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Armed conflict exposure and violent discipline of children at home: Panel evidence from Ethiopia

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Abstract
Armed conflict has far-reaching effects on household well-being, including increased risk of violence. We examine whether changes in local armed conflict exposure are associated with changes in caregiver-perpetrated physical punishment of children. We link six waves (2016–2021) of panel survey data from employed women in Ethiopia (1,065 respondents; just over 5,000 respondent-wave observations) to geo-referenced conflict events from ACLED. Using respondent and wave fixed-effects linear probability models, we find that a one–standard–deviation increase in conflict exposure (18.8 events) increases the probability of physical punishment by any caregiver by 3.4 percentage points (pp) (≈ 5.2% relative to the mean), father punishment by 2.7 pp (≈ 6.4%), mother punishment by 3.6 pp (≈ 5.6%), and punishment by both caregivers by 2.9 pp (≈ 7.3%). A decomposition into presence versus intensity indicates a sizeable increase at conflict onset, with smaller incremental increases as events accumulate. Conflict exposure also coincides with higher caregiver distress and indicators of economic strain, including reduced labor supply and lower reported income among fathers. These findings suggest that conflict can spill over into harsher parenting, highlighting the importance of integrating child protection, caregiver mental health support, and livelihood assistance into conflict-response programming.

Keywords
civil conflict; violence against children; Ethiopia

JEL Classification
I1; J12; J13

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1 Introduction

Caregiver-perpetrated violence against children (VAC), including violent discipline in the home, is widely recognized as a violation of children's rights and a persistent public health concern, with documented links to poorer behavioral and health outcomes across the life course (Flor et al., 2025; Organization, 2012). Despite this, violent punishment by caregivers remains widespread: UNICEF estimates that around two in three children (1.6 billion) experience violent punishment at home (UNICEF, 2025).[1] Evidence from prospective syntheses shows that physical punishment does not improve behavior and is associated with worse behavioral outcomes (Heilmann et al., 2021). Reflecting this evidence and broader clinical concerns, the American Academy of Pediatrics advises against corporal punishment and other aversive strategies (Sege and Siegel, 2018). Nonetheless, caregivers rarely use violent discipline with the deliberate intention of causing harm. Rather, physical punishment is often used as a disciplinary tool to address perceived misbehavior and deter future misbehavior (UNICEF Europe and Central Asia, 2025). However, violent discipline can also stem from anger and frustration, limited understanding of the harm it can cause, prevailing social and cultural norms that normalize violent discipline, and limited familiarity with effective non-violent disciplinary methods (UNICEF Europe and Central Asia, 2025). Preventing violence in the home is central to the global policy agenda, including Sustainable Development Goal 16.2 to end all forms of violence against children (United Nations, 2015).

Armed conflict may increase the risk of caregiver-perpetrated physical punishment in the home through several overlapping pathways. Conflict can destabilize livelihoods and food security, elevate caregiver stress and mental distress, weaken protection systems and services, and heighten insecurity and uncertainty (Rubenstein and Stark, 2017). In family stress frameworks, economic shocks and psychological distress can reduce caregivers' capacity to regulate emotions and sustain consistent non-violent dis-

[1] As of late 2025, 71 states prohibit all corporal punishment in the home (Global Initiative to End All Corporal Punishment of Children, 2025).

cipline. In addition, heightened insecurity may increase reliance on coercive control and immediate compliance, increasing the likelihood of *harsher parenting*, including greater use of physical punishment and reduced warmth. Consistent with these hypotheses, reviews of families exposed to war document shifts toward harsher parenting and reduced warmth, patterns that help explain downstream child maladjustment (Eltanamly et al., 2021). Systematic reviews of household violence in humanitarian settings similarly identify conflict exposure, caregiver mental health problems, and economic strain as common correlates of violence against women and children in the home (Rubenstein et al., 2020). Broader syntheses spanning disasters and conflicts cite both heightened risks and under-reporting of violence against women and children in emergencies (Seddighi et al., 2021), while conflict-focused work documents adverse child health and developmental consequences more generally (Kadir et al., 2019). At the same time, population-based reviews caution that prevalence signals for caregiver-perpetrated violence vary across settings and measurement approaches, underscoring challenges of harmonizing outcomes across surveys (Stark and Landis, 2016).

Much of this literature remains cross-sectional, leaving open questions about the extent to which changes in local conflict intensity translate into changes in violent discipline within the same families over time (Rubenstein et al., 2020; Eltanamly et al., 2021). Existing longitudinal evidence is informative but relatively limited and context-specific. For example, a four-wave prospective study of Israeli and Palestinian families links exposure to ethnic-political violence to later increases in physical punishment (Dubow et al., 2025). Further, longitudinal evidence from Belfast examines how exposure to sectarian and non-sectarian antisocial behavior relates to changes in mothers' parenting control strategies over time (Merrilees et al., 2011). In military settings, administrative studies exploiting deployment cycles document elevated child maltreatment risk during deployment and in the post-deployment period (Gibbs et al., 2007; Rentz et al., 2007; Taylor et al., 2016). At the same time, civilian household panel evidence that tracks the same families as local conflict exposure intensifies or recedes

remains scarce, particularly in low- and middle-income settings.

Ethiopia provides a particularly informative setting for studying conflict spillovers into family violence. During 2016-2021, the country experienced substantial spatial and temporal variation in political violence, culminating in the escalation of armed conflict in northern Ethiopia beginning in November 2020 and expanding into neighboring regions by mid-2021 (World Bank, 2022). At the same time, harsh physical discipline is prevalent and socially salient. For example, a large survey of caregivers of pre-school children in Ethiopia reports that 52.5% of children experienced harsh physical discipline (and an additional 12.7% experienced moderate physical discipline) based on caregiver reporting (Desta et al., 2022). National survey evidence likewise indicates that a substantial share of adolescents report physical discipline or verbal aggression from parents in the past year (Ethiopian Statistical Service et al., 2024). This combination of meaningful conflict exposure variation and high baseline levels of harsh discipline makes Ethiopia an important case for understanding how conflict translates into changes in violence against children within households.

We estimate how changes in local conflict intensity relate to caregiver-perpetrated physical punishment using six waves of panel data matched with geo-referenced conflict events from ACLED and UCDP-GED (Raleigh et al., 2010; Sundberg and Melander, 2013). Outcomes are four binary indicators derived from the mother's reports: (i) any physical punishment by either caregiver, (ii) physical punishment by the mother, (iii) physical punishment by the father, and (iv) physical punishment by both the mother and the father. To isolate within-respondent changes as conflict ebbs and flows, we estimate fixed-effects linear probability models with respondent and wave fixed effects. We assess robustness to alternative exposure definitions (radius, window length, event type, and fatalities) and replicate results using UCDP-GED. We also explore potential mechanisms suggested by the literature, focusing on economic strain and caregiver mental health. The panel covers 1,065 respondents observed across six waves from 2016 to 2021, yielding just over 5,000 respondent-wave observations.

