

We now assess whether maternal conflict exposure has a persistent effect on a child's long-term development by including all socio-emotional outcomes measured in later rounds of the YL study (i.e., the 2013 and 2016 rounds when the child was aged 12 and 15, respectively).[22] As shown in Table 5, maternal conflict exposure continues to have a sustained adverse impact on socio-emotional outcomes at age 12 but not at age 15, the final measurement point.[23] This lack of persistence at age 15 may reflect adolescents' increased exposure to external influences, such as peers, family, and school, compared to their more limited social environment at younger ages.

TABLE 5 – INTERGENERATIONAL EFFECT OF CONFLICT EXPOSURE ON CHILD'S
SOCIO-EMOTIONAL OUTCOMES AT AGE 12 AND 15

	Agency (1)	Pride (2)	Self-efficacy (3)	Self-esteem (4)	Index (5)
Age 12 outcomes					
Mother's exposure to conflict	-0.017***	-0.017***	-0.005	-0.016***	-0.014***
	(0.006)	(0.006)	(0.007)	(0.005)	(0.004)
Age 15 outcomes					
Mother's exposure to conflict	0.012	0.003	-0.009	0.012	0.004
	(0.010)	(0.016)	(0.007)	(0.010)	(0.006)
Observations	1,656	1,656	1,656	1,656	1,656

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). Index outcome refers to the average of both agency and pride indexes. Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. The sample size differs from the baseline results as it includes only observations with non-missing information data for all outcomes across survey rounds. Standard errors clustered at the YL sentinel site (location in 2002) and presented in parenthesis. Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

In the 2013 and 2016 rounds, the YL study collected information on the socio-emotional outcomes (agency and pride) of the immediate younger siblings of the YL index children. Therefore, it is possible to re-estimate the analysis presented in Table 5 by including the younger siblings in the sample. Results in Table A17 of the online appendix show consistent significant negative effects on socio-emotional outcomes measured in the 2013 round.

Implications for risky behaviors in adolescence

The economic literature has increasingly recognized the role of socio-emotional skills, such as self-esteem and locus of control, in influencing risky behaviors and long-term socioeconomic outcomes (Heckman et al., 2006; Cunha et al., 2010; Favara and Sanchez, 2017). Building on the established link between maternal conflict exposure and socio-emotional development, it is plausible that these

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[22]In the 2013 and 2016 rounds, Self-efficacy and Self-esteem indexes were included. Details on the statements comprising each variable can be found in Table A4.

[23]The sample size in Table 5 differs from previous tables as it includes only children present in all three survey rounds.

impacts extend to other interconnected outcomes as children mature.

At age 15, the YL study began collecting data on risky behaviors, including age at first sex, alcohol and tobacco consumption, drug use, and criminal activity. Given the sensitive nature of these topics, the YL study employed a self-administered questionnaire with protocols designed to ensure confidentiality and minimize under-reporting.[24] Risky behaviors were defined as follows: early sex refers to sexual initiation at age 15 or earlier, drug consumption refers to ever using illegal drugs (e.g., marijuana, cocaine paste, methamphetamines); alcohol and tobacco consumption refers to having consumed alcohol to the point of intoxication or smoked in the last month; and criminal behavior is measured using a composite index capturing actions such as being arrested, being sentenced, carrying a weapon, or gang involvement.

Results summarized in Table 6 show that maternal exposure to conflict significantly increases the likelihood of children engaging in criminal behaviors by age 15. For the average maternal conflict exposure (1.13 years), each additional year of exposure increases the probability of engaging in criminal behavior by approximately 1.12 percentage points (or 14.6% of the sample mean).

TABLE 6 – INTERGENERATIONAL EFFECT OF CONFLICT EXPOSURE ON CHILD'S RISKY BEHAVIOUR AT AGE 15

	Early sex (1)	Drugs (2)	Criminal behaviour (3)	Alcohol (4)
Mother's exposure to conflict	-0.002 (0.009)	-0.004 (0.005)	0.011*** (0.003)	-0.004 (0.006)
Observations	1,578	1,578	1,578	1,578
R-squared	0.069	0.081	0.084	0.086
Mean dep. variable	0.258	0.085	0.085	0.107

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Risky behaviour outcomes are asked in the 2016 round. The sample size differs from the baseline results as it includes only observations with non-missing data for all outcomes. Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

7   Mechanisms

This paper finds a robust, significantly negative association between maternal conflict exposure and the socio-emotional development of offspring. We now examine underlying pathways discussed in the conceptual framework (Section 2) by estimating the following:

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[24]Fieldworkers informed participants about the sensitive nature of the questions and assured them of their autonomy to complete the questionnaire and choose which questions to answer.

$$Y_{idtm} = \beta_0 + \beta_1 Exposure_{dt} + X'_{idtm}\beta + \gamma_r + \delta_t + \phi_k + \epsilon_{ijdtm} \tag{4}$$

where Y_{idtm} denotes the outcome for mother i, born in district d, in year t and month m. X_i controls for indigenous native tongue. All the other terms in the right-hand side of the equation have the same meaning as those presented in Equation 2.

We begin by examining the role of parental investment in Table 7 using three measures: (i) the proportion of household monthly expenditure allocated to education; (ii) an index capturing reading encouragement, including parental support for reading habits and household reading resources; and (iii) an index reflecting parental involvement, measured by parents' knowledge of their child's daily life.[25] Results in columns 1–3 of Panel A show that maternal conflict exposure significantly reduces investment in children's education and reading skills, while no significant effects are observed for parental involvement (column 3).

