How Childhood Exposure to the Eritrean–Ethiopian War affected Intimate Partner Violence

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Abstract

Intimate Partner Violence (IPV) is common in war-torn areas. However, few studies have examined the relationship between childhood exposure to armed conflict and IPV. This paper examines how childhood exposure to the Eritrean–Ethiopian War affected attitudes towards and experiences of IPV against women. For attitudes towards IPV, I examine the extent to which women are willing to tolerate IPV and in what circumstances men believe it is justified. For experiences of IPV, I investigate whether childhood exposure to armed conflict made men more likely to perpetrate IPV and exhibit controlling behaviours in their intimate relationship. I exploit the war's variation across cohorts and geography to investigate this topic. I find that men exposed to armed conflict as a child are more likely to justify IPV against their wife or partner. I also find that males fully exposed to the war in adolescence (12–18) are more likely to perpetrate IPV by 0.226 standard deviations compared to other periods in childhood. Furthermore, the paper finds that female childhood exposure to the war did not affect their tolerance for IPV. This paper adds to the small literature that identifies groups at risk of perpetrating IPV, which helps policymakers design early-intervention policies.

Contents

1 Introduction

"*Hate begets hate; violence begets violence*" — Martin Luther King Jr, 1958

In 2017, 18 per cent of children worldwide — 420 million — were living in conflict-affected areas (Graham et al., 2019). Exposure to war can induce toxic stress in a child during sensitive periods of their development, harming their non-cognitive development and resulting in increased interpersonal problems and a lower ability to cope with stress (Shonkoff, 2010, Bick and Nelson, 2016, Council, 2005). Social learning theory predicts that children living in a violent environment are more likely to model violence in adulthood, so childhood exposure to an armed conflict may affect the prevalence of Intimate Partner Violence (IPV) later in life (Bandura and Walters, 1977, Bandura, 1978). Few studies have examined how exposure to armed conflict during childhood influences attitudes towards IPV and its prevalence.

This paper examines the question '*How did childhood exposure to the Eritrean–Ethiopian War affect attitudes towards and experiences of IPV against women?*' For attitudes towards IPV, I examine the extent to which women are willing to tolerate IPV and in what circumstances men believe it is justified. For experiences of IPV, I investigate whether childhood exposure to armed conflict made men more likely to perpetrate IPV and exhibit controlling behaviours in their intimate relationship. Here, 'controlling behaviours' refers to unhealthy and self-serving behaviours from husbands such as insisting they always know where their wife or partner is. This paper adds to the small but growing literature that identifies groups at risk of perpetrating IPV, helping policymakers to design early-intervention policies.

IPV is the most common form of gender-based violence. The World Health Organisation defines IPV as "behaviour by an intimate partner or ex-partner that causes physical, sexual or psychological harm, including physical aggression, sexual coercion and psychological abuse" (WHO, 2017). Women overwhelmingly bear the consequences of IPV, with 30 per cent of women worldwide experiencing it in their lifetime (WHO, 2013). IPV is a significant issue in Ethiopia, where 30 per cent of women have experienced IPV in their lifetime (Cherie et al., 2020). IPV has horrific consequences for a woman's well-being. At the extreme, intimate partners are responsible for 38

per cent of all murdered women (WHO, 2013). Female victims of IPV are twice as likely to have alcohol use disorders and depression (WHO, 2017). IPV also has intergenerational consequences — children of female IPV victims are 16 per cent more likely to have a low birth weight (WHO, 2017). Male children who witness IPV amongst their parents are also more likely to commit IPV against their future wife or partner (Wilkins et al., 2014, Roberts et al., 2010). IPV is highly prevalent amongst regions affected by conflict, however, it is difficult to obtain the data needed to isolate a causal link (Murphy et al., 2019).

It is plausible that childhood exposure to war influences attitudes towards IPV and, for males, their likelihood of perpetrating IPV. Heckman (2007) created a theoretical model that uses a life-cycle approach to show that childhood conditions matter for an adult's non-cognitive skills, defined as patterns of thought, feelings, and behaviour (Borghans et al., 2008). Adverse childhood experiences harm an individual's non-cognitive development, and non-cognitive skills change one's risk of perpetrating IPV. The toxic stress associated with adverse childhood experiences hinders the development of the central stress response system, the hypothalamic-pituitary-adrenal (HPA) axis (Council, 2005). Thus, adverse childhood experiences harm an individual's emotional and behavioural regulation, which causes increased rates of psychiatric disorders and interpersonal problems (Bunea et al., 2017, Bick and Nelson, 2016). These are risk factors for IPV (Garcia-Moreno et al., 2012).

The most salient explanation for how childhood exposure to war might affect IPV comes from social learning theory. This theory proposes that individuals learn new behaviours by observing and imitating others, which implies that learning occurs in a social context (Bandura and Walters, 1977). If children who witness violence as a child are more likely to display violent and aggressive tendencies as an adult, it is plausible that children exposed to war as a civilian are more likely to perpetrate IPV as adults or tolerate it in an intimate relationship. However, there is mixed empirical evidence in the small literature on this topic (as discussed in the literature review).

I investigate this topic using difference in differences across cohorts and geography. The identifying assumption is that were it not for the war, trends in the attitudes and prevalence of IPV would be similar between conflict-affected and non-conflict-affected regions. The Eritrean–Ethiopian War

lasted from 6 May 1998- 18 June 2000 (25 months), creating variation of exposure to conflict by year and month of birth. Fighting mainly occurred in the three border towns of Bure, Badme and Tsorona-Zalambessa (Murphy, 2016). Hence, an individual's distance from these towns changed their level of exposure to the conflict. The paper uses multiple waves of the Demographic and Health Survey (DHS) for Ethiopia (CSA/Ethiopia and ICF, 2017). As explained in section 3, the DHS provides all necessary data to investigate this research question and to examine the evidence supporting the identifying assumption. This paper also uses the DHS to explore potential mechanisms for the effect of childhood exposure to armed conflict on IPV — for example, how armed conflict affected wealth, education and employment and whether these outcomes provide evidence for economic theories that account for IPV.

I find strong evidence that childhood exposure to the war made men more likely to justify IPV against their wife or partner. However, I do not find evidence that childhood exposure to the war made females more likely to tolerate IPV against women. This paper finds evidence that males fully exposed to conflict in adolescence (12–18) are more likely to commit IPV by 0.226 standard deviations (SD). There is also suggestive evidence that males exposed to armed conflict in childhood are more likely to exhibit controlling behaviours towards their wives or partners. All but one of the findings are robust to adjusting for potential endogenous migration. The results for controlling behaviour do not pass this robustness check. Finally, I find that higher unemployment resulting from exposure to the war in adolescence is a potential mechanism for IPV.

The paper's contribution to the literature is fourfold. I contribute to the limited evidence on how male childhood exposure to armed conflict alters IPV later in life. As far as I am aware, only two papers have examined whether civilian exposure to armed conflict for males during childhood makes them more likely to perpetrate IPV. La Mattina et al. (2017) finds that childhood exposure to war makes a male perpetrate IPV as an adult whilst Pandey (2020) finds that childhood exposure to war *does not* make a male perpetrate IPV. This paper provides further evidence to this debate. Second, the evidence on potential mechanisms improves understanding of the relationship between armed conflict and IPV, a research goal stated by policy experts in this area (Murphy et al., 2019). Third, I identify critical periods in childhood where exposure to conflict affects IPV. Thus, the

paper fulfils a goal stated in a review article by Currie and Vogl (2013), who claim that identifying critical periods is a deficiency in research on the relationship between childhood conditions and adult human capital. Finally, this paper identifies that males exposed to war in childhood are an at-risk group of perpetrating IPV. Hence, this paper assists in designing early-intervention policies that reduce IPV like the 'Safe Dates' program in the USA (Garcia-Moreno et al., 2012).