We find that increases in local conflict exposure are associated with higher rates of caregiver-perpetrated physical punishment within the same households over time. A one-standard-deviation increase in local conflict events in the prior six months (approximately 18.8 events) is associated with a 3.4 percentage-point higher probability that *any* caregiver physically punishes a child ($\approx$ 5.2% relative to the 0.66 sample mean). Disaggregating by caregiver, the same increase is associated with a 2.7 percentage-point higher probability that the father physically punishes ($\approx$ 6.4% relative to the 0.42 mean) and a 3.6 percentage-point higher probability that the mother physically punishes ($\approx$ 5.6% relative to the 0.64 mean). We also find a 2.9 percentage-point increase in the probability that *both* caregivers physically punish ($\approx$ 7.3% relative to the 0.40 mean). These patterns are robust across alternative operationalizations of conflict exposure, including restricting to a balanced panel, using a smaller exposure radius, using different time frames, using fatalities in place of event counts, restricting exposure to violence against civilians, and replicating results with UCDP GED-based measures. A decomposition of conflict exposure into presence versus intensity suggests that the association is largely driven by the onset/presence of any nearby conflict, with more limited incremental increases as conflict events accumulate. Consistent with stress- and resource-based pathways emphasized in prior work, we further find that conflict exposure coincides with higher caregiver distress and indicators of economic strain, including reduced labor supply and lower reported income among fathers.

This study advances the conflict-VAC literature in four ways. First, it provides within-respondent panel estimates linking changes in local conflict exposure to changes in caregiver-perpetrated physical punishment, directly addressing the predominance of cross-sectional evidence and measurement heterogeneity noted in prior reviews (Rubenstein et al., 2020; Stark and Landis, 2016; Eltanamly et al., 2021). Second, it disaggregates outcomes by caregiver (mother and father), alongside any-caregiver and both-caregiver composites based on a single reporter, allowing us to characterize who drives the response inside households. Third, it characterizes nonlinearities by decomposing

conflict exposure into the presence of any nearby conflict and the intensity of additional events, clarifying whether increases in punishment are triggered primarily by conflict onset or rise proportionally with conflict frequency. Fourth, it explores plausible pathways emphasized in prior work, caregiver distress and economic strain, that co-move with conflict exposure within households.

2 Methods

2.1 Data sources

We combine three sources: (i) geo-referenced conflict event data from the Armed Conflict Location & Event Data Project (ACLED) to measure local conflict exposure, (ii) the Uppsala Conflict Data Program Georeferenced Event Dataset (UCDP GED) for robustness, and (iii) a six-wave panel survey of employed women from five regions in Ethiopia (Amhara, Dire Dawa, Oromia, Southern Nations, Nationalities and Peoples' (SNNP), and Tigray) collected between 2016 and 2021.

ACLED records geo-referenced political violence and demonstration events with event date, latitude/longitude, actors, and event type (Raleigh et al., 2010; Raleigh and Team, 2024). UCDP GED records geo-referenced events of organized violence that involve at least one fatality and classifies them into state-based conflict, non-state conflict, and one-sided violence (Sundberg and Melander, 2013; Högbladh, 2024). We use ACLED as our main source and replicate the main analyses with UCDP GED. The principal distinction is that UCDP limits inclusion to lethal events, whereas ACLED also captures non-fatal political violence and demonstrations; comparing results across the two datasets therefore provides a robustness check against measurement differences in conflict reporting.

The survey follows 1,065 women (one per household at baseline) across six waves from 2016 to 2021, yielding 5162 person–wave observations (Kotsadam and Villanger, 2022; Aalen et al., 2024). Respondents were recruited through factory employment

in the five study regions and interviewed repeatedly. Each wave included questions on physical punishment of children by the respondent and by her husband/partner (referred to as the "father" for ease of language, though we recognize that they do not always have to be the biological father). We link the conflict event data to the survey using GPS coordinates for the factories, which proxy respondents' residential locations.

2.2 Variables and measurement

Conflict exposure. The panel survey stems from a randomized controlled trial (RCT) in which women were randomized into receiving a job offer at a factory or not (Kotsadam and Villanger, 2022). We observe GPS coordinates for the factories and information from the survey indicates that respondents lived within commuting distance of their factory. We therefore proxy respondents' local conflict exposure using the factory location.

Our baseline exposure measure is constructed as follows. For each factory-wave observation, we draw a 50 km buffer around the factory and count all ACLED violent events within the buffer during the 6 months prior to the interview date. We restrict events to ACLED event types capturing political violence: battles, explosions/remote violence, and violence against civilians.[2] Unless otherwise noted, "event counts" refer to these ACLED violent events.

For interpretability, we standardize the event count (mean 0, SD 1), where one standard deviation corresponds to approximately 18.8 conflict events within six months in our data. In addition, we construct an indicator variable taking the value 1 if any conflict events have been recorded in the past 6 months, and a count variable indicating how many conflict events happened (to investigate the effect of the presence and intensity of conflict). We also construct alternative exposure measures for robustness: (i) a smaller

[2]ACLED classifies events into battles, explosions/remote violence, violence against civilians, riots, protests, and strategic developments. We focus on violent event types and exclude riots, protests, and strategic developments.

25 km radius, (ii) alternative exposure windows of 3 months and 9 months, (iii) fatalities in place of event counts, and (iv) a restriction to events coded as *violence against civilians*. Finally, we replicate the analysis using conflict measures constructed from UCDP GED, which records geo-referenced events of organized violence that involve at least one fatality.

Using our ACLED extraction, a total of 3,992 violent events and 10,481 fatalities are recorded between 2015 and 2021 across the five study regions. Figure 1 maps the total number of conflict events over 2015-2021 for each zone within the study regions (a similar map for fatalities is shown in Appendix Figure A.1).