Lower investments in children may stem from: (i) limited resources; (ii) a "quality-quantity" trade-off, where fewer resources are available per child; (iii) lack of parental skills or reduced maternal empowerment; and (iv) parental risk and time preferences regarding investments. First, in columns 4–5 of Panel A (Table 7), we examine the relationship between maternal conflict exposure and household resources. The results show that conflict exposure is significantly associated with lower monthly real household food expenditure per capita, indicating constrained resources. However, there is no evidence of a direct effect on household wealth.[26]

Second, results suggest a potential "quality-quantity" trade-off at play, with maternal exposure to conflict significantly associated with a higher probability of teenage pregnancy, lower age at first birth, and higher fertility (columns 1–3 of Panel B). This channel is further corroborated by examining effects on children's time use. From the YL 2009 survey, we have data on the number of hours children spend on various activities in an average day. Using these data, we find that maternal conflict exposure is significantly associated with fewer hours spent by the index child studying and playing, and more hours dedicated to caring for other household members and doing household chores (columns 1–4 of Table 8). The "quality-quantity" trade-off can also imply a weakened parent-child relationship. The YL survey collected data on this relationship from the child's perspective using the Marsh Self-Description Questionnaire-II (Marsh, 1990) in the 2013 survey round where a higher score indicates a more positive relationship.[27] Using this index as an outcome variable in column 5 of Table 8, we find that maternal conflict exposure significantly weakens the parent-child relationship.

Third, we examine the role of parental skills, maturity, and maternal empowerment. Given the earlier finding that conflict exposure increases the likelihood of teenage pregnancy and lowers age at

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[25]Details of the questions are provided in Table A18 of the online appendix.

[26]The wealth index is a continuous measure ranging between 0 and 1, representing the poorest and wealthiest households, respectively. For further details, refer to Briones (2017).

[27]This questionnaire includes 9 questions directly administered to the child, assessing whether the child felt liked or understood by their parent.

first birth, parental skills and maturity may partly explain our primary effects. We proxy maternal empowerment using two variables: whether the mother is engaged in wage labor and whether she is the primary decision-maker regarding household assets and activities.[28] While we do not find any significant effects on mothers' wage employment, we find that conflict exposure significantly reduces the probability of the mother being the primary decision-maker in the household (columns 4–5 of Panel B, Table 7).

Fourth, as outlined in the conceptual framework, maternal conflict exposure may increase risk aversion or raise discount rates, discouraging long-term investments in children's socio-emotional development. However, we lack the data to directly assess this pathway.

Lastly, we examine the potential role of mothers' cognitive and socio-emotional skills in explaining our results. We find no significant effects of conflict exposure on mothers' educational attainment (likelihood of completing primary school) or socio-emotional outcomes, such as mental health, agency, and self-esteem measures (Table A20 of the online appendix).[29]

To summarize, our findings suggest that the negative effects of maternal conflict exposure on children's socio-emotional skills are driven by reduced parental investments, which may result from constrained resources, quality-quantity trade-offs, and diminished maternal empowerment within the household.

8   Conclusion

In summary, this study enhances our understanding of the long-term repercussions of civil conflict, providing new evidence that intergenerational impacts extend to socio-emotional skills—a critical yet understudied dimension of human capital. By exploiting spatial and time-varying exposure to conflict, we identify a significant relationship between maternal exposure to violence and adverse effects on children's socio-emotional outcomes, particularly agency and pride during early childhood. These effects persist into early adolescence (age 12) but diminish by age 15, likely reflecting the uneven developmental trajectories and socio-emotional changes characteristic of adolescence (Blakemore, 2008).

While some socio-emotional effects may fade over time, early-life reductions in agency and pride can have lasting downstream consequences. Notably, we find that maternal conflict exposure significantly increases the likelihood of children engaging in criminal behavior at age 15. This suggests that even modest disruptions in socio-emotional development can compound over time, shaping long-term well-being and life outcomes.

The analysis of migration patterns presents a complex picture. Migration partially alleviated

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[28]The latter is a dummy variable equal to 1 if the mother is responsible for any of the following: (i) making key decisions about land, (ii) making key decisions about animals, or (iii) deciding on wage work activities.

[29]We also explore partner-related outcomes, as they may influence household dynamics. Specifically, we assess how conflict exposure affects the likelihood of the mother's partner getting drunk, his presence in the household, and his employment status. Results in Table A19 of the online appendix suggest that conflict exposure is negatively associated with the partner's household presence.

TABLE 7 – EFFECT OF CONFLICT EXPOSURE: PARENTAL INVESTMENT, HOUSEHOLD RESOURCES AND PREFERENCES OUTCOMES

Panel A. Parental investments					
	Education expenditure (1)	Reading encouragement (2)	Parental involvement (3)	Food HH expenditure (4)	Wealth index (5)
Mother's exposure to conflict	-0.002***	-0.009**	0.003	-0.010*	-0.001
	(0.001)	(0.003)	(0.003)	(0.005)	(0.003)
Mean dep. variable	0.112	0.683	0.782	5.206	0.430
Panel B. Mother's outcomes					
	Teenage pregnancy (1)	Age at first birth (2)	Number of children (3)	Waged worker (4)	Makes HH decisions (5)
Mother's exposure to conflict	0.014***	-0.127***	0.043*	-0.006	-0.012**
	(0.004)	(0.042)	(0.022)	(0.004)	(0.004)
Mean dep. variable	0.371	21.534	2.523	0.182	0.437
Observations	1,752	1,752	1,752	1,752	1,752