2 Background

In this section, I will describe the war, the conceptual background for the relationship between childhood exposure to armed conflict and IPV, and do a literature review.

2.1 Eritrean–Ethiopian War

After World War II, the former Italian colony of Eritrea became part of Ethiopia. In 1993, following a referendum, Eritrea became independent from Ethiopia. For the next few years, the two countries lived in peace. However, tensions rose between the two nations during this period due to territorial disputes, nationalism and protectionist trade policies (Tareke, 2001).

Armed conflict began in Badme between Ethiopian and Eritrean forces on May 6th 1998 (Murphy, 2016). Ethiopia declared war a week later. The fighting then spread to the other border towns Tsorona-Zalambessa and Bure and focused predominantly in these three towns (Badme, Bure and Tsorona-Zalambessa) (Murphy, 2016). Figure 1 shows these three towns and 300km radius circles around them, which will become relevant when I discuss how I identify exposure to conflict in section 3. Armed conflict continued for just over two years before a Cessation of Hostilities agreement on June 18th 2000. Although Eritrea never formally surrendered, Ethiopia did 'win' the war by conquering Badme and advancing deep into Eritrean territory (Murphy, 2016).

The war had significant negative consequences for Ethiopia and Eritrea. Conservative estimates claim both sides lost 50 000 to 75 000 soldiers (AAU, 2012). Ethiopia's economy lost USD $397 million GDP due to the war and an additional USD $3.1 billion GDP due to property damage and

looting from Eritrea. There were also ethnic deportations as Ethiopia expelled more than 67 000 Eritreans who enjoyed their Ethiopian nationality before expulsion. Eritrea retaliated by deporting about 39 000 Ethiopians. Finally, there were many internally displaced persons. The war displaced 315 000 Ethiopians by December 1998, and this number grew to more than 360 000 in May 2000. Almost 90 per cent of those displaced were in the war region of Tigray region and about 30 000 in the war region of Afar (IDMC, 2007).

Figure 1: Map of Ethiopia with 300km radius circles around Badme, Bure and Tsorona-Zalambessa. *Source: Author generated, using Google Earth.*

2.2 Conceptual Background

The scientific literature underscores the importance of all stages in childhood for cognitive, non-cognitive and health development. (Barker, 1998, National Academies of Sciences et al., 2019, Shonkoff, 2010, Bick and Nelson, 2016). This scientific research motivated economists to explore how childhood influences adult human capital. Heckman (2007) created a theoretical economic framework to understand this. Here, human capital comprises of an individual's health, cognitive and non-cognitive skills. An individual's human capital depends on their previous stock of human capital, previous and current investments in human capital and their parent's level of human capital.

Heckman's model has two features. First, self productivity, where skills acquired in one period persist into future periods. Second, dynamic complementarity, where skills produced at one stage of life raise the productivity of subsequent investments. This theoretical framework is a foundation for economists investigating the role of childhood in shaping adult human capital.

Heckman's model is a useful framework for conceptualising how childhood exposure to war affects an individual's attitudes towards and experiences of IPV. Personality disorders and acceptance of violence — two examples of emotional skills that are part of an individual's non-cognitive skills — are risk factors for IPV (Garcia-Moreno et al., 2012). Therefore, if war inflicts a negative shock to an individual's emotional skills in childhood, then war will influence the individual's emotional skills in adulthood. There are two potential reasons why war would harm an individual's emotional skills during childhood. First, the toxic stress created by adverse childhood experiences (e.g. war) could hinder the development of a child's central stress response system, which causes increased rates of psychiatric disorders and interpersonal problems (Bunea et al., 2017, Bick and Nelson, 2016). This psychological damage from war plausibly hinders the ability of individuals to handle stress, which can manifest in IPV (Heise, 1998). Second, children could, through social learning, internalise acceptance of violence; this is supported by empirical evidence, with children who grow up in violent contexts being more likely to display violent and aggressive tendencies as an adult (Bandura and Walters, 1977, Bandura, 1978). These two ways of how war can affect the emotional skills of a child are present across *all* periods of childhood.

Alternatively, there are other potential explanations for how childhood exposure to war influences IPV related to economic theories of IPV. Angelucci and Heath (2020) summarise these theories. Men might commit IPV to control their partner's resources or because it provides intrinsic utility to them. Alternatively, men may use violence to assert their dominance, or it may be a result of couples spending a long-time together in close quarters. Yet, the stress/scarcity theory proposed in the literature is the most likely out of these theories. Economic scarcity induces stress that can cause IPV (Haushofer and Shapiro, 2016). If children exposed to war stay in the conflict-affected areas, they might face worse economic outcomes in life, which can manifest in IPV.

The analysis in this paper will examine the net effect of childhood exposure to the war on IPV,

which includes self-productivity, dynamic complementarity and the endogenous response in human capital investment from other agents. The identification strategy in this paper does not have the necessary exogenous variation to identify all the ways childhood exposure to war affects emotional skills. I cannot, for instance, disentangle the effects of government intervention: for example, governments may increase investment in children affected by the war. Equally, I cannot identify the relative significance of the theories. Angelucci and Heath (2020) describe that there are complementarities among all these theories of IPV. I can only provide evidence for specific theories through the analysis of mechanisms.

2.3 Literature Review

There is a large empirical economics literature that examines the effect of adverse childhood experiences (e.g. natural disasters) on adult outcomes like education, earnings and health. Currie and Vogl (2013) and Almond et al. (2018) review this literature and conclude that there is substantial empirical evidence that adverse childhood experiences harm adult outcomes. A large literature on child exposure to war as a civilian has documented deleterious effects on child health (Akresh et al., 2011, 2014, Minoiu and Shemyakina, 2014, Weldeegzie, 2017) and on education (Akresh and De Walque, 2008, Shemyakina, 2011, Weldeegzie, 2017). Akresh et al. (2014) and Weldeegzie (2017) look specifically at the Eritrean–Ethiopian War as an adverse childhood experience. I will use a similar identification strategy to Akresh et al. (2014), where the authors use difference in differences across cohorts and geography. They use geographic distance from a conflict site as provided by the geographic data in the Ethiopian DHS. I will use the same strategy and data to identify geographic variation in conflict intensity. Researchers have also found that childhood exposure to war has negative consequences for adult health (Akresh et al., 2017, 2012, Agüero and Deolalikar, 2012) and for adult labour market outcomes (Kondylis, 2010).