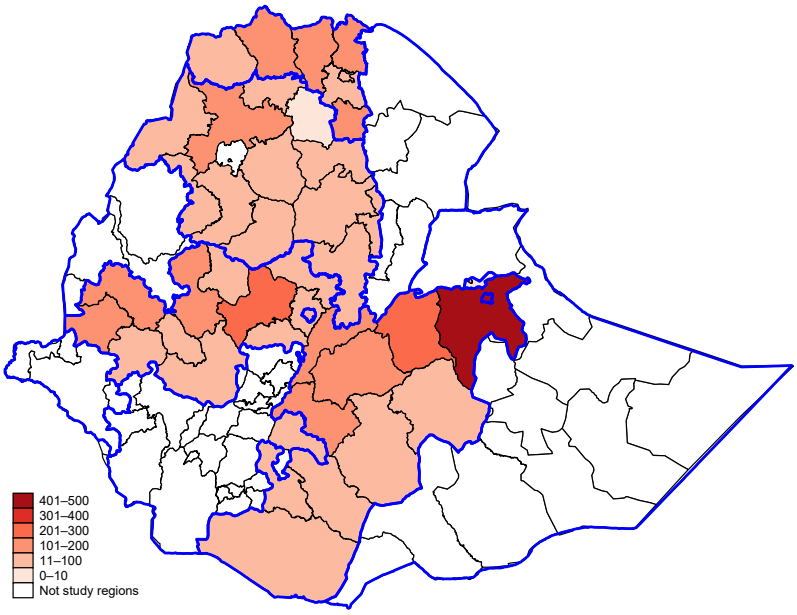


Figure 1: Conflict events in Ethiopia by Region and Zone(Admin 2), 2015-2021

Violence against children outcomes. All outcomes are mother-reported. At each wave, we construct four binary indicators: (i) *any caregiver* (either the mother or the father) physically punishes a child, (ii) *mother* physically punishes, (iii) *father* physically punishes, and (iv) *both caregivers* physically punish (mother=1 and father=1). The items read "Do you punish your children physically sometimes?" and "Does your husband/partner punish your children physically sometimes?" with Yes/No response options.

These measures have important limitations. First, the wording "sometimes" does not provide an explicit frequency threshold, and "physical punishment" is not defined in terms of specific acts or severity. The outcomes should therefore be interpreted as binary proxies for the use of physical punishment rather than as incidence over a clearly defined recall period. Second, because responses about father punishment are reported by the mother, measurement error and social desirability concerns may affect these indicators. Third, the lack of an explicit reference period means responses may reflect general practices at the time of the interview rather than behavior strictly confined to the conflict exposure window. We address this by exploiting within-respondent variation over time in a fixed-effects framework. In our sample, 66% of mothers report that any caregiver physically punishes the children, 64% report that the mother punishes, 42% that fathers punishes and 40% that both caregivers punish.

Mechanism variables To explore potential pathways, we use two sets of caregiver stress measures and household economic outcomes collected in each wave. Stress measures include a maternal affective distress index and mother-reported indicators for whether the husband/partner is often angry/frustrated/stressed and whether he is stressed about money or lack of food. Economic outcomes include hours of paid work in the last week and income in the last six months for both mothers and fathers/husbands/partners.

Table 1 provides a description of all outcomes, mechanisms, and exposure variables.

2.3 Statistical analysis

Analytical sample. Our unit of analysis is the respondent-wave. We restrict the panel to observations in which the respondent reports having at least one child and provides non-missing responses to both physical punishment items (own punishment and father punishment), which allows us to construct all four VAC indicators (any caregiver, mother, father, and both caregivers). This yields an unbalanced panel of 1,065 respondents contributing 5,162 respondent-wave observations (Table 2).

Table 1: Variables, measurement, and data sources

Variable	Measurement (coding)	Data source
Outcomes: violence against children (VAC)		
Any caregiver physically punishes child	Mother reports that *either* she or her husband/partner physically punishes children "sometimes." Yes=1, No=0.	Panel
Mother physically punishes child	Mother reports she physically punishes children "sometimes." Yes=1, No=0.	Panel
Father physically punishes child	Mother reports her husband/partner physically punishes children "sometimes." Yes=1, No=0.	Panel
Both caregivers physically punish child	Indicator equal to 1 if both the mother and father/husband/partner indicators equal 1 in the same wave; 0 otherwise.	Panel
Mechanisms (exploratory)		
Mother affective distress (index)	Standardized index constructed from self-reported affective distress items (worry, misery, and reverse-coded emotional well-being).	Panel
Father stressed	Mother reports father is often angry, frustrated, or stressed. Yes=1, No=0.	Panel
Father stressed about money	Mother reports father is often frustrated because of low income. Yes=1, No=0.	Panel
Father stressed about food	Mother reports father is often frustrated due to lack of food. Yes=1, No=0.	Panel
Mother hours worked	Hours of paid work in the last week. Continuous.	Panel
Mother income	Income in the last 6 months. Continuous.	Panel
Father hours worked	Hours of paid work in the last week (reported by mother). Continuous.	Panel
Father income	Income in the last 6 months (reported by mother). Continuous.	Panel
Exposure variables: local conflict		
Conflict events (standardized)	Number of ACLED violent events (battles, explosions/remote violence, violence against civilians) within 50 km of the factory in the prior 6 months.	ACLED (main)
Any conflict (extensive margin)	Indicator equal to 1 if at least one violent event occurs within 50 km in the prior 6 months; 0 otherwise.	ACLED
Additional conflict events (intensive margin)	Number of additional violent events beyond the first within 50 km in the prior 180 days (coded as $\max\{0, \text{events} - 1\}$).	ACLED
Fatalities	Number of conflict fatalities within 50 km of the factory in the prior 6 months.	ACLED
Violence against civilians	Number of events coded as *violence against civilians* within 50 km in the prior 6 months.	ACLED
Alternative radii / windows	Robustness definitions: 25 km radius; 3, 9 months exposure windows.	ACLED
UCDP replication	Analogous event-count constructed using UCDP GED.	UCDP GED

Notes: Conflict exposure is assigned using factory GPS coordinates, which proxy respondents' residential locations.

Main specification. We estimate a panel fixed-effects regression to investigate the effect of conflict exposure on the probability of physically punishing children using the following regression model:

$$VAC_{ijft} = \alpha + \beta_1 ConflictIntensity_{f,t} + \mu_i + \gamma_t + \varepsilon_{ijft} \quad (1)$$

where VAC_{ijft} is a dummy taking the value 1 if a woman i living in household j close to one of the five factory areas f reports physical punishment of her children (by any caregiver, by herself, by the father, or by both caregivers). $ConflictIntensity_{f,t}$ is the area-specific measures of conflict intensity. In our main specification, we define it as the total number of conflict events that occurred in the 50 km radius of the factory areas in the previous 6 months. μ_i indicates the individual fixed effects, and γ_t are wave fixed effects. The individual fixed effects account for all time-invariant observed and unobserved individual characteristics that could influence the probability of intimate partner violence. ε_{ijft} is the error term. All regressions are estimated using robust standard errors clustered at the individual level.

