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The long echo of war. Early-life exposure to armed conflict and female experiences of intimate partner violence

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Abstract While there are reasons to expect a link between armed conflict and victimisation in intimate relationships, empirical evidence on the association is scant and rarely considers the age at exposure to war. This paper examines the legacy of experiencing armed violence in developmental ages on women’s later risk of intimate partner violence (IPV) in four ex-Soviet countries (Armenia, Azerbaijan, Moldova, Tajikistan). I combine cross-national data on IPV from the Demographic and Health Survey and geo-referenced information from the Uppsala Conflict Data Program, and compare the IPV outcomes of cohorts who were exposed to conflict before the end of their teens with same-age non-exposed and older cohorts. Findings show that war in young ages is associated with greater risk of experiencing IPV later in life. Exposure in childhood ages (0-10) matters the most, and is particularly related to suffering physical forms of IPV. Results hold for both lifetime and past- year domestic abuse, and are not driven by migration. I explore some pathways and find that, while attitudes towards IPV are not associated with early-age experience of conflict in women, men exposed to war in late adolescence (16-19) are more likely to condone violence against female partners. Normalisation of the use of violence in future potential perpetrators rather than desensitisation to abuse in victims appears as one plausible mechanism through which armed conflict can have lasting consequences on intimate relationship quality.

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Introduction

The individual and social costs associated with experiencing violence from armed conflict and in intimate relationships¹ are well-established (Ghobarah et al. 2013; Devries et al. 2013). As for war, the consequences are known to be particularly profound when conflict stressors occur in developmental ages, with girls and boys suffering harm that often persists long after fighting has ceased (Kadir et al. 2019; Krug et al. 2002). The sequelae of intimate partner violence (IPV) are equally widespread and extend beyond the health and well-being of victims to communities and future generations (Heise and Garcia-Moreno 2002).

Ample research on the determinants of IPV relates early-life experiences of certain kinds of violence, such as within the family, in schools and neighbourhoods, to victimisation in adult romantic unions (Bandura 1977; Widom 1989). War is arguably the most pervasive and disruptive form of violence (Kelly et al. 2021), and yet this literature has paid little attention to whether experiences of domestic abuse are linked to early-age exposure to conflict violence. Equally, when it comes to the scholarship on armed and domestic violence, the focus has been on military personnel returned from deployment, and thus mainly on men and perpetration (Galovski and Lyons 2004; Taft et al. 2011). This consistently finds a higher rate of IPV perpetration among male soldiers and suggests several driving channels, including psychological stress, substance abuse, and normalisation of violence as a conflict resolution strategy (Cesur and Sabia 2016; Kwan et al. 2020).

Only a handful studies have focused on civilian populations and on female victims. These document that high levels of armed violence correlate with increasing IPV rates, with some studies even indicating domestic abuse as the most prevalent form of gender-based violence in conflict settings (Clark et al. 2010; Kelly et al. 2018; La Mattina 2017; Noe and Rieckmann 2013; Østby 2016; 2015; Swaine 2015; Stark and Ager 2011). Such findings are greatly informative in that they suggest a transmission of violence across social spaces, from outside to inside home, in war zones. Crucially, they spotlight the most vulnerable, i.e., the many women at risk of double-victimisation. However, most of these analyses show the simultaneous occurrence of both forms of violence or, at best, early post-war period correlations. Rarely they consider the ages at conflict exposure, thereby overlooking the significance of early-life circumstances for adult outcomes. This also means that they cannot ascertain whether the relationship effectively holds long-term.