There are empirical studies on the relationship between armed conflict and IPV, but most studies focus on the relationship among *adults*. The literature finds a strong positive correlation between conflict-affected areas and the prevalence of IPV (Kelly et al., 2018, Østby et al., 2016, Falb et al., 2013, Saile et al., 2013). Adult men exposed to armed conflict are more likely to exhibit controlling

behaviours and perpetrate IPV against their partners (Ekhator-Mobayode et al., 2020, Clark et al., 2010, Gupta et al., 2009). In the smaller literature on the relationship between childhood exposure to armed conflict and IPV, there is strong evidence that female exposure to armed conflict as a child increases the likelihood they will be a victim of IPV and tolerate IPV (Gutierrez and Gallegos, 2016, La Mattina et al., 2017). The point of contention is whether childhood exposure to war causes a male to perpetrate IPV. La Mattina et al. (2017) combine DHS data from 20 Sub-Saharan African countries and use difference in differences across geography and birth cohorts to examine this question. Their work includes Ethiopia, yet it is only the 2011 round of the DHS which does not have the domestic violence module (see section 3.1 for more details). The authors find that men exposed to conflict between ages 6 and 10 are more likely to justify IPV against women. Lower education due to exposure to armed conflict in childhood is a potential mechanism for this result. Equally, males exposed to conflict between 0 and 5 are more likely to perpetrate IPV. Pandey (2020) exploits spatial and temporal variation in childhood exposure to the Nepalese Civil War. In contrast to La Mattina et al. (2017), Pandey (2020) finds that exposed men are less likely to perpetrate IPV and no evidence they will display controlling behaviours. Pandey (2020) explains the results by referring to 'posttraumatic growth' described in Tedeschi and Calhoun (2004), which is the idea that a challenging life crisis can increase an individual's appreciation for life and ability to have meaningful relationships. The finding in Pandey (2020) is surprising due to the positive relationship between armed conflict and IPV in the literature. This paper provides further evidence for this emerging debate by looking at the same outcomes and also considering in utero exposure as a period in childhood, which the literature has not examined.

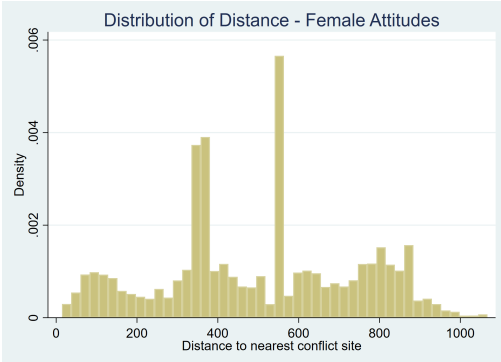
3 Data

3.1 Demographic and Health Survey

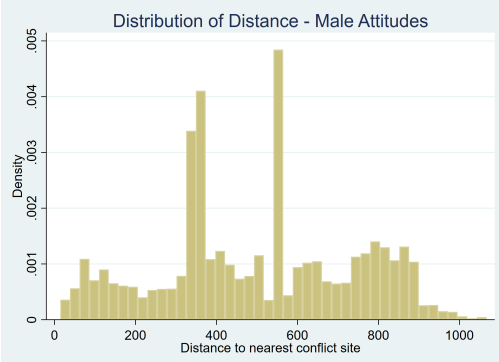
This paper employs waves of the Demographic Health Survey (DHS) of Ethiopia (CSA/Ethiopia and ICF, 2017, ICF, 2018) in the analysis. The DHS is a national cross-sectional survey that gathers information on demographic topics like health, population and nutrition. I use data on females

($n = 51312$), born from 1962 onwards, from the 2000, 2005, 2011 and 2016 waves. I also use data on males ($n = 27987$) born from 1962 onwards, from the 2005, 2011 and 2016 waves. This sample size is smaller because the DHS only included males from 2005 onwards. I analyse these samples to test how childhood exposure to war changed attitudes to IPV. Finally, I employ the *Couples Recode* file from the 2016 wave, consisting of couples where the female participated in the domestic violence module ($n = 2435$). 2016 is the only wave with the domestic violence module. This couples sample allows me to examine whether childhood exposure to the war causes a male to perpetrate IPV and exhibit controlling behaviour. The Couples Recode file links a female to her husband/partner that committed IPV against them. The DHS also has individual and household characteristics that I use for control variables. The GPS coordinates for the survey clusters allows me to calculate an individual's distance from the nearest conflict site. Note, this is not the individual's actual distance from the conflict site. Instead, it is the distance of their survey cluster. To protect privacy, the DHS randomly displaces the cluster's location. Urban clusters contain a minimum of 0 and a maximum of 2 kilometres of error. Rural clusters have a minimum of 0, and a maximum of 5 kilometres of positional error with a further 1 per cent of the rural clusters displaced between a minimum of 0 and a maximum of 10 kilometres. The displacement is restricted so that the points stay within the country and the DHS survey region (Burgert et al., 2013). I measure the distance from conflict by first calculating an individual's distance from the three towns. The minimum of these three distances determines the individual's exposure to conflict. Given the war's focus on these three towns, it seems reasonable that the closer an individual is to one of these towns, the more exposed to the conflict they are. However, this measure of conflict exposure has issues relating to whether this is the individual's *actual* distance from the towns and variation in conflict intensity between the towns[1]. Figure (2) displays the distribution of distance from conflict across the data. The distribution is even across the population apart from spikes in the cities of Addis Ababa and Dire Dawa.

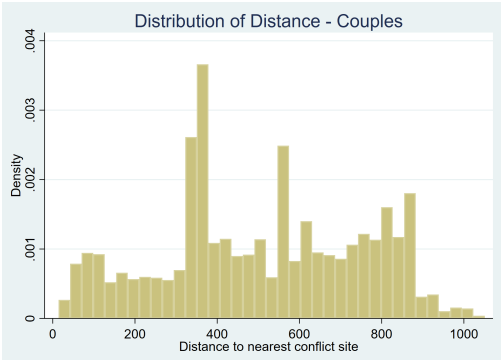
[1] I discuss the former in section 5 and the latter in section 7.



(a)



(b)



(c)

Figure 2: Distribution of distance (kms) to nearest conflict site over samples. (a) is for women, (b) is for males and (c) is for the sample of couples.

3.2 Outcome Variables

As shown in table 1, I construct indices to measure attitudes to IPV, the prevalence of IPV and controlling behaviour. These indices are the sum of the number of times a woman (or male for the male attitudes index) answers yes to the questions listed in the table. The questions cover all types of IPV (emotional [2], less severe [3], severe [4], and sexual [5]), common reasons why a wife may accept IPV and common examples of controlling behaviours from a husband/partner.

[2]Emotional violence includes humiliation, threatened with harm and insulted by husband/partner.

[3]Less severe violence includes being pushed, shook or had something thrown, slapped, punched with a fist or hit with something painful by husband/partner.

[4]Severe violence includes being kicked or dragged, strangled or burnt or threatened with a knife/gun or other weapons by husband/partner.

[5]Sexual violence includes being forced into unwanted sexual acts, arm twisting and/or hair pulling or physically forced to perform sexual acts the respondent didn't want to.

Table 1: Questions in Outcome Variables

Attitudes Index	**Violence Index**	**Control Index**
Is beating justified if: - Wife goes out without telling husband; - Wife neglects the children; - Wife argues with husband; - Wife refuses to have sex with husband; - Wife burns the food.	Have you experienced any "..." by husband/partner?: - Emotional violence ; - Less severe violence; - Severe violence ; - Sexual violence .	Husband/partner... - Jealous if respondent talks with other men; - Accuses respondent of unfaithfulness; - Does not permit respondent to meet female friends; - Tries to limit respondent's contact with family; - Insists on knowing where respondent is.

