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# Maternal Exposure to Terrorism and Child Skills Development

Sonkurt Sen[1]

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[1] Department of Economics & Institute for
Applied Microeconomics, University of Bonn. Email: sonkurt.sen@uni-bonn.de

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# Maternal Exposure to Terrorism and Child Skills Development*

Sonkurt Sen[1]

[1]University of Bonn

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**Abstract**

This paper examines the intergenerational effects of maternal exposure to terrorism on early childhood skill development. Using data from the 2018 Turkish Demographic and Health Survey linked to detailed records of terrorist incidents, I measure mothers' exposure to conflict-related fatalities in their birth cities during early schooling years. I employ a two-stage difference-in-differences estimator that exploits spatial and cohort-level variation in exposure. The results show that maternal exposure to terrorism significantly reduces children's socio-emotional and physical development, while having no detectable effects on literacy and numeracy. Further analysis suggests that these effects operate through reduced parental investments, lower maternal education and lower wealth. Several robustness checks confirm the findings.

JEL classifications: D74, H56, I25, J13
Keywords: Skills Development, Terrorism, Human Capital, Early Childhood

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# 1 Introduction

Early childhood is a critical period for the formation of cognitive, socio-emotional, and physical skills, which constitute the foundation of human capital and strongly predict later educational achievement, labor market success, and overall well-being (Cunha & Heckman, 2007, 2008; Cunha *et al.*, 2010; Currie & Almond, 2011). Identifying the forces that shape these early skills is therefore central to economic research on inequality and development. Existing work has primarily emphasized the roles of parents, households, and schools, while the influence of broader environmental conditions has received comparatively less attention. Among these conditions, exposure to conflict represents a particularly salient shock, as it disrupts daily life, alters investments in children, and has been shown to affect individuals' outcomes both in the short and long run.[1] Despite a growing literature documenting the direct effects of armed conflict on those who experience it, much less is known about its intergenerational consequences. This paper addresses this gap by examining how maternal exposure to terrorism during childhood affects the early skill development of the next generation.

I focus on mothers' exposure to terrorism as mothers are often the primary caregivers of young people, especially in the context that I study this research question which is Turkey. Maternal exposure to terrorism (or armed conflict, war) during the mother's own childhood can affect her children's skill accumulation through several channels. First, there is evidence that those who are exposed to armed conflict acquire lower years of education (e.g. Alfano & Görlach, 2023, 2024; Bertoni *et al.*, 2019). Given that maternal education is a driver of child skills development (Currie & Moretti, 2003), if the mothers require lower levels of education, then the child skills development can be negatively affected. Relatedly, the individuals might have lower income when exposed to terrorism (Islam *et al.*, 2016) which may reduce the monetary resources that they can provide to their children. Second, exposure to terrorism might impact mothers' short- and long-term wellbeing by inducing acute stress. Exposure to war is linked to markedly elevated risks of depression, anxiety, stress-related mental health conditions, and severe psychiatric disorders (Charlson *et al.*, 2019; Priebe *et al.*, 2012).[2] Finally, there is also a large set of evidence showing that exposure to armed conflict impact individuals health both in childhood and in adulthood (Akresh *et al.*, 2012b; Minoiu & Shemyakina, 2014). Given that there is evidence that early health status correlate with adult health (Case *et al.*, 2005), one would expect those who have been exposed to terrorism in their childhood to also have worse adult health outcomes. Based on the evidence from Economics literature showing the intergenerational transmission

[1] See Vesco *et al.* (2025) for a review of the literature on the impact of armed conflict on human development.

[2] Although the evidence on the impact of exposure to terrorism on stress is limited due to data constraints, another source of violence, police violence has been shown to increase the emotional disturbance which is linked to post-traumatic stress disorder (Ang, 2021).

of health status (Bevis & Villa, 2022), we would expect the offspring's of those who have been exposed to terrorism to also have worse physical development.

In order to estimate the impacts of maternal exposure to terrorism on child skills development, I use data from the 2018 wave of the Turkish Demographic and Health Survey (DHS), which provides rich individual and household-level information. The survey contains detailed retrospective data on mothers, including their place of birth, residential history up to age 12, and migration year. Crucially, the 2018 DHS includes a special child development module that collects information on children aged 3 to 5 through a 17-item questionnaire designed to assess multiple dimensions of early skill development. Using this module, I construct measures of children's (i) readiness to learn, (ii) literacy and numeracy skills, (iii) socio-emotional skills, and (iv) physical development. The dataset also provides information on childhood immunization and parental involvement, which provides information about potential mechanisms for the impact of maternal exposure to terrorism on child skills.

To measure exposure to terrorism, I link the DHS data with two datasets: (i) Global Terrorism Database that records terrorist attacks around the world, and (ii) TPCONED, a dataset collected by the political scientists using newspaper archives and government records, focusing on events between the Turkish army and terrorists that resulted in casualties. Both datasets provide detailed information on the timing and geographic location of terrorist incidents. Additionally, TPCONED provides number of events that ended with casualties, number of casualties, and distinguishes between deaths of Turkish military personnel and members of terrorist organizations. I use several measures of exposure: exposure to a terrorist event, exposure to a deadly terrorist event, and number of casualties. For all of these measures, I define the exposure within a mother's birth city during the first six years of schooling (kindergarten + five years of schooling).

A common challenge in estimating the effect of maternal or parental characteristics on children's skill development is the presence of omitted variable bias. Various unobserved factors may simultaneously influence both mothers' exposure to terrorism and their children's developmental outcomes. For instance, mothers raised in regions prone to terrorist activity may experience distinct socioeconomic and life-course trajectories relative to those from more stable areas. Moreover, exposure to terrorism could induce selective migration, as families relocate in response to security threats, further complicating causal inference. To address potential endogeneity concerns, I exploit temporal and spatial variation in terrorism exposure across mothers' birth cities. By incorporating birth-city and birth-year fixed effects, I implement a two-way fixed effects (TWFE) specification, which isolates within-city, across-cohort variation in exposure to estimate the causal impact of maternal exposure to terrorism on children's developmental outcomes.

Recent studies highlight important limitations of the traditional TWFE estimator. When treatment effects are heterogenous across groups and over time, which may be the case for the impact of maternal exposure to terrorism, the TWFE estimator produces biased estimates due to the implicit assignment of negative or inconsistent weights to certain treatment periods (Callaway & Sant'Anna, 2021; De Chaisemartin & d'Haultfoeuille, 2020; Goodman-Bacon, 2021). Recent methodological literature proposes several alternative estimators designed to account for treatment effect heterogeneity in these settings. In this paper, I employ the two-stage differences-in-differences (2SDiD) estimator developed by Gardner (2022). This approach first removes group and time fixed effects in the first stage, and subsequently estimates the average treatment effects, thereby providing an unbiased estimate of the causal impact of the independent variable on the outcome of interest.

The first analysis to perform in any setting that uses TWFE or 2SDiD estimators is to assess whether certain groups are systematically more likely to be exposed to terrorism, as such selection could bias the results. To examine this, I regress several maternal characteristics on exposure to terrorism, including mother tongue (Kurdish, Arabic, or Turkish) as a proxy for ethnicity, maternal and paternal education and literacy, and whether the parents are biologically related. None of these factors are significantly correlated with exposure, suggesting limited selection bias. Second, I test whether there is enough variation in the maternal exposure to terrorism after controlling for city and year of birth fixed effects. If these fixed effects explain a large portion of the variation in exposure, then 2SDiD would result in imprecise estimates. I find that including city and time fixed effects can only explain up to 50% of the variation in maternal exposure to terrorism. Finally, I test sample selection. As being exposed to terrorism in childhood might impact individuals fertility or make them move to a different city with their parents, it might result in sample selection if these individuals are less likely to have children. I find no impact on the likelihood of being in the sample, having children or having children under 5, on the likelihood of being married, and on migrating. This ensures that sample selection is not a likely issue in this setting.

The results indicate that mothers' early-life exposure to terrorism has adverse intergenerational effects on their children's skill development. Specifically, a one standard deviation increase in maternal exposure to terror events reduces the likelihood that children attain an appropriate level of socio-emotional development by 17.88 percentage points and physical development by 7.95 percentage points. Similar impacts can be observed when number of deadly events and number of casualties are used as the measure of exposure to terrorism. These findings are consistent with the hypothesis that mothers who grew up under persistent security threats may adopt more protective parenting behaviors, limiting their children's outdoor interactions and physical activity. Reduced social engagement can hinder socio-emotional development, while

limited physical activity may slow physical growth. In contrast, there is no significant effect on children's positive learning approach or literacy and numeracy skills, suggesting that time spent at home may instead be reallocated toward more cognitively stimulating activities.

Next, I study possible channels. The first channel I analyze is parental investments. I find that maternal exposure to terrorism leads to reductions in maternal, parental, and overall investments in children. The effect sizes are large. A one standard deviation increase in maternal exposure to terrorism, measured by the number of deadly events or casualties, reduces maternal educational investment by 0.49 activities, with slightly larger reductions for parental and total investments. I further examine several maternal outcomes that may help explain these negative effects. I find that exposed mothers attain fewer years of education, are less likely to complete compulsory schooling, and are more likely to be in the bottom wealth quintile. For children, I find higher BMIs and a lower likelihood of having their own books. Together, these results suggest that maternal exposure to terrorism negatively affects child development both by worsening maternal outcomes and by reducing parental investments.

I perform a series of robustness checks to assess the validity of the main findings. First, I use alternative data sources to construct exposure to terrorism measure, as the baseline measure captures only attacks involving the Turkish military and the terrorist group, while non-fatal non-attack incidents that targets military or civilians may also influence behavior and perceptions. Second, I restrict measure to fatalities among the Turkish Security Forces to address potential measurement error in reported casualties on the non-state side. Across these alternative specifications, the results remain qualitatively consistent with the baseline estimates, with only modest differences in magnitude. Finally, I explore the role of exposure timing by examining shorter exposure windows and exposure at specific ages, rather than the cumulative measure (kindergarten and primary schooling ages) in the main analysis. Although estimates for these alternative exposure definitions are often less precisely estimated with larger standard errors, they are generally negative and not statistically different from the main results, indicating that the main conclusion is not driven by a particular exposure period or age range.

This paper contributes to the literature on the impacts of armed conflict. A large and growing body of work examines the consequences of armed conflict for individuals directly exposed to violence, documenting adverse effects on educational attainment and test scores (Alfano & Görlach, 2023, 2024; Bertoni *et al.*, 2019; Brück *et al.*, 2019; Ito *et al.*, 2024; Leon, 2012; Michaelsen & Salardi, 2020; Shemyakina, 2011)[3], child labor (Chin *et al.*, 2023; Churchill *et al.*, 2022), child health (Akresh *et al.*, 2012b; Camacho, 2008; Mansour & Rees, 2012), adult health (Akresh *et al.*, 2012a; Gutiérrez-Romero, 2024), diet (Dabalen & Paul, 2014), and preferences (Callen *et al.*,

[3]There is also evidence that peers that have been exposed to local violence and migrated reduce the educational outcomes of their classmates (Padilla-Romo & Peluffo, 2023).

2014; Cecchi *et al.*, 2016; Jakiela & Ozier, 2019; Moya, 2018; Voors *et al.*, 2012). I extend this literature in two ways. First, I identify early childhood development as an additional outcome affected by armed conflict. Given the strong link between early skills and later-life outcomes, this suggests that the consequences of conflict may be highly persistent. Second, I focus on intergenerational effects. While there is extensive evidence on the direct impacts of exposure to armed conflict, evidence on intergenerational transmission remains limited, largely due to data constraints that make it difficult to identify parental exposure histories. Most existing studies examine in-utero exposure (Camacho, 2008; Mansour & Rees, 2012), with the exception of (Akresh *et al.*, 2023), who analyze both first- and second-generation effects of exposure to the Nigerian civil war and show that children of exposed mothers complete fewer years of schooling compared to the children of same age. In contrast, I focus on the effects of mothers' childhood exposure to terrorism on their children's early skill development.

The second contribution of this paper is about the measurement of conflict exposure. Existing work has predominantly operationalized armed conflict using measures of war, civil war, or genocide (e.g. Churchill *et al.*, 2022; Akresh *et al.*, 2023; Jakiela & Ozier, 2019; Minoiu & Shemyakina, 2014; Chin *et al.*, 2023). Notable exceptions include studies that examine gang-related violence (Michaelsen & Salardi, 2020; Moya, 2018) and election-related violence (Gutiérrez-Romero, 2024). Terrorist activity, however, differs in important ways from large-scale armed conflicts: it is typically episodic, localized, and carried out by decentralized non-state actors without territorial control. Rather than seeking military victory or population displacement, terrorism operates primarily through intimidation, targeting civilians and security forces to generate fear and uncertainty that far exceeds its immediate material damage. These differences suggest that terrorism may affect individuals through distinct channels, particularly psychological and behavioral ones. By focusing on terrorist activity rather than conventional forms of armed conflict, this paper shows that even relatively low-intensity, small-scale events can produce economically meaningful and persistent intergenerational effects on early skill formation. This finding also complements Tapsoba (2023) who finds that even the risk of violence can negatively impact the health of the young people.

The rest of the paper is organized as follows: Section 2 provides information about the institutional background, Section 3 describes the data and presents descriptive statistics, Section 4 presents the empirical strategy, Section 5 presents and discusses the results, Section 6 shows the robustness checks and Section 7 concludes.

# 2 Institutional Background

The focus country of this paper, Turkey, has suffered from armed conflict. The main actor that the country fought against is the Kurdistan Workers' Party (PKK). PKK was emerged in 1978 advocating for Kurdish self-determination, initially seeking an independent Kurdish state in southeastern Turkey. They began their deadly attacks in August 1984 and was dissolved in 2025. It is designated as a terrorist organization by Turkey, NATO, EU, and also specifically by countries such as US, UK, Australia, Japan, etc. The PKK emerged in the late 1970s as a Marxist-Leninist organization

Throughout the late 1980s and 1990s, the conflict intensified and became geographically concentrated in southeastern and eastern Turkey, but also occurred in major cities as these attacks had higher impact on the civilian life. The Turkish state responded with large-scale counterinsurgency operations, including the deployment of security forces, emergency rule in several provinces, and village evacuation policies. This period was characterized by frequent armed clashes, bombings, assassinations, and civilian displacement, resulting in substantial human costs. Estimates suggest that tens of thousands of people, soldiers and civilians, were killed during this phase, and the conflict had profound social, economic, and psychological effects on affected regions.

In 1999, with the capture of leader and his arrest, the PKK declared a unilateral ceasefire and largely withdrew its forces from Turkey, leading to a temporary decline in violence. However, the underlying political issues remained unresolved, and the conflict re-emerged in the mid-2000s, albeit with lower intensity and changing tactics. During this period, the PKK revised its ideological stance, moving away from demands for full independence toward claims for political autonomy, cultural rights, and decentralization within Turkey.

The conflict entered a new phase in the 2010s. A formal peace process between the Turkish government and the PKK took place between 2013 and 2015, during which violence declined substantially. The collapse of negotiations in 2015 was followed by renewed and intensified clashes, including urban warfare in southeastern cities and increased terrorist attacks. Despite fluctuations in intensity over time, the conflict has remained unresolved, continuing to shape political dynamics, security conditions, and social outcomes in Turkey.

According to available statistics, the human cost of the conflict has been substantial. Between 1984 and 2023, more than 9,000 members of the Turkish Security Forces and over 5,000 civilians lost their lives as a result of the conflict. Estimating fatalities among PKK members is more challenging, as combatants may be wounded during clashes and die subsequently outside recorded conflict events; nevertheless, existing estimates suggest that PKK casualties exceed 75,000. In addition, data from the Global Terrorism Database indicate that PKK members carried out more than 2,000 attacks targeting civilians or non-security entities, with additional incidents

attributed to groups affiliated with the PKK. Taken together, these figures underscore the severity and persistence of the conflict, as well as its profound impact on civilian populations and everyday life in affected regions.

# 3 Data and Descriptive Statistics

This paper draws on multiple data sources. First, I use the 2018 Turkish Demographic and Health Survey (DHS), which provides measures of child skill development, maternal characteristics, parental investments, and maternal outcomes. Second, I combine several datasets to capture indicators of conflict, with the specifics of these measures explained in detail later in this section.

## 3.1 Survey Data: 2018 Turkish Demographic and Health Survey

The main data analyzed in this paper come from the 2018 Turkish Demographic and Health Survey (DHS), part of a nationally representative survey program initiated in 1993 and conducted at five-year intervals. While earlier waves of the DHS are available, the analysis focuses on the 2018 wave because it is the first to include detailed and standardized information on early childhood development. The 2018 DHS covers approximately 40,000 individuals, including women of reproductive age and, when applicable, their partners, and is designed to be representative of the female population in Turkey.

The survey provides rich information on women and, for those with children, on their children's characteristics and outcomes. It also includes detailed information on adults' places of birth, migration status, and migration timing, which are central to the identification strategy used in this study. Most importantly for the purposes of this paper, the 2018 DHS contains a dedicated early childhood development (ECD) module administered to mothers with children aged 24 to 59 months. This module was developed by UNICEF to measure foundational aspects of child development (Loizillon *et al.*, 2017). The questionnaire consists of 10 items, each asking mothers to report whether their child can perform a specific task or behavior.

ECD questionnaire was designed with multiple rounds of testing and refinement. In its initial stage, the instrument consisted of 48 items spanning six developmental domains.[4] This version was pilot-tested in Jordan and the Philippines. Based on psychometric analyses and feasibility considerations, a revised version with 18 items across five developmental domains was subse-

[4]These domains were (i) Gross Motor Development, (ii) Fine Motor Development, (iii) Language Development, (iv) Cognitive Development, (v) Socio-emotional Development, and (vi) Self-care/Adaptive Skills. In the final version, (i) and (ii) have been combined into Physical Development, while domains (iii), (iv), and (vi) have been grouped into two groups: Literacy and Numeracy and Positive Learning Approach.

quently developed and tested in Kenya. Following this additional validation phase, the current 10-item questionnaire was finalized and has been implemented in various surveys since 2009, and implemented in 2018 DHS for Turkey.

The current 10-item ECD questionnaire assesses development across four domains: (i) Literacy and Numeracy, (ii) Physical Development, (iii) Positive Learning Approach, and (iv) Socio-emotional Development. A complete list of questions is provided in Appendix Table B1. Given the young age of the children, the literacy and numeracy domain captures basic skills such as identifying letters and numbers rather than the ability to read or perform arithmetic. Physical development reflects children's fine motor abilities and general health status (e.g., whether the child is frequently sick), while the positive learning approach domain captures behaviors related to attention, independence, and the ability to follow instructions. The socio-emotional development items are simplified versions of the Strengths and Difficulties Questionnaire, originally developed by Goodman (1997), and assess children's interactions with peers and adults as well as their ability to concentrate. For domains consisting of three items, children are classified as developmentally on track if they meet at least two of the criteria; for domains with two items, meeting at least one criterion is sufficient to be considered on track.