To date, only two unpublished studies sought to link young-age war exposure with IPV victimisation (Gutierrez and Gallegos 2016; La Mattina and Shemyakina 2017). This study builds on and advances these scholar endeavours. Specifically, I provide the first systematic examination of the relationship between conflict exposure in ‘sensitive’ ages and women’s adult IPV risk, by exploiting the armed conflicts that occurred soon after the USSR dissolution in Armenia, Azerbaijan, Moldova, and Tajikistan. The rampant IPV levels and deficits in related legislations in these countries have been frequently flagged up in human rights reports and indicators (Amnesty International 2008, 2009; Human Rights Watch (HRW) 2019), and yet detailed research

¹ Intimate partner violence is defined as “any behaviour within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship” (WHO 2000: p.89). I use the term interchangeably with domestic violence and spousal abuse and only consider male-to-female interpersonal violence.

on IPV here remains scarce, especially in its links with war violence. This makes their study relevant *per se*. Importantly, their populations shared the same pre-independence institutional background, a social-value system that, at least in principle, promoted some degree of gender equality, and a similar conflict history, which affected the same cohorts. Their selection is thus also meaningful as it helps advance prior studies on the relationship, which either provided deep, yet context-specific insights (Gutierrez and Gallegos' (2016) case-study on Peru) or evaluated it with cross-national data on settings with diverse backgrounds, conflict typologies, affected cohorts and relatively loose conflict indicators, with the risk of oversimplifying a good amount of heterogeneity (La Mattina and Shemyakina's (2017) on sub-Saharan Africa). Relatedly, these countries provide high-quality and comparable data to construct narrower and more precise conflict measures than previous analyses, and allow me to further contribute by offering suggestive insights on the mechanisms, including changes in attitudes towards IPV in both potential victims and perpetrators early exposed to war.

I combine cross-country data on IPV from the Demographic and Health Survey and geo-referenced information on armed conflict from the Uppsala Conflict Data Program. Exploiting cohort and geographic variation in war exposure, I find that women exposed to conflict in early childhood (ages 0-10) have a higher IPV risk as compared to those never exposed and non-exposed at those ages, particularly of suffering physical and sexual abuse from partners. Results are equivalent for lifetime and past-year IPV, suggesting that the imprints left by conflict may not lessen much over time. They are also robust to several checks and are not driven by select migration.

I examine conflict-related changes in marriage market conditions (education, marriage timing, spousal age difference) and attitudes towards IPV as plausible mechanisms. The first do not help explaining the results. Equally, I do not find higher tolerance of IPV in women exposed to war in childhood, and thus evidence of a desensitisation to abuse in possible victims. Conversely, war correlates significantly with views condoning IPV in men experiencing armed violence in their late teens (16-19). Since IPV is an inherently relational event, I interpret this finding as suggesting that early-age conflict exposure may have normalised the use of violence in future potential perpetrators, making them more lenient towards violence against their partners.

This study adds to theoretical knowledge on the long-term consequences of war on individuals and society at large, which so far overlooked implications for the quality of private relations and for gender attitude formation. It further expands our understanding on the transmissibility of violence over the lifecourse and levels of the social realm. Results are also policy-relevant: they point at conflict as a likely determinant of the high IPV rates in these fragile contexts, and suggest that interventions targeting very young girls and adolescent boys exposed to war can be promising to interrupt cycles of violence.

Conceptual background

Armed violence and IPV: What relationship?

Exposure to war has been related to later violence in intimate relationships. Yet, evidence mostly comes from studies on combatants returned from deployment, and hence focuses on future perpetration and on men, who

are more likely to both serve in armies and commit violent acts against their partners (Galovski and Lyons 2004; Taft et al. 2011). Research on civilian populations (which may include some ex-soldiers) and victimisation is scarcer, though increasingly studies show a positive correlation between levels of armed and domestic violence in several conflict and post-conflict settings (Clark et al. 2010; Ekhtor-Mobayode et al. 2020; Kelly et al. 2018; La Mattina 2017; Noe and Rieckmann 2013; Østby 2016; Saile et al. 2013).

This emergent line of scholarship has the merit of having drawn attention to civilian women and to their risk of double-victimisation – the first due to exposure to conflict and the second to abuse within the home during/after war. Moreover, it offers supporting evidence on the *transmissibility* of violence across social spaces and on its “trickle-down” effects from outside to inside home (Dubow et al. 2009; Kelly et al. 2021). Essentially though, most of these studies capture the co-occurrence of both forms of violence or post-war period correlations. Relatedly, due to their designs and focus on establishing a general association, they tend to not consider the age at conflict exposure and, therefore the lifecourse aspect of violence transmission.