We assess robustness to alternative operationalizations of conflict exposure by re-estimating equation (1) using alternative radii (25 km), alternative exposure windows (3/9 months), fatalities rather than event counts, and counts restricted to violence against civilians events. We also replicate the analysis using analogous measures constructed from UCDP GED.

Nonlinearities: presence versus intensity. To examine whether associations are driven primarily by the onset/presence of conflict (extensive margin) versus additional conflict events conditional on conflict being present (intensive margin), we estimate the following alternative specification:

$$VAC_{ijft} = \alpha + \beta_1 AnyConflict_{ft} + \beta_2 AdditionalEvents_{ft} + \mu_i + \gamma_t + \varepsilon_{ijft}, \quad (2)$$

where $AnyConflict_{ft}$ is an indicator equal to 1 if at least one violent event occurred within 50 km in the prior 6 months, and $AdditionalEvents_{ft} = \max\{0, Events_{ft} - 1\}$ counts additional events beyond the first in the same window. This specification provides a flexible decomposition of the association into an extensive-margin component (0 to 1 event) and an intensive-margin component (additional events).

Mechanism outcomes. We use the same fixed-effects framework to examine potential pathways. Unless otherwise noted, mechanism analyses use the same standardized continuous conflict measure as in the main specification.

Attrition. The panel is unbalanced due to attrition and intermittent non-response. Of the women interviewed at baseline, 689 are observed in wave 6. Appendix Table A.1 compares baseline characteristics of respondents who remain in the panel with the full sample, indicating no statistical difference between the two groups.

Descriptive statistics Table 2 reports descriptive statistics for the analysis sample (N = 5,162 respondent-wave observations). Physical punishment is common: in 65% of observations the respondent reports that *any* caregiver physically punishes a child, with 64% reporting mother punishment and 42% reporting father punishment; in 40% of observations both caregivers are reported to physically punish. Stress and economic outcomes also show substantial variation.In 30% of observations, mothers report that the father is often angry, frustrated, or stressed; 27% report that he is stressed about money and 8% that he is stressed due to lack of food. Reported income measures are highly dispersed, consistent with a right-skewed distribution.

Conflict exposure varies considerably across respondent-waves. The mean number of conflict events within 50 km in the prior six months is 4.89 (SD 18.83; range 0-144), and 50% of observations are exposed to at least one nearby conflict event in that window. Fatalities are also highly variable (mean 21.18; SD 87.82; range 0-619).

At baseline, respondents are on average 26 years old with about 9 years of education,

and report an average of 1.65 children in the household. 17% are Muslim. Fathers are older on average (33 years) and have slightly more education (9.5 years).

Table 2: Descriptive statistics

	(1)			
	Mean	SD	Min	Max
Violence against children				
Parent physically punish	0.65	0.48	0	1
Father physically punish	0.42	0.49	0	1
Mother physically punish	0.64	0.48	0	1
Both physically punish	0.40	0.49	0	1
Other outcome variables				
Affective Distress Index	-0.00	1.00	-2	4
Father stressed	0.30	0.46	0	1
Father stressed about money	0.27	0.44	0	1
Father stressed about food	0.08	0.27	0	1
Income last 6 months	4719.28	15222.44	0	950000
Hours of paid work last week	18.23	23.03	0	168
Father income last 6 months	18476.57	20000.55	0	953600
Father hours of paid work last week	43.62	20.52	0	168
Conflict measurement				
Number of conflict events in 50 km radius last 6 months	4.89	18.83	0	144
Number of fatalities in 50 km radius last 6 months	21.18	87.82	0	619
Any conflict event in 50 km radius last 6 months	0.50	0.50	0	1
Household characteristics at baseline				
Number of children	1.65	1.25	0	8
Years of education	9.00	3.29	0	15
Age	26.12	6.36	16	60
Muslim	0.17	0.37	0	1
Father Age	33.17	8.20	19	80
Father years of education	9.54	3.85	0	21
N	5162			

Notes: Summary statistics are reported for the analysis sample (respondent-wave observations with at least one child and non-missing responses to both child punishment questions). Note that household characteristics are from baseline where the household might have 0 children. The household enters the analysis only when they have a child.

3 Results

In this section, we first discuss the main results focusing on the effect of a one standard deviation increase in conflict events on physical punishment. We then investigate whether the effect differs on the intensive and extensive margin, before providing a set of robustness checks. At the end of the section, we discuss possible mechanisms, focusing on caregiver stress and economic strain.

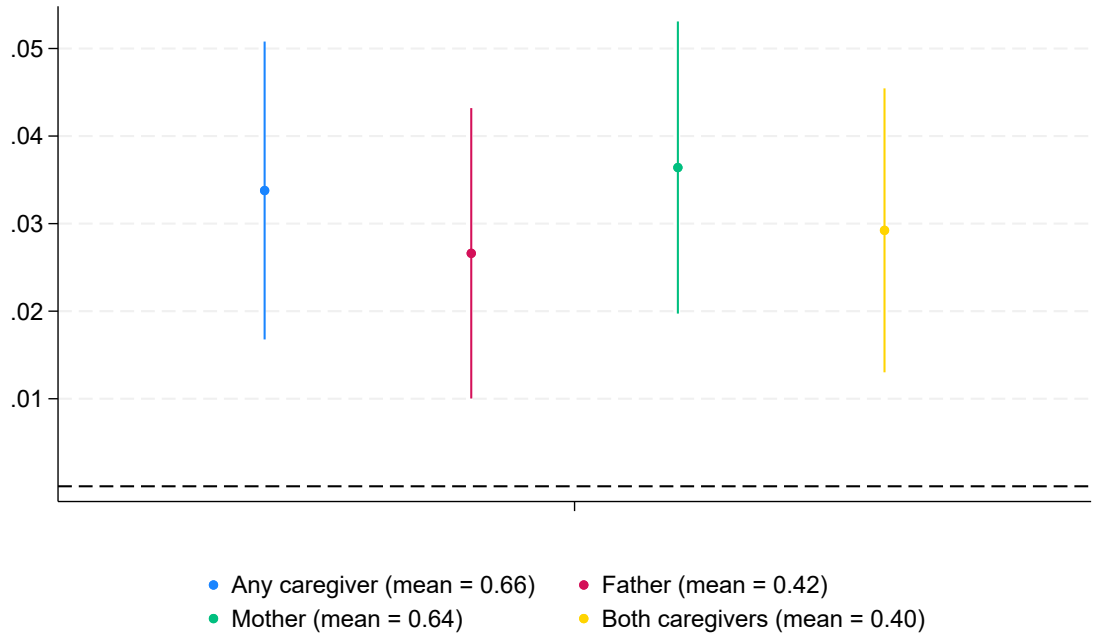
3.1 Main results

Figure 2 summarizes the fixed-effects estimates of the association between local conflict exposure and caregiver physical punishment (see Table A.2 in Appendix A.1). All estimates are positive and precisely estimated, with 95% confidence intervals that exclude zero, indicating that within the same respondent, periods of greater conflict exposure are associated with higher reported use of physical punishment.