3.3 Summary Statistics

Table 2 contains the summary statistics for the female and male samples that I use to test how childhood exposure to the war changed attitudes to IPV. I divide individuals between those who are within 300kms of a conflict site (near) and those who are not (far). For females, individuals near and far from the war are very different. On average, those near the war have a higher attitudes index. Equally, those near the war are less educated and less unemployed[6]. Those near the war are also less likely to have a male household head and are more likely to have an older household head. There are significant differences between electricity use and access to water between zones affected and not affected by conflict. The DHS also started collecting data on wealth using a wealth index[7] from 2005. On average, females near the war are poorer than those far from the war. The male sample has similar differences between those near and far from the war compared to the female sample. Those near the war have a higher attitudes index and worse socioeconomic conditions. The male sample does not have adequate data on sources of drinking water and electricity use, so I do not include these variables. For the couples sample, similar to the other samples, the areas

[6]Unemployed in the DHS means the individual is not working and has not worked in the last 12 months (employment includes subsistence farming).

[7]The wealth index is a composite measure of a household's cumulative living standard. It is calculated using data on a household's ownership of selected assets, such as televisions and bicycles; materials used for housing construction; and types of water access and sanitation facilities.

near the war are on average lower socioeconomic areas. Note, even though the attitudes index is higher in conflict areas, the violence and control indices are lower in conflict areas for the couples sample.

Table 2: Summary Statistics

	Females			Males			Couples		
	(1) Near	(2) Far	(3) (1) - (2)	(4) Near	(5) Far	(6) (4) - (5)	(7) Near	(8) Far	(9) (7) - (8)
Attitudes	2.574	2.198	0.376***	1.215	0.974	0.241***	0.765	0.628	0.138*
	(1.926)	(1.993)	(0.0230)	(1.745)	(1.585)	(0.0251)	(2.012)	(2.010)	(0.107)
Violence							0.449	0.577	-0.129**
							(0.896)	(1.022)	(0.0533)
Control							0.928	1.018	-0.0905
							(1.175)	(1.241)	(0.0655)
Education (years)	2.131	3.425	-1.294***	3.783	5.519	-1.736***	2.926	4.612	-1.686***
	(3.679)	(4.461)	(0.0505)	(4.577)	(3.671)	(4.473)	(4.223)	(4.978)	(0.258)
Unemployed (%)	0.479	0.516	- 0.0372***	0.0982	0.107	-0.00918*	0.0605	0.0220	0.0384***
	(0.500)	(0.500)	(0.00581)	(0.298)	(0.310)	(0.00479)	(0.239)	(0.147)	(0.00890)
Wealth	2.529	3.446	-0.916***	2.583	3.439	-0.856***	2.370	3.093	-0.723***
	(1.561)	(1.546)	(0.0199)	(1.553)	(1.509)	(0.0236)	(1.565)	(1.506)	(0.0808)
Household Head Male	0.711	0.738	-0.0262***	0.841	0.848	-00.00636	0.919	0.935	-0.0168
	(0.453)	(0.440)	(0.00514)	(0.365)	(0.359)	(0.00561)	(0.274)	(0.246)	(0.0134)
Household Members	5.568	5.613	0.0451	5.780	5.416	0.364***	5.433	5.189	0.244**
	(2.498)	(2.484)	(0.0289)	(2.709)	(2.619)	(0.0410)	(2.115)	(2.051)	(0.110)
Household Head Age	42.22	41.74	0.477***	43.38	41.27	2.114***	36.62	36.23	0.384
	(13.65)	(13.93)	(0.161)	(14.16)	(14.36)	(0.223)	(9.434)	(9.436)	(0.503)
Water Piped into Dwelling	0.0106	0.0147	- 0.00409***						
	(0.102)	(0.120)	(0.00136)						
Electricity	0.194	0.367	0.173***						
	(0.395)	(0.482)	(0.00544)						
Urban	0.177	0.353	0.175***	0.178	0.325	0.147***	0.151	0.239	-0.0881***
	(0.382)	(0.478)	(0.00538)	(0.383)	(0.469)	(0.00707)	(0.359)	(0.427)	(0.0221)
Age (years)	27.36	26.78	0.578***	28.60	28.67	-0.0702	36.72	35.60	1.118***
	(8.841)	(8.368)	(0.0983)	(10.07)	(9.568)	(0.150)	(7.961)	(8.135)	(0.432)
N	8967	42345		5029	22958		435	2000	

Notes: For the couples sample, the indices 'Violence' and 'Control' are reported by the female. The other variables are reported by the male partner. For the females sample, all variables are reported by females and males report all variables for the males sample. The variables 'Unemployed', 'Household Head Male', 'Water Piped into Dwelling' and 'Electricity' are dummy variables. Standard deviations are in parentheses for columns (1), (2), (4), (5), (7), (8). Standard errors are in parentheses for columns (3), (6) and (9). ***, ** and * denote statistical significance at the 1, 5 and 10 per cent levels respectively.

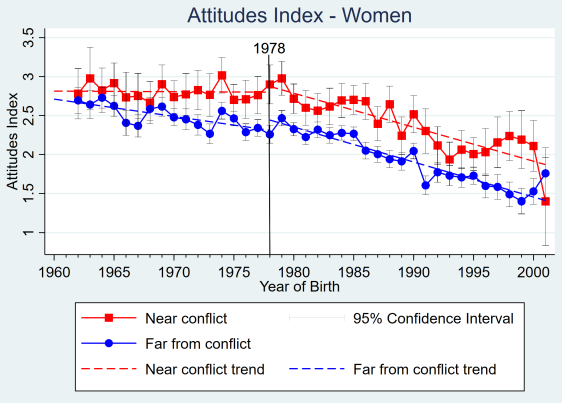
3.4 Identification Strategy

The identification strategy of this paper is difference in differences across cohorts and geography. An individual's birth cohort and distance from a conflict site (the towns of Badme, Bure and Tsorona-Zalambessa) determine their childhood exposure to war. Their location of residence determines their proximity to conflict, which is approximated by survey cluster. Childhood exposure also depends on the number of months they were exposed to war from 0 to 18 or in utero[8]. The maximum number of months of exposure is 25 (May 1998 to June 2000). Hence, individuals born between May 1980 and February 2001 will all have exposure to the war during childhood. Individuals outside this range have no exposure during childhood, but some will have exposure as adults.

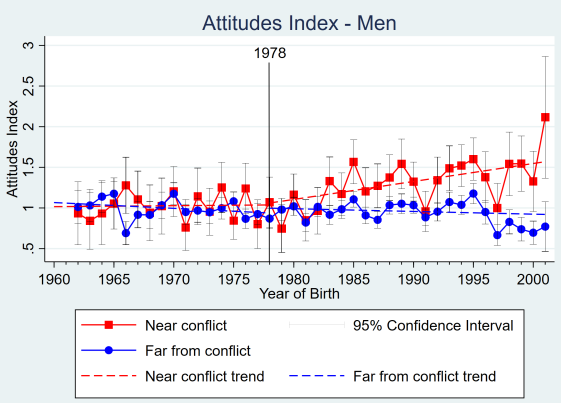
Figure 3 illustrates the trends in the outcome variables across the samples. The figure shows the average outcomes for different cohorts (defined by year of birth), divided between those near and far from a conflict site. Figure 3 also includes a trend break in 1978 for the near and far from conflict trends. This break identifies cohorts in childhood during the war (after 1978) and adulthood during the war (before 1978). For females, their attitudes index is declining as cohorts become younger, which reflects increases in female empowerment over time. For males, their attitudes index is approximately constant across cohorts near and far from the conflict before 1978. The trends then diverge after 1978. The attitudes index of cohorts who were in non-conflict areas stays roughly constant whilst the attitudes index of those in conflict areas rises as cohorts become younger. For the couples sample, the violence index trends downwards. The violence index is initially *higher* in regions far away from conflict. Yet, note the increase in the violence index for cohorts close to the war and exposed in childhood. I observe similar trends in the control index.