The age at exposure to violence is, though, particularly salient when it comes to IPV. Voluminous literature indicates childhood and adolescence experience of various forms of violence other than war – including violence in the parental house, in schools, neighbourhoods, or local communities – as harbingers of ‘cycles of violence’ and as strong determinants of one’s future risk of IPV victimisation and/or perpetration (Widom 1989; Coker et al. 2000; VanderEnde et al. 2012). As armed conflict is ostensibly the most pervasive form of violence, there are theoretical reasons to expect war exposure in early-life to have at least similar long-term consequences for IPV outcomes (Dubow 2013).

Until now, only two studies have approached the question on the relationship between armed conflict and domestic victimisation considering the ages at war exposure. Focusing on the case of Peru, Gallegos and Gutierrez (2016) found that women who resided in conflict-affected areas when aged 0-16 had an elevated risk of domestic victimisation in later life as compared to those who were not exposed to conflict violence. La Mattina and Shemyakina (2017) pool data from sub-Saharan Africa and use a broad definition of conflict at regional-level to document higher adult IPV rates for women who lived in war-torn regions between ages 6-10. This consistency in findings provides small, but valuable indications on the concurrent transmissibility of violence over the lifecourse and social realms, and on the relationship we can expect elsewhere.

What may explain the link?

Many possible interrelated pathways may explain why conflict violence experienced in early-ages could have implications for later victimisation in the domestic realm (Heise 1998). First, armed conflict in early-ages may increase known individual-level IPV predictors (Gibbs et al. 2020). Wars expose girls to a myriad of stressors either as witnesses, perpetrators and/or victims. These experiences often leave scars on mental health and cause lasting post-traumatic stress that may elevate one’s future risk of IPV via re-experiencing and emotional numbing (Kadir et al. 2019; Kuijpers et al. 2012; Jewkes et al. 2017), as well as by prompting maladaptive coping mechanisms, e.g., alcohol and substance misuse (Lo et al. 2017; Brecklin 2002). These hazardous health behaviours are known risk factors for violence perpetration (Foran and O’Leary 2008), but can also increase

vulnerability to victimisation² due, for example, to impaired cognition, weakened capacity to distinguish dangerous situations or greater likelihood of finding partners with similar consumption patterns (Centers for Disease Control (CDC) 2010; Nowotny and Graves 2011; Testa and Livingstone 2009). Armed violence also worsens girls' educational outcomes due to infrastructure disruption and security concerns (Kadir et al. 2019). Resultant reduced education can have negative effects on knowledge and attitude formation, and eventually on experiences of domestic abuse (Heise and Garcia-Moreno 2002).

Since IPV is intrinsically a relational event, similar factors are likely magnified at the couple-level and influenced by the community characteristics where unions are formed (Behrman and Frye 2021). For instance, if conflict-related education losses or mortality in a community hit boys hardest, this may generate a "surplus" of women facing a smaller group of prospective grooms of equivalent age/education and greater competition in the marriage market. Imbalances in sex-ratio and/or educational attainment of this kind may elicit early marriages and reduce match quality through wider age/educational disparities in the couple, which are well-established predictors of lower female intra-household bargaining power, partners' controlling behaviour, marital discord and, ultimately, IPV (Aizer 2010; La Mattina 2017; Ackerson et al. 2008).

The extent to which the above mechanisms unfold eventually relates to how armed conflict shapes the broader social environment (Betancourt 2012). The long-term erosion of kinship structures and social networks, the deterioration of health infrastructures and judiciary systems that could otherwise deter interpersonal violence can increase women's vulnerability (Kelly et al. 2018). Conflict may herald entrenched poverty, high and enduring levels of unemployment, which have been linked to greater risk of interpersonal victimisation (Schneider et al. 2016). When conflict induces structural changes in traditional gender norms, violence may also be utilised within the home by men as a way to respond to perceived power asymmetries in the society (Stryker and Macke 1978; Horn et al. 2014).