Specifically, a one-standard-deviation increase in conflict events within 50 km in the prior six months increases the likelihood that *any* caregiver physically punishes a child by 3.4 percentage points (pp; 95% CI: 1.7 to 5.1 pp), corresponding to a 5.2% increase relative to the sample mean of 66%. Disaggregating by caregiver, the same increase is associated with a 2.7 pp increase in father physical punishment (95% CI: 1.0 to 4.4 pp; 6.4% relative to a mean of 42%) and a 3.6 pp increase in mother physical punishment (95% CI: 1.9 to 5.3 pp; 5.6% relative to a mean of 64%). We also find an increase in the probability that *both* caregivers physically punish the child by 2.9 pp (95% CI: 1.3 to 4.5 pp), an increase of 7.3% relative to a mean of 40%.

Taken together, the results indicate a broadly similar increase in physical punishment across caregivers: conflict exposure is associated with higher reported mother- and father punishment, and with a higher likelihood that both caregivers punish. This pattern is consistent with conflict exposure increasing the overall risk of harsh discipline in the household rather than shifting punishment from one caregiver to the other.

Figure 2: Conflict exposure and caregiver physical punishment



Notes: Points denote coefficient estimates and vertical bars 95% confidence intervals from respondent and wave fixed-effects linear probability models. Conflict exposure is the standardized number of ACLED conflict events within 50 km of the factory in the prior six months (1 SD = 18.8 events). Outcomes are mother-reported indicators of whether children are physically punished "sometimes" by (i) any caregiver, (ii) the father/husband/partner, (iii) the mother, and (iv) both caregivers. Standard errors are clustered at the respondent level. Estimates correspond to Table A.2 in Appendix A.1.

3.2 Presence vs. intensity of conflict exposure

While our main specification treats conflict exposure as a continuous measure, the distribution of raw event counts is highly dispersed (see Appendix Figure A.2), raising the possibility that the relationship between conflict and physical punishment is nonlinear. We therefore examine whether the association is driven primarily by the *presence* of any nearby conflict (an extensive-margin effect) or whether it increases further as conflict becomes more frequent (an intensive-margin effect).

Table 3 decomposes conflict exposure into these two components in a single specification by including (i) an indicator for whether any conflict occurred within 50 km in the prior six months (capturing the shift from zero to one event), and (ii) the number of additional conflict events in case of non-zero conflicts (capturing intensity conditional on

exposure). The results indicate a clear extensive-margin response: the onset/presence of conflict is associated with a 6.5 pp increase in the probability that any caregiver physically punishes a child, and similarly sized increases for father punishment (6.4 pp), mother punishment (6.4 pp), and punishment by both caregivers (6.3 pp), all statistically significant at the 1% level. Relative to the sample means, these onset effects correspond to approximately a 10% increase for any-caregiver and mother punishment, and around a 15-16% increase for father punishment and punishment by both caregivers.

At the same time, the intensive-margin coefficients are positive but small in magnitude: each additional conflict event is associated with an increase of about 0.13 pp in any-caregiver punishment, 0.10 pp in father punishment, 0.15 pp in mother punishment, and 0.11 pp in punishment by both caregivers. Put differently, even a substantial increase in conflict frequency (e.g., 10 additional events) corresponds to an additional increase of roughly 1-1.5 pp, which is notably smaller than the discrete jump associated with the onset/presence of conflict. Taken together, Table 3 suggests that physical punishment rises sharply when conflict occurs locally, with comparatively modest further increases as the number of events grows.

Table 3: Main results, intensive and extensive

	(1) Phys. punish children	(2) Father punish children	(3) Mother punish children	(4) Both punish children
Any conflict last 6 months (50km)	0.065***	0.064***	0.064***	0.063***
	(0.020)	(0.021)	(0.020)	(0.020)
Number of conflicts if any	0.0013***	0.00097**	0.0015***	0.0011**
	(0.00047)	(0.00046)	(0.00046)	(0.00045)
Mean in sample	0.66	0.42	0.64	0.40
N	5091	5091	5091	5091
R-squared	0.46	0.47	0.46	0.47
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

3.3 Robustness checks

We assess the sensitivity of the estimates to alternative samples, conflict data sources, and conflict exposure definitions (Appendix Tables A.3 - A.9). First, restricting the analysis to the balanced panel yields nearly identical coefficients to our main results (Table A.3), suggesting that differential attrition is unlikely to drive the main results. Second, replicating the analysis using UCDP-GED rather than ACLED produces similar positive associations between conflict exposure and physical punishment (Table A.4). Third, the estimates are robust to alternative definitions of local conflict exposure, including using a smaller buffer radius (25 km instead of 50 km; Table A.5), using different time frames (3 and 9 months instead of 6 months; Tables A.6-A.7), using conflict fatalities instead of event counts (Table A.8), and restricting the exposure measure to violence against civilians events (Table A.9). Across these specifications, the estimated effects remain positive and of comparable magnitude.

We also explore sensitivity to regional composition (Appendix Tables A.10 - A.11). When restricting the sample to Tigray only, coefficients are generally positive but are estimated imprecisely; only the outcome capturing punishment by both caregivers is statistically different from zero (Table A.10). When excluding Tigray, coefficients remain positive, with statistically significant increases for any-caregiver punishment and mother punishment (Table A.11). Because conflict exposure varies primarily over time within these sub-samples, wave fixed-effects are not included in these regional specifications, and the results should be interpreted as descriptive sensitivity checks.

3.4 Mechanisms: caregiver stress and economic strain

We next explore whether changes in caregiver stress and household economic conditions co-move with changes in conflict exposure. These analyses are exploratory and are not intended to establish mediation. However, they help assess whether two frequently cited pathways in the conflict-family violence literature, psychological distress and economic strain, shift within the same households as local conflict intensity rises.

Table 4 suggests that conflict exposure is associated with elevated caregiver distress and stress-related indicators. A one-standard-deviation increase in conflict events within 50 km in the prior six months is associated with a 0.22 standard deviation increase in mothers' affective distress. In the same periods, mothers are more likely to report that their husband/partner is often angry, frustrated, or stressed (an increase of 3.8 pp, or about 13% relative to the mean). We also find evidence of increased economic worry: the likelihood that husbands/partners are stressed about money increases by 3.5 pp (about 13% relative to the mean) and the likelihood that they are stressed about having sufficient food increases by 4.3 pp (about 54% increase relative to the mean). Taken together, these patterns indicate that periods of heightened conflict exposure coincide with increases in caregiver distress and perceived stress within households.