In addition to the child development measures, the dataset includes a rich set of child-level characteristics that are relevant for early development, such as the child's gender, age (in months), and birth order. Beyond these basic characteristics, the survey provides detailed information on household environments and care giving practices, allowing for a more comprehensive analysis of the determinants of child development. In particular, the data include measures of parental investments in children, capturing both educational activities such as reading books or telling stories and recreational activities, such as taking the child outside to play. Importantly, the survey records not only whether these activities occur, but also which household members engage in them, enabling a distinction between maternal investments and total investments. The latter includes contributions from all household members, including grandparents, who may play an active role in child-rearing in extended-family households.

The dataset further includes information on children's physical health and home learning environment, such as body mass index (BMI), vaccination status, and the number of books available in the household. These variables are closely related to children's physical development and early literacy skills, respectively, and provide insight into potential mechanisms linking parental characteristics to child outcomes.

Finally, the survey contains information on parental characteristics that may be particularly relevant for understanding the intergenerational effects of terrorism exposure. In particular, it includes data on parents' educational attainment. Given the well-documented intergenerational transmission of education (Currie & Moretti, 2003), any adverse effects of terrorism exposure on

parents' educational outcomes may, in turn, influence child development. The survey also provides indicators of parents' economic circumstances, such as employment status and household wealth, although it does not include direct measures of income.

## 3.2 Data on Terror Activities

### 3.2.1 TPCONED: The Turkish State-PKK Conflict Event Dataset

The main dataset used to measure terror activities in this paper is The Turkish State-PKK Conflict Event Dataset, TPCONED (Kibris, 2020). TPCONED is a conflict-event dataset that systematically records fatal incidents associated with the armed confrontation between PKK and the Turkish state occurring on Turkish territory and involving at least one combatant casualty. For each event, the dataset provides precise date, geocoded spatial identifiers at both the county (district/town) and province levels, disaggregated counts of casualties among the Turkish Security Forces (TSF) and PKK combatants, and detailed source documentation. The dataset covers the full temporal span of the conflict from its inception in 1984 onward. Event records are rigorously cross-validated across multiple independent sources to maximize coverage and minimize measurement error, ensuring a high degree of completeness and accuracy.

Using this dataset, I construct three measures of exposure: (i) an indicator for exposure to at least one conflict event, (ii) the total number of conflict events experienced, and (iii) the total number of conflict-related fatalities. Together, these measures capture distinct dimensions of conflict exposure, whether exposure occurs at all, how frequently it occurs, and how severe it is, allowing for a larger assessment of the relationship between exposure to terrorism and child development. The binary indicator identifies the extensive margin of exposure and captures the potential effects of any encounter with conflict, while the event count reflects the cumulative impact of repeated exposure over time. The third measure captures the severity of violence and the likelihood of heightened psychological stress, community disruption, and media salience. By jointly considering these dimensions, I am able to distinguish between the effects of isolated versus persistent and severe conflict, shedding light on the mechanisms through which exposure to terrorism may influence child developmental outcomes.

### 3.2.2 GTD: Global Terror Database

The Global Terrorism Database (GTD) is an open-source event-level dataset documenting terrorist incidents worldwide between 1970 and 2020. While TPCONED includes information about the events between the Turkish army and and terrorists, GTD includes terrorist attacks and does not include any regular event that resulted in casualties in the army. It uniquely captures both domestic and transnational terrorist activity, providing coverage of over 200,000 events.

Each incident record includes information on timing, location (with latitude and longitude), weapon type, target characteristics, casualty figures, and, where known, the responsible actors. GTD data are derived from systematically reviewed open-source media reports and are included only when source credibility is established. Records may be revised as additional documentation becomes available. The dataset reflects reported incidents and does not imply judicial findings or legal outcomes.

Although the GTD provides precise latitude and longitude information for each event, allowing for the construction of distance-based exposure measures, this approach is not feasible in the present analysis due to the absence of exact residential location data for individuals in the 2018 Turkish DHS. Consistent with the event definition used in the TPCONED dataset, I therefore identify the province-level location of each GTD event based on its geographic coordinates and link these events to individuals' locations at the time they occurred. Using this information, I, then, construct a simple measure of exposure defined as the total number of conflict events experienced.

#### 3.2.3 GDELT: Global Database of Events, Language, and Tone

Global Database of Events, Language, and Tone (GDELT) is a large, open-access dataset that systematically records events reported in global news media using automated text analysis. The dataset provides near real-time coverage of political, social, and conflict-related events worldwide, with detailed information on event type, actors, date, location, and tone. Although GDELT does not employ a specific terrorism classification, it uses generalized event categories that can be filtered to identify terrorism-related and political violence events. The event categories are (i) Verbal Cooperation, (ii) Material Cooperation, (iii) Verbal Conflict, and (iv) Material Conflict. As the first two category are on cooperation and the third category is verbal and does not include any armed conflict, I only include those events that are classified as material conflict. These could be armed conflict between two groups or other events that are targeted at civilians such as bombing buildings or public venues, so the definition of conflict in GDELT dataset goes beyond those of TPCONE and GDT.

Given the richness of this dataset, I construct several measures of exposure to conflict: (i) the number of events, (ii) the magnitude of material impact, and (iii) the number of media articles referencing each event. The first measure is conceptually similar to exposure measures constructed using the TPCONED and GTD datasets, capturing the frequency of conflict events. The remaining two measures provide additional dimensions of exposure. The second measure, material impact, captures the potential effect of an event on a country's political stability and is quantified using the Goldstein scale, which ranges from -10 to 10 (Goldstein, 1992). This measure allows the analysis to account not only for the occurrence of events or associated fatal-

ities, but also for the severity and potential societal impact of different types of conflict events, thereby capturing an additional channel through which exposure may generate long-lasting intergenerational effects. The third measure captures media exposure by counting the number of news articles in which an event is mentioned. Since events that receive greater media coverage are likely to reach a larger audience and be more salient to the public, this measure proxies for the breadth of exposure and informational reach of conflict events and serves as an alternative indicator of their overall impact.

### 3.3 Descriptive Statistics

In Table 1, I present the descriptive statistics for the different measures of exposure to conflict constructed in the analysis, reported both for the full sample and conditional on positive exposure. For the alternative measures, I present the descriptive statistics in Appendix Table A1. Exposure is measured over alternative time windows ranging from one to six years, allowing for a comparison of short- and longer-term conflict environments.

Panel A reports the share of individuals exposed to at least one conflict event. Even over a one-year window, approximately 44% of individuals experience at least one event. This share increases monotonically with the length of the exposure window, reaching nearly 67% over a six-year period, which is the exposure period that I will be using to identify exposure, indicating that exposure to conflict is widespread in the sample. The relatively large standard deviations reflect substantial heterogeneity in exposure among individuals.

Panels B through D summarize the distribution of event counts, total fatalities, and Turkish Security Forces (TSF) fatalities, respectively. In the full sample, the number of terrorist attacks a mother experiences is 3.1 for 1-year duration and 16.10 for 6-year duration. For state-terrorist events, the average number of conflict events rises from 4.7 events over one year to 27.6 events over six years, while median exposure remains low at 3 (and 9 for conditional on positive exposure), highlighting a highly skewed distribution with many individuals experiencing no events and a smaller group exposed to frequent conflict in the 6-year period. Conditional on positive exposure, however, mean event counts are substantially higher, ranging from 10.8 events over one year to 41.4 events over six years, with upper-tail values indicating intense exposure in some areas.

A similar pattern emerges for fatalities. In the full sample, mean total deaths increase from 18 deaths over one year to just over 100 deaths over six years, while medians remain close to zero for unconditional exposure. Among individuals exposed to at least one fatal event, average fatalities are considerably larger, reaching more than 150 deaths over a six-year window. Fatalities among Turkish Security Forces follow comparable trends, though at lower levels, with conditional means increasing from 12 TSF deaths over one year to nearly 45 deaths over six years.

**Table 1: Descriptive Statistics on Exposure**

| | All | | | | | Conditional on Positive Exposure | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | 25th Pct | 50th Pct | 75th Pct | Mean | SD | 25th Pct | 50th Pct | 75th Pct | Min | Max |
| **Any Event** | | | | | | | | | | | | |
| 1-year | 0.43787 | 0.49623 | | | | | | | | | | |
| 2-year | 0.52351 | 0.49955 | | | | | | | | | | |
| 3-year | 0.58060 | 0.49356 | | | | | | | | | | |
| 4-year | 0.62049 | 0.48537 | | | | | | | | | | |
| 5-year | 0.64610 | 0.47828 | | | | | | | | | | |
| 6-year | 0.66667 | 0.47150 | | | | | | | | | | |
| **Events** | | | | | | | | | | | | |
| 1-year | 3.10000 | 13.90142 | 0 | 0 | 1 | 9.60407 | 23.16569 | 1 | 2 | 7 | 1 | 148 |
| 2-year | 6.21853 | 24.51808 | 0 | 0 | 3 | 12.70189 | 33.85191 | 1 | 3 | 8 | 1 | 286 |
| 3-year | 8.83320 | 31.71418 | 0 | 1 | 4 | 15.52103 | 40.79142 | 1 | 3 | 9 | 1 | 321 |
| 4-year | 11.40000 | 39.92137 | 0 | 1 | 5 | 18.44222 | 49.48611 | 2 | 4 | 10 | 1 | 377 |
| 5-year | 14.02934 | 48.63537 | 0 | 2 | 7 | 20.79908 | 58.02217 | 2 | 4 | 12 | 1 | 463 |
| 6-year | 16.10270 | 54.58128 | 0 | 2 | 8 | 23.00386 | 64.01363 | 2 | 4 | 14 | 1 | 498 |
| **Deathly Events** | | | | | | | | | | | | |
| 1-year | 4.74559 | 12.91031 | 0 | 0 | 3 | 10.83797 | 17.74168 | 1 | 4 | 10 | 1 | 122 |
| 2-year | 9.69983 | 26.28248 | 0 | 1 | 5 | 18.52847 | 34.00423 | 2 | 5 | 16 | 1 | 259 |
| 3-year | 14.46809 | 38.11705 | 0 | 1 | 8 | 24.91902 | 47.35559 | 2 | 6 | 21 | 1 | 343 |
| 4-year | 19.12846 | 49.79683 | 0 | 1 | 10 | 30.82815 | 60.30357 | 2 | 8 | 26 | 1 | 445 |
| 5-year | 23.45550 | 60.20082 | 0 | 2 | 13 | 36.30344 | 71.72067 | 2 | 8 | 29 | 1 | 515 |
| 6-year | 27.60453 | 69.67426 | 0 | 3 | 16 | 41.40680 | 81.92323 | 3 | 9 | 33 | 1 | 571 |
| **Causalities** | | | | | | | | | | | | |
| 1-year | 17.92821 | 58.69180 | 0 | 0 | 5 | 40.94439 | 83.23468 | 2 | 7 | 32 | 1 | 599 |
| 2-year | 36.42779 | 117.74789 | 0 | 1 | 9 | 69.58380 | 155.51537 | 2 | 8 | 50 | 1 | 1410 |
| 3-year | 54.01427 | 171.47421 | 0 | 1 | 15 | 93.03109 | 216.85411 | 3 | 11 | 55 | 1 | 2006 |
| 4-year | 70.81234 | 219.48079 | 0 | 2 | 20 | 114.12382 | 269.64649 | 3 | 13 | 71 | 1 | 2368 |
| 5-year | 87.13014 | 264.04473 | 0 | 3 | 29 | 134.85640 | 318.58056 | 3 | 15 | 87 | 1 | 2752 |
| 6-year | 102.93241 | 303.73576 | 0 | 3 | 35 | 154.39861 | 361.19367 | 3 | 16 | 94 | 1 | 3114 |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Statistics from Panel A and B (Any Event and Event) come from Global Terror Database while Panel C and D (Deathly Events and Casualties) come from The Turkish State-PKK Conflict Event Dataset. Any Event and Event variables show terrorist attacks that are not between two armed forces while Deathly Events and Casualties variables show the events and casualties from the armed conflict between Turkish Army and terrorist groups. Casualties include number of death from the Turkish army and terrorist groups.

Overall, the descriptive statistics reveal substantial variation in conflict exposure along both the extensive and intensive margins. While many individuals experience no conflict, a non-trivial share is exposed to frequent and severe conflict, particularly when longer exposure windows are considered. This heterogeneity motivates the use of multiple exposure measures in the empirical analysis to distinguish between the effects of any exposure, repeated exposure, and exposure to more severe forms of conflict.

# 4 Empirical Strategy

Studying the impact of exposure to terrorism on the development of skills in the next generation presents several econometric challenges. In an ideal experimental setting, individuals, specifically mothers, would be randomly assigned to different levels of exposure to terrorist activity. Such randomization, however, is infeasible, as terrorist incidents are inherently non-random. An alternative experimental design could involve randomly allocating individuals across locations with differing levels of terrorist activity, thereby exogenously varying exposure. This approach is likewise impossible, both because patterns of terrorism are systematically related to local characteristics and because such an intervention would be ethically impermissible.

To address these challenges, I adopt a quasi-experimental research design that exploits temporal and spatial variation in terrorist activity across birth cohorts and locations. Specifically, identification relies on comparing mothers born in the same city but exposed to different levels of terrorism during childhood due to variation in the timing and intensity of conflict. The inclusion of birth-city fixed effects controls for time-invariant local characteristics, while birth-year fixed effects absorb common cohort-level shocks. This framework isolates within-city, across-cohort variation in exposure and forms the basis of a two-way fixed effects (TWFE) specification. To estimate the impacts of maternal exposure to terrorism on child skills development, I estimate the following equation:

$$y_c = \beta_0 + \beta_1 Exposure_m + \beta_2 \mathbf{X}_m + \beta_3 \gamma_p + \beta_4 \eta_t + \epsilon_c \tag{1}$$

where $y_c$ is the outcome of interest, i.e. one of the child skills or the index, $Exposure_m$ is the maternal exposure to terrorism, $\mathbf{X}_m$ is the maternal and family level controls which include child age in months, birth order, child gender, current province (city), a dummy for living in an urban area, a dummy for being born in an urban area, education of the grandparents of the child (i.e. the parents of the mother), literacy of the grandparents of the child, grandparents being related, and maternal language, $\gamma_p$ is birth province (city) fixed effects, $\eta_t$ is birth year fixed effects, and $\epsilon_c$ is unknown to the econometrician.

$Exposure$ is defined as one of the exposure measures defined in Section 3.2.1 in the main tables and measures defined in Sections 3.2.2 and 3.2.3 in the appendix tables. These measures are defined over the period in which individuals were aged 5 to 11 (so 6 years in total), for the city that they were living during this time. The choice of this age window is motivated by several considerations. First, primary education covering grades 1 through 5 has been compulsory in Turkey since the 1920s, implying that children aged 6 to 11 are required to attend school and are therefore regularly exposed to their local environments. Prior to primary school, children may attend public kindergartens, which are provided free of charge by the government. Although

kindergarten enrollment rates were relatively low during the period in which the mothers in the sample were growing up, children in this age range are nonetheless likely to interact with peers through outdoor play and other community-based activities. As a result, ages 5 to 11 constitute a particularly relevant developmental period during which exposure to local conflict events is likely to be salient, making it appropriate to include this window in the analysis. In the further analysis, I also study whether exposure in different periods are more or less important by focusing on exposure in the first 5 years of a mothers life and maternal exposure in utero.

Recent methodological work highlights important limitations of the traditional TWFE estimator in settings with staggered treatment timing and heterogeneous treatment effects. When treatment effects vary across cohorts or over time, the TWFE estimator may assign negative or otherwise inappropriate weights to certain comparisons, leading to biased estimates (Callaway & Sant'Anna, 2021; De Chaisemartin & d'Haultfoeuille, 2020; Goodman-Bacon, 2021). To address these concerns, I employ the two-stage difference-in-differences (2SDiD) estimator proposed by Gardner (2022). This approach first residualizes the outcome and treatment variables with respect to group and time fixed effects and then estimates the average treatment effect using only variation orthogonal to these fixed effects. As a result, the 2SDiD estimator provides unbiased estimates of the causal effect of maternal exposure to terrorism even in the presence of treatment effect heterogeneity.

## 4.1 Threats to Identification

### 4.1.1 Sample Selection

A key concern in estimating the intergenerational effects of exposure to terrorism is the potential bias from sample selection. If exposure to conflict affects fertility, marriage, or migration decisions, the sample of mothers and children observed in the data may not be representative of the population that would have existed in the absence of terrorism. In such cases, estimated effects on child development could reflect compositional changes rather than causal impacts.

To assess this concern, Table 2 analyzes whether maternal exposure to terrorism predicts a range of outcomes related to sample inclusion, fertility, family formation, and migration.

Panel A uses a binary indicator for ever being exposed to at least one conflict event, Panel B uses the total number of terrorist events experienced, and Panel C uses the total number of events between Turkish army and terrorist groups that resulted in fatalities, and Panel B uses the number of conflict-related fatalities. Across all panels, the dependent variables include indicators for being observed in the sample (i.e. having a child aged 24 to 59 months old), having a child, having a child under 5, being married, ever migrating from the birth location until 17.[5]

[5] 17 was the year most people finished high school in the sample that is included in this analysis. As many people

## Table 2: Sample Selection

### Panel A: Exposure Measure: Any Event

| | In the Sample | Has Child | Has Child u5 | Married | Migrated Before 17 |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Ever Exposed | -0.02935 | 0.02625 | -0.02913 | 0.03666 | -0.00033 |
| | (0.02609) | (0.02106) | (0.02782) | (0.02800) | (0.02171) |
| Observations | 3,649 | 3,649 | 3,649 | 3,649 | 3,649 |

### Panel A: Exposure Measure: Any Event

| | In the Sample | Has Child | Has Child u5 | Married | Migrated Before 17 |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure | -0.00080 | 0.00032 | -0.00052 | 0.00074 | 0.00004 |
| | (0.00057) | (0.00048) | (0.00054) | (0.00051) | (0.00042) |
| Observations | 3,649 | 3,649 | 3,649 | 3,649 | 3,649 |

### Panel B: Exposure Measure: Number of Events

| | In the Sample | Has Child | Has Child u5 | Married | Migrated Before 17 |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure | -0.00172 | 0.00030 | -0.00301 | 0.00041 | 0.00060 |
| | (0.00115) | (0.00077) | (0.00188) | (0.00104) | (0.00136) |
| Observations | 3,649 | 3,649 | 3,649 | 3,649 | 3,649 |

### Panel C: Exposure Measure: Number of Casualties

| | In the Sample | Has Child | Has Child u5 | Married | Migrated Before 17 |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure | -0.00035 | 0.00003 | -0.00048 | 0.00004 | 0.00012 |
| | (0.00027) | (0.00013) | (0.00044) | (0.00016) | (0.00024) |
| Observations | 3,649 | 3,649 | 3,649 | 3,649 | 3,649 |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. In the sample is a dummy for having a child that is between 24 months and 59 months of age, has a child and has a child u5 are dummies for having at least one child and one child under the age of 5, married is a dummy for ever being married and is equal to one for previously married people too. Migrated before 17 is a dummy for having migrated to a different city since birth till the age of 17. Measure in Panel A is every having been exposed to any terrorist attack, in Panel B, it is the number of terrorist attacks that they have been exposed to, in Panel C, it is the number of armed conflict events between the Turkish army and terrorist groups, and in Panel D, it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

immigrate to a different location for university (if they enroll into one), I use 17 as the upper limit for migration.