Difference in differences identifies the causal effect of childhood exposure to the war under the assumption that absent the war, there would be no differences in trends between cohorts near and far from the war (parallel trends assumption). I provide evidence supporting this assumption by examining whether there are differences in trends of the outcome variables for cohorts with no childhood exposure between cohorts near and far from the war (I refer to this as the pre-trends).

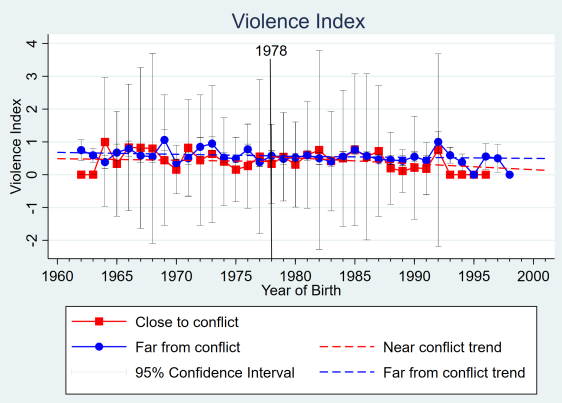
[8] I have assumed the number of months a child is in utero is nine months.



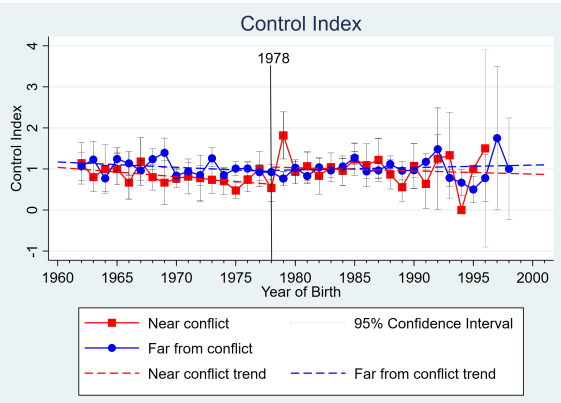
(a) Women - Attitudes



(b) Males - Attitudes



(c) Couples- Violence Index



(d) Couples - Control Index

Figure 3: Trends in Outcome Variables

Concerning figure (3), the parallel trends assumption implies that there may be *level* differences between near and far from the war. However, there are no differences in *slopes*. Figure 3 suggests that there are differences in slopes. Yet, note the significant variation in the estimates of the average outcome variable by year of birth as indicated by the confidence intervals. In particular, the wide confidence intervals for the violence and control indices imply that they are not statistically different from zero for some cohorts. I test to see whether these slopes are different and statistically significant in table 4. These are regressions of the outcome variable on year of birth, a dummy for near conflict, and an interaction term of birth year and the distance dummy. The interaction terms for male attitudes, the prevalence of IPV and controlling behaviours are not statistically significant. These results provide evidence supporting the identifying assumption, yet it is not

definitive evidence. The trends may have started to become different at the *same* time of the war. I cannot observe this counterfactual and rule out this possibility. Unfortunately, the female sample does not pass this pre-trends test. The interaction term for female attitudes is positive and statistically significant. This result implies that the trend in female attitudes to IPV was declining faster in areas far from the war compared to areas near the war, which is evidence against the identifying assumption. However, I continue to use this sample as the interaction term is only statistically significant at the 10 per cent level and I do a further pre-trends test for this sample in section 4.2.

Table 3: Test for Differences in Pre-Trends

	Females	Males	Couples	
	(1) Attitudes	(2) Attitudes	(3) Violence	(4) Control
Year of birth * Near conflict	0.0157*	0.00552	0.00119	-0.0122
	(0.00846)	(0.00970)	(0.0180)	(0.0220)
Near conflict	-30.63*	-10.85	-2.516	23.85
	(16.67)	(19.12)	(35.46)	(43.29)
Year of birth	-0.0218***	-0.00666	-0.00641	-0.0115
	(0.00348)	(0.00405)	(0.00806)	(0.00984)
N	19049	9147	1026	1026

Notes: Standard errors are in parentheses. ***,** and * denote statistical significance at the 1, 5 and 10 per cent levels respectively.

4 Analysis

4.1 Model Specification

I employ three specifications to consider different types of variation in distance and cohorts.

$$y_{ijt} = \alpha + \psi(Near_{ijt}) + \phi(Months_{ijt}) + \eta(Near_{ijt} * Months_{ijt}) + \boldsymbol{\lambda X_{ijt}} + \varepsilon_{ijt} \quad (1)$$

Equation (1) is the first specification. y_{ijt} is the outcome variable (attitudes, violence or control index) for individual i in the region [9] j born in year t. $Near_{ijt}$ is a dummy variable equal to one

[9]There are 11 regions of Ethiopia in the DHS data and the DHS records an individual's region.

if an individual is within 300kms of a conflict site (Badme, Bure and Tsorona-Zalambessa), which represents the fixed effects of conflict areas. $Months_{ijt}$ is the total number of months a child was alive or in utero during a conflict period, which is the birth cohort fixed effects. The interaction of these variables is the total number of months a child was alive or in utero during a conflict period and living in a conflict zone. Hence, η is the coefficient of interest and captures the effect of childhood exposure to the war on the outcome variable. $\boldsymbol{X_{ijt}}$ is a vector of control variables that I have outlined in table 4. ε_{ijt} is a random, idiosyncratic error term, that is assumed to be uncorrelated with the interaction term. Equation (2) considers greater variation in distance from conflict.

$$y_{ijt} = \alpha + \boldsymbol{\psi} \sum_{a=1}^{3} (d_a)_{ijt} + \phi(Months_{ijt}) + \boldsymbol{\eta}((\sum_{a=1}^{3} d_a)_{ijt} * Months_{ijt}) + \boldsymbol{\lambda X_{ijt}} + \varepsilon_{ijt} \quad (2)$$

In this specification[10], I create three dummy variables for distance. d_1 equals one if an individual is within 100 kilometres of a conflict site, d_2 equals one when an individual is within 100–200 kilometres of a conflict site and d_3 equals one when an individual is within 200–300 kilometres of a conflict site. Individuals located more than 300 kilometres away are the reference group. I then interact these dummies with $Months_{ijt}$. The vector of parameters $\boldsymbol{\eta}$ is now the coefficients of interest. These coefficients show the effect of childhood exposure to the war and if this effect was stronger for those children closer to the war. Equation (3) reverts to the measure of distance ($Near_{ijt}$) and considers greater variation in cohorts. Specifically, I now split the cohorts into critical periods during childhood.

$$y_{ijt} = \alpha + \psi(Near_{ijt}) + \boldsymbol{\phi} \sum_{c=1}^{4} (exp_c)_{ijt} + \boldsymbol{\eta}((\sum_{c=1}^{4} exp_c)_{ijt} * Near_{ijt}) + \boldsymbol{\lambda X_{ijt}} + \varepsilon_{ijt} \quad (3)$$

Here, exp_1 is months exposed during in utero, exp_2 is months exposed during 0 to 5 years old, exp_3 is months exposed during 6 to 11 years old and exp_4 is months exposed during 12 to 18 years old[11]. Individuals not exposed during any of these periods are the reference group. By considering

[10] I do not use this specification for the couples sample to avoid issues associated with low sample size.