Notes: Independent variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district. Fixed effects included in all regressions are: mother's birth year, mother's birth region and location in the 2002 round. The control variables included in the regressions was the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

TABLE 8 – EFFECT OF CONFLICT EXPOSURE: CHILDREN'S TIME USE (IN HOURS) AND CHILD-PARENT RELATIONSHIP

	Play (1)	Care (2)	Chores (3)	Study (4)	Child-parent relationship (5)
Mother's exposure to conflict	-0.034*	0.022*	0.020***	-0.023*	-0.022**
	(0.019)	(0.011)	(0.006)	(0.012)	(0.010)
Mean dep. variable	4.123	0.491	0.877	1.881	0.015
Observations	1,752	1,752	1,752	1,751	1,697

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). The first four columns refer to the average hours dedicated to each activity, and the last column refers to a child-parent relationship perception index. All outcomes refer to the YL child. Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

some adverse effects of conflict, but accounting for migration also reveals higher exposure to violence, reflecting the evolving nature of the Peruvian conflict, which eventually affected urban centers—initially safe havens for economic migrants.

Our investigation into mechanisms highlights that maternal conflict exposure reduces parental investments in children. This is driven by a quality-quantity trade-off, constrained household resources, and diminished maternal empowerment. Conflict exposure increases maternal fertility, lowers age at first birth, and reduces mothers' ability to make household-level decisions.

This study has some limitations. The cohort design means mothers were selected because they had a child of a specific age, and geographic diversity is limited to 20 sites. Additionally, we examine impacts only up to age 15, leaving questions about whether these effects persist into adulthood, particularly for risky behaviors. Future research should explore these longer-term outcomes.

Our findings document the enduring and wide-ranging effects of the Peruvian civil conflict on individuals and their families. They underscore the need for comprehensive support systems, including targeted interventions to improve socio-emotional outcomes and prevent criminal behavior among adolescents, not just adults (Addison et al., 2016). By understanding the mechanisms driving these impacts, policymakers can design strategies to mitigate intergenerational harm and foster resilience in affected communities.

Declaration of interest:

None.

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Online Appendix

1. Tables

TABLE A1 – TOTAL NUMBER OF VICTIMS CAUSED BY THE CIVIL CONFLICT
DURING 1980-2000, BY YEAR

Year (1)	Number of Victims (2)
1980	1,046
1981	1,275
1982	4,039
1983	10,471
1984	20,472
1985	10,185
1986	7,880
1987	8,916
1988	11,541
1989	14,680
1990	14,618
1991	8,806
1992	10,239
1993	6,657
1994	4,245
1995	3,729
1996	2,606
1997	2,327
1998	1,869
1999	1,302
2000	641
Total	147,544

Notes: The information is provided by the Truth and Reconciliation Commission and reports the total number of victims during the conflict period (1980-2000) by year.

TABLE A2 – TOTAL NUMBER OF CIVIL CONFLICT INCIDENTS PER AFFECTATION TYPE

Affectation Type (1)	Number of Cases (2)
Forced displacement	71,616
Torture	49,435
Death	24,144
Arbitrary detention	17,543
Kidnapping	14,475
Wounded or Injured Victims	13,266
Enforced disappearance	8,993
Sexual violence	6,758
Forced Recruitment	2,198
Prison being Innocent	1,515
Victims with Disabilities	1,161
Minor member of CAD	652
Undocumented	47
Unduly requisitioned	37
Null	3
Total	211,843

Notes: The information is provided by the Truth and Reconciliation Commission and reports the total number of victims during the conflict period (1980-2000) by affectation type.

TABLE A3 – COMPARING ANALYTICAL SAMPLE WITH YOUNG LIVES R1

	R1 Original sample			Final Analytical sample			Difference
	Mean (1)	SD (2)	N (3)	Mean (4)	SD (5)	N (6)	(7)
Panel A: Mother characteristics							
Mother's age (years), R1	27.04	(7.02)	2047	27.04	(6.68)	1752	0.00
Mother has complete primary or less	0.49	(0.50)	1956	0.49	(0.50)	1752	0.00
Mother has complete (or incomplete) secondary	0.36	(0.48)	1956	0.37	(0.48)	1752	-0.01
Mother has some level of higher education	0.15	(0.36)	1956	0.14	(0.35)	1752	0.01
Mother's native tongue is indigenous	0.29	(0.45)	2051	0.30	(0.46)	1752	-0.01
Mother lived in a different district than her birthplace by 1999	0.30	(0.46)	1872	0.30	(0.46)	1746	0.00
Mother lived in urban area, R1	0.69	(0.46)	2051	0.69	(0.46)	1752	-0.00
Caregiver is the head's household, R1	0.08	(0.26)	2051	0.07	(0.25)	1752	0.01
Household size, R1	5.70	(2.33)	2051	5.69	(2.33)	1752	0.02
Mother's number of children, R1	2.67	(2.10)	2050	2.69	(2.09)	1752	-0.02
Wealth index, R1	0.42	(0.24)	2046	0.43	(0.24)	1752	-0.01
Mother does not have a permanent partner, R1	0.11	(0.32)	2051	0.12	(0.33)	1752	-0.01
Mother is the primary caregiver	0.95	(0.21)	1953	1.00	(0.08)	1752	-0.05***
Natural region is Coast	0.35	(0.48)	2051	0.35	(0.48)	1752	-0.01
Natural region is Andean/Mountain	0.50	(0.50)	2051	0.50	(0.50)	1752	0.01
Natural region is Jungle	0.15	(0.36)	2051	0.15	(0.36)	1752	0.00
Panel B: YL child characteristics							
YL is female	0.50	(0.50)	2051	0.50	(0.50)	1752	0.00
Age in months, R1	11.53	(3.54)	2051	11.55	(3.53)	1752	-0.01
YL is the oldest sibling	0.40	(0.49)	2051	0.39	(0.49)	1752	0.01