The results provide little evidence of systematic selection. Exposure to terrorism does not significantly predict the likelihood of being included in the sample, suggesting that exposure does not affect the probability of having children aged 24 to 59 months old in a way that would bias sample composition. Similarly, exposure to terrorism is not significantly related to the having a child, having a child under age five or being married, indicating that fertility and marriage responses to conflict are unlikely to drive the main results. These findings reduce concerns that the observed sample of children is selectively drawn from less-exposed or more resilient families.

Migration represents another important potential source of bias, as the empirical strategy relies on linking individuals to locations during childhood to assign exposure. If terrorism exposure induced selective migration, particularly during early life, the assigned exposure measures could be endogenous. Column (5) examined ever migrating up to the age of 17. Again, there is no impact of any exposure measure on any migration.

Overall, the results in Table 2 indicate that maternal exposure to terrorism does not significantly predict key determinants of sample inclusion, family formation, or migration. This evidence supports the validity of the empirical strategy and suggests that the estimated effects on child development are unlikely to be driven by selection into motherhood, selective fertility, or endogenous migration.

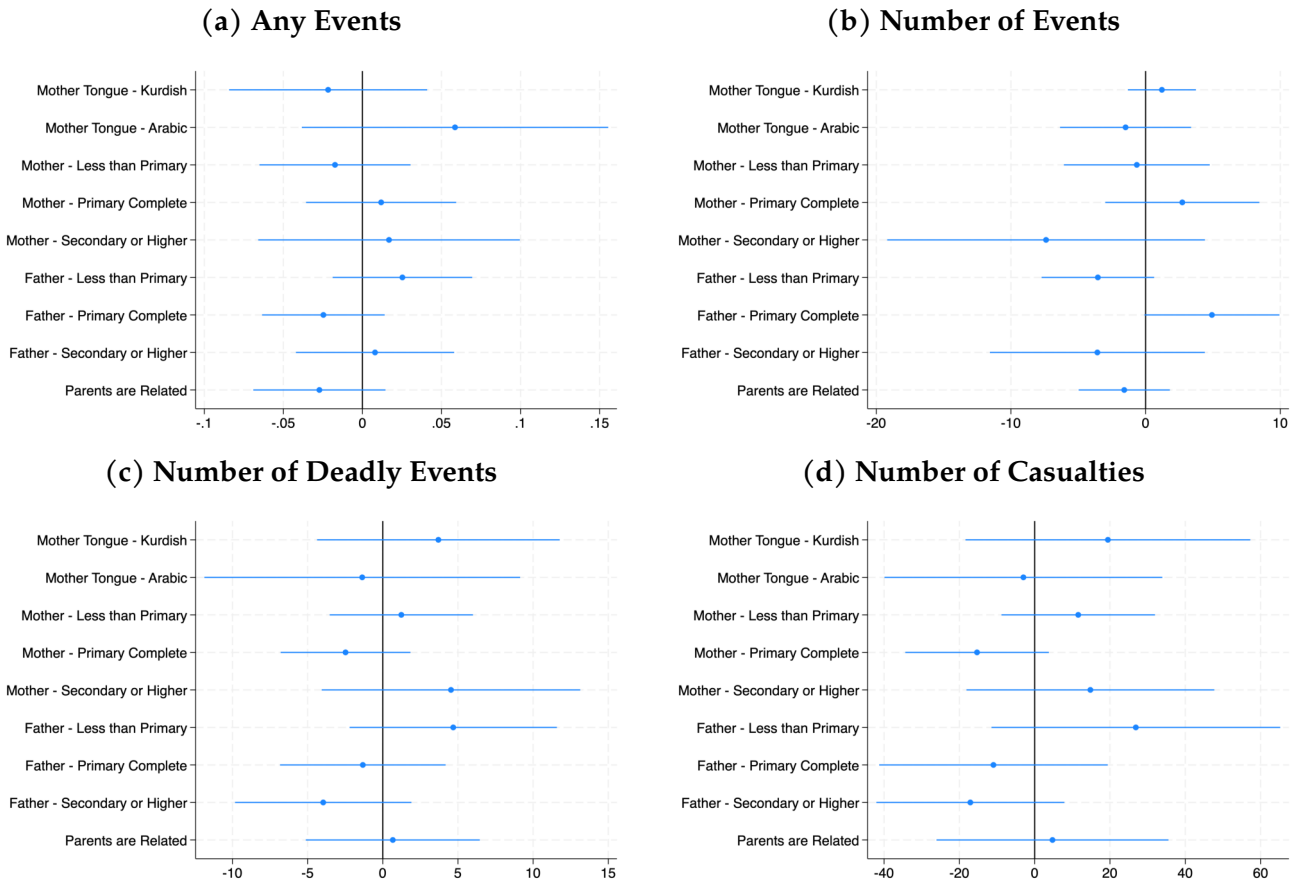
#### 4.1.2 Selection into Maternal Exposure to Terrorism

A common concern in quasi-experimental research designs is endogenous selection into treatment. In this context, certain individuals may be systematically more or less likely to be exposed to terrorism during childhood. If these individuals (or their children) also differ systematically in how they are impacted by the effects of terrorism exposure, estimates obtained using the 2SDiD framework would be biased due to non-random selection into exposure. Understanding whether this is the case is therefore crucial for ensuring that the estimated effects reflect the causal impact of terrorism exposure rather than underlying differences across individuals or cohorts.

To assess the presence of selection into exposure, I examine whether observable maternal characteristics predict exposure to terrorism on continuous measures. Specifically, I test whether mothers' mother tongue, maternal and paternal education, and parental consanguinity are systematically associated with the intensity of terrorism exposure. The results are presented in Figure 1. The estimates indicate that none of these observable characteristics significantly predict exposure to terrorism, suggesting that exposure is not systematically correlated with mothers' background characteristics.[6] This finding alleviates concerns about selection into exposure

[6]Mothers' parental education level primary complete is not statistically significant as the confidence interval

**Figure 1: Selection into Exposure by Observable Parental Characteristics**




*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. The lines show 95% confidence intervals. Measure in Figure (a) is every having been exposed to any terrorist attack, in Figure (b), it is the number of terrorist attacks that they have been exposed to, in Figure (c), it is the number of armed conflict events between the Turkish army and terrorist groups, and in Figure (d), it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year and birth city.

based on observables and supports the validity of the empirical strategy.

### 4.1.3 Variation in Exposure

A last but minor concern is the variation in exposure. As the 2SDiD controls for location and birth year in the estimation equation, there is a chance that most of the variation in exposure to terrorism might be explained with these fixed effects. Further, there are several controls which might also explain part of the variation leaving minimal residual variation to explain in the 2SDiD estimator. To assess whether sufficient identifying variation remains after conditioning on fixed effects and covariates, I first document the raw variation in exposure measures and then examine how this variation changes as additional controls are introduced. Specifically, I

touches the 0 line.

sequentially control for location fixed effects, birth-year fixed effects, and a full set of covariates. The results of this analysis are presented in Table 3.

**Table 3: Variation in Maternal Exposure to Terrorism**

| | Number of Events | | Number of Deadly Events | | Number of Causalities | |
|---|---|---|---|---|---|---|
| | Mean | Standard Deviation | Mean | Standard Deviation | Mean | Standard Deviation |
| Raw | 16.1027 | 54.5813 | 27.6045 | 69.6743 | 102.9324 | 303.7358 |
| - City FE | | 31.6743 | | 39.4346 | | 203.6423 |
| - Time FE | | 28.8950 | | 34.5669 | | 186.8017 |
| - Controls | | 26.7673 | | 30.5713 | | 172.0125 |
| N | 2,590 | | 2,382 | | 2,382 | |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from OLS regressions. The first measure is the number of terrorist attacks that they have been exposed to, the second is the number of armed conflict events between the Turkish army and terrorist groups, and the third is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. The first measure derived from GTD, and the second and third are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. The controls included in the third row are birth city urban residence dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other)

For the number of events and deadly events, the unconditional standard deviations are 54.58 and 69.67. Controlling for location fixed effects reduces the standard deviation to 31.67 and 39.9, and the inclusion of birth-year fixed effects and additional controls further reduces it to 26.76 and 33.2. A similar pattern emerges for the number of conflict-related fatalities. The raw standard deviation is 303.7, which declines to 195.1 after accounting for location fixed effects and to 170.2 after including time fixed effects and controls. In all cases, approximately 45 to 55 percent of the original variation remains after conditioning on fixed effects and covariates. This indicates that substantial within-location, across-cohort variation in exposure persists, providing sufficient identifying variation for the empirical analysis.

# 5 Results

## 5.1 Skills

In this section, I present the main results on the impacts of exposure to terrorism on child skills development. I focus on three measures of exposure: (i) ever being exposed to terrorism, (ii) number of terrorist events, (iii) number of events between the Turkish army and terrorist groups that resulted in at least one causality , and (iii) number of casualties. For all of these exposure measures, I focus on maternal exposure from age 5 to 11, in 6-year period, defined as having these events in the city that they were living in.

I present the results of this analysis in Table 4, where each panel corresponds to a different

measure of maternal exposure to terrorism. Across specifications, the estimates indicate statistically and economically meaningful negative effects of maternal exposure on children's early development. Panel A focuses on exposure to at least one terrorist event. The coefficients in Panel A, especially those on socio-emotional skills and development index are large and negative but due to large standard errors, none of these coefficients are statistically significant.

Next, I examine whether the intensity of maternal exposure to terrorism shapes child skill development. Here, I focus on both terrorist attacks (Panel B) and the armed conflict between Turkish Army and terrorist groups (Panel C). This is because, while exposure to even a single violent event may not be sufficient to adversely affect developmental outcomes, more intensive exposure, reflected in repeated or frequent events, may generate additional harm by more profoundly shaping mothers' experiences and subsequent behaviors.

Panels B and C focus on the number of conflict events experienced during childhood as the measure of exposure intensity. These two panels show that more intensive exposure to terrorism results in worse developmental outcomes for children. A one standard deviation increase in the number of events experienced by mothers reduces the likelihood that children are developmentally on track by 17.88, and 7.95 percentage points in the socio-emotional development and physical development, respectively. These domain-specific effects translate into a sizable decline of 17.63 percentage points in the overall development index. Similarly, a one standard deviation increase in the number of deadly events results in reduction in the likelihood of being on track developmentally in these domains by 19.06 and 9.52 percentage points. Taken together, the results in Panels B and C indicate that more frequent exposure to terrorism and deathly events have economically meaningful and statistically significant negative effects on the next generation's early skill development.

Panels B and C demonstrate that exposure to terrorist events has adverse effects on child skill development. Beyond the frequency of events, the severity of exposure, measured by the number of conflict-related fatalities, may play an independent role in shaping intergenerational outcomes. Experiencing events with a higher death toll may lead mothers to perceive these incidents as more severe, or may alter their parents' responses and parenting behaviors during childhood, with lasting consequences for the next generation. Panel D presents the results using the number of casualties as the measure of exposure intensity. The estimates in Panel D closely mirror those in Panel B and Panel C. Higher exposure to conflict-related casualties results in significantly worse outcomes in socio-emotional skills and physical development. A one standard deviation increase in exposure to casualties reduces the probability of being developmentally on track by 17.65 percentage points in socio-emotional development and 8.91 percentage points in physical development, which then results in a reduction in being on track overall by 15.99 percentage points, though this result is only weakly significant. Overall, the results indicate that

## Table 4: Impact of Maternal Exposure to Conflict on Child Skills

### Panel A: Exposure Measure: Any Event

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Ever Exposed | -0.03614 | -0.05954 | -0.22271 | -0.07945 | -0.19935 |
| | (0.04439) | (0.12465) | (0.16223) | (0.07167) | (0.16347) |
| Observations | 1,074 | 1,074 | 1,074 | 1,074 | 1,074 |
| Mean | 0.9812 | 0.1254 | 0.7649 | 0.9561 | 0.7586 |
| SD | (0.1361) | (0.3317) | (0.4247) | (0.2052) | (0.4286) |

### Panel B: Exposure Measure: Number of Events

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure | -0.00019 | -0.00026 | -0.00374*** | -0.00166** | -0.00369** |
| | (0.00037) | (0.00134) | (0.00136) | (0.00074) | (0.00146) |
| Impact of 1SD ↑ | -0.0090 | -0.0123 | -0.1788 | -0.0795 | -0.1763 |
| Observations | 1074 | 1074 | 1074 | 1074 | 1074 |
| Mean | 0.9812 | 0.1254 | 0.7649 | 0.9561 | 0.7586 |
| SD | (0.1361) | (0.3317) | (0.4247) | (0.2052) | (0.4286) |

### Panel C: Exposure Measure: Number of Deadly Events

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure | 0.00074 | 0.00102 | -0.00321** | -0.00161* | -0.00300* |
| | (0.00061) | (0.00210) | (0.00164) | (0.00093) | (0.00170) |
| Impact of 1SD ↑ | 0.0439 | 0.0604 | -0.1906 | -0.0952 | -0.1776 |
| Observations | 959 | 959 | 959 | 959 | 959 |
| Mean | 0.9838 | 0.1656 | 0.7403 | 0.9578 | 0.7403 |
| SD | (0.1266) | (0.3723) | (0.4392) | (0.2014) | (0.4392) |

### Panel D: Exposure Measure: Number of Casualties

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure | 0.00017 | 0.00022 | -0.00068* | -0.00034* | -0.00061* |
| | (0.00012) | (0.00043) | (0.00035) | (0.00019) | (0.00036) |
| Impact of 1SD ↑ | 0.0453 | 0.0581 | -0.1765 | -0.0891 | -0.1599 |
| Observations | 959 | 959 | 959 | 959 | 959 |
| Mean | 0.9838 | 0.1656 | 0.7403 | 0.9578 | 0.7403 |
| SD | (0.1266) | (0.3723) | (0.4392) | (0.2014) | (0.4392) |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. All outcome measures are dummy variables for having the appropriate level of development for the age in question. For the definition, please see text. For the questions used to measure these skills, please see Appendix B. Estimation sample excludes 6 people who moved cities between the ages of 5 and 11. Measure in Panel A is every having been exposed to any terrorist attack, in Panel B, it is the number of terrorist attacks that they have been exposed to, in Panel C, it is the number of armed conflict events between the Turkish army and terrorist groups, and in Panel D, it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

maternal exposure to terrorism has persistent and economically meaningful intergenerational effects, disproportionately affecting children's socio-emotional and physical development, while leaving early cognitive skills largely unchanged.

Comparing effect sizes across Panels B through D reveals a remarkably consistent pattern in both the magnitude and ranking of impacts across alternative measures of exposure. Whether exposure is defined by frequency (number of events) or by severity (number of casualties), the largest adverse effects consistently emerge in socio-emotional development, followed by physical development. In contrast, literacy and numeracy skills and learning approach remain largely unaffected across all specifications.

These patterns are consistent with plausible behavioral mechanisms. Exposure to terrorism during mothers' childhood may have altered their parents' caregiving practices, for instance by restricting outdoor activities or limiting social interactions due to heightened security concerns. Although the dataset does not have direct measures of parenting style, a recent meta analysis shows that community violence is often positive associated with harsher parenting and negatively associated with positive parenting (Thorpe *et al.*, 2024). Such changes in parental behavior could reduce children's opportunities for peer interaction outside of school, with long-lasting consequences for socio-emotional skill formation. These effects may persist intergenerationally if mothers subsequently adopt similarly protective parenting behaviors with their own children. Reduced outdoor activity may also help explain the observed declines in physical development, as fewer opportunities for play and exercise can hinder physical growth. In the next section, I explore potential mechanisms in greater detail.

## 5.2 Mechanisms

A key advantage of the dataset is the availability of detailed information on parents from the main survey, complemented by measures of parental investments collected through the early childhood development module administered in the 2018 wave of the Turkish DHS. This module records whether, in the three days preceding the survey, adults in the household engaged in six types of developmentally relevant activities with the child (reading books, telling stories, counting or naming objects, singing songs, taking the child outside, and playing together) and identifies which household members participated in each activity, mother, father, or someone else in the household.