A last macro-level avenue bridging conflict and spousal violence springs from increased legitimisation of the use of violence in the society. According to *cultural spillover theory*, the more a society culturally endorses the use of force to attain its goals, the more it blurs the boundaries between legitimate/illegitimate actions, and allows violence to be justified in spheres of life where it would commonly be considered inappropriate, including the domestic realm (Baron et al. 1988; Straus 1991). Therefore, systematic exposure to armed violence could alter the normative view of (in)opportune social behaviour, triggering 'cultures of violence' where force is tolerated as a legitimate way to solve private problems (Jewkes 2002). This legitimisation process can be expected particularly when armed conflict is experienced in crucial ages of physical and emotional development like childhood and adolescence if, as *social learning theory* posits, violence is a learned behaviour: once experimented in early-life (either as a victim or witness), violence is often carried onto adulthood and internalised as the conventional way to solve disputes, even within private relationships (Bandura 1977; Cappel and Heiner 1990; Pollak 2004). As such, when violence is experimented early, its

² In citing this specific mechanism, in no way I wish to take the blame away from perpetrators nor do I insinuate that victims are at fault for their victimisation.

legitimation can later manifest itself in two ways: via a ‘*normalisation*’, which makes aggression an adaptive behaviour and a standard resolution practice for perpetrators (Dodge et al. 1990; Dubow 2013) or, for victims through a process of ‘*desensitisation*’ to abuse – a form non-associative learning that decreases reaction to a stimulus after repeated exposure – that rises vulnerability to re-victimisation (Noe and Rieckmann 2013).

Overall, given the scant empirical evidence on the relationship, I first aim to determine as neatly as possible if early-age conflict exposure is actually associated with women’s later IPV victimisation. Then only, I seek to provide suggestive insights on the drivers of this vicious ‘cycle’. Though assessing all the above channels is not possible, I examine some, including normative views of IPV in both conflict-exposed women and men, to identify entry points for intervention.

The contexts

Intimate partner violence in former Soviet conflict-torn countries

Research on the prevalence and correlates of IPV in the former Soviet bloc is scarce, particularly in countries marred by post-independence wars. This lack of attention is likely due to a limited data and cultural factors, including tensions between patriarchal values and the Soviet equalising ideals, and a popular understanding of IPV as a private matter (Ismayilova 2015; UNFPA 2015).

Nonetheless, evidence from international agencies and research institutions suggests that IPV represents a serious concern in these countries. Regional research, for instance, indicates that more than a quarter of women in post-Soviet Eurasia report having experienced violence from partners at some point in life (Devries et al. 2013). The rare existing national-level studies in the four conflict-affected countries in the area show comparable values for Armenia, and slightly higher estimates (about one third) for Azerbaijan and Moldova (CDC 2003; Ismayilova and El-Bassel 2013; UN Women 2016). In Tajikistan, the issue appears especially severe, with reportedly more than half of ever-partnered women experiencing some form of domestic abuse during the lifetime (Amnesty International 2009). Alarming as these estimates appear, they likely represent a fraction of the real extent of IPV in these settings and their precursors, including conflict violence, are still under-researched (UNFPA 2015).

Armed conflicts in the post-Soviet space

The disintegration of the USSR led to the establishment of successor states often characterised by fluid borderlands and substantial ethno-linguistic diversity that in three cases unleashed long-suppressed hostility.

The first major conflict emerged between Azerbaijan and Armenia over Nagorno-Karabakh, a mountainous region officially recognised as part of the former, but which the latter considers an Armenian historical area of residence (UN Security Council 1993a-d). The full-blown conflict began in 1992, when the separatist region proclaimed independence from Azerbaijan with Armenian support (HRW 1992, 1994). An open-ended ceasefire was agreed in 1994, resulting in a *de facto* jurisdiction, the Republic of Karabakh (or Artsakh), and in mutual intermittent intimidations still featuring the bilateral relationship between the countries.

A comparable separatist logic triggered the conflict between Moldova and the Russian-speaking enclave of Transnistria. Following the Soviet dissolution, the Moldovan government declared Romanian as the official state language to promote Romanian identity and break with its Soviet past (Roper 2001). Slavic and Russian-speaking groups in Transnistria opposed these initiatives, fearing loss of socio-cultural rights. Initial disagreement translated into a short, but tense civil conflict in 1992, which ended with a ceasefire and the breakaway region's self-declared independence (CSCE-OSCE 1993).