Notes: The wealth index is a measure of multidimensional poverty used in YL. For more information about this variable, see Briones (2017). R1 original sample (columns 1-3) corresponds to the original sample collected in 2002. Columns 4-6 correspond to the analytical sample used in the baseline results. Column 7 tests for differences between means original R1 YL data and the final analytical sample. Significance levels at the 1, 5, and 10 percent levels denoted by $***$, $**$, and $*$, respectively.

TABLE A4 – CHILD'S SOCIO-EMOTIONAL SCALES IN YOUNG LIVES

Scale	YL Round	Statements
Agency Index	3, 4 and 5	1. If I try hard, I can improve my situation in life 2. Other people in my family make all the decisions about how I spend my time 3. I like to make plans for my future studies and work 4. If I study hard at school, I will be rewarded by a better job in the future 5. I have no choice about the work I do – I must do this sort of work
Pride Index	3, 4 and 5	1. I am proud of my shoes or of having shoes 2. I am proud of my clothes 3. I am never embarrassed because I do not have the right books, pencils or other equipment 4. I am proud that I have the correct uniform 5. I am proud of the work I have to do
Self-efficacy Index	4 and 5	1. I can always manage to solve difficult problems if I try hard enough 2. If someone opposes me, I can find the means and ways to get what I want 3. It is easy for me to stick to my aims and accomplish my goals 4. I am confident that I could deal efficiently with unexpected events 5. Thanks to my resourcefulness, I know how to handle unforeseen situations 6. I can solve most problems if I invest the necessary effort 7. I can remain calm when facing difficulties because I can rely on my coping abilities 8. When I am confronted with a problem, I can usually find several solutions 9. If I am in trouble, I can usually think of a solution 10. I can usually handle whatever comes my way
Self-esteem Index	4 and 5	1. I do lots of important things 2. In general, I like being the way I am 3. Overall, I have a lot to be proud of 4. I can do things as well as most people 5. Other people think I am a good person 6. A lot of things about me are good 7. I'm as good as most other people 8. When I do something, I do it well

TABLE A5 – INTERGENERATIONAL EFFECT OF CONFLICT EXPOSURE ON CHILD'S SOCIO-EMOTIONAL OUTCOMES AT AGE 8: FULL CONTROLS

	Agency					Pride					Index				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Mother's exposure to conflict (in number of years)	-0.011**	-0.015***	-0.015***	-0.016***	-0.016***	-0.015*	-0.018**	-0.017***	-0.017***	-0.017***	-0.013*	-0.017***	-0.016***	-0.016***	-0.016***
	(0.005)	(0.003)	(0.003)	(0.003)	(0.004)	(0.009)	(0.006)	(0.005)	(0.004)	(0.005)	(0.006)	(0.004)	(0.003)	(0.003)	(0.003)
Observations	1,752	1,752	1,752	1,752	1,752	1,752	1,752	1,752	1,752	1,752	1,752	1,752	1,752	1,752	1,752
R-squared	0.002	0.090	0.092	0.098	0.099	0.003	0.094	0.098	0.108	0.108	0.004	0.122	0.125	0.135	0.136
Mother's Birth Year FE		X	X	X	X		X	X	X	X		X	X	X	X
Mother's Birth Region FE		X	X	X	X		X	X	X	X		X	X	X	X
Location in Round 1 FE		X	X	X	X		X	X	X	X		X	X	X	X
Mother-level controls			X	X	X			X	X	X			X	X	X
Child's Birth Month-Year FE				X	X				X	X				X	X
Child-level controls				X	X				X	X				X	X
Province-level controls					X					X					X

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). Index outcome refers to the average of both agency and pride indexes. Fixed effects included in regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

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TABLE A6 – INTERGENERATIONAL EFFECT OF CONFLICT EXPOSURE ON CHILD'S
SOCIO-EMOTIONAL OUTCOMES AT AGE 8: HETEROGENEITY ANALYSIS

	Agency (1)	Pride (2)	Index (3)
Panel A: Female			
Mother's exposure to conflict	-0.011**	-0.007	-0.009**
	(0.005)	(0.005)	(0.004)
Interaction	-0.010	-0.020*	-0.015*
	(0.007)	(0.010)	(0.007)
Panel B: Bottom WI tercile			
Mother's exposure to conflict	-0.015**	-0.010*	-0.012**
	(0.006)	(0.005)	(0.004)
Interaction	-0.001	-0.012	-0.006
	(0.012)	(0.008)	(0.009)
Panel C: Rural location in 2002			
Mother's exposure to conflict	-0.023***	-0.019***	-0.021***
	(0.007)	(0.006)	(0.004)
Interaction	0.014	0.003	0.009
	(0.010)	(0.013)	(0.008)
Observations	1,752	1,752	1,752

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). Index outcome refers to the average of both agency and pride indexes. Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002) and presented in parenthesis. Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