To facilitate interpretation, I aggregate the six activities into two categories. Reading books, telling stories, and counting or naming objects are classified as educational activities, while singing songs, taking the child outside, and playing together are grouped as recreational activities. The effects of maternal exposure to terrorism on parental investments are reported in

## Table 5: Impact of Maternal Exposure to Conflict on Parental Investments

### Panel A: Exposure Measure: Any Events

| | Maternal | | | Parental | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | (1) Educational | (2) Recreational | (3) Total | (4) Educational | (5) Recreational | (6) Total | (7) Educational | (8) Recreational | (9) Total |
| Ever Exposed | -0.54946* | -0.59856** | -1.14802** | -0.49845** | -0.54922* | -1.04767** | -0.71959** | -0.56028** | -1.27988*** |
| | (0.29356) | (0.29877) | (0.47106) | (0.25346) | (0.30615) | (0.42768) | (0.28265) | (0.24585) | (0.40292) |
| Observations | 1,074 | 1,074 | 1,074 | 1,074 | 1,074 | 1,074 | 1,074 | 1,074 | 1,074 |
| Mean | 1.4107 | 1.9404 | 3.3511 | 1.5549 | 2.0878 | 3.6426 | 1.8025 | 2.3699 | 4.1724 |
| SD | (1.1536) | (1.0061) | (1.9154) | (1.1558) | (0.9640) | (1.8811) | (1.0968) | (0.8324) | (1.6574) |

### Panel B: Exposure Measure: Number of Events

| | Maternal | | | Parental | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | (1) Educational | (2) Recreational | (3) Total | (4) Educational | (5) Recreational | (6) Total | (7) Educational | (8) Recreational | (9) Total |
| Exposure | -0.00331 | -0.00577* | -0.00908 | -0.00278 | -0.00510* | -0.00787 | -0.00625** | -0.00471* | -0.01096** |
| | (0.00326) | (0.00330) | (0.00560) | (0.00337) | (0.00309) | (0.00548) | (0.00305) | (0.00256) | (0.00476) |
| Impact of 1SD ↑ | -0.1584 | -0.2758 | -0.4342 | -0.1328 | -0.2437 | -0.3766 | -0.2991 | -0.2252 | -0.5243 |
| Observations | 1074 | 1074 | 1074 | 1074 | 1074 | 1074 | 1074 | 1074 | 1074 |
| Mean | 1.4107 | 1.9404 | 3.3511 | 1.5549 | 2.0878 | 3.6426 | 1.8025 | 2.3699 | 4.1724 |
| SD | (1.1536) | (1.0061) | (1.9154) | (1.1558) | (0.9640) | (1.8811) | (1.0968) | (0.8324) | (1.6574) |

### Panel C: Exposure Measure: Number of Deadly Events

| | Maternal | | | Parental | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | (1) Educational | (2) Recreational | (3) Total | (4) Educational | (5) Recreational | (6) Total | (7) Educational | (8) Recreational | (9) Total |
| Exposure | -0.00835** | -0.00183 | -0.01018* | -0.00911** | -0.00481 | -0.01392** | -0.01012** | -0.00557 | -0.01569** |
| | (0.00348) | (0.00402) | (0.00606) | (0.00377) | (0.00442) | (0.00709) | (0.00407) | (0.00345) | (0.00666) |
| Impact of 1SD ↑ | -0.4950 | -0.1085 | -0.6035 | -0.5402 | -0.2850 | -0.8252 | -0.6000 | -0.3301 | -0.9300 |
| Observations | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 959 |
| Mean | 1.5162 | 1.9805 | 3.4968 | 1.6461 | 2.1299 | 3.7760 | 1.8896 | 2.3961 | 4.2857 |
| SD | (1.1541) | (1.0460) | (1.9295) | (1.1591) | (0.9899) | (1.8873) | (1.1188) | (0.8459) | (1.6996) |

### Panel D: Exposure Measure: Number of Casualties

| | Maternal | | | Parental | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|
| | (1) Educational | (2) Recreational | (3) Total | (4) Educational | (5) Recreational | (6) Total | (7) Educational | (8) Recreational | (9) Total |
| Exposure | -0.00176*** | -0.00038 | -0.00214* | -0.00193*** | -0.00099 | -0.00292** | -0.00211*** | -0.00116* | -0.00328** |
| | (0.00068) | (0.00082) | (0.00121) | (0.00074) | (0.00091) | (0.00143) | (0.00082) | (0.00069) | (0.00132) |
| Impact of 1SD ↑ | -0.4605 | -0.0982 | -0.5587 | -0.5029 | -0.2591 | -0.7620 | -0.5514 | -0.3038 | -0.8552 |
| Observations | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 959 | 959 |
| Mean | 1.5162 | 1.9805 | 3.4968 | 1.6461 | 2.1299 | 3.7760 | 1.8896 | 2.3961 | 4.2857 |
| SD | (1.1541) | (1.0460) | (1.9295) | (1.1591) | (0.9899) | (1.8873) | (1.1188) | (0.8459) | (1.6996) |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. All outcome measures are the number of activities performed with the child. For the definitions and which activities are included together, please see text. Estimation sample excludes 6 people who moved cities between the ages of 5 and 11. Measure in Panel A is every having been exposed to any terrorist attack, in Panel B, it is the number of terrorist attacks that they have been exposed to, in Panel C, it is the number of armed conflict events between the Turkish army and terrorist groups, and in Panel D, it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

Table 5[7]. The first three columns of each panel focus on maternal investments, capturing activities performed by the mother, the second set of three columns of each panel focus on parental investments which includes the activities performed by the father or mother, while the last three columns consider total household investments, including activities carried out by any household member, without distinguishing between mothers, fathers, or others.

The results indicate that maternal exposure to terrorism is associated with changes in how maternal and household time is allocated across activities. At the extensive margin, mothers who were ever exposed to terrorism engage in 0.54 less educational and 0.60 less recreational activities (out of three possible activities) relative to mothers who were never exposed. The reduction in recreational investments is robust to the exposure measured used. However, when using number of events as the measure of exposure makes the reduction in educational activities performed by the mother insignificant though the impact is still significant for number of deadly events and number of casualties where one standard deviation increase in these measures reduces the number of events performed by the mothers by 0.50 and 0.46 events.

The effect sizes are pretty similar when looking at parental investments, which also includes activities performed by the fathers but the coefficients are only slightly different meaning that the impact on paternal investments is minimum. However, this is not surprising given that fathers do not perform many activities with their children to being with (see means of each outcomes). For example, for educational activities, mothers perform 1.41 activities while parents together perform 1.55 activities, showing that fathers, on average, perform only 0.14 activities with their children. And when we look into the total investments, we see a similar picture again.

This pattern is consistent with the results in Table 4, which document declines in children's socio-emotional skills, an outcome that is sensitive to parental inputs (Carneiro *et al.*, 2024). The observed reductions in educational investments by both mothers and other household members are also notable in light of existing evidence that conflict exposure lowers educational attainment and has intergenerational consequences for schooling (Alfano & Görlach, 2023, 2024; Akresh *et al.*, 2023; Chin *et al.*, 2023). If maternal exposure to terrorism reduces mothers' own educational attainment, this may translate into lower educational investments in their children. Overall, the results point to changes in maternal and parental investments as an important channel through which maternal exposure to terrorism influences early child skill development.

Next, I study other possible mechanisms that are related to the mothers and the child. For mothers, I focus on years of education and having completed compulsory education as exposure to terrorism might be a barrier to complete their education. The dataset does not have information on income so that is not something that I can analyze but it does have information

[7]Results for each activity separately are reported in Appendix Table A10 and Appendix Table A11 for maternal and total investments, respectively.

about employment and the wealth quintile of the individuals. I also have information about the health *practices* of the mothers right before and right after giving birth. Finally, I have information about child BMI and the number of books available to the child which might show the learning environment. I present these results in Table 6.

Columns (1) and (2) of each panel show negative coefficients for both completed years of education and the probability of completing compulsory schooling. Although the statistical significance varies across specifications, the results consistently indicate that greater exposure to terrorism, measured by the number of attacks, deadly events, or casualties, is associated with lower educational attainment. In particular, a one standard deviation increase in exposure measured by the number of deadly events and the number of casualties reduces completed schooling by 2.08 and 1.95 years, respectively, and lowers the likelihood of completing compulsory education by 8.88 and 8.19 percentage points. These findings are in line with the existing literature, which documents that terrorism and conflict act as barriers to educational attainment (Alfano & Görlach, 2023, 2024; Akresh *et al.*, 2023; Chin *et al.*, 2023).

Turning to labor market outcomes, the estimates reveal a positive and statistically significant effect on employment at the extensive margin: individuals who were ever exposed to a terrorist event are 27 percentage points more likely to be employed than those who were never exposed. This pattern is consistent with prior evidence showing that conflict exposure can increase labor force participation, often through employment in low-wage or informal sectors. Although information on income or sector of employment is not available, the combination of higher employment and lower educational attainment suggests that exposed mothers may be disproportionately engaged in low-paid work. In contrast, Panels C and D show negative but statistically insignificant effects of exposure intensity on employment, potentially reflecting heightened insecurity and labor market disruptions in areas more heavily affected by terrorism. Consistent with this interpretation, higher exposure is also associated with a greater likelihood of being in the bottom quintile of the household wealth distribution.

Examining health-related behaviors and outcomes, I find no evidence that exposure to terrorism affects the number of antenatal care visits or the duration of breastfeeding. However, maternal exposure is associated with higher child body mass index when exposure is measured by the number of deadly events or casualties. A one standard deviation increase in these exposure measures raises child BMI by 2.13 and 1.97 units, respectively, corresponding to approximately 75 percent of the standard deviation and about 15 percent of the mean of BMI. Finally, columns (8) and (9) examine children's access to books at home. Higher maternal exposure to terrorism during childhood reduces the likelihood that a child has at least one book at home, consistent with lower maternal educational attainment. Conditional on having at least one book, however, exposure does not affect the total number of books available.

## Table 6: Possible Mechanisms

### Panel A: Exposure Measure: Any Events

| | Years of Education | Completed Compulsory Education | Employed | Wealth Bottom Quintile | Number of Antenatal Visits | Breastfeeding (months) | BMI | Has Books | Number of Books |
|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Ever Exposed | -0.06616 | -0.08017 | 0.27025*** | -0.13958 | -1.93286 | -0.72208 | -0.41478 | -0.26127* | -2.33753 |
| | (0.98091) | (0.09205) | (0.09597) | (0.12809) | (2.56381) | (3.41523) | (0.64811) | (0.15723) | (3.21894) |
| Observations | 1,074 | 1,074 | 1,074 | 1,074 | 703 | 716 | 881 | 1,074 | 568 |
| Mean | 7.6897 | 0.8621 | 0.2445 | 0.2445 | 10.4369 | 17.2620 | 16.2432 | 0.6176 | 3.5831 |
| SD | (4.1589) | (0.3454) | (0.4305) | (0.4305) | (4.7435) | (11.4379) | (1.7049) | (0.4867) | (3.9706) |

### Panel B: Exposure Measure: Number of Events

| | Years of Education | Completed Compulsory Education | Employed | Wealth Bottom Quintile | Number of Antenatal Visits | Breastfeeding (months) | BMI | Has Books | Number of Books |
|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Exposure | -0.00647 | -0.00172** | 0.00193* | -0.00177 | -0.01306 | -0.02090 | 0.00104 | -0.00235** | -0.00797 |
| | (0.00827) | (0.00077) | (0.00105) | (0.00120) | (0.01966) | (0.02526) | (0.00548) | (0.00119) | (0.01669) |
| Impact of 1SD ↑ | -0.3094 | -0.0824 | 0.0924 | -0.0847 | -0.6245 | -0.9997 | 0.0500 | -0.1123 | -0.3812 |
| Observations | 1074 | 1074 | 1074 | 1074 | 703 | 716 | 881 | 1074 | 568 |
| Mean | 7.6897 | 0.8621 | 0.2445 | 0.2445 | 10.4369 | 17.2620 | 16.2432 | 0.6176 | 3.5831 |
| SD | (4.1589) | (0.3454) | (0.4305) | (0.4305) | (4.7435) | (11.4379) | (1.7049) | (0.4867) | (3.9706) |

### Panel C: Exposure Measure: Number of Deadly Events

| | Years of Education | Completed Compulsory Education | Employed | Wealth Bottom Quintile | Number of Antenatal Visits | Breastfeeding (months) | BMI | Has Books | Number of Books |
|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Exposure | -0.03515*** | -0.00150* | -0.00220 | 0.00358** | -0.00073 | -0.11158 | 0.03598*** | -0.00309* | 0.00762 |
| | (0.01231) | (0.00089) | (0.00138) | (0.00157) | (0.03029) | (0.08648) | (0.01139) | (0.00184) | (0.01300) |
| Impact of 1SD ↑ | -2.0839 | -0.0888 | -0.1304 | 0.2122 | -0.0435 | -6.6154 | 2.1333 | -0.1831 | 0.4518 |
| Observations | 959 | 959 | 959 | 959 | 600 | 612 | 788 | 959 | 503 |
| Mean | 8.7338 | 0.9286 | 0.2403 | 0.1461 | 11.2558 | 16.7318 | 16.5336 | 0.6916 | 4.2825 |
| SD | (3.7712) | (0.2580) | (0.4279) | (0.3538) | (4.7689) | (10.2104) | (2.4732) | (0.4626) | (4.0792) |

### Panel D: Exposure Measure: Number of Casualties

| | Years of Education | Completed Compulsory Education | Employed | Wealth Bottom Quintile | Number of Antenatal Visits | Breastfeeding (months) | BMI | Has Books | Number of Books |
|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
| Exposure | -0.00748*** | -0.00031* | -0.00045 | 0.00076** | -0.00031 | -0.02108 | 0.00756*** | -0.00067* | 0.00130 |
| | (0.00277) | (0.00019) | (0.00028) | (0.00031) | (0.00580) | (0.01636) | (0.00237) | (0.00037) | (0.00282) |
| Impact of 1SD ↑ | -1.9517 | -0.0819 | -0.1170 | 0.1988 | -0.0812 | -5.5020 | 1.9727 | -0.1746 | 0.3381 |
| Observations | 959 | 959 | 959 | 959 | 600 | 612 | 788 | 959 | 503 |
| Mean | 8.7338 | 0.9286 | 0.2403 | 0.1461 | 11.2558 | 16.7318 | 16.5336 | 0.6916 | 4.2825 |
| SD | (3.7712) | (0.2580) | (0.4279) | (0.3538) | (4.7689) | (10.2104) | (2.4732) | (0.4626) | (4.0792) |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. Completed compulsory education is a dummy for completing 5 years of education. Estimation sample excludes 6 people who moved cities between the ages of 5 and 11. Estimation sample for column (9) is conditional on having at least 1 books. Measure in Panel A is every having been exposed to any terrorist attack, in Panel B, it is the number of terrorist attacks that they have been exposed to, in Panel C, it is the number of armed conflict events between the Turkish army and terrorist groups, and in Panel D, it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

# 6 Further Analysis

## 6.1 Alternative Measures

The main analysis focuses on terrorist activity carried out by a specific group and restricts attention to terrorist events and the armed conflict between Turkish army and terrorist groups. However, non-fatal non-attack terrorist incidents may also influence individuals' behavior and perceptions, and could therefore have intergenerational consequences. In particular, if the parents of exposed mothers adjusted their parenting practices in response to non-fatal events, such effects could likewise be transmitted to the next generation.

Political events that do not constitute armed attacks between two parties directly such as use of unconventional violence, drone strikes, etc. may also shape individuals' perceptions of insecurity. Such events could be interpreted as signals of impending violence to individuals, potentially prompting parents of exposed mothers to adopt more protective parenting behaviors that persist intergenerationally. Similarly, the intensity of media coverage surrounding events may amplify their salience by increasing public awareness and perceived threat, thereby affecting behavior even in the absence of direct violence. To examine these channels, I draw on data from GDELT and re-estimate the main specifications using two alternative measures of exposure: (i) the total number of events, including both verbal and armed incidents, and (ii) the number of news articles reporting on these events. The results of these analyses are reported in Appendix Table A4 and Appendix Table A5, respectively.

The results indicate that exposure at the extensive margin, defined as being exposed to at least one event or one related news article, is associated with substantially worse developmental outcomes across all four skill domains. The estimated effects are economically large, ranging from approximately 10 to 60 percentage points, with the smallest impacts observed for literacy and numeracy and the largest for socio-emotional development. All of these effects are statistically significant at the 1 percent level. When aggregated into the overall development index, exposure at the extensive margin leads to a decline of roughly 60 percentage points in the probability of being developmentally on track for both exposure measures. In contrast, the results based on continuous exposure measures presented in Panel B reveal a different pattern. Neither the number of events nor the number of news articles is associated with learning approach or literacy and numeracy skills. However, the negative effects on socio-emotional development observed in the main analysis persist and are similar in magnitude: a one standard deviation increase in the number of events and in the number of articles reduces the likelihood of being developmentally on track in socio-emotional skills by 17.38 and 17.55 percentage points, respectively. The estimated effects on physical development are notably smaller than those reported in Table 4 (13.38 percentage points), amounting to 8.04 and 8.39 percentage points, and

are only weakly statistically significant. While the effects on the overall development index remain statistically significant at the 1 percent level, their magnitudes are comparable to those in the main analysis. These findings suggest that non-fatal and unconventional events, while less consequential than events involving fatalities, nonetheless have meaningful effects on certain dimensions of child development, particularly socio-emotional skills, highlighting the role of perceived threat and informational exposure in shaping intergenerational outcomes.

Finally, I examine the role of political intensity of these events. I use the Goldstein scale which is available in the GDELT data. This scale provides a continuous measure of the degree of conflict or cooperation associated with political events, including armed conflict, terrorism, and other forms of political violence (Goldstein, 1992). By construction, cooperative actions receive positive values, while conflict events are assigned negative values.[8] Because the analysis is restricted to material conflict events, all Goldstein scores in the sample are negative. To facilitate interpretation and comparability with other exposure measures where larger values indicate greater intensity, I reverse the sign of the Goldstein scores so that higher values correspond to more severe conflict exposure. I then re-estimate the main specifications using the total political impact, measured by the aggregated Goldstein scores, as the independent variable and present the results of this analysis in Appendix Table A6.

The results, consistent with the findings reported in Appendix Table A4 and Appendix Table A5, indicate that greater political intensity of exposure is associated with worse child developmental outcomes. Higher exposure measured by the Goldstein scale leads to significant declines in children's socio-emotional skills and physical development. Specifically, a one standard deviation increase in the Goldstein score reduces the likelihood of being developmentally on track by 17.47 percentage points in socio-emotional skills and by 8.05 percentage points in physical development, although the latter effect is only weakly statistically significant. When considering the overall development index, the estimates indicate a statistically significant reduction of 17.35 percentage points. These results suggest that not only the occurrence of events and their media coverage, but also the political impact and intensity of these events play an important role in shaping the intergenerational effects of maternal exposure to terrorism on child development.

Overall, the alternative measures confirm the central role of exposure severity and salience in shaping the intergenerational effects of maternal exposure to terrorism on child development. While non-fatal events and unconventional incidents also matter, their effects are generally smaller and more selective than those associated with fatal attacks. Exposure to non-fatal events does not affect child development at the extensive margin and has weaker effects along

[8]For example, military attacks, clashes, and assaults are coded as -10, an explicit refusal to comment on an issue is coded as -0.1, and issuing a warning receives a value of -3.

the intensive margin, primarily concentrated in socio-emotional skills. In contrast, measures that capture broader political exposure and perceived threat such as the inclusion of verbal events, media coverage, and the political intensity of events as measured by the Goldstein scale consistently show that greater exposure is associated with worse developmental outcomes, particularly in socio-emotional skills development.

## 6.2 Measurement Error in Casualties

When analyzing terrorism-related fatalities, an important concern is the accuracy of casualty reporting. Fatalities among non-state actors may be systematically mismeasured, as official records typically capture only bodies recovered at the scene, while injured militants may retreat and subsequently die outside the scope of official reporting. Such undercounting would introduce measurement error in the total number of reported casualties. In addition, individuals may respond differently to fatalities depending on the identity of the victims. Deaths among members of the Turkish Security Forces may be perceived as more salient shocks, as these forces are highly organized, well-equipped, and symbolically associated with state protection, whereas fatalities among terrorist groups may carry less informational or emotional weight for civilians.