The third major conflict erupted in Tajikistan. Here, an internecine struggle for state control between ethno-regional and clannish rival groups marred the country between 1992-1997 causing over 50,000 deaths and large population displacement (International Crisis Group 2001).

Though each individual conflict had its distinct dynamics in terms of deaths and violent events (Fig.A-2), all stemmed from the dysfunctionalities and collapse of the same socio-institutional background, erupted and peaked in the same years, leaving similar scars on the socialising behaviours of those affected (Lynch 2002).

Data and measures

IPV data and outcomes

Demographic and Health Surveys (DHS) are the primary data source for this study. These nationally representative surveys provide standardised information across years and countries on various demographic, health, and family indicators. Every woman aged 15-49 in households identified at the sampling stage is interviewed using a dedicated women's questionnaire. The surveys often add an IPV-focused module that is administered to one randomly selected ever-partnered (married) woman in each surveyed household by a trained field worker via in-person interview, and asks questions that are comparable across countries and over time (see Kishor and Johnson (2004) for a complete description). Here, I combine into one dataset all available cross-sectional DHS collecting IPV data in the four countries of interest, namely one each from Armenia (2015), Azerbaijan (2006) and Moldova (2005), and two from Tajikistan (2012 and 2017). The main sample comprises a total of 17,787 ever-partnered women who completed the IPV module. Nearly 45% comes from Tajikistan surveys (20% and 25%, respectively for 2012 and 2017), 21% from Moldova, 18% from Azerbaijan and 15% from Armenia (Table 1). Women born after the end of each conflict are excluded ($n=42$).

Alongside important background characteristics, all surveys ask selected women whether they have experienced various types of violent behaviours from their current (or most recent) partner, including psychological, physical, and sexual abuse, ever and in the 12-months preceding the interview (Table A-1 for detailed questions). I use these information to first assess the association in its widest manifestation (i.e., experienced conflict in early-age and ever-IPV). Then, to construct progressively narrower measures of IPV and to delve into the specificities. This approach mirrors that used in DHS reports, in the WHO multi-country study on IPV (Garcia-Moreno et al. 2006) and in available studies of the association between armed and domestic violence (e.g., La Mattina and Shemyakina 2017).

The first outcome is a binary variable for whether the woman reported having *ever* experienced any violent behaviour from her partner, and captures the broadest association between the two “ever” experiences of violence. I then create a second outcome variable for whether any episode of IPV occurred the year before the interview. This serves to examine whether the association holds also in the most recently available temporal interval, and as a check for recall bias on violence endured in the more distant past (Devries et al. 2013). I next build separate indicators for each form of lifetime abuse (physical, sexual, and psychological). The former two are of particular interest as considerably severe and damaging, and with more established connections to traumatic experiences of conflict violence (Straus et al. 2020).³ I examine each type of abuse also because evidence suggests that women may be less likely to self-identify as IPV victims when asked directly about lifetime events, but more open to disclosure when interrogated about specific violent acts from partners (Garcia-Moreno et al. 2006). Finally, as the IPV module asks women whether they experience controlling behaviours from their partners (e.g., not being allowed to see friends or family, being repeatedly asked where they are), I generate an additional outcome variable for whether the woman reported at least one controlling behaviour from her partner. This latter variable is intended as supplementary, and explores another aspect of relationship quality that might constrain women's lives.

Conflict data and indicators

To determine whether a respondent experienced armed violence, I primarily rely on conflict information from the Uppsala Conflict Data Program Georeferenced Event Dataset (UCDP-GED). This is high-quality public dataset providing spatio-temporal coordinates on conflict events and casualties worldwide (Croicu and Sundberg 2015).

To identify spatial areas affected by violence, I mapped recorded conflict events between January 1992 and the official end/ceasefire of every conflict within the administrative boundaries of each country using UCDP-GED point coordinates (Fig.A-2). I then created circles (“buffers”) centred at the latitude/longitude of all conflict events to determine a “catchment” area for each event. Given the small sizes of the studied countries, the radius for each buffer is set to 15km. Next, for the DHS providing GPS data (Armenia, Moldova, and Tajikistan), I projected survey cluster locations on the same map and geographically joined them with conflict buffers (Fig.1). This allows me to identify women in survey clusters intersecting or contained in the “catchment” radius area of conflict events. I define them as affected by armed violence.