TABLE A7 – EXCLUDING DISTRICTS THAT NEVER EXPERIENCED VIOLENCE

	Agency (1)	Pride (2)	Index (3)
Mother's exposure to conflict	-0.014***	-0.019***	-0.017***
	(0.004)	(0.005)	(0.003)
Observations	1,326	1,326	1,326
R-squared	0.127	0.128	0.163

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). Index outcome refers to the average of both agency and pride indexes. Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

TABLE A8 – EXCLUDING THE MOST VIOLENTLY AFFECTED REGION DURING THE CONFLICT PERIOD: AYACUCHO

	Agency (1)	Pride (2)	Index (3)
Mother's exposure to conflict	-0.010	-0.016***	-0.013**
	(0.006)	(0.005)	(0.005)
Observations	1,562	1,562	1,562
R-squared	0.103	0.112	0.139

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). Index outcome refers to the average of both agency and pride indexes. Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

TABLE A9 – BASELINE RESULTS, DIFFERENT LEVELS OF CLUSTERING STANDARD ERRORS

	Agency (1)	Pride (2)	Index (3)
Panel A: Clustered at YL sentinel site level			
Mother's exposure to conflict	-0.016***	-0.017***	-0.016***
	(0.004)	(0.005)	(0.003)
Panel B: Clustered at district of birth level			
Mother's exposure to conflict	-0.016*	-0.017**	-0.016***
	(0.009)	(0.007)	(0.005)
Observations	1,752	1,752	1,752

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). Index outcome refers to the average of both agency and pride indexes. Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

TABLE A10 – SUMMARY STATISTICS, BY MOTHER'S MIGRATION STATUS

	Total		Not migrant		Migrant		Difference
	Mean (1)	SD (2)	Mean (3)	SD (4)	Mean (5)	SD (6)	(7)
Violence in mother's house'	0.36	(0.48)	0.35	(0.48)	0.38	(0.49)	-0.04
Mother's native tongue is indigenous	0.29	(0.45)	0.33	(0.47)	0.25	(0.43)	0.07**
Mother has completed high school	0.36	(0.48)	0.35	(0.48)	0.40	(0.49)	-0.05
Wealth index, R1	0.42	(0.24)	0.41	(0.24)	0.48	(0.22)	-0.08***
Household size, R1	5.70	(2.34)	5.87	(2.43)	5.29	(2.05)	0.58***

Notes: Column 4 tests for differences between means among non-migrant (Columns 3-4) and migrant mothers (Columns 5-6). Migrant mothers are defined as those mothers who lived in a different district than their birthplace by 1999. Violence in the mother's house is a dummy equal 1 if the mother recalls any violence in their parent's house. The wealth index is a measure of multidimensional poverty used in YL. For more information about this variable, see Briones (2017). Significance levels at the 1, 5, and 10 percent levels denoted by $***$, $**$, and $*$, respectively.

TABLE A11 – ASSOCIATION BETWEEN MIGRATION AND CIVIL CONFLICT: EVIDENCE FROM YL PANEL OF MIGRATION HISTORY

	Migration		Migration to capital		Safe migration	
	(1)	(2)	(3)	(4)	(5)	(6)
At least one casualty $(t-1)$	0.015*** (0.003)		0.005*** (0.002)		0.001 (0.001)	
Number of casualties/100 $(t-1)$		0.007 (0.010)		0.004 (0.007)		0.002*** (0.000)
Observations	36,276	36,276	36,276	36,276	36,276	36,276
R-squared	0.100	0.100	0.058	0.058	0.055	0.055

Notes: Independent variables stand for (i) at least one fatal event due to the conflict in her residing district or (ii) number of casualties divided by 100 in her residing district. The panel comprises information between 1980 and 2000. All regressions include year-fixed effects as well as district-individual fixed effects. Standard errors clustered at the mother's district of birth level Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

TABLE A12 – INTERGENERATIONAL EFFECTS OF CONFLICT ON CHILD'S
SOCIO-EMOTIONAL OUTCOMES AT AGE 8: ADJUSTING EXPOSURE TO CONFLICT
FOR MIGRANT MOTHERS

	Adjusted for migration		
	Agency (1)	Pride (2)	Index (3)
Mother's exposure to conflict (adjusted)	-0.005 (0.008)	-0.017*** (0.005)	-0.011*** (0.003)
Observations	1,752	1,752	1,752
R-squared	0.098	0.108	0.135

Notes: The independent variable for all models stands for the total number of months re-scaled in years; a mother was exposed to at least one fatal event due to the conflict in her residing district across her whole life. Exposure to conflict variables is adjusted, so it includes the district of residence of migrant mothers. Index outcome refers to the average of both agency and pride indexes. Fixed effects included in all regressions are: mother's birth year, mother's birth region and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

TABLE A13 – MOTHER'S EXPOSURE TO CONFLICT ADJUSTED BY MIGRATION

	Total		Not migrant		Migrant		Difference
	Mean (1)	SD (2)	Mean (3)	SD (4)	Mean (5)	SD (6)	(7)
Exposure to conflict							
Mother's exposure to conflict	1.20	(2.26)	1.18	(2.29)	1.24	(2.17)	-0.06
Mother's exposure to conflict at ages 0-5	0.26	(0.76)	0.28	(0.79)	0.17	(0.65)	0.11*
Mother's exposure to conflict at ages 6-10	0.33	(0.78)	0.35	(0.78)	0.28	(0.75)	0.08
Mother's exposure to conflict at ages 11-19	0.45	(1.04)	0.45	(1.05)	0.44	(1.02)	0.01
Mother's exposure to conflict at ages 20+	0.35	(1.12)	0.34	(1.10)	0.38	(1.18)	-0.04

Note: The conflict exposure variables are defined as the total number of months a mother was exposed to at least one fatal event due to conflict in her residing district across a given period of her life (the variable is re-scaled in years). Exposure to conflict variables in this table are adjusted, so the variables include the district of residence for migrant mothers. Column 4 tests for differences between means among non-migrant (Columns 3-4) and migrant mothers (Columns 5-6). Significance levels at the 1, 5, and 10 percent levels denoted by ∗ ∗ ∗, ∗∗, and ∗, respectively.