Table 4: Caregiver stress.

	(1) Affective Distress	(2) Father stressed	(3) Stressed money	(4) Stressed food
Conflicts last 6 months (50km)	0.22***	0.038***	0.035***	0.043***
	(0.015)	(0.0086)	(0.0086)	(0.0077)
Mean in sample	-0.00	0.30	0.27	0.08
N	5091	4976	4976	4976
R-squared	0.46	0.44	0.44	0.37
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Table 5 points to concurrent economic disruptions. Conflict exposure is associated with reductions in paid work hours for both mothers and fathers. A one-standard-deviation increase in conflict predicts a 1.55-hour reduction in mothers' weekly paid work (about an 8% decline relative to the mean), while fathers/husbands/partners work 3.56 fewer hours per week (also about an 8% decline). Consistent with reduced labor supply, fathers' income in the last week declines by roughly 1,475 birr (about an

8% decline), whereas mothers' income shows no statistically detectable change.

Overall, the mechanism estimates are consistent with conflict exposure increasing caregiver stress and simultaneously tightening household economic conditions. Both these are plausible contributors to harsher parenting practices.

Table 5: Economic strain.

	(1) Income mother	(2) Hours work mother	(3) Income father	(4) Hours work father
Conflicts last 6 months (50km)	-71.4	-1.55***	-1474.8***	-3.56***
	(148.9)	(0.37)	(283.0)	(0.43)
Mean in sample	4706.39	18.44	18379.03	43.57
N	4871	4136	4771	4270
R-squared	0.25	0.54	0.42	0.54
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Appendix Tables A.12-A.13 decompose conflict exposure into an extensive-margin indicator for any nearby conflict and an intensive-margin term capturing the number of conflict events conditional on conflict being present. For maternal affective distress, we find evidence of both an onset and an escalation response; the presence of any conflict is associated with higher affective distress and distress rises further with additional conflict events. In contrast, several father-focused stress and economic outcomes exhibit a more intensity-driven pattern: the intensive-margin coefficients are positive (for stress) and negative (for earnings and hours), while the extensive-margin coefficients are small or even negative. Because the overall association at a given exposure level reflects the sum of the extensive and intensive components, these estimates imply that father stress and livelihood disruptions become more pronounced primarily when conflict exposure is sustained and frequent, whereas maternal distress and reductions in mothers' labor supply respond already at conflict onset.

4 Discussion and conclusion

In this paper, we investigate how exposure to conflict impacts parents' likelihood of physically punishing their children. Our findings indicate that increases in local conflict exposure are associated with higher levels of caregiver-perpetrated physical punishment within the same respondents over time. In the main specification, a one-standard-deviation increase in conflict events within 50 km in the prior six months is associated with a 3.4 percentage-point increase in the probability that any caregiver physically punishes a child, with similarly sized increases for mother and father punishment (3.6 and 2.7 percentage points, respectively) and a 2.9 percentage-point increase in punishment by both caregivers. While these estimates may appear modest in absolute terms, the relative increase is important. The consistency of effects across mother and father outcomes, together with the increase in the likelihood that both caregivers punish, suggests that conflict exposure is associated with a broad-based shift toward harsher discipline inside households rather than a simple reallocation of punishment from one caregiver to the other.

A key additional finding is that the association is not purely linear. Decomposing exposure into the *presence* of any nearby conflict and the *intensity* of additional events suggests that a substantial portion of the increase in physical punishment is triggered when conflict occurs locally, with comparatively smaller incremental increases as events accumulate. Substantively, this pattern is consistent with a threshold-type response: the onset of nearby conflict may generate immediate stress, uncertainty, and disruptions to daily life that are sufficient to increase harsh parenting, while additional events add more modestly on average. This distinction is relevant for policy because it points to the potential importance of early-response support to families when conflict begins or spreads into new areas.

Our findings complement prior evidence linking conflict exposure to elevated risks of household violence in humanitarian settings and to harsher parenting in families exposed to war. While much of the conflict-VAC literature is cross-sectional and varies in

measurement, the positive within-respondent associations we document are consistent with reviews that identify conflict-related stress, mental distress, and economic insecurity as key correlates of violence against women and children in the home (Rubenstein and Stark, 2017; Eltanamly et al., 2021). Our results also align with the relatively small body of longitudinal evidence in other contexts showing that exposure to political violence predicts increases in harsh parenting over time (Merrilees et al., 2011; Dubow et al., 2025) and with administrative studies that leverage war-related deployment cycles to document elevated child maltreatment risk during periods of heightened family stress (Gibbs et al., 2007; Rentz et al., 2007; Taylor et al., 2016).

Our exploratory mechanism analyses are consistent with pathways emphasized in the conflict and family violence literature. We find that increased conflict exposure coincides with higher caregiver distress (particularly maternal affective distress) and with indicators of household economic strain. In the economic domain, conflict exposure is associated with reductions in paid work hours for both women and men and with declines in reported income among fathers. These patterns are consistent with a family stress framework in which conflict-related insecurity and livelihood disruptions increase psychological distress and material strain, which in turn may elevate the risk of harsh discipline. At the same time, these results should be interpreted cautiously: they document co-movements of conflict exposure with stress and economic outcomes within respondents, but they do not establish mediation or rule out other pathways such as fear, reduced social support, or changes in local norms and enforcement.

Several limitations should be considered. First, the violence against children outcomes are based on two binary items that ask whether the respondent and her husband/partner physically punish children "sometimes," without specifying a recall period or defining the acts included in "physical punishment." As a result, the measures should be interpreted as proxies for the use of physical punishment rather than as incident measures over a clearly defined time window, and they do not capture severity or frequency. In addition, father punishment is reported by the mother, which may

introduce measurement error and social desirability bias. If reporting error is largely non-differential with respect to conflict exposure, it would tend to attenuate associations; however, if conflict affects reporting behavior, estimates could be biased in either direction.

Second, conflict exposure is proxied using factory GPS coordinates as a proxy for respondents' residential locations. If respondents move or if commuting patterns change, exposure may be measured with error. Conflict event data may also be incomplete or differentially reported across space and time. We address these concerns by testing robustness across alternative conflict datasets (ACLED and UCDP-GED) and across alternative exposure definitions (radius, window length, fatalities, and violence against civilians), but measurement limitations cannot be fully eliminated.