To evaluate whether the main findings are driven by measurement error in non-state fatalities or by differential salience of casualties, I re-estimate the analysis using only fatalities among the Turkish Security Forces. The results are reported in Appendix Table A9, where exposure is redefined as the number of events involving at least one such fatality. The conclusions remain qualitatively unchanged. Children whose mothers experienced higher levels of terrorism during childhood are significantly less likely to be developmentally on track in learning approach, socio-emotional skills, and physical development.

While the estimated coefficients are somewhat larger than those reported in Table 4, the effect sizes are economically comparable. Specifically, a one standard deviation increase in Turkish Security Forces fatalities reduces the probability of being developmentally on track by 4.31 percentage points in learning approach, 13.13 percentage points in socio-emotional development, and 6.08 percentage points in physical development. The primary difference relative to the main specification concerns statistical precision: the effect on learning approach, which is significant at the 5 percent level in the baseline results, is significant at the 10 percent level when using the alternative exposure measure (p-value = 0.053). Overall, these findings indicate that potential measurement error in total fatalities does not drive the main results.

## 6.3 Exposure Period

Throughout the paper, I have used the cumulative exposure to terrorism from age 5 to 11, using a 6-year period to define exposure as this duration includes kindergarten and primary school duration. However, it is possible that even a shorter duration or being exposed to terrorism at a certain point might have a strong intergenerational effect. To analyze this, study the impact of shorter exposure periods from 1-year exposure to 6-year exposure separately but still starting from age 5. I present the results of this analysis in Appendix Table A7. The results show that while there are some significant impacts of exposure for 1 year (i.e. during kindergarten phase), the coefficients are very close to 0 in the other exposure periods until 5-year period.

While the coefficients associated with one-year exposure are generally negative but often statistically insignificant due to higher standard errors, the estimated effects vary across exposure durations. This pattern raises the possibility that the impact of terrorism exposure may differ depending on the age at which mothers were exposed. To investigate this hypothesis, I conduct an additional analysis that isolates maternal exposure to terrorism at specific ages, ranging from age 5 to age 10. The results of this analysis are reported in Appendix Table A8.

The estimates indicate that exposure at each age is generally associated with negative effects on children's learning approach, socio-emotional development, and the overall development index. Although several of the coefficients are imprecisely estimated and not statistically significant, they are not statistically different from one another across ages. This pattern suggests that there is no single critical age during childhood that drives the adverse intergenerational effects. Instead, the results are consistent with the interpretation that the negative impacts arise from cumulative exposure to terrorism over multiple years, rather than from exposure at a particular developmental stage.

## 6.4 The Role of Fathers

In the analysis I have interpreted so far, I use maternal exposure as the main independent variable. However, raising a child is a two-person task in which parents share the workload, albeit often unequally. This inequality is particularly pronounced in Turkey. In Table 5, the mean number of total activities performed by the mother is 3.35, while for parents combined it is 3.64, indicating that fathers spend very little time investing in their children in Turkey. Nevertheless, fathers' early exposure to terrorism may still affect child development, as childcare decisions are likely made jointly with mothers.

In order to examine this, I construct a measure of fathers' exposure to terrorism between ages 5 and 11, analogous to the maternal measure. However, there are two caveats in the data. First, the dataset does not report fathers' birth years, only their ages. I therefore infer birth

year as the difference between 2018 and age. Since all but 10 households were interviewed in October, November, and December, the resulting measurement error in birth year should be small. Second, the dataset does not indicate whether fathers moved between birth and age 12, nor when such moves occurred. About 7% of the sample moved during this period, so exposure to terrorism may be mismeasured for this subsample. To assess the importance of this issue, I exclude these individuals and re-estimate the analysis; the results remain unchanged.

A straightforward approach to studying the role of fathers would be to replicate the main analysis using fathers' own exposure or total parental exposure (defined as the sum of maternal and paternal exposure). However, because many individuals marry partners from the same city, maternal and paternal exposure are highly correlated (correlation = 0.6, statistically significant). Using total exposure (or paternal exposure alone) may therefore introduce bias due to this high correlation. To better isolate parental roles, I replicate the main analysis presented in Table 4, but now interact maternal and paternal exposure. The results are reported in Appendix Table A15.

The findings indicate that paternal exposure to terrorism negatively affects the child development outcomes identified in Table 4. In some cases (e.g., Panel B), the coefficients become statistically insignificant, although their magnitudes are similar to those in Table 4. This appears to be driven primarily by the high correlation between maternal and paternal exposure, which increases standard errors. Overall, the analysis suggests that although fathers invest relatively little time in their children, their exposure to terrorism may still matter for child skill development. Importantly, controlling for paternal exposure does not attenuate the estimated impact of maternal exposure.

# 7 Conclusion

This paper studies the intergenerational consequences of maternal exposure to terrorism during childhood on early skill development among the next generation. Using rich data from the 2018 Turkish Demographic and Health Survey linked to detailed information on terrorist activity, I document that exposure to terrorism experienced by mothers during their formative years has sizable and persistent effects on their children's socio-emotional and physical development. These effects are economically meaningful and robust across alternative measures of exposure, data sources, and empirical specifications. In contrast, I find no evidence of adverse effects on children's literacy and numeracy skills or learning approach, suggesting that different dimensions of early skill formation respond differently to environmental shocks experienced by the previous generation.

The results highlight that the intergenerational impacts of conflict need not operate solely through large-scale wars or catastrophic violence. Terrorist activity, despite being episodic, lo-

calized, and often limited in material destruction, can generate lasting consequences for human capital accumulation by shaping parental behavior, perceptions of insecurity, and investment decisions. The evidence points to changes in parental investments as an important channel: maternal exposure to terrorism is associated with shifts in how parents allocate time and resources across activities, particularly reductions in those investments that are critical for socio-emotional and physical development. These findings underscore the importance of considering behavioral and psychological responses to insecurity, rather than focusing exclusively on disruptions to schooling or income.

The findings also have important policy implications. Interventions aimed at mitigating the long-term costs of terrorism and political violence should consider not only those directly exposed but also their children. Policies that support parental well-being, mental health, and child-focused investments in conflict-affected areas may help offset some of the intergenerational transmission of disadvantage documented in this paper and can break the linked between maternal exposure to terrorism and early childhood skills accumulation. More broadly, the results suggest that reducing exposure to insecurity, even when violence is relatively low-intensity, can yield substantial returns in terms of human capital formation and long-run development.

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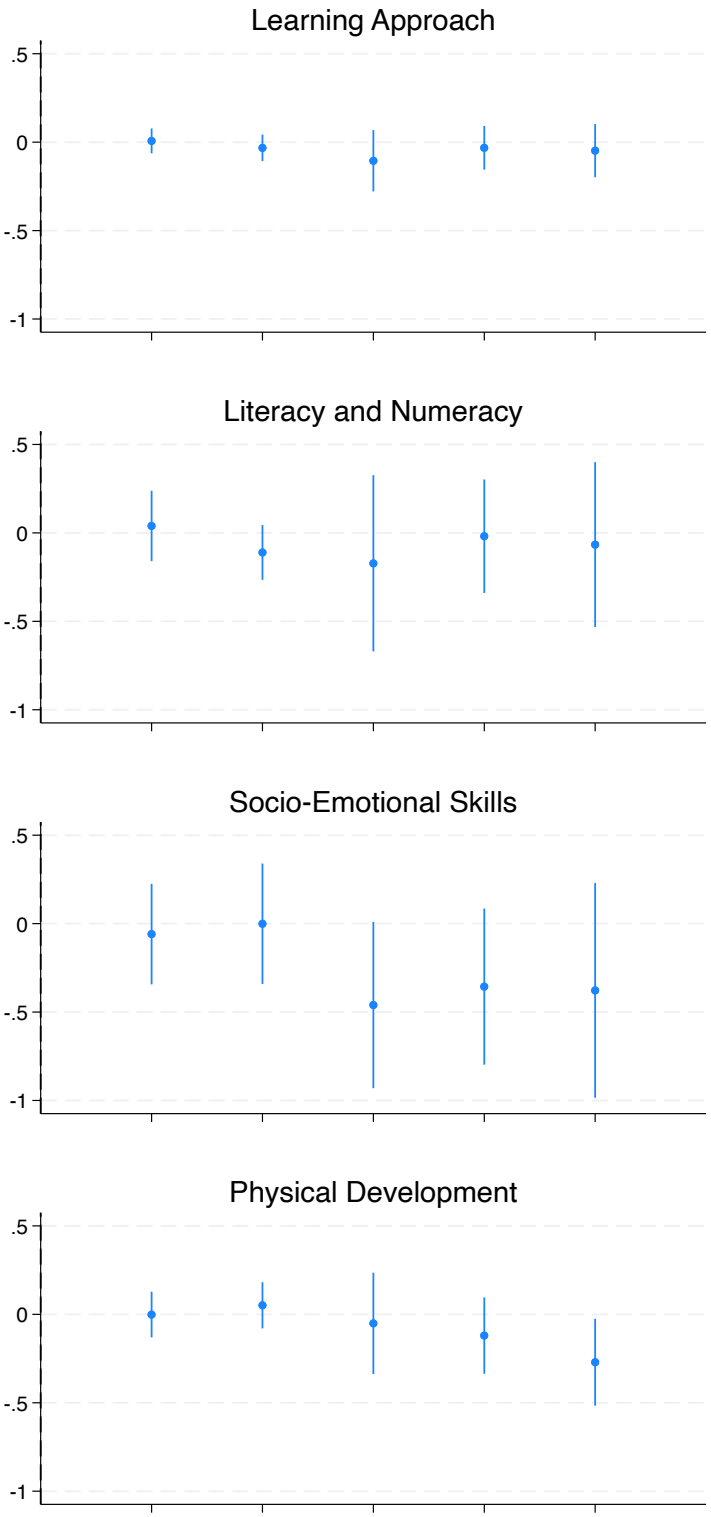
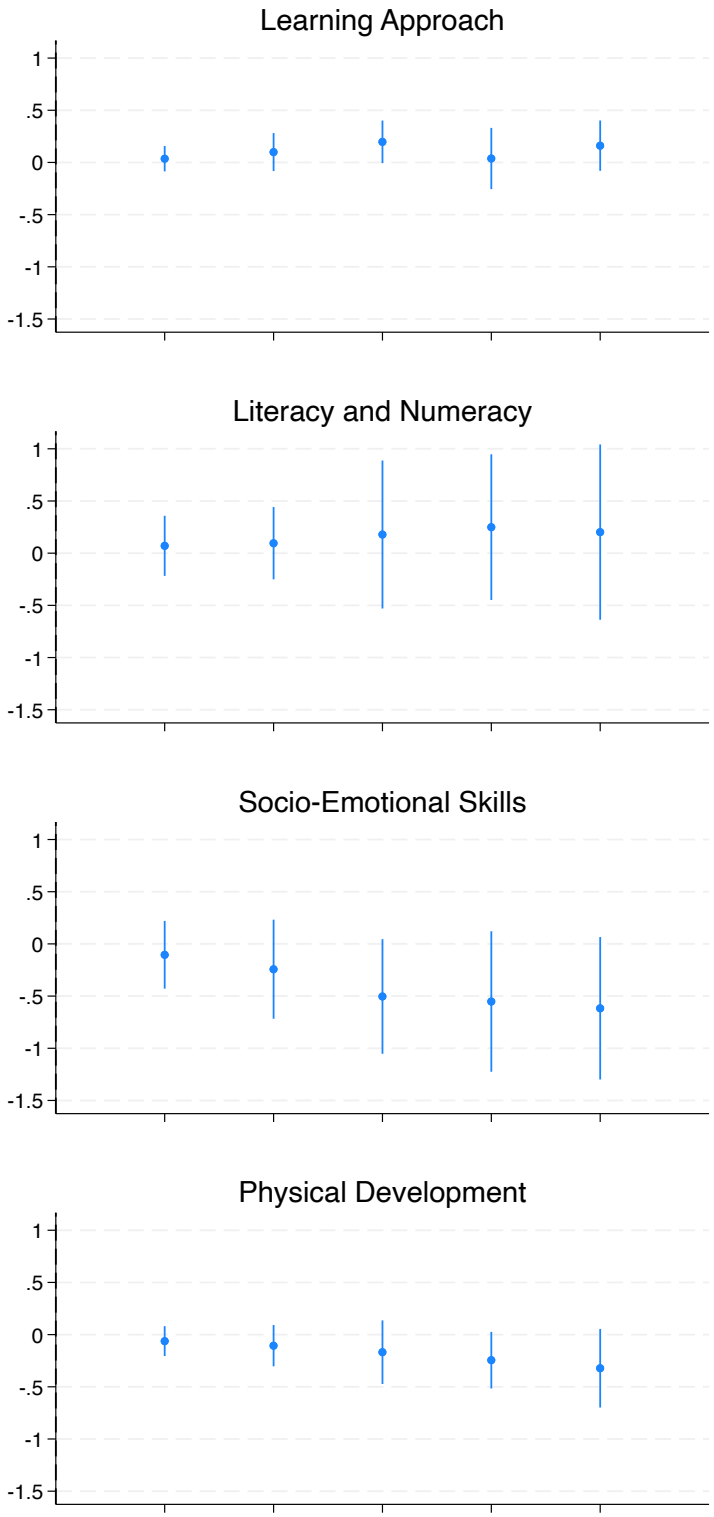
# Appendix A: Additional Analysis

**Figure A1: Impact of Maternal Exposure to Terrorism by Exposure Quintiles – Measure: Number of Events**



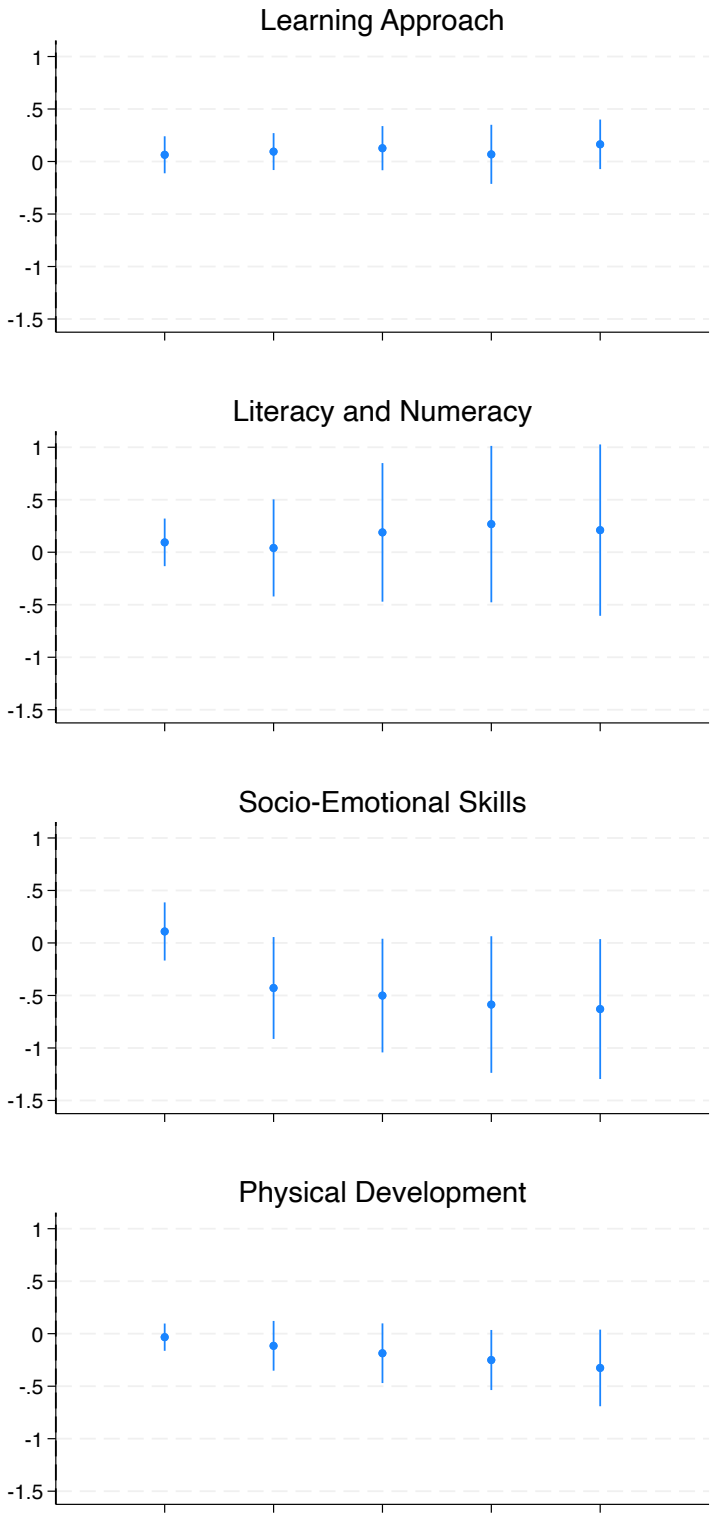

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. The lines show 95% confidence intervals. Measure in Figure (a) is every having been exposed to any terrorist attack, in Figure (b), it is the number of terrorist attacks that they have been exposed to, in Figure (c), it is the number of armed conflict events between the Turkish army and terrorist groups, and in Figure (d), it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year and birth city.

**Figure A2: Impact of Maternal Exposure to Terrorism by Exposure Quintiles – Measure: Number of Deadly Events**




*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. The lines show 95% confidence intervals. Measure in Figure (a) is every having been exposed to any terrorist attack, in Figure (b), it is the number of terrorist attacks that they have been exposed to, in Figure (c), it is the number of armed conflict events between the Turkish army and terrorist groups, and in Figure (d), it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year and birth city.

**Figure A3: Impact of Maternal Exposure to Terrorism by Exposure Quintiles – Measure: Number of Casualties**




*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. The lines show 95% confidence intervals. Measure in Figure (a) is every having been exposed to any terrorist attack, in Figure (b), it is the number of terrorist attacks that they have been exposed to, in Figure (c), it is the number of armed conflict events between the Turkish army and terrorist groups, and in Figure (d), it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year and birth city.