[11] For the couples sample, I define the critical periods as in utero to 5 years old, 6-11 years old and 12-18 years old. I do this to avoid issues associated with low sample size.

these multiple cohorts, I can identify critical periods that matter for the outcome variable. In all specifications, I use Conley Standard Errors, which allow for serial correlation and spatial correlation among survey clusters (Conley, 1999). In these standard errors, I impose a linear decay in distance for the spatial correlation and I allow for spatial correlation between clusters across all time periods[12].

Table 4: Control variables

Females	**Males**	**Couples**
Household head male	Household head male	Household head male
Household head age	Household head age	Household head age
Household members	Household members	Household members
Urban dummy	Urban dummy	Urban dummy
Female age	Male age	Female age
Ethnicity dummies	Ethnicity dummies	Male age
Region by year fixed effects	Region by year fixed effects	Region fixed effects
Electricity, radio, television, bicycle, motorcycle, car, refrigerator (all dummies)		

4.2 Results

Table 5 shows the attitudes results for males and females. Columns (1) to (4) are for the female sample, and the dependent variable is the female reported attitudes index. Columns (5) to (7) are for the male sample, and the dependent variable is the male reported attitudes index. For females, there is no evidence that childhood exposure to war changed their attitudes towards IPV. In column (4), given the concerns about the identifying assumption for the female sample, I perform another pre-trends test. I repeat the same regression as in section 3.4 and include all the control variables in table 4. If the areas far from the war had trends in female attitudes that were declining faster than areas near the war, then the coefficient on the interaction term would be positive and statistically significant. The coefficient on the interaction term is statistically insignificant, which provides evidence supporting the identifying assumption for the female sample. The results for males are different from females as all coefficients of interest are positive and highly statistically significant,

[12]I use the *acreg* package developed by Colella (2019). I choose a distance cutoff of 300kms, which gives the highest standard errors compared to other distances.

providing strong evidence that childhood exposure to war made men more likely to justify IPV against their partner/wife. Note, when considering different cohorts, the magnitude of the effect declines as the age of the exposed cohort increases. Equally, column 7 indicates that armed conflict had a higher effect on attitudes for those closer to conflict. To improve the interpretation of these results, consider a male born nine months into the war. This male would have full exposure to the war in utero and 16 months exposure between 0–5. The results imply that the war would raise his attitudes index by 0.9916. Given the standard deviation (SD) of the attitudes index for the sample is 1.618, this implies an increase in his attitudes of 0.613 SD, which is a significant change in his attitudes towards IPV.

The findings for females contrasts with the literature, which finds female exposure to war in childhood makes them more likely to tolerate IPV against themselves (Gutierrez and Gallegos, 2016, La Mattina et al., 2017). The findings for males are similar to La Mattina et al. (2017), who found that found that males exposed between 6-10 were more likely to justify IPV. However, these authors found no effect in other age groups and a negative effect on attitudes for 16-20, which differs from my results. Equally, these results are not consistent with Pandey (2020) who found that males exposed in childhood are less likely to justify IPV against their wife or partner. In my results, in utero has the largest coefficient, which suggests that the literature has wrongfully omitted in utero exposure. Although it has the largest coefficient, it may not be statistically different from the other coefficients, implying that it may not be *more* important than the other critical periods. As stated before, I cannot disentangle these results and identify why these results occur. The psychological reasons for why childhood exposure to war can cause IPV (toxic stress and social learning theory) are present across children aged 0 to 18 making it difficult to claim one psychological reason is more important than the other from these results. Although no social learning occurs in utero, those exposed in utero may have also had exposure to the war during their early infancy where social learning happens. I cannot decompose this complementarity between toxic stress and social learning for these individuals. However, my findings justify the arguments in the conceptual background for why childhood exposure to war can change a male's attitudes towards IPV.

Table 5: Attitudes Index Results

	Females				Males		
	(1) Attitudes	(2) Attitudes	(3) Attitudes	(4) Attitudes	(5) Attitudes	(6) Attitudes	(7) Attitudes
In utero to 18 and 300kms	0.000722 (0.00225)				0.0106*** (0.00269)		
In utero to 18 and 100kms			-0.000418 (0.00285)				0.0132*** (0.00361)
In utero to 18 and 100-200kms			0.00163 (0.00366)				0.00804** (0.00378)
In utero to 18 and 200-300kms			0.000634 (0.00336)				0.00107*** (0.00365)
In utero and 300kms		-0.0133 (0.0139)				0.0812*** (0.0136)	
0 to 5 and 300kms		-0.00373 (0.00328)				0.0163*** (0.00397)	
6 to 11 and 300kms		0.00386 (0.00281)				0.00896*** (0.00308)	
12 to 18 and 300kms		0.00123 (0.00214)				0.00750** (0.00296)	
Year of Birth and 300kms				0.00679 (0.00974)			
300kms	-0.00308 (0.0945)	-0.00540 (0.0906)		-13.45 (19.22)	-0.113 (0.110)	-0.137 (0.108)	
100kms			-0.210* (0.0116)				-0.230 (0.195)
100-200kms			-0.0274 (0.132)				-0.0454 (0.145)
200-300kms			0.0215 (0.101)				-0.122 (0.101)
In utero to 18	0.00316** (0.00149)		0 .00293* (0.00165)		-0.00422** (0.00269)		-0.00390* (0.00198)
0 to 5		-0.00449 (0.00279)				-0.00428 (0.00289)	
6 to 11		-0.00418* (0.00219)				-0.00204 (0.00188)	
12 to 18		0.00106 (0.00136)				-0.00235* (0.00136)	
Year of Birth				-0.0134 (0.0273)			
N	51312	51312	51312	19049	27987	27987	27987
R^2	0.238	0.238	0.238	0.243	0.153	0.156	0.155

Notes: Heteroskedastic and autocorrelation consistent Conley standard errors are in parentheses. ***,** and * denote statistical significance at the 1, 5 and 10 per cent levels respectively.

Table 6 shows the results for the couples sample. The dependent variables are the female reported violent and control indices. For incidents of IPV, there is suggestive evidence that childhood exposure to the war for males caused them to perpetrate IPV. The coefficient on individuals exposed to the war between in utero to 18 is positive and statistically significant at the 10 per cent level. Equally, those exposed to the war in adolescence (12–18) are more likely to perpetrate IPV compared to other periods in childhood. This result is statistically significant at the 5 per cent level. Full exposure to the war in adolescence (25 months) increases the violence index by 0.225. The SD of the violence index is 0.997, implying that adolescent exposure to the war increases the violence index by 0.226 SD, which is a significant effect. In columns (3) and (4), I test controlling behaviours. Similar to incidents of IPV, there is suggestive evidence that childhood exposure to the war increased control issues among males. The coefficient of interest for all childhood exposure is positive and statistically significant at the 5 per cent level. Full childhood exposure to the war increases the control index by 0.260. Given the SD of the control index is 1.232, this implies that childhood exposure to the war increases the control index by 0.211 SD. Equally, adolescents exposed to war exhibit more controlling behaviours. However, this is only statistically significant at the 10 per cent level.