Third, the study population consists of employed women recruited through factory employment in five regions, which may limit generalizability. Patterns of parenting, exposure to violence, and access to services may differ from those of rural households or households not linked to factory work. The results, therefore, speak most directly to working women and their households in similar settings, though the broader mechanisms (stress and livelihood disruption) are likely relevant in other conflict-affected contexts.

Finally, the panel is unbalanced due to attrition and item non-response. While baseline outcome levels are similar between respondents who remain in the panel and those who attrit, and results are robust in a balanced-panel specification, selective attrition related to unobserved time-varying shocks could still affect estimates.

To conclude, this study provides longitudinal evidence that local conflict exposure is associated with increases in caregiver-perpetrated physical punishment of children within the same families over time. The results suggest that conflict does not only harm children through direct exposure and disruptions to health and education systems, but may also increase risks inside the home. From a policy perspective, the findings highlight the importance of integrating child protection and violence prevention into humanitarian and conflict-response programming, including early support when

conflict reaches new areas, caregiver mental health services, and economic and food-security interventions that may reduce household stress. Future work should replicate these patterns in more representative populations, improve measurement of violent discipline (including severity and timing), incorporate multi-informant reports (fathers and children), and evaluate interventions that can mitigate spillovers from conflict into caregiver-perpetrated violence against children.

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Appendix:

A.1 Additional tables and figures

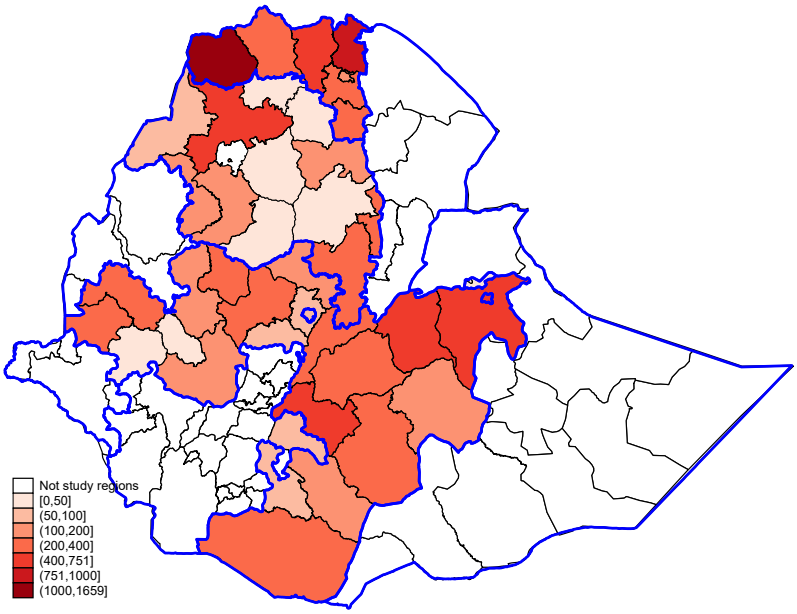

Figure A.1: Conflict Fatalities in Ethiopia by Region and Zone(Admin2) 2015-2021

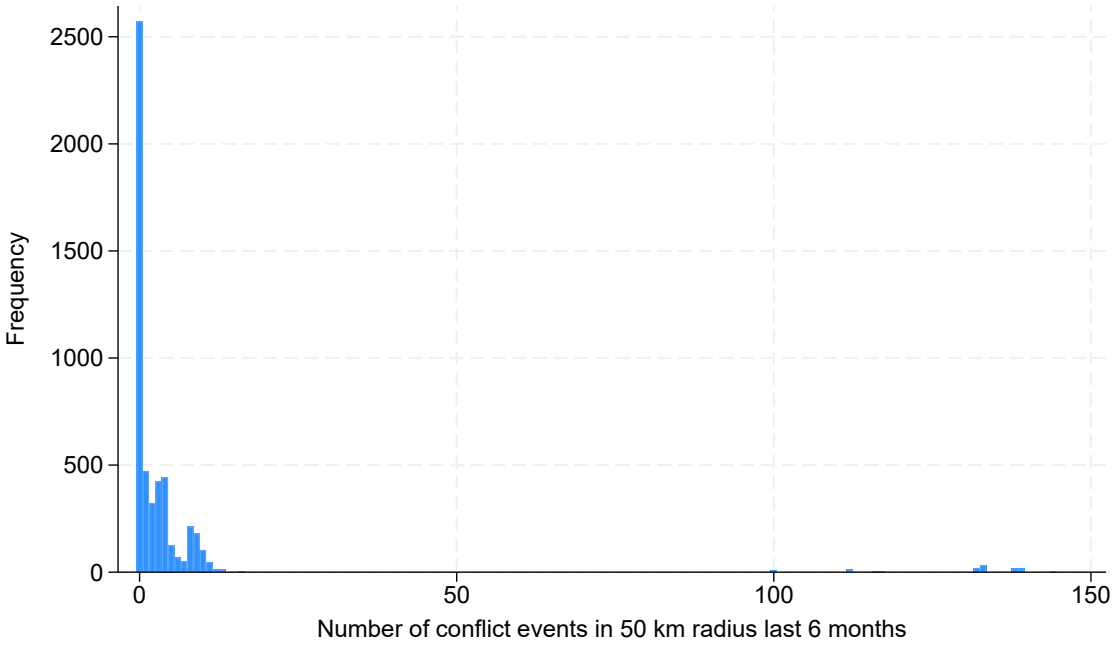

Figure A.2: Number of conflict events in 50 km radius last 6 months

Table A.1: Comparisons of samples

	Full sample		Main sample	
	(1)		(2)	
	Mean	SD	Mean	SD
Violence against children				
Parent physically punish	0.60	0.49	0.61	0.49
Father physically punish	0.38	0.49	0.38	0.49
Mother physically punish	0.58	0.49	0.59	0.49
Both physically punish	0.36	0.48	0.36	0.48
Other outcome variables				
Affective Distress Index	0.38	1.22	0.41	1.21
Father stressed	0.40	0.49	0.40	0.49
Father stressed about money	0.35	0.48	0.35	0.48
Father stressed about food	0.07	0.25	0.07	0.26
Income last 6 months	2089.16	4003.41	2115.71	3718.27
Hours of paid work last week	11.09	19.78	11.40	19.87
Father income last 6 months	15663.57	13616.89	15343.81	13568.16
Father hours of paid work last week	48.18	21.86	48.46	22.07
Conflict measurement				
Number of conflict events in 50 km radius last 6 months	2.73	3.79	2.95	3.85
Number of fatalities in 50 km radius last 6 months	13.14	39.98	13.97	40.62
Any conflict event in 50 km radius last 6 months	0.41	0.49	0.45	0.50
Household characteristics at baseline				
Number of children	1.80	1.19	1.86	1.24
Years of education	8.88	3.36	8.76	3.45
Age	26.44	6.47	26.89	6.68
Muslim	0.16	0.37	0.18	0.39
Father Age	33.54	8.32	34.02	8.48
Father years of education	9.46	3.83	9.35	3.87

Notes: Values are baseline values for the full sample and for individuals that are also included in wave 6.