TABLE A14 – ACCOUNTING FOR BIRTH REGION TIME TRENDS

	Agency (1)	Pride (2)	Index (3)
Mother's exposure to conflict (in number of years)	-0.024*** (0.005)	-0.020*** (0.006)	-0.022*** (0.004)
Observations	1,634	1,634	1,634
R-squared	0.234	0.254	0.268

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). Index outcome refers to the average of both agency and pride indexes. Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

TABLE A15 – VARIATION IN COHORT SIZE AND COMPOSITION DURING THE CONFLICT PERIOD: EVIDENCE FROM PERU CENSUS DATA

	District cohort size		District cohort female percent	
	(1)	(2)	(3)	(4)
Any violent event	0.003 (0.009)		-0.002 (0.005)	
Any violent event with fatalities		0.016 (0.012)		-0.006 (0.006)
Observations	62,280	62,280	61,942	61,942
R-squared	0.97	0.97	0.24	0.24

Notes: Information comes from the Peruvian Census 2007 for the sample born between 1954 and 1987 to make it comparable with the YL mothers sample. Outcomes are the logarithm of the population per year per district and the percentage of female inhabitants per district per year. Each column corresponds to a different regression. Independent variables are as follows: Column (1) measures the presence of violence by any violent event that happened due to conflict in that year, and column (2) only counts the presence of violence in those events with at least one fatality (death or forced disappearing). All models include fixed effects at the district level and cohort year. Standard errors clustered at the district level in parentheses. Significance levels at the 1, 5, and 10 percent levels are denoted by ***, **, and *, respectively.

TABLE A16 – PROBABILITY OF EXITING THE YOUNG LIVES SAMPLE

	Not found in Round 3 (1)	Not found in Round 4 (2)	Not found in Round 5 (3)
Mother's exposure to conflict	-0.001 (0.002)	-0.000 (0.003)	-0.002 (0.005)
Observations	1,827	1,827	1,827
R-squared	0.070	0.083	0.073

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). Index outcome refers to the average of both agency and pride indexes. Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth month-year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

TABLE A17 – INTERGENERATIONAL EFFECT OF CONFLICT EXPOSURE: INCLUDING
YOUNGER SIBLINGS

	Agency (1)	Pride (2)	Index (3)
Round 2013 outcomes			
Mother's exposure to conflict	-0.016***	-0.018***	-0.019**
	(0.003)	(0.004)	(0.007)
Round 2015 outcomes			
Mother's exposure to conflict	-0.004	-0.003	0.006
	(0.005)	(0.017)	(0.010)
Observations	2,293	2,293	2,293

Notes: The conflict variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district across her whole life (the variable is re-scaled in years). Index outcome refers to the average of both agency and pride indexes. Outcomes were collected when the YL index child was age 12 and 15, respectively. Fixed effects included in all regressions are: mother's birth year, mother's birth region, child's birth year and location in the 2002 round. The control variables included in all regressions are the sex of the child and the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

Variable name	Type	Description
1. Education expenditure	Dichotomical	Mother has a job and received a salary (R2).
2. Reading encouragement	Index	Composed of 4 yes/no questions made to the parents and 1 standardized continuous answer (R3): a. Do you encourage your child to read? b. Does your child read texts for fun (i.e. not assigned as homework)? c. Do you have a dictionary at home? d. Does your child use the dictionary at home? e. How many books do you have at home, excluding school textbooks?
3. Parental involvement	Index	Composed of 6 yes/no questions made to the parents (R3): a. Do you know the names of your child's friends? b. Do you know what your child does after school/work? c. Do you feel a close relationship with your child? d. Do you know the parents of your child's friends? e. Do you know your child's teacher? f. Do you talk to your child about politics or political participation?
4. Household expenditure in food	Continous	The amount of money spent on food items in the last month, in per capita real terms (R3)
5. Wealth index	Index	A measure of household socio-economic status (R1), ranging between 0 and 1, representing the poorest and wealthiest households, respectively.
6. Teenage pregnancy	Dichotomical	Mother has given birth before the age of 20.
7. Age at first birth	Continuous	Mother's age at first birth.
8. Number of children born	Continuous	Mother's number of children born (alive).
9. Mother is a waged worker	Dichotomical	Mother has a job and received a salary (R2).
10. Mother makes household decisions	Dichotomical	Mother is the primary household member making decisions in the household about (i) the land, (ii) the animals, or (iii) work for wage activities (R2).
11. Mother's educational level	Dichotomical	Mother's highest educational level is complete primary (R2).
12. Agency Index	Index	Composed of 5 5-point scale questions (1: strongly agree, 0: strongly disagree) made to the caregiver (R3): a. If I try hard, I can improve my situation in life b. I like to make plans for my future c. I have no choice about which should to send my child to d. If my child gets really sick, I can do little to help him/her get better e. I can do little to help my child do well in school, no matter how hard I try
13. Self-esteem Index	Index	Composed of 5 5-point scale questions (1: strongly agree, 0: strongly disagree) made to the caregiver (R3) a. I feel proud to show my friends or other visitors where I live b. I feel proud of my clothes c. I feel proud of the job done by my spouse d. The job I do makes me feel proud e. I feel proud of my children
14. Mental Health Index	Index	Composed of 20 2-point scale; 1: Agrees; 0: disagrees questions made to the caregiver (R3) a. Do you often have headaches? b. Is your appetite poor? c. Do you sleep badly? d. Are you easily frightened? e. Do your hands shake? f. Do you feel nervous, tense, or worried? g. Is your digestion poor? h. Do you have trouble thinking clearly? i. Do you feel unhappy? j. Do you cry more than usual? k. Do you find it difficult to enjoy your daily activities? l. Do you find it difficult to make decisions? m. Is your daily work suffering? n. Are you unable to play a useful part in life? o. Have you lost interest in things? p. Do you feel that you are worthless person? q. Has the thought of ending your life been on your mind? r. Do you feel tired all the time? s. Do you have uncomfortable feelings in your stomach? t. Are you easily tired?