The finding for male exposure to war and perpetrating IPV is similar to La Mattina et al. (2017), yet, these authors found the critical period was between 0–5 rather than adolescence. The results in table 6 contrast to Pandey (2020), who finds childhood exposure to war for males reduces the likelihood of them perpetrating IPV and no relationship between childhood exposure to armed conflict for males and controlling behaviours. The results in table 6 confirm the justification in the conceptual background for a positive causal relationship between male childhood exposure to armed conflict and them perpetrating IPV.

Table 6: Violence and Control Indices

	(1) Violence	(2) Violence	(3) Control	(4) Control
In utero to 18 and 300kms	0.00484*		0.0104**	
	(0.00250)		(0.00504)	
In utero to 5 and 300kms		-0.00284		0.0217
		(0.00393)		(0.0190)
6 to 11 and 300kms		-0.00330		0.00144
		(0.00311)		(0.00680)
12 to 18 and 300kms		0.00901**		0.00950*
		(0.00361)		(0.00490)
300 kms	-0.146**	-0.144**	-0.304***	-0.271***
	(0.0727)	(0.0730)	(0.104)	(0.104)
In utero to 18	0.000664		0.00297	
	(0.00269)		(0.00290)	
In utero to 5		-0.00673		-0.00461
		(0.00615)		(0.00748)
6 to 11		-0.00135		0.00526
		(0.00510)		(0.00446)
12 to 18		-0.000607		0.00300
		(0.00285)		(0.00382)
N	2435	2435	2435	2435
R^2	0.036	0.038	0.040	0.041

Notes: Heteroskedastic and autocorrelation consistent Conley standard errors are in parentheses. ***,** and * denote statistical significance at the 1, 5 and 10 per cent levels respectively.

5 Robustness Check

A potential issue with the analysis is endogenous migration, which is the bias created by individuals moving away from areas near the war. As explained in section 3.1, I measure distance by the location of an individual's survey cluster at the time of the survey, and I assume that corresponds to the individual's location during the war. Given the large number of internally displaced persons caused by the war, it is likely this is not the distance of the individual from the war (IDMC, 2007). I may have endogenous migration where the control group would consist of individuals who had childhood exposure to the war, which would bias the results. I am unsure of the direction of the

bias as there are plausible explanations for either side. It is possible that individuals who were most affected by the war (in terms of emotional skills) migrated, which would bias the results downwards. Alternatively, individuals who resided in a conflict zone and were not adversely affected were able to migrate. Hence, the results are biased upwards.

The DHS does not directly measure an individual's location during the war. However, the DHS records the number of years an individual has lived in their current residence. Hence, I employ two robustness checks. First, I create a dummy variable ("$Migrated_{ijt}$") which equals one if an individual changed residences between 1998 to 2002[13]. Note, this is *any* change in residence not just those migrating away from war zones. I then regress this variable using equation (1). Table 8 displays these results.

Table 7: Results for migration as an outcome

	Females (1) Migrated	Males (2) Migrated	Couples (3) Migrated
In utero to 18 and 300kms	-0.00147*	-0.00103**	0.000249
	(0.000751)	(0.000469)	(0.00121)
300kms	0.0223	-0.00454	-0.0177
	(0.0152)	(0.00882)	(0.0346)
In utero to 18	0.00233***	-0.000109	-0.00242**
	(0.000230)	(0.000224)	(0.000985)
N	36819	15980	2435
R^2	0.051	0.055	0.030

Notes: Heteroskedastic and autocorrelation consistent Conley standard errors are in parentheses. The sample sizes are smaller as the DHS did not record an individual's years lived in their current residence during the 2011 wave. ***,** and * denote statistical significance at the 1, 5 and 10 per cent levels respectively.

The results indicate that for the couples samples, childhood exposure to the war did not make them change locations between 1998 to 2002. For the male and female samples, childhood exposure to the war made them more likely to stay in the same location. I then employ a robustness check similar to that in Akresh et al. (2014). I reclassify any individual who moved during 1998-2002 as having lived within 300kms of a conflict site. This provides an upper bound for the estimates free

[13]I am assuming all migration due to the war occurred during this period, which is consistent with the internal displacement data (IDMC, 2007).

of bias from endogenous migration. This robustness check potentially includes individuals who had no childhood exposure to war in the treatment group.

Table 8: Results for outcomes with Robustness Check

	Females		Males		Couples			
	(1) Attitudes	(2) Attitudes	(3) Attitudes	(4) Attitudes	(5) Violence	(6) Violence	(7) Control	(8) Control
In utero to 18 and 300kms	0.00182		0.0101***		0.00599*		0.00798	
	(0.00202)		(0.00241)		(0.00310)		(0.00521)	
In utero and 300kms		-0.0174		0.0771***				
		(0.0131)		(0.0157)				
In utero to 5 and 300kms						-0.000138		0.0199
						(0.00515)		(0.0187)
0 to 5 and 300kms		-0.00367		0.0162***				
		(0.00298)		(0.00377)				
6 to 11 and 300kms		0.00322		0.00753**		-0.00377		-0.00122
		(0.00249)		(0.00300)		(0.00346)		(0.00745)
12 to 18 and 300kms		0.00259		0.00735***		0.00974***		0.00754
		(0.00184)		(0.00265)		(0.00332)		(0.00540)
300kms	0.0749	0.0685	-0.110	-0.121	-0.0752	-0.0690	-0.0936	-0.0606
	(0.0662)	(0.0591)	(0.0760)	(0.0747)	(0.0714)	(0.0676)	(0.0978)	(0.103)
In utero to 18	0.00250		-0.00454**		0.0000854		0.00290	
	(0.00203)		(0.00114)		(0.00276)		(0.00301)	
In utero		-0.0104		-0.0142				
		(0.00872)		(0.00924)				
In utero to 5						-0.00713		-0.00462
						(0.00597)		(0.00745)
0 to 5		-0.00465		-0.000565				
		(0.00288)		(0.00289)				
6 to 11		-0.00433**		-0.00196		-0.00138		0.00535
		(0.00219)		(0.00191)		(0.00502)		(0.00443)
12 to 18		0.000475		-0.00263*		-0.00114		0.00283
		(0.00141)		(0.00137)		(0.00280)		(0.00404)
N	51245	51245	27884	27884	2435	2435	2435	2435
R^2	0.238	0.238	0.153	0.156	0.036	0.038	0.039	0.040

Notes: Heteroskedastic and autocorrelation consistent Conley standard errors are in parentheses. I use specifications (1) and (3). I include the 2011 wave but do not reclassify individuals. The samples are slightly smaller due to missing observations for years lived in current residence in the 2000, 2005 and 2016 waves. ***,** and * denote statistical significance at the 1, 5 and 10 per cent levels respectively.

6 Mechanisms

This section examines potential mechanisms that may explain the results of the analysis[14]. I conduct this analysis by changing the outcome variable to a mechanism. For simplicity, I only use specification (2). These mechanisms provide suggestive evidence for theories of why childhood exposure to war affects IPV. For these regressions, the outcome variables are all male reported and they are the DHS wealth index, years of education and a dummy variable for unemployment.