## Table A1: Descriptive Statistics on Exposure for Alternative Measures

| | All | | | | | Conditional on Positive Exposure | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Mean | SD | 25th Pct | 50th Pct | 75th Pct | Mean | SD | 25th Pct | 50th Pct | 75th Pct | Min | Max |
| **Events (GDELT Data)** | | | | | | | | | | | | |
| 1-year | 86.0034 | 323.9596 | 1 | 9 | 34 | | 364.76 | 5 | 18 | 45 | 1 | 3564 |
| 2-year | 182.2173 | 665.9437 | 4 | 21 | 72 | | 705.00 | 8 | 30 | 78 | 1 | 6093 |
| 3-year | 280.3703 | 978.2354 | 8 | 39 | 109 | | 1010.28 | 11 | 44 | 114 | 1 | 8630 |
| 4-year | 382.8099 | 1279.7478 | 12 | 54 | 147 | | 1307.63 | 16 | 59 | 159 | 1 | 10785 |
| 5-year | 494.7015 | 1595.3259 | 18 | 74 | 183 | | 1618.19 | 22 | 81 | 196 | 1 | 12703 |
| 6-year | 619.4158 | 1953.8929 | 25 | 95 | 233 | | 1972.47 | 27 | 99 | 238 | 1 | 14620 |
| **Articles (GDELT Data)** | | | | | | | | | | | | |
| 1-year | 420.4702 | 1562.5812 | 3 | 38 | 173 | | 1758.85 | 24 | 93 | 213 | 1 | 16236 |
| 2-year | 891.2037 | 3205.4734 | 20 | 108 | 359 | | 3392.93 | 35 | 140 | 408 | 1 | 29067 |
| 3-year | 1364.4745 | 4679.4136 | 38 | 183 | 575 | | 4832.19 | 52 | 225 | 586 | 1 | 40365 |
| 4-year | 1853.4515 | 6072.3404 | 58 | 269 | 735 | | 6204.10 | 72 | 310 | 752 | 1 | 50148 |
| 5-year | 2386.6241 | 7528.3743 | 86 | 388 | 942 | | 7635.72 | 98 | 414 | 945 | 1 | 59230 |
| 6-year | 2979.5646 | 9204.3145 | 112 | 506 | 1089 | | 9291.38 | 127 | 518 | 1104 | 1 | 67876 |
| **Goldstein (GDELT Data)** | | | | | | | | | | | | |
| 1-year | -436.6590 | 1593.1273 | -178 | -44 | -5 | | 1792.50 | -238 | -95 | -30 | -16956 | -4 |
| 2-year | -927.0628 | 3295.4434 | -370 | -112 | -24 | | 3487.73 | -408 | -149 | -47 | -28545 | -4 |
| 3-year | -1429.3612 | 4893.5009 | -563 | -185 | -43 | | 5053.21 | -610 | -210 | -62 | -41633 | -4 |
| 4-year | -1959.8070 | 6469.6524 | -762 | -268 | -63 | | 6610.26 | -790 | -296 | -90 | -52434 | -4 |
| 5-year | -2535.4441 | 8101.7913 | -942 | -384 | -96 | | 8217.66 | -996 | -406 | -110 | -62003 | -4 |
| 6-year | -3173.3503 | 9931.8872 | -1175 | -468 | -133 | | 10026.12 | -1196 | -499 | -151 | -71405 | -5 |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave and GDELT Project Dataset. Measure in Panel A is the number of events, in Panel B, it is the number of articles (newspapers, both online and in-print) that mentions the event, and in Panel C, it is the Goldstein scale. As all the events included in the analysis are construction events, the Goldstein scale is always negative. A higher absolute value in Goldstein scale means a bigger impact.

## Table A2: Variation in Maternal Exposure to Terrorism

| | Number of Events | | Number of Deadly Events | | Number of Causalities | |
|---|---|---|---|---|---|---|
| | Mean | Standard Deviation | Mean | Standard Deviation | Mean | Standard Deviation |
| **1-year** | | | | | | |
| Raw | 3.0963 | 13.8884 | 4.7456 | 12.9103 | 17.9282 | 58.6918 |
| - Location FE | | 10.8866 | | 8.8417 | | 44.8115 |
| - Time FE | | 10.1331 | | 7.9932 | | 41.7646 |
| - Controls | | 9.6330 | | 7.5564 | | 39.4492 |
| **2-year** | | | | | | |
| Raw | 6.2112 | 24.4954 | 9.6998 | 26.2825 | 36.4278 | 117.7479 |
| - Location FE | | 17.8340 | | 17.0813 | | 85.0688 |
| - Time FE | | 16.4986 | | 15.3297 | | 79.0558 |
| - Controls | | 15.5762 | | 14.5475 | | 75.4272 |
| **3-year** | | | | | | |
| Raw | 8.8212 | 31.6851 | 14.4681 | 38.1170 | 54.0143 | 171.4742 |
| - Location FE | | 21.3125 | | 23.9510 | | 122.1408 |
| - Time FE | | 19.6276 | | 21.3961 | | 113.3883 |
| - Controls | | 18.5721 | | 20.3435 | | 108.9724 |
| **4-year** | | | | | | |
| Raw | 11.3838 | 39.8850 | 19.1285 | 49.7968 | 70.8123 | 219.4808 |
| - Location FE | | 26.1411 | | 30.4366 | | 151.4862 |
| - Time FE | | 24.0435 | | 27.0995 | | 140.2885 |
| - Controls | | 22.7169 | | 25.6617 | | 134.2949 |
| **5-year** | | | | | | |
| Raw | 14.0081 | 48.5912 | 23.4555 | 60.2008 | 87.1301 | 264.0447 |
| - Location FE | | 31.2468 | | 35.6660 | | 176.0525 |
| - Time FE | | 28.8068 | | 31.6656 | | 162.6874 |
| - Controls | | 27.1559 | | 29.8787 | | 155.6382 |
| **6-year** | | | | | | |
| Raw | 16.0817 | 54.5318 | 27.6045 | 69.6743 | 102.9324 | 303.7358 |
| - Location FE | | 33.6789 | | 39.9095 | | 195.1207 |
| - Time FE | | 31.0674 | | 35.3153 | | 179.5101 |
| - Controls | | 29.4281 | | 33.1528 | | 170.2737 |
| N | 2,595 | | 2,382 | | 2,382 | |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from OLS regressions. The first measure is the number of terrorist attacks that they have been exposed to, the second is the number of armed conflict events between the Turkish army and terrorist groups, and the third is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. The first measure derived from GTD, and the second and third are derived from TPCONED. For all the measures, the exposure duration is from age 5, in a changing periods. The controls included in the third row are birth city urban residence dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other)

**Table A3: Variation in Maternal Exposure to Terrorism - Alternative Measures**

| | Mean | Standard Deviation |
|---|---|---|
| **Events (GDELT)** | | |
| Raw | 619.4158 | 1,953.8929 |
| - Location FE | | 1,107.0684 |
| - Time FE | | 1,030.2839 |
| - Controls | | 983.5994 |
| **Articles (GDELT)** | | |
| Raw | 2,979.5646 | 9,204.3145 |
| - Location FE | | 5,189.8983 |
| - Time FE | | 4,826.3246 |
| - Controls | | 4,609.7083 |
| **Goldstein (GDELT)** | | |
| Raw | -3,173.3503 | 9,931.8872 |
| - Location FE | | 5,534.7908 |
| - Time FE | | 5,150.3720 |
| - Controls | | 4,915.7494 |
| N | 2,352 | |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave and GDELT Project Dataset. Results from OLS regressions. The first measure is the number of events, the second is the number of articles (newspapers, both online and in-print) that mentions the event, and the third is the Goldstein scale. As all the events included in the analysis are construction events, the Goldstein scale is always negative. A higher absolute value in Goldstein scale means a bigger impact. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. The controls included in the third row are birth city urban residence dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other)

**Table A4: Impact of Maternal Exposure to Conflict on Child Skills – Measure: Number of Events (GDELT Data)**

**Panel A: Exposure Measure: Any Event**

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Ever Exposed | 0.02073 | -0.10108* | -0.42510*** | 0.05007** | -0.42711*** |
| | (0.01406) | (0.05239) | (0.03010) | (0.02515) | (0.02973) |
| Observations | 1,022 | 1,022 | 1,022 | 1,022 | 1,022 |
| Mean | 0.9657 | 0.1182 | 0.7283 | 0.9296 | 0.7265 |
| SD | (0.1821) | (0.3230) | (0.4450) | (0.2559) | (0.4459) |

**Panel B: Exposure Measure: Number of Events**

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure | -0.00000 | -0.00008*** | -0.00007*** | -0.00003* | -0.00007*** |
| | (0.00000) | (0.00002) | (0.00003) | (0.00002) | (0.00003) |
| Impact of 1SD ↑ | -0.0033 | -0.1553 | -0.1454 | -0.0667 | -0.1428 |
| Observations | 1022 | 1022 | 1022 | 1022 | 1022 |
| Mean | 0.9657 | 0.1182 | 0.7283 | 0.9296 | 0.7265 |
| SD | (0.1821) | (0.3230) | (0.4450) | (0.2559) | (0.4459) |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave and GDELT Dataset. Results from 2 Stage Differences in Differences estimator. All outcome measures are dummy variables for having the appropriate level of development for the age in question. For the definition, please see text. For the questions used to measure these skills, please see Appendix B. Estimation sample excludes 6 people who moved cities between the ages of 5 and 11. Exposure measure is the number of political events that are related to terrorism but also includes non-conflict measures such as threats. For the measure, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$

**Table A5: Impact of Maternal Exposure to Conflict on Child Skills – Measure: Number of Articles (GDELT Data)**

**Panel A: Exposure Measure: Any Event**

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Ever Exposed | 0.02073 | -0.10108* | -0.42510*** | 0.05007** | -0.42711*** |
| | (0.01406) | (0.05239) | (0.03010) | (0.02515) | (0.02973) |
| Observations | 1,022 | 1,022 | 1,022 | 1,022 | 1,022 |
| Mean | 0.9657 | 0.1182 | 0.7283 | 0.9296 | 0.7265 |
| SD | (0.1821) | (0.3230) | (0.4450) | (0.2559) | (0.4459) |

**Panel B: Exposure Measure: Number of Events**

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure | -0.00000 | -0.00002*** | -0.00002*** | -0.00001* | -0.00002*** |
| | (0.00000) | (0.00000) | (0.00001) | (0.00000) | (0.00001) |
| Impact of 1SD ↑ | -0.0036 | -0.1538 | -0.1465 | -0.0666 | -0.1442 |
| Observations | 1022 | 1022 | 1022 | 1022 | 1022 |
| Mean | 0.9657 | 0.1182 | 0.7283 | 0.9296 | 0.7265 |
| SD | (0.1821) | (0.3230) | (0.4450) | (0.2559) | (0.4459) |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave and GDELT Dataset. Results from 2 Stage Differences in Differences estimator. All outcome measures are dummy variables for having the appropriate level of development for the age in question. For the definition, please see text. For the questions used to measure these skills, please see Appendix B. Estimation sample excludes 6 people who moved cities between the ages of 5 and 11. Exposure measure is the number of articles that mention the events that are related to terrorism but also includes non-conflict measures such as threats. For the measure, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$

**Table A6: Impact of Maternal Exposure to Conflict on Child Skills – Measure: Goldstein Scale (GDELT Data)**

**Panel A: Exposure Measure: Any Event**

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Ever Exposed | 0.02073 | -0.10108* | -0.42510*** | 0.05007** | -0.42711*** |
| | (0.01406) | (0.05239) | (0.03010) | (0.02515) | (0.02973) |
| Observations | 1,022 | 1,022 | 1,022 | 1,022 | 1,022 |
| Mean | 0.9657 | 0.1182 | 0.7283 | 0.9296 | 0.7265 |
| SD | (0.1821) | (0.3230) | (0.4450) | (0.2559) | (0.4459) |

**Panel B: Exposure Measure: Number of Events**

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure | -0.00000 | -0.00015*** | -0.00014*** | -0.00007* | -0.00014*** |
| | (0.00001) | (0.00004) | (0.00005) | (0.00004) | (0.00005) |
| Impact of 1SD ↑ | -0.0037 | -0.1564 | -0.1469 | -0.0670 | -0.1442 |
| Observations | 1022 | 1022 | 1022 | 1022 | 1022 |
| Mean | 0.9657 | 0.1182 | 0.7283 | 0.9296 | 0.7265 |
| SD | (0.1821) | (0.3230) | (0.4450) | (0.2559) | (0.4459) |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave and GDELT Dataset. Results from 2 Stage Differences in Differences estimator. All outcome measures are dummy variables for having the appropriate level of development for the age in question. For the definition, please see text. For the questions used to measure these skills, please see Appendix B. Estimation sample excludes 6 people who moved cities between the ages of 5 and 11. Exposure measure is the impact of the event. For the measure, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

**Table A7: Impact of Maternal Exposure to Conflict on Child Skills by Exposure Duration**

| | Exposure Duration | | | | | |
|---|---|---|---|---|---|---|
| | 1-year | 2-year | 3-year | 4-year | 5-year | 6-year |
| **Any Event** | | | | | | |
| Learning Approach | -0.03742* | -0.04261* | -0.02353 | -0.01952 | -0.04368 | -0.03614 |
| | (0.02104) | (0.02564) | (0.02328) | (0.04330) | (0.03164) | (0.04439) |
| Literacy and Numeracy | 0.02606 | -0.04910 | -0.06570 | -0.04637 | -0.14424 | -0.05954 |
| | (0.03540) | (0.07052) | (0.06868) | (0.08264) | (0.10063) | (0.12465) |
| Socio-Emotional Skills | 0.04284 | -0.00389 | 0.09977 | 0.12502 | -0.09933 | -0.22271 |
| | (0.07090) | (0.07680) | (0.10279) | (0.13119) | (0.11607) | (0.16223) |
| Physical Development | 0.07214 | -0.02189 | -0.03137 | 0.15508** | -0.11676** | -0.07945 |
| | (0.04743) | (0.04266) | (0.04014) | (0.07042) | (0.05163) | (0.07167) |
| Development Index | 0.01535 | -0.06579 | -0.02729 | 0.07400 | -0.16294 | -0.19935 |
| | (0.07406) | (0.07421) | (0.09164) | (0.12391) | (0.10875) | (0.16347) |
| **Number of Events** | | | | | | |
| Learning Approach | -0.00240*** | -0.00059 | -0.00024 | -0.00060 | -0.00049 | -0.00019 |
| | (0.00054) | (0.00039) | (0.00027) | (0.00046) | (0.00033) | (0.00037) |
| Literacy and Numeracy | 0.00091 | -0.00401*** | -0.00254*** | -0.00163 | -0.00102 | -0.00026 |
| | (0.00109) | (0.00100) | (0.00072) | (0.00108) | (0.00129) | (0.00134) |
| Socio-Emotional Skills | -0.00006 | -0.00056 | -0.00043 | -0.00171 | -0.00387*** | -0.00374*** |
| | (0.00209) | (0.00211) | (0.00205) | (0.00164) | (0.00131) | (0.00136) |
| Physical Development | 0.00164 | -0.00086 | -0.00087 | 0.00180* | -0.00158** | -0.00166** |
| | (0.00164) | (0.00076) | (0.00065) | (0.00107) | (0.00071) | (0.00074) |
| Development Index | -0.00170 | -0.00256 | -0.00310** | -0.00221 | -0.00393*** | -0.00369** |
| | (0.00214) | (0.00157) | (0.00146) | (0.00164) | (0.00135) | (0.00146) |
| **Number of Deadly Events** | | | | | | |
| Learning Approach | -0.00020 | -0.00017 | 0.00127 | 0.00095 | 0.00065 | 0.00074 |
| | (0.00105) | (0.00062) | (0.00091) | (0.00069) | (0.00066) | (0.00061) |
| Literacy and Numeracy | -0.00009 | -0.00043 | 0.00191 | 0.00165 | 0.00126 | 0.00102 |
| | (0.00200) | (0.00107) | (0.00129) | (0.00105) | (0.00130) | (0.00210) |
| Socio-Emotional Skills | -0.00783*** | -0.00239 | 0.00096 | 0.00046 | -0.00099 | -0.00321** |
| | (0.00293) | (0.00198) | (0.00191) | (0.00163) | (0.00146) | (0.00164) |
| Physical Development | -0.00183 | -0.00110 | -0.00040 | 0.00004 | -0.00174** | -0.00161* |
| | (0.00250) | (0.00147) | (0.00117) | (0.00093) | (0.00077) | (0.00093) |
| Development Index | -0.00796*** | -0.00184 | 0.00288 | 0.00220 | 0.00082 | -0.00300* |
| | (0.00305) | (0.00190) | (0.00203) | (0.00168) | (0.00167) | (0.00170) |
| **Number of Causalities** | | | | | | |
| Learning Approach | -0.00004 | -0.00002 | 0.00031 | 0.00024 | 0.00015 | 0.00017 |
| | (0.00021) | (0.00014) | (0.00019) | (0.00015) | (0.00014) | (0.00012) |
| Literacy and Numeracy | -0.00000 | -0.00013 | 0.00041 | 0.00036 | 0.00027 | 0.00022 |
| | (0.00040) | (0.00023) | (0.00028) | (0.00022) | (0.00027) | (0.00043) |
| Socio-Emotional Skills | -0.00159*** | -0.00061 | 0.00012 | 0.00003 | -0.00023 | -0.00068* |
| | (0.00058) | (0.00044) | (0.00041) | (0.00036) | (0.00031) | (0.00035) |
| Physical Development | -0.00043 | -0.00025 | -0.00010 | -0.00000 | -0.00036** | -0.00034* |
| | (0.00047) | (0.00032) | (0.00025) | (0.00020) | (0.00017) | (0.00019) |
| Development Index | -0.00160*** | -0.00047 | 0.00057 | 0.00043 | 0.00016 | -0.00061* |
| | (0.00059) | (0.00042) | (0.00044) | (0.00037) | (0.00034) | (0.00036) |
| Observations = 959 | | | | | | |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave and GDELT Dataset. Coefficients from 2 Stage Differences in Differences estimator. Where the columns show the exposure duration of the measures and the rows show the outcome variables. Similar to the main text, four panels presents different measures. Measure in Panel A is every having been exposed to any terrorist attack, in Panel B, it is the number of terrorist attacks that they have been exposed to, in Panel C, it is the number of armed conflict events between the Turkish army and terrorist groups, and in Panel D, it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