Table A.2: Main results

	(1) Phys. punish children	(2) Father punish children	(3) Mother punish children	(4) Both punish children
Conflicts last 6 months (50km)	0.034***	0.027***	0.036***	0.029***
	(0.0087)	(0.0085)	(0.0085)	(0.0083)
Mean in sample	0.66	0.42	0.64	0.40
N	5091	5091	5091	5091
R-squared	0.45	0.47	0.46	0.47
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Table A.3: Main results, balanced sample

	(1) Phys. punish children	(2) Father punish children	(3) Mother punish children	(4) Both punish children
Conflicts last 6 months (50km)	0.034***	0.027***	0.036***	0.029***
	(0.0087)	(0.0085)	(0.0085)	(0.0083)
Mean in sample	0.65	0.41	0.64	0.40
N	4350	4350	4350	4350
R-squared	0.43	0.45	0.43	0.45
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Table A.4: Main results, UCDP data.

	(1) Phys. punish children	(2) Father punish children	(3) Mother punish children	(4) Both punish children
Conflicts last 6 months (50km)	0.028***	0.022***	0.031***	0.025***
	(0.0089)	(0.0086)	(0.0087)	(0.0084)
Mean in sample	0.66	0.42	0.64	0.40
N	5091	5091	5091	5091
R-squared	0.45	0.47	0.46	0.47
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Table A.5: Alternative buffer zone (25 km)

	(1) Phys. punish children	(2) Father punish children	(3) Mother punish children	(4) Both punish children
Conflicts last 6 months (25km)	0.032***	0.026***	0.035***	0.028***
	(0.0086)	(0.0085)	(0.0085)	(0.0083)
Mean in sample	0.66	0.42	0.64	0.40
N	5091	5091	5091	5091
R-squared	0.45	0.47	0.46	0.47
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Table A.6: Main results, 9 months

	(1) Phys. punish children	(2) Father punish children	(3) Mother punish children	(4) Both punish children
Conflicts last 9 months (50km)	0.035***	0.028***	0.037***	0.030***
	(0.0087)	(0.0085)	(0.0085)	(0.0083)
Mean in sample	0.66	0.42	0.64	0.40
N	5091	5091	5091	5091
R-squared	0.45	0.47	0.46	0.47
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Table A.7: Main results, 3 months

	(1) Phys. punish children	(2) Father punish children	(3) Mother punish children	(4) Both punish children
Conflicts last 3 months (50km)	0.032***	0.025***	0.035***	0.028***
	(0.0085)	(0.0086)	(0.0084)	(0.0085)
Mean in sample	0.66	0.42	0.64	0.40
N	5091	5091	5091	5091
R-squared	0.45	0.47	0.46	0.47
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Table A.8: Alternative conflict exposure measure: Number of conflict fatalities

	(1) Phys. punish children	(2) Father punish children	(3) Mother punish children	(4) Both punish children
Fatalities last 6 months (50km)	0.027***	0.023***	0.028***	0.025***
	(0.0082)	(0.0080)	(0.0081)	(0.0079)
Mean in sample	0.66	0.42	0.64	0.40
N	5091	5091	5091	5091
R-squared	0.45	0.47	0.45	0.47
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Table A.9: Alternative conflict exposure measure: Number of violence against civilians events

	(1) Phys. punish children	(2) Father punish children	(3) Mother punish children	(4) Both punish children
Conflicts last 6 months (50km)	0.032***	0.023***	0.034***	0.024***
	(0.0084)	(0.0084)	(0.0084)	(0.0083)
Mean in sample	0.66	0.42	0.64	0.40
N	5091	5091	5091	5091
R-squared	0.45	0.47	0.46	0.46
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Table A.10: Main results, in Tigray

	(1) Phys. punish children	(2) Father punish children	(3) Mother punish children	(4) Both punish children
Conflicts last 6 months (50km)	0.0067	0.012	0.0085	0.014*
	(0.0082)	(0.0080)	(0.0080)	(0.0079)
Mean in sample	0.75	0.41	0.74	0.40
N	2018	2018	2018	2018
R-squared	0.41	0.47	0.40	0.46
Wave f.e.	No	No	No	No
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Table A.11: Main results, excluding Tigray

	(1) Phys. punish children	(2) Father punish children	(3) Mother punish children	(4) Both punish children
Conflicts last 6 months (50km)	0.14**	0.038	0.12**	0.024
	(0.055)	(0.054)	(0.056)	(0.054)
Mean in sample	0.60	0.43	0.58	0.41
N	3073	3073	3073	3073
R-squared	0.41	0.44	0.41	0.45
Wave f.e.	No	No	No	No
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Table A.12: Stress, intensive and extensive

	(1) Affective Distress	(2) Father stressed	(3) Stressed money	(4) Stressed food
Any conflict last 6 months (50km)	0.16***	-0.026	-0.047**	-0.033**
	(0.043)	(0.022)	(0.020)	(0.014)
Number of conflicts if any	0.010***	0.0021***	0.0021***	0.0024***
	(0.00081)	(0.00047)	(0.00046)	(0.00041)
Mean in sample	-0.00	0.30	0.27	0.08
N	5091	4976	4976	4976
R-squared	0.46	0.44	0.44	0.38
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.

Table A.13: Income, intensive and extensive

	(1) Income mother	(2) Hours work mother	(3) Income father	(4) Hours work father
Any conflict last 6 months (50km)	530.4	-4.31***	110.9	2.33***
	(554.1)	(1.01)	(743.6)	(0.90)
Number of conflicts if any	-6.98	-0.055***	-76.8***	-0.20***
	(7.51)	(0.020)	(14.9)	(0.023)
Mean in sample	4706.39	18.44	18379.03	43.57
N	4871	4136	4771	4270
R-squared	0.25	0.54	0.42	0.54
Wave f.e.	Yes	Yes	Yes	Yes
Ind. f.e.	Yes	Yes	Yes	Yes

Notes: Standard errors, clustered at the individual level, are in parentheses. P-values are $\leq 0.01^{***}$, $\leq 0.05^{**}$, and $\leq 0.1^{*}$.