Table 9 columns (1) to (3) show the analysis of mechanisms for the change in male attitudes. Many of the coefficients of interest do not align with the empirical literature on the effect of childhood exposure to war on educational and economic outcomes. For example, adolescent exposure had positive and statistically significant effects on wealth and education. Ethiopia's Free Primary Education policy in 1994, which occurred close in time to the war, may explain these results. This policy significantly affected areas near the conflict as these areas had lower levels of education relative to those areas far from the conflict (Chicoine, 2020). Hence, the estimates identify the effect of childhood exposure to both events on education and economic outcomes, which is why we do not see results that align with the literature. This analysis suggests that economic and education outcomes are not driving the relationship between male childhood exposure to the war and their attitudes towards IPV. Instead, there must be other mechanisms (e.g. toxic stress and social learning theory) that I cannot directly observe, which are driving this relationship.

Table 9 columns (4) to (7) show the analysis of mechanisms for the couples sample. Similarly, the effect of Ethiopia's Free Primary Education policy may affect the results. However, note that adolescent exposure to the war raised male unemployment in this sample. Adolescents were more likely to perpetrate IPV as a result of childhood exposure. If unemployment implies that a man spends more time at home with his wife/partner, this relates to the exposure theory of violence where the more time couples spend together, the more likely IPV will occur (Angelucci and Heath, 2020). Thus, unemployment is a potential mechanism explaining the effect of childhood exposure to the war on IPV. Also, note the positive and statistically significant coefficient for adolescent

[14] I do not look at mechanisms for the female attitudes sample as I found no statistically significant results.

exposure to war and the attitudes index, implying the strong positive association between attitudes towards IPV and perpetrating IPV.

Table 9: Mechanisms

	Males			Couples			
	(1) Wealth	(2) Education	(3) Unemployed	(4) Wealth	(5) Education	(6) Unemployed	(7) Attitudes
In utero and 300kms	-0.00916	0.137***	0.00103				
	(0.00718)	(0.0375)	(0.00751)				
In utero to 5 and 300kms				-0.00883	0.0238	-0.000221	0.0414*
				(0.00752)	(0.0560)	(0.00321)	(0.0215)
0 to 5 and 300kms	-0.00335*	0.0190	-0.00367*				
	(0.00188)	(0.0135)	(0.00190)				
6 to 11 and 300kms	0.000698	0.00119	-0.00338**	0.0123**	0.0153	-0.00100	-0.00284
	(0.00251)	(0.0132)	(0.00157)	(0.00504)	(0.0205)	(0.00128)	(0.00682)
12 to 18 and 300kms	0.00523**	0.0259***	-0.000319	0.0194***	0.00501	0.00404**	0.0201***
	(0.00212)	(0.00933)	(0.000910)	(0.00633)	(0.0161)	(0.00182)	(0.00649)
300kms	-0.480***	-0.689***	0.0332*	-0.955***	-0.265	-0.0481*	0.180
	(0.139)	(0.221)	(0.0200)	(0.221)	(0.244)	(0.0276)	(0.166)
In utero	0.00901	-0.0650**	0.0245***				
	(0.00562)	(0.0255)	(0.00472)				
In utero to 5				-0.0161**	-0.00396	0.00261	-0.00692
				(0.00791)	(0.0308)	(0.00167)	(0.00887)
0 to 5	0.00213	0.0278***	0.00361***				
	(0.00187)	(0.00902)	(0.00113)				
6 to 11	0.00242*	0.0531***	0.00131	-0.00674	0.0361**	0.000975	-0.000862
	(0.00125)	(0.00904)	(0.00153)	(0.00451)	(0.0183)	(0.000684)	(0.00450)
12 to 18	-0.000308	0.0271***	-0.000493	-0.00648***	0.0113	0.000106	-0.00775**
	(0.000935)	(0.00523)	(0.000982)	(0.00245)	(0.0114)	(0.000400)	(0.00378)
N	27987	27987	27987	2435	2435	2435	2435
R^2	0.554	0.378	0.181	0.490	0.341	0.137	0.084

Notes: Heteroskedastic and autocorrelation consistent Conley standard errors are in parentheses. ***,** and * denote statistical significance at the 1, 5 and 10 per cent levels respectively.

7 Limitations

Distance from the conflict sites of Badme, Bure and Tsorona-Zalambessa as a measure of conflict exposure has some potential issues. First, the control group possibly had exposure to the conflict

via the conflict's economic damage. Even though the economic damage was larger in areas near the conflict, as evidenced by the immense cost of loss of property and looting, all of Ethiopia suffered economic consequences (AAU, 2012). Therefore, the measure of distance may bias the results downwards from the true effect of childhood exposure to the war on IPV. Equally, distance from these border towns arguably does not capture the *true* exposure to conflict causing further bias. Although the war mainly occurred in these towns, there were small instances of fighting outside these towns (e.g. the bombing of Mekele). There was also variation in intensity between the towns; the most intense fighting occurred in Badme (Murphy, 2016). I chose distance as the measure of exposure to conflict as I did not have access to other data. Akresh et al. (2014) uses data from the Norwegian Refugee Council on Internally Displaced Persons (IDP's) and distance from the border towns. The proportion of IDP's to the population in a region in Ethiopia serves as his measure of conflict intensity. If I had access to this data, I would have repeated the analysis using this data and compared the results between the different measures of conflict exposure.

The attitudes index only covers physical violence and ignores emotional and sexual violence. Hence, it may not capture the complete picture of attitudes to IPV. For example, females exposed to conflict as a child are possibly more likely to tolerate *emotional* violence against them. This possibility may change the conclusion that childhood exposure to war does not affect female attitudes towards IPV. Additionally, the random displacement in the distance measurement is classical measurement error. The choice to measure discrete distance does alleviate the issue slightly. However, there is still the possibility of a survey cluster labelled as within 300kms is more than 300kms away due to random error, which will bias the results downwards. Finally, the 2011 wave of the DHS did not have data on migration. Hence, I could not reclassify individuals from this survey wave in the robustness check. If endogenous migration occurred for individuals from this wave, then this may change the robustness check's conclusions.

8 Conclusion

This paper examines how childhood exposure to the Eritrean–Ethiopian War affected IPV against women in Ethiopia. The findings show that males exposed in childhood to the war are more likely

to have attitudes that justify IPV against their partner. Males with full exposure to the war in adolescence are more likely to perpetrate IPV by 0.226 SD. I find no evidence that childhood exposure to the war makes women more likely to tolerate IPV against themselves.

This paper adds to a growing evidence base on how exposure to armed conflict as a child has long-term consequences for IPV in adulthood. This research is relevant to policymakers. Garcia-Moreno et al. (2012) highlight the importance of policymakers identifying groups at risk of either being a victim or perpetrator of IPV and intervening early with policies like the 'Safe Dates' educational program in the USA. As armed conflict occurs in places like Syria, the findings of this paper imply that policymakers should consider policies that reduce the likelihood of conflict-affected males committing IPV.

There are two future research directions from the paper. First, the evidence base for how male exposure to armed conflict as a child affects the likelihood of them perpetrating IPV is insufficient. This relationship requires further interrogation. Second, researchers should examine contexts where they can exploit war and other sources of exogenous variation. Multiple sources of exogenous variation will allow authors to identify *actual* mechanisms for how childhood exposure to armed conflict affects IPV.

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