TABLE A19 – EFFECT OF CONFLICT EXPOSURE: PARTNER-RELATED OUTCOMES

	Drunk Partner	Father is not present daily	Father is not employed
	(1)	(2)	(3)
Mother's exposure to conflict	-0.002	0.005*	-0.003
	(0.007)	(0.003)	(0.004)
Mean dep. variable	0.511	0.168	0.074
Observations	1,752	1,752	1,752

Notes: Independent variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district. Fixed effects included in all regressions are: mother's birth year, mother's birth region and location in the 2002 round. The control variables included in the regressions was the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.

TABLE A20 – EFFECT OF CONFLICT EXPOSURE: MOTHER'S COGNITIVE AND NON-COGNITIVE OUTCOMES

	Mother's cognitive outcomes	Mother's Socio-emotional outcomes		
	Years of education	Mental health	Agency	Self esteem
	(1)	(2)	(3)	(4)
Mother's exposure to conflict	-0.009	0.026	-0.024	-0.024
	(0.007)	(0.051)	(0.016)	(0.021)
Mean dep. variable	0.491	3.642	5.850	5.594
Observations	1,752	1,752	1,752	1,752

Notes: Independent variable for all models stands for the total number of months a mother was exposed to at least one fatal event due to the conflict in her birth district. Fixed effects included in all regressions are: mother's birth year, mother's birth region and location in the 2002 round. The control variables included in the regressions was the mother's native tongue. Also, province-level pre-conflict variables are included: (logarithm of) population size, female illiteracy rate and access to piped water rate. Standard errors clustered at the YL sentinel site (location in 2002). Significance levels at the 1, 5, and 10 percent levels denoted by ***, **, and *, respectively.
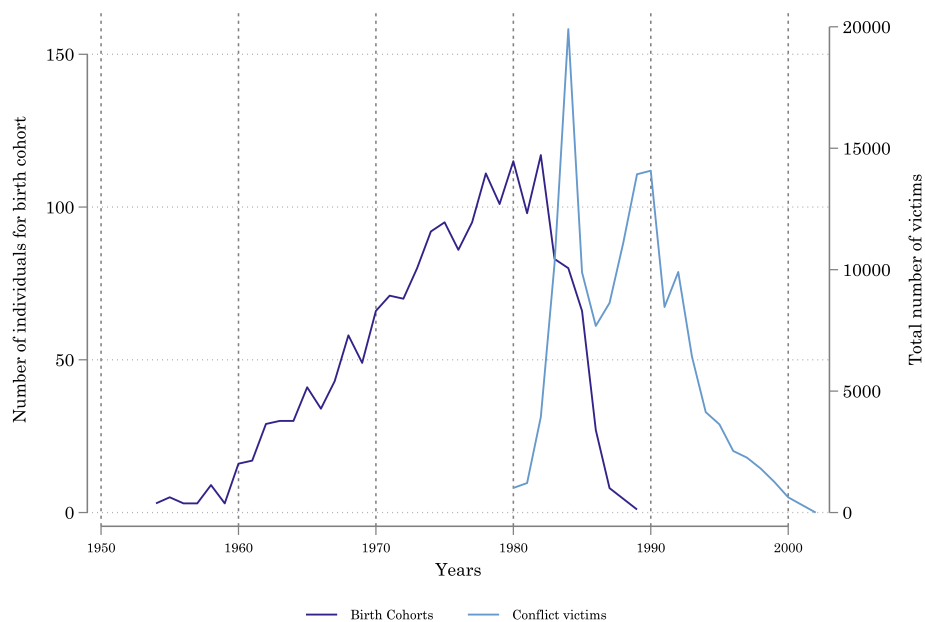
2. Figures