**Table A8: Impact of Maternal Exposure to Conflict on Child Skills by Exposure Ages**

| | Exposure Duration | | | | | |
|---|---|---|---|---|---|---|
| | Age 5 | Age 6 | Age 7 | Age 8 | Age 9 | Age 10 |
| **Any Event** | | | | | | |
| Learning Approach | -0.03742* | -0.02286 | 0.02173 | 0.01598 | 0.02313 | 0.01925 |
| | (0.02104) | (0.02938) | (0.03473) | (0.02539) | (0.02106) | (0.03475) |
| Literacy and Numeracy | 0.02606 | -0.01939 | 0.06788* | -0.00090 | -0.08371* | 0.00339 |
| | (0.03540) | (0.03940) | (0.03951) | (0.07168) | (0.04492) | (0.05199) |
| Socio-Emotional Skills | 0.04284 | -0.06211 | 0.04532 | 0.02668 | -0.03050 | 0.01936 |
| | (0.07090) | (0.05572) | (0.06631) | (0.06430) | (0.04941) | (0.09158) |
| Physical Development | 0.07214 | -0.03175 | 0.02808 | 0.02488 | 0.01758 | 0.01955 |
| | (0.04743) | (0.05393) | (0.03541) | (0.04506) | (0.02973) | (0.03662) |
| Development Index | 0.01535 | -0.06422 | 0.02891 | 0.06615 | -0.01151 | 0.04408 |
| | (0.07406) | (0.05807) | (0.06830) | (0.06409) | (0.05148) | (0.09378) |
| **Number of Events** | | | | | | |
| Learning Approach | -0.00240*** | -0.00122** | 0.00265*** | 0.00016 | 0.00047 | -0.00036 |
| | (0.00054) | (0.00052) | (0.00085) | (0.00096) | (0.00036) | (0.00067) |
| Literacy and Numeracy | 0.00091 | 0.00113 | 0.00357*** | -0.00336 | -0.00073 | -0.00107 |
| | (0.00109) | (0.00125) | (0.00107) | (0.00265) | (0.00136) | (0.00119) |
| Socio-Emotional Skills | -0.00006 | 0.00026 | 0.00125 | 0.00127 | 0.00098 | -0.00427*** |
| | (0.00209) | (0.00141) | (0.00156) | (0.00200) | (0.00113) | (0.00162) |
| Physical Development | 0.00164 | 0.00206* | -0.00101 | 0.00216* | 0.00151* | -0.00075 |
| | (0.00164) | (0.00119) | (0.00121) | (0.00112) | (0.00091) | (0.00087) |
| Development Index | -0.00170 | -0.00011 | 0.00048 | 0.00297 | 0.00065 | -0.00281* |
| | (0.00214) | (0.00141) | (0.00152) | (0.00237) | (0.00116) | (0.00155) |
| **Number of Deadly Events** | | | | | | |
| Learning Approach | -0.00020 | -0.00051 | -0.00164 | -0.00095 | -0.00012 | -0.00097 |
| | (0.00105) | (0.00080) | (0.00165) | (0.00098) | (0.00089) | (0.00107) |
| Literacy and Numeracy | -0.00009 | 0.00039 | -0.00302 | -0.00148 | -0.00081 | 0.00427** |
| | (0.00200) | (0.00198) | (0.00257) | (0.00151) | (0.00177) | (0.00211) |
| Socio-Emotional Skills | -0.00783*** | -0.00538** | -0.01163* | -0.00326 | -0.00846*** | -0.00219 |
| | (0.00293) | (0.00260) | (0.00606) | (0.00273) | (0.00295) | (0.00390) |
| Physical Development | -0.00183 | -0.00156 | 0.00072 | 0.00303 | 0.00062 | 0.00462 |
| | (0.00250) | (0.00203) | (0.00253) | (0.00185) | (0.00138) | (0.00349) |
| Development Index | -0.00796*** | -0.00542** | -0.01315** | -0.00448 | -0.00889*** | -0.00250 |
| | (0.00305) | (0.00267) | (0.00599) | (0.00276) | (0.00301) | (0.00391) |
| **Number of Causalities** | | | | | | |
| Learning Approach | -0.00004 | -0.00009 | -0.00027 | -0.00018 | 0.00003 | -0.00016 |
| | (0.00021) | (0.00018) | (0.00031) | (0.00022) | (0.00014) | (0.00020) |
| Literacy and Numeracy | -0.00000 | 0.00002 | -0.00069 | -0.00034 | -0.00014 | 0.00063 |
| | (0.00040) | (0.00044) | (0.00050) | (0.00034) | (0.00032) | (0.00042) |
| Socio-Emotional Skills | -0.00159*** | -0.00134*** | -0.00224* | -0.00090 | -0.00154*** | -0.00041 |
| | (0.00058) | (0.00051) | (0.00125) | (0.00059) | (0.00055) | (0.00062) |
| Physical Development | -0.00043 | -0.00034 | 0.00013 | 0.00060 | 0.00014 | 0.00072 |
| | (0.00047) | (0.00044) | (0.00048) | (0.00043) | (0.00023) | (0.00071) |
| Development Index | -0.00160*** | -0.00133*** | -0.00248** | -0.00116* | -0.00160*** | -0.00043 |
| | (0.00059) | (0.00052) | (0.00123) | (0.00060) | (0.00056) | (0.00061) |
| Observations = 959 | | | | | | |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave and GDELT Dataset. Coefficients from 2 Stage Differences in Differences estimator. Where the columns show the exposure time of the measures and the rows show the outcome variables. Similar to the main text, four panels presents different measures. Measure in Panel A is every having been exposed to any terrorist attack, in Panel B, it is the number of terrorist attacks that they have been exposed to, in Panel C, it is the number of armed conflict events between the Turkish army and terrorist groups, and in Panel D, it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

## Table A9: Impact of Maternal Exposure to Conflict on Child Skills – Measure: TSF Casualties

### Panel A: Exposure Measure: Number of Casualties

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure (TSF) | 0.00063 | 0.00084 | -0.00256** | -0.00128* | -0.00233* |
| | (0.00047) | (0.00165) | (0.00131) | (0.00074) | (0.00136) |
| Impact of 1SD ↑ | 0.0432 | 0.0576 | -0.1752 | -0.0879 | -0.1595 |
| Observations | 959 | 959 | 959 | 959 | 959 |
| Mean | 0.9657 | 0.1182 | 0.7283 | 0.9296 | 0.7265 |
| SD | (0.1821) | (0.3230) | (0.4450) | (0.2559) | (0.4459) |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. All outcome measures are dummy variables for having the appropriate level of development for the age in question. For the definition, please see text. For the questions used to measure these skills, please see Appendix B. Estimation sample excludes 6 people who moved cities between the ages of 5 and 11. Exposure measure is the number of casualties in the Turkish army that resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

## Table A10: Impact of Maternal Exposure to Conflict on Maternal Investments (Separately)

### Panel A: Exposure Measure: Any Events

| | Educational | | | Recreational | | |
|---|---|---|---|---|---|---|
| | (1) Read Books | (2) Told Stories | (3) Named Counted | (4) Sang Songs | (5) Took Outside | (6) Played With |
| Ever Exposed | 0.05922 | 0.04352 | 0.04735 | 0.10516 | 0.18797 | 0.24952** |
| | (0.10464) | (0.09958) | (0.12279) | (0.13477) | (0.13369) | (0.11087) |
| Observations | 1,074 | 1,074 | 1,074 | 1,074 | 1,074 | 1,074 |
| Mean | 0.2442 | 0.2633 | 0.2866 | 0.3949 | 0.3036 | 0.2229 |
| SD | (0.4300) | (0.4409) | (0.4527) | (0.4893) | (0.4603) | (0.4167) |

### Panel B: Exposure Measure: Number of Events

| | Educational | | | Recreational | | |
|---|---|---|---|---|---|---|
| | (1) Read Books | (2) Told Stories | (3) Named Counted | (4) Sang Songs | (5) Took Outside | (6) Played With |
| Exposure | 0.00197* | 0.00049 | 0.00100 | 0.00190 | 0.00083 | 0.00253* |
| | (0.00110) | (0.00110) | (0.00131) | (0.00152) | (0.00156) | (0.00147) |
| Impact of 1SD ↑ | 0.0943 | 0.0232 | 0.0477 | 0.0910 | 0.0395 | 0.1212 |
| Observations | 1074 | 1074 | 1074 | 1074 | 1074 | 1074 |
| Mean | 0.2442 | 0.2633 | 0.2866 | 0.3949 | 0.3036 | 0.2229 |
| SD | (0.4300) | (0.4409) | (0.4527) | (0.4893) | (0.4603) | (0.4167) |

### Panel C: Exposure Measure: Number of Deadly Events

| | Educational | | | Recreational | | |
|---|---|---|---|---|---|---|
| | (1) Read Books | (2) Told Stories | (3) Named Counted | (4) Sang Songs | (5) Took Outside | (6) Played With |
| Exposure | -0.00073 | -0.00323 | -0.00195 | -0.00536** | 0.00535** | -0.00371** |
| | (0.00157) | (0.00217) | (0.00152) | (0.00212) | (0.00215) | (0.00171) |
| Impact of 1SD ↑ | -0.0433 | -0.1917 | -0.1157 | -0.3176 | 0.3170 | -0.2201 |
| Observations | 959 | 959 | 959 | 959 | 959 | 959 |
| Mean | 0.2710 | 0.2731 | 0.3101 | 0.4230 | 0.2977 | 0.2177 |
| SD | (0.4450) | (0.4460) | (0.4630) | (0.4945) | (0.4577) | (0.4131) |

### Panel D: Exposure Measure: Number of Casualties

| | Educational | | | Recreational | | |
|---|---|---|---|---|---|---|
| | (1) Read Books | (2) Told Stories | (3) Named Counted | (4) Sang Songs | (5) Took Outside | (6) Played With |
| Exposure | -0.00018 | -0.00070* | -0.00041 | -0.00111** | 0.00110** | -0.00077** |
| | (0.00031) | (0.00043) | (0.00031) | (0.00044) | (0.00048) | (0.00036) |
| Impact of 1SD ↑ | -0.0458 | -0.1829 | -0.1061 | -0.2887 | 0.2872 | -0.2008 |
| Observations | 959 | 959 | 959 | 959 | 959 | 959 |
| Mean | 0.2710 | 0.2731 | 0.3101 | 0.4230 | 0.2977 | 0.2177 |
| SD | (0.4450) | (0.4460) | (0.4630) | (0.4945) | (0.4577) | (0.4131) |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. All outcome measures are dummy variables for the activities performed with the child. Estimation sample excludes 6 people who moved cities between the ages of 5 and 11. Measure in Panel A is every having been exposed to any terrorist attack, in Panel B, it is the number of terrorist attacks that they have been exposed to, in Panel C, it is the number of armed conflict events between the Turkish army and terrorist groups, and in Panel D, it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

## Table A11: Impact of Maternal Exposure to Conflict on Total Investments (Separately)

### Panel A: Exposure Measure: Any Events

| | Educational | | | Recreational | | |
|---|---|---|---|---|---|---|
| | (1) Read Books | (2) Told Stories | (3) Named Counted | (4) Sang Songs | (5) Took Outside | (6) Played With |
| Ever Exposed | -0.39865** | -0.09904 | -0.22191* | -0.29305** | -0.15047* | -0.11676 |
| | (0.15861) | (0.09753) | (0.12907) | (0.13156) | (0.08445) | (0.13474) |
| Observations | 1,074 | 1,074 | 1,074 | 1,074 | 1,074 | 1,074 |
| Mean | 0.5563 | 0.4926 | 0.6624 | 0.6730 | 0.8726 | 0.8471 |
| SD | (0.4974) | (0.5005) | (0.4734) | (0.4696) | (0.3338) | (0.3602) |

### Panel B: Exposure Measure: Number of Events

| | Educational | | | Recreational | | |
|---|---|---|---|---|---|---|
| | (1) Read Books | (2) Told Stories | (3) Named Counted | (4) Sang Songs | (5) Took Outside | (6) Played With |
| Exposure | -0.00356** | -0.00108 | -0.00162 | -0.00249** | -0.00063 | -0.00159 |
| | (0.00140) | (0.00105) | (0.00152) | (0.00106) | (0.00085) | (0.00150) |
| Impact of 1SD ↑ | -0.1700 | -0.0516 | -0.0775 | -0.1191 | -0.0299 | -0.0762 |
| Observations | 1074 | 1074 | 1074 | 1074 | 1074 | 1074 |
| Mean | 0.5563 | 0.4926 | 0.6624 | 0.6730 | 0.8726 | 0.8471 |
| SD | (0.4974) | (0.5005) | (0.4734) | (0.4696) | (0.3338) | (0.3602) |

### Panel C: Exposure Measure: Number of Deadly Events

| | Educational | | | Recreational | | |
|---|---|---|---|---|---|---|
| | (1) Read Books | (2) Told Stories | (3) Named Counted | (4) Sang Songs | (5) Took Outside | (6) Played With |
| Exposure | -0.00439** | -0.00609*** | 0.00036 | -0.00292 | -0.00025 | -0.00239 |
| | (0.00180) | (0.00192) | (0.00160) | (0.00208) | (0.00086) | (0.00164) |
| Impact of 1SD ↑ | -0.2603 | -0.3610 | 0.0213 | -0.1730 | -0.0151 | -0.1420 |
| Observations | 959 | 959 | 959 | 959 | 959 | 959 |
| Mean | 0.6078 | 0.5277 | 0.7105 | 0.6940 | 0.8850 | 0.8645 |
| SD | (0.4887) | (0.4997) | (0.4540) | (0.4613) | (0.3193) | (0.3426) |

### Panel D: Exposure Measure: Number of Casualties

| | Educational | | | Recreational | | |
|---|---|---|---|---|---|---|
| | (1) Read Books | (2) Told Stories | (3) Named Counted | (4) Sang Songs | (5) Took Outside | (6) Played With |
| Exposure | -0.00091** | -0.00127*** | 0.00007 | -0.00058 | -0.00008 | -0.00051 |
| | (0.00036) | (0.00041) | (0.00031) | (0.00043) | (0.00017) | (0.00032) |
| Impact of 1SD ↑ | -0.2374 | -0.3313 | 0.0172 | -0.1507 | -0.0204 | -0.1327 |
| Observations | 959 | 959 | 959 | 959 | 959 | 959 |
| Mean | 0.6078 | 0.5277 | 0.7105 | 0.6940 | 0.8850 | 0.8645 |
| SD | (0.4887) | (0.4997) | (0.4540) | (0.4613) | (0.3193) | (0.3426) |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. All outcome measures are dummy variables for the activities performed with the child. Estimation sample excludes 6 people who moved cities between the ages of 5 and 11. Measure in Panel A is every having been exposed to any terrorist attack, in Panel B, it is the number of terrorist attacks that they have been exposed to, in Panel C, it is the number of armed conflict events between the Turkish army and terrorist groups, and in Panel D, it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6 year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

# Table A12: Impact of Maternal Exposure to Conflict on Child Skills – Heterogeneity

| | Child Gender | | | Education | | | Ethnicity | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) | (11) | (12) |
| | Male | Female | p-value | No University | Some University | p-value | Non-Kurdish | Kurdish | p-value | Turkish | Minority | p-value |
| **Ever Exposed** | | | | | | | | | | | | |
| Learning Approach | -0.06362 | -0.00755 | 0.13306 | -0.04455 | 0.03296 | 0.15406 | -0.00941 | -0.09303 | 0.27344 | -0.00277 | -0.08989 | 0.20304 |
| | (0.04843) | (0.04742) | | (0.04682) | (0.05065) | | (0.03830) | (0.08122) | | (0.03805) | (0.07272) | |
| Literacy and Numeracy | -0.12216 | 0.00562 | 0.08388 | -0.07373 | 0.07710 | 0.26588 | -0.02055 | -0.14251 | 0.47113 | -0.01321 | -0.13415 | 0.41886 |
| | (0.12692) | (0.13177) | | (0.12861) | (0.14959) | | (0.11408) | (0.19874) | | (0.11794) | (0.17723) | |
| Socio-Emotional Skills | -0.21159 | -0.23427 | 0.86917 | -0.16411 | -0.65332*** | 0.01125 | -0.29711** | -0.06438 | 0.46315 | -0.34542** | -0.02510 | 0.24063 |
| | (0.16413) | (0.18817) | | (0.16903) | (0.18681) | | (0.14659) | (0.32279) | | (0.14368) | (0.28064) | |
| Physical Development | -0.11995 | -0.03732 | 0.33289 | -0.05894 | -0.21927** | 0.06439 | -0.09629 | -0.04363 | 0.70819 | -0.10096 | -0.04482 | 0.64136 |
| | (0.08549) | (0.08153) | | (0.07310) | (0.09025) | | (0.06904) | (0.13778) | | (0.07245) | (0.11662) | |
| Development Index | -0.21427 | -0.18382 | 0.82609 | -0.13814 | -0.63988*** | 0.01612 | -0.25369 | -0.08371 | 0.60554 | -0.28706* | -0.05810 | 0.42502 |
| | (0.16407) | (0.19022) | | (0.17066) | (0.20344) | | (0.15750) | (0.32275) | | (0.15923) | (0.28007) | |
| **Number of Events** | | | | | | | | | | | | |
| Learning Approach | -0.00034 | 0.00004 | 0.17811 | -0.00035 | 0.00025 | 0.02312 | -0.00012 | 0.00016 | 0.82783 | -0.00012 | 0.00038 | 0.67332 |
| | (0.00041) | (0.00028) | | (0.00039) | (0.00031) | | (0.00033) | (0.00140) | | (0.00032) | (0.00128) | |
| Literacy and Numeracy | -0.00078 | 0.00044 | 0.03595 | -0.00030 | -0.00026 | 0.94452 | -0.00019 | 0.00136 | 0.63752 | -0.00016 | 0.00056 | 0.82376 |
| | (0.00131) | (0.00124) | | (0.00136) | (0.00116) | | (0.00125) | (0.00397) | | (0.00123) | (0.00384) | |
| Socio-Emotional Skills | -0.00389*** | -0.00290** | 0.20878 | -0.00362*** | -0.00237* | 0.11161 | -0.00374*** | -0.00319 | 0.93135 | -0.00381*** | -0.00255 | 0.83737 |
| | (0.00138) | (0.00117) | | (0.00135) | (0.00121) | | (0.00129) | (0.00672) | | (0.00129) | (0.00639) | |
| Physical Development | -0.00233** | -0.00071 | 0.01021 | -0.00176** | -0.00074 | 0.00833 | -0.00141** | -0.00931* | 0.10842 | -0.00143** | -0.00747* | 0.13195 |
| | (0.00092) | (0.00055) | | (0.00072) | (0.00068) | | (0.00056) | (0.00501) | | (0.00056) | (0.00413) | |
| Development Index | -0.00393*** | -0.00291** | 0.21685 | -0.00355** | -0.00236* | 0.12064 | -0.00367*** | -0.00348 | 0.97750 | -0.00372*** | -0.00252 | 0.84151 |
| | (0.00151) | (0.00129) | | (0.00145) | (0.00129) | | (0.00139) | (0.00678) | | (0.00138) | (0.00639) | |
| **Number of Deadly Events** | | | | | | | | | | | | |
| Learning Approach | 0.00054 | 0.00064* | 0.87472 | 0.00079 | -0.00053 | 0.03630 | 0.00150** | 0.00036 | 0.09081 | 0.00127 | 0.00049 | 0.33716 |
| | (0.00079) | (0.00037) | | (0.00062) | (0.00049) | | (0.00070) | (0.00041) | | (0.00080) | (0.00046) | |
| Literacy and Numeracy | 0.00087 | 0.00043 | 0.67933 | 0.00118 | -0.00115 | 0.21159 | -0.00008 | -0.00011 | 0.99040 | 0.00005 | -0.00001 | 0.97797 |
| | (0.00221) | (0.00135) | | (0.00215) | (0.00108) | | (0.00255) | (0.00050) | | (0.00265) | (0.00057) | |
| Socio-Emotional Skills | -0.00346* | -0.00212** | 0.37992 | -0.00332** | -0.00032 | 0.20587 | -0.00287 | -0.00094 | 0.39152 | -0.00515* | -0.00114 | 0.13063 |
| | (0.00200) | (0.00106) | | (0.00167) | (0.00222) | | (0.00226) | (0.00083) | | (0.00277) | (0.00095) | |
| Physical Development | -0.00195* | -0.00090 | 0.08011 | -0.00171* | -0.00017 | 0.08861 | -0.00071 | -0.00010 | 0.56416 | -0.00055 | -0.00032 | 0.84482 |
| | (0.00106) | (0.00060) | | (0.00095) | (0.00080) | | (0.00119) | (0.00034) | | (0.00129) | (0.00042) | |
| Development Index | -0.00344* | -0.00189* | 0.20272 | -0.00308* | -0.00079 | 0.34671 | -0.00258 | -0.00100 | 0.50037 | -0.00475* | -0.00119 | 0.17867 |
| | (0.00191) | (0.00110) | | (0.00173) | (0.00233) | | (0.00246) | (0.00063) | | (0.00286) | (0.00080) | |
| **Number of Causalities** | | | | | | | | | | | | |
| Learning Approach | 0.00017 | 0.00013* | 0.77205 | 0.00018 | -0.00012 | 0.04921 | 0.00038** | 0.00010 | 0.05054 | 0.00031* | 0.00012 | 0.27540 |
| | (0.00017) | (0.00007) | | (0.00012) | (0.00014) | | (0.00015) | (0.00007) | | (0.00017) | (0.00008) | |
| Literacy and Numeracy | 0.00024 | 0.00008 | 0.64316 | 0.00025 | -0.00031 | 0.17097 | -0.00003 | 0.00000 | 0.95147 | 0.00000 | 0.00002 | 0.97104 |
| | (0.00055) | (0.00023) | | (0.00043) | (0.00031) | | (0.00061) | (0.00010) | | (0.00064) | (0.00011) | |
| Socio-Emotional Skills | -0.00093* | -0.00037* | 0.15702 | -0.00069* | -0.00000 | 0.27937 | -0.00067 | -0.00021 | 0.38713 | -0.00124** | -0.00026 | 0.10211 |
| | (0.00048) | (0.00021) | | (0.00035) | (0.00063) | | (0.00054) | (0.00017) | | (0.00062) | (0.00020) | |
| Physical Development | -0.00052** | -0.00017 | 0.04616 | -0.00036* | -0.00006 | 0.19474 | -0.00019 | -0.00003 | 0.52534 | -0.00015 | -0.00008 | 0.79054 |
| | (0.00026) | (0.00011) | | (0.00020) | (0.00023) | | (0.00029) | (0.00006) | | (0.00031) | (0.00008) | |
| Development Index | -0.00088* | -0.00032 | 0.11159 | -0.00062* | -0.00010 | 0.41084 | -0.00060 | -0.00019 | 0.46192 | -0.00113* | -0.00024 | 0.14174 |
| | (0.00048) | (0.00021) | | (0.00037) | (0.00063) | | (0.00059) | (0.00014) | | (0.00065) | (0.00017) | |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave and GDELT Dataset. Coefficients from 2 Stage Differences in Differences estimator. Where the columns show the groups and the rows show the outcome variables. In each group of columns, column 1 and 2 show the coefficients and column 3 shows the p-value for the equality of these coefficients. Similar to the main text, four panels presents different measures. Measure in Panel A is every having been exposed to any terrorist attack, in Panel B, it is the number of terrorist attacks that they have been exposed to, in Panel C, it is the number of armed conflict events between the Turkish army and terrorist groups, and in Panel D, it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

## Table A13: Impact of Maternal Exposure to Conflict on Child Skills (Number of Skills)

### Panel A: Exposure Measure: Any Event

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Ever Exposed | -0.16610 | -0.00243 | -0.26909 | 0.11830 |
| | (0.14758) | (0.27128) | (0.27691) | (0.17856) |
| Observations | 1,074 | 1,074 | 1,074 | 1,074 |
| Mean | 0.7788 | 0.2410 | 0.8442 | 0.6279 |
| SD | (0.9575) | (0.5676) | (1.1530) | (0.8126) |

### Panel B: Exposure Measure: Number of Events

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Exposure | -0.00108 | -0.00136 | -0.00425 | 0.00324** |
| | (0.00108) | (0.00265) | (0.00262) | (0.00143) |
| Impact of 1SD ↑ | -0.0519 | -0.0650 | -0.2031 | 0.1548 |
| Observations | 1074 | 1074 | 1074 | 1074 |
| Mean | 0.7788 | 0.2410 | 0.8442 | 0.6279 |
| SD | (0.9575) | (0.5676) | (1.1530) | (0.8126) |

### Panel C: Exposure Measure: Number of Deadly Events

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Exposure | 0.00019 | -0.00377 | -0.00628* | -0.00093 |
| | (0.00206) | (0.00354) | (0.00327) | (0.00255) |
| Impact of 1SD ↑ | 0.0111 | -0.2233 | -0.3721 | -0.0549 |
| Observations | 959 | 959 | 959 | 959 |
| Mean | 0.7788 | 0.2410 | 0.8442 | 0.6279 |
| SD | (0.9575) | (0.5676) | (1.1530) | (0.8126) |

### Panel D: Exposure Measure: Number of Casualties

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Exposure | 0.00008 | -0.00075 | -0.00131* | -0.00016 |
| | (0.00041) | (0.00074) | (0.00071) | (0.00051) |
| Impact of 1SD ↑ | 0.0211 | -0.1950 | -0.3428 | -0.0429 |
| Observations | 959 | 959 | 959 | 959 |
| Mean | 0.7788 | 0.2410 | 0.8442 | 0.6279 |
| SD | (0.9575) | (0.5676) | (1.1530) | (0.8126) |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. All outcome measures are number of skills in each domain. For the questions used to measure these skills, please see Appendix B. Estimation sample excludes 6 people who moved cities between the ages of 5 and 11. Measure in Panel A is every having been exposed to any terrorist attack, in Panel B, it is the number of terrorist attacks that they have been exposed to, in Panel C, it is the number of armed conflict events between the Turkish army and terrorist groups, and in Panel D, it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literate, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic,

## Table A14: Impact of Maternal Exposure to Conflict on Child Skills – Separately

### Panel A: Exposure Measure: Any Event

| | Learning Approach | | Literacy and Numeracy | | | Socio-Emotional Skills | | | Physical Development | |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | Follows Directions | Does Things Independently | Identifies 10 Letters | Reads 4 Popular Words | Recognizes Numbers | Gets along Well with Children | Doesn't Kick or Bite | Doesn't Get Distracted | Picks up Small Objects | Isn't Sick Too Often |
| Ever Exposed | -0.02700 | -0.00810 | -0.07171 | 0.08001 | -0.04153 | -0.08894 | 0.10166 | 0.22565 | 0.02180 | -0.10352 |
| | (0.07132) | (0.07928) | (0.13345) | (0.07364) | (0.17863) | (0.11254) | (0.17662) | (0.22917) | (0.06111) | (0.16531) |
| Observations | 1,069 | 1,071 | 1,063 | 1,070 | 1,061 | 1,072 | 1,071 | 1,045 | 1,069 | 1,073 |
| Mean | 0.9438 | 0.9122 | 0.1222 | 0.0607 | 0.3954 | 0.8101 | 0.3430 | 0.4443 | 0.9692 | 0.4734 |
| SD | (0.2304) | (0.2831) | (0.3276) | (0.2389) | (0.4892) | (0.3924) | (0.4749) | (0.4971) | (0.1729) | (0.4995) |

### Panel B: Exposure Measure: Number of Events

| | Learning Approach | | Literacy and Numeracy | | | Socio-Emotional Skills | | | Physical Development | |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | Follows Directions | Does Things Independently | Identifies 10 Letters | Reads 4 Popular Words | Recognizes Numbers | Gets along Well with Children | Doesn't Kick or Bite | Doesn't Get Distracted | Picks up Small Objects | Isn't Sick Too Often |
| Exposure | 0.00004 | 0.00016 | 0.00010 | 0.00104 | -0.00258 | -0.00228* | 0.00337*** | 0.00042 | 0.00030 | -0.00295** |
| | (0.00052) | (0.00063) | (0.00122) | (0.00079) | (0.00159) | (0.00129) | (0.00122) | (0.00146) | (0.00059) | (0.00138) |
| Impact of 1SD ↑ | 0.0018 | 0.0077 | 0.0049 | 0.0496 | -0.1233 | -0.1091 | 0.1614 | 0.0200 | 0.0146 | -0.1411 |
| Observations | 1069 | 1071 | 1063 | 1070 | 1061 | 1072 | 1071 | 1045 | 1069 | 1073 |
| Mean | 0.9438 | 0.9122 | 0.1222 | 0.0607 | 0.3954 | 0.8101 | 0.3430 | 0.4443 | 0.9692 | 0.4734 |
| SD | (0.2304) | (0.2831) | (0.3276) | (0.2389) | (0.4892) | (0.3924) | (0.4749) | (0.4971) | (0.1729) | (0.4995) |

### Panel C: Exposure Measure: Number of Deadly Events

| | Learning Approach | | Literacy and Numeracy | | | Socio-Emotional Skills | | | Physical Development | |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | Follows Directions | Does Things Independently | Identifies 10 Letters | Reads 4 Popular Words | Recognizes Numbers | Gets along Well with Children | Doesn't Kick or Bite | Doesn't Get Distracted | Picks up Small Objects | Isn't Sick Too Often |
| Exposure | -0.00145 | 0.00071 | 0.00214 | 0.00134 | -0.00766*** | -0.00216 | 0.00168 | 0.00048 | -0.00140 | 0.00200 |
| | (0.00152) | (0.00099) | (0.00216) | (0.00126) | (0.00245) | (0.00171) | (0.00226) | (0.00172) | (0.00136) | (0.00193) |
| Impact of 1SD ↑ | -0.0859 | 0.0418 | 0.1269 | 0.0794 | -0.4542 | -0.1281 | 0.0998 | 0.0286 | -0.0831 | 0.1184 |
| Observations | 955 | 957 | 949 | 955 | 946 | 957 | 956 | 933 | 954 | 958 |
| Mean | 0.9438 | 0.9122 | 0.1222 | 0.0607 | 0.3954 | 0.8101 | 0.3430 | 0.4443 | 0.9692 | 0.4734 |
| SD | (0.2304) | (0.2831) | (0.3276) | (0.2389) | (0.4892) | (0.3924) | (0.4749) | (0.4971) | (0.1729) | (0.4995) |

### Panel D: Exposure Measure: Number of Casualties

| | Learning Approach | | Literacy and Numeracy | | | Socio-Emotional Skills | | | Physical Development | |
|---|---|---|---|---|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) | (10) |
| | Follows Directions | Does Things Independently | Identifies 10 Letters | Reads 4 Popular Words | Recognizes Numbers | Gets along Well with Children | Doesn't Kick or Bite | Doesn't Get Distracted | Picks up Small Objects | Isn't Sick Too Often |
| Exposure | -0.00028 | 0.00016 | 0.00045 | 0.00029 | -0.00157*** | -0.00047 | 0.00034 | 0.00008 | -0.00030 | 0.00038 |
| | (0.00031) | (0.00020) | (0.00044) | (0.00026) | (0.00055) | (0.00036) | (0.00047) | (0.00036) | (0.00027) | (0.00042) |
| Impact of 1SD ↑ | -0.0735 | 0.0430 | 0.1170 | 0.0764 | -0.4103 | -0.1223 | 0.0895 | 0.0221 | -0.0795 | 0.0987 |
| Observations | 955 | 957 | 949 | 955 | 946 | 957 | 956 | 933 | 954 | 958 |
| Mean | 0.9438 | 0.9122 | 0.1222 | 0.0607 | 0.3954 | 0.8101 | 0.3430 | 0.4443 | 0.9692 | 0.4734 |
| SD | (0.2304) | (0.2831) | (0.3276) | (0.2389) | (0.4892) | (0.3924) | (0.4749) | (0.4971) | (0.1729) | (0.4995) |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. All outcome measures are dummy variables for being able to perform that task. For the questions used to measure these skills, please see Appendix B. Estimation sample excludes 6 people who moved cities between the ages of 5 and 11. Measure in Panel A is every having been exposed to any terrorist attack, in Panel B, it is the number of terrorist attacks that they have been exposed to, in Panel C, it is the number of armed conflict events between the Turkish army and terrorist groups, and in Panel D, it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

## Table A15: Impact of Paternal Exposure to Conflict on Child Skills

### Panel A: Exposure Measure: Any Event

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposed - Father | -0.00000*** | -0.00000 | 0.00000** | 0.00000 | -0.00000 |
| | (0.00000) | (.) | (0.00000) | (.) | (0.00000) |
| Exposed - Mother | -0.06249 | -0.45670 | -0.07765 | -0.51988* | -0.23960 |
| | (0.14990) | (0.49760) | (0.91653) | (0.28383) | (0.90265) |
| Exposed - Father × Exposed - Mother | -0.10965 | 0.54980 | -0.84553 | -0.12362 | -0.90769 |
| | (0.15382) | (0.54062) | (1.11511) | (0.45188) | (1.07694) |
| Observations | 1044 | 1044 | 1044 | 1044 | 1044 |

### Panel B: Exposure Measure: Number of Events

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure - Father | 0.00079 | 0.00595 | -0.00462 | -0.00847* | -0.00153 |
| | (0.00171) | (0.00370) | (0.00942) | (0.00449) | (0.00926) |
| Exposure - Mother | -0.00016 | -0.00129 | -0.00532 | -0.00832 | -0.00507 |
| | (0.00105) | (0.00276) | (0.00878) | (0.00540) | (0.00805) |
| Exposure - Father × Exposure - Mother | -0.00000 | -0.00002 | 0.00002 | 0.00003 | 0.00001 |
| | (0.00001) | (0.00001) | (0.00004) | (0.00002) | (0.00003) |
| Observations | 1044 | 1044 | 1044 | 1044 | 1044 |

### Panel C: Exposure Measure: Number of Deadly Events

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure - Father | 0.00356 | 0.00282 | -0.03136*** | -0.01218** | -0.00187 |
| | (0.00254) | (0.00550) | (0.01082) | (0.00540) | (0.01280) |
| Exposure - Mother | 0.00037 | 0.00770* | -0.02216** | -0.00713* | -0.00211 |
| | (0.00113) | (0.00408) | (0.00936) | (0.00413) | (0.00648) |
| Exposure - Father × Exposure - Mother | -0.00001 | -0.00001 | 0.00007** | 0.00004*** | -0.00002 |
| | (0.00001) | (0.00002) | (0.00004) | (0.00002) | (0.00003) |
| Observations | 761 | 761 | 761 | 761 | 761 |

### Panel D: Exposure Measure: Number of Casualties

| | Learning Approach | Literacy and Numeracy | Socio-Emotional Skills | Physical Development | Development Index |
|---|---|---|---|---|---|
| | (1) | (2) | (3) | (4) | (5) |
| Exposure - Father | 0.00066 | 0.00061 | -0.00621*** | -0.00196 | -0.00096 |
| | (0.00048) | (0.00104) | (0.00184) | (0.00120) | (0.00231) |
| Exposure - Mother | 0.00030 | 0.00161** | -0.00533*** | -0.00150* | -0.00070 |
| | (0.00020) | (0.00070) | (0.00161) | (0.00087) | (0.00145) |
| Exposure - Father × Exposure - Mother | -0.00000* | -0.00000 | 0.00000*** | 0.00000* | -0.00000 |
| | (0.00000) | (0.00000) | (0.00000) | (0.00000) | (0.00000) |
| Observations | 761 | 761 | 761 | 761 | 761 |

*Notes:* Sources: Turkish Demographic and Health Survey 2018 Wave, Global Terror Database, and The Turkish State-PKK Conflict Event Dataset. Results from 2 Stage Differences in Differences estimator. All outcome measures are dummy variables for having the appropriate level of development for the age in question. For the definition, please see text. For the questions used to measure these skills, please see Appendix B. Estimation sample excludes 6 people who moved cities between the ages of 5 and 11. Measure in Panel A is every having been exposed to any terrorist attack, in Panel B, it is the number of terrorist attacks that they have been exposed to, in Panel C, it is the number of armed conflict events between the Turkish army and terrorist groups, and in Panel D, it is the number of casualties resulted from the armed conflict between Turkish army and terrorist groups. Measures in Panels A and B are derived from GTD, and the ones in Panels C and D are derived from TPCONED. For all the measures, the exposure duration is from age 5 to 11, in a 6-year period. All regressions control for birth year, birth city interacted with urban dummy, current city, urban dummy for current residence, child age in months, maternal and paternal education, mother and father being literacy, parents being related, and dummies for mother tongue (Turkish, Kurdish, Arabic, Other). Heteroskedasticity-robust standard errors are in parentheses. * p<0.1, ** p<0.05, *** p<0.01

# Appendix B: Survey Instruments

**Table B1: Early Childhood Development Questionnaire**

| Domain | Question |
|---|---|
| Literacy and Numeracy | Can he/she identify or name at least ten letters of the alphabet? |
| | Can he/she read at least four simple, popular words? |
| | Does he/she know the name and recognize the symbol of all numbers from 1 to 10? |
| Physical Development | Can he/she pick up a small object with two fingers, like a stick or a rock, from the ground? |
| | Is he/she sometimes too sick to play? |
| Positive Learning Approach | Does he/she follow simple directions on how to do something correctly? |
| | When given something to do, is he/she able to do it independently? |
| Socio-Emotional Development | Does he/she get along well with other children? |
| | Does he/she kick, bite, or hit other children or adults? |
| | Does he/she get distracted easily? |