FIGURE A1 – DISTRIBUTION OF YL BIRTH COHORTS CROSSED WITH
CONFLICT-RELATED VIOLENCE DATA

Notes: The figure depicts the overlapped distribution between the Young Lives mothers' birth cohorts
(purple), and the duration and intensity of the civil conflict (blue). *Source:* Young Lives Longitudinal
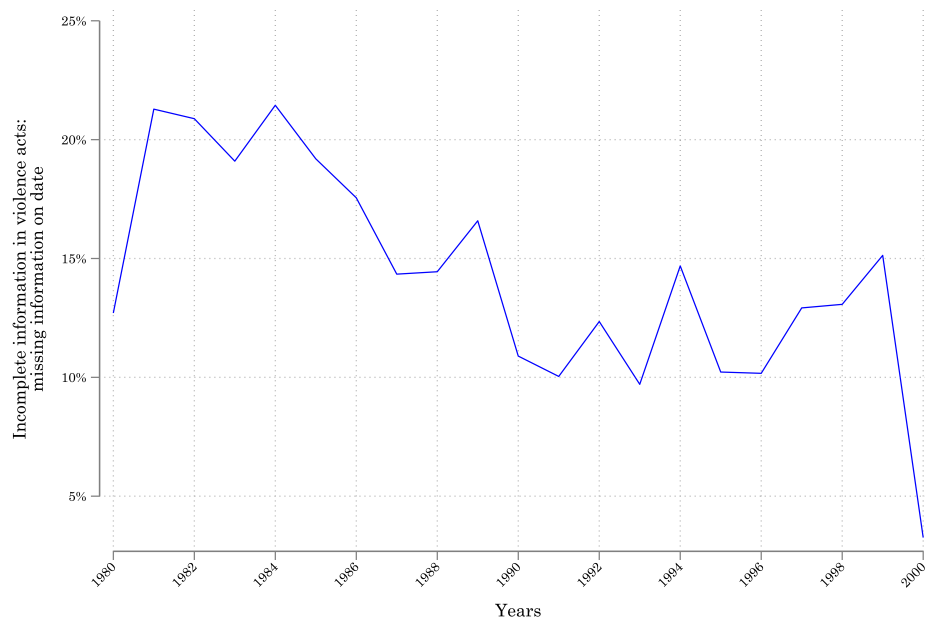Study and Truth and Reconciliation Comission.

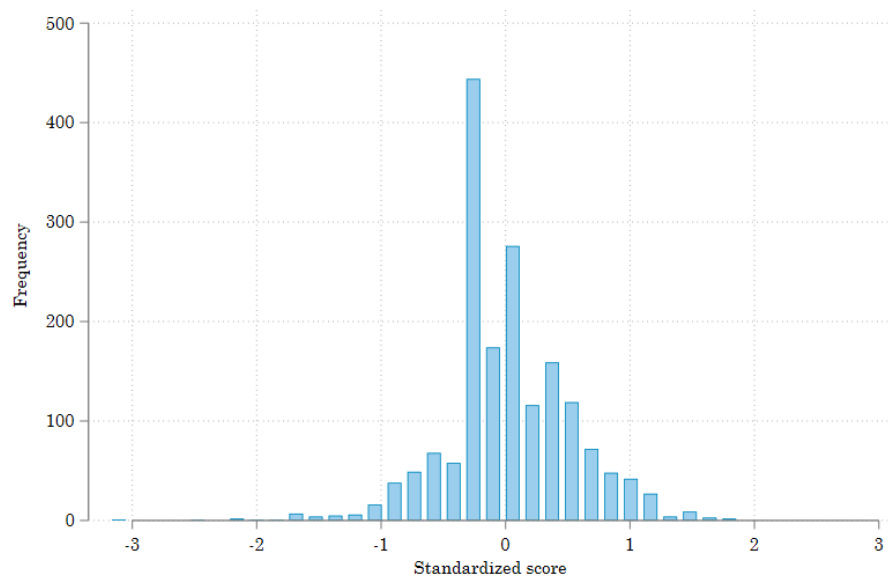FIGURE A2 – IMPRECISE MEASURE IN THE TRC CONFLICT DATA
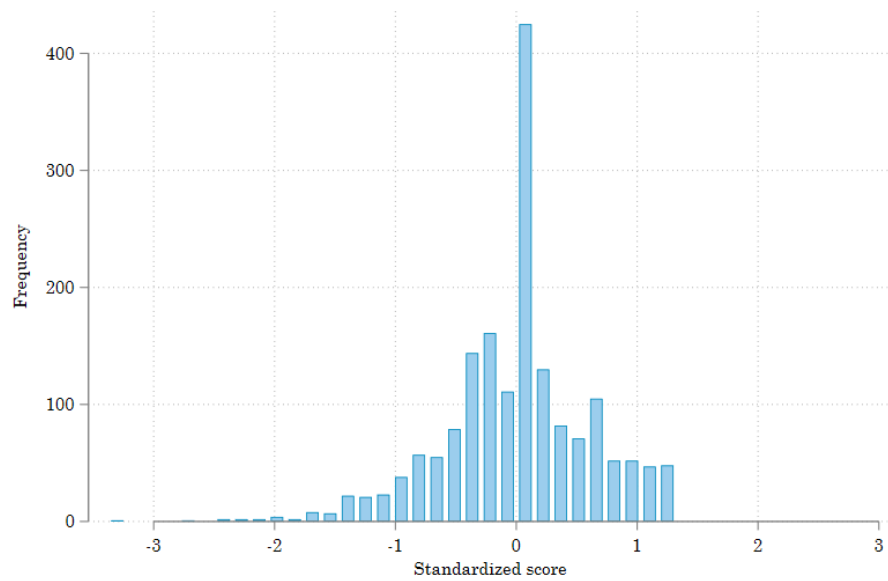
FIGURE A3 – HISTOGRAM OF AGENCY STANDARDISED SCORE, AT AGE 8

FIGURE A4 – HISTOGRAM OF PRIDE STANDARDISED SCORE, AT AGE 8