The procedure differs for Azerbaijan as its DHS is not geocoded.⁴ Yet, a strength of this survey is that it offers special conflict-sensitive questions that allow identifying women affected by violence, their location and age when that occurred. Specifically, the survey provides information on the status of refugee from Armenia or of internally displaced person (IDP) from Nagorno-Karabakh of each household member, his/her origin district

³ It is here worth stressing that in no way I seek to rank or classify abuses, nor do I underestimate the harm of non-physical assaults. For this reason, regressions examine psychological violence (and partners’ controlling behaviour) in its own right.

⁴ This survey excluded the Nakhichevan exclave, and the Kelbajar and Lachin districts in Karabakh for security concerns. In 2006, the latter two were populated by Armenians only and the total population of ever-married women aged 15-49 was 43,742 (National Statistical Service of Nagorno-Karabakh 2006).

if displaced from the disputed territories, and the duration of stay in the current place of residence. In the absence of GIS data, I use this set of variables to identify women affected by the conflict either because they lived in conflict-affected zones in Armenia, districts in Nagorno-Karabakh (forced to flee as a result) or because they resided since 1991 (i.e., before conflict onset) in the Eastern parts of the contested districts of Agdam, Fizuli and Terter.⁵ As a direct indicator of conflict exposure (and rare to come by in survey data), reported IDP/refugee status is the most suitable alternative to absent spatial data. Further, the small geographical size of Agdam (1.150km²), Fizuli (1.390km²) and Terter (957km²) districts makes conflict exposure measured in terms of residence since 1991 comparable to a 15km buffer (Fig.A-3).

Empirical strategy

To study the relationship between early-life experiences of armed violence and later IPV, I first estimate the following linear probability model, exploiting spatial and cohort variation in conflict exposure:

$$Y_{iksd} = \alpha + \beta_a \text{Conflict}_{ksdca} + \theta' X_{iksd} + \gamma_k + \delta_d + \varphi_c + \varepsilon_{iksd} \quad (1)$$

where Y_{iksd} is an outcome (e.g., lifetime, past-year IPV) for respondent i born in year k living in cluster s in district d in country c . Conflict_{ksdca} is a dichotomous indicator taking the value of 1 if cluster s in district d in country c was affected by war (fell/intersected with a conflict event catchment “area”) when a respondent born in year k was of age a . This for Armenia, Moldova, and Tajikistan. For Azerbaijan, it takes the value of 1 for women born in year k who, when aged a , were in Nagorno-Karabakh, in Armenia (then forced to flee), and lived in the partially contested districts (Agdam, Fizuli, Terter) since before conflict.

Informed by the literature on child development and adaptation and following international definitions (Jonkman 2006; Johnson et al. 2009; Clark et al. 2020), I identify three critical age-periods for exposure to conflict: childhood (0-10), early adolescence (11-15) and late teen-ages (16-19). In this first specification, I combine them together into a single variable so that the coefficient β_a measures the broad relationship between being exposed to war before age 20 on the outcomes as compared to not being exposed, either ever or by age 19. The focus is thus on the specific IPV trajectories of women who, above the regime transition, grew up additionally affected by war. The term X_{iksd} is a vector of individual-level controls, including respondents’ educational level (attained the compulsory 9-years cut-off or not), urban/rural residence, employment status, total number of children, age at first union, age difference with partner. It further includes a variable for violent family history measuring whether the woman’s father ever battered her mother, or whether she herself was beaten by him after age 15 and a binary indicator for partner’s alcohol use (Ismayilova 2015). As some may be argued to be “bad controls”, that is be themselves outcomes to the treatment (Angrist and Pischke 2008), I first exclude these variables and add them only subsequently to improve precision and examine their specific association with IPV. I denote with γ_k , δ_d and φ_c birth-year, district, and country dummies. Each serves to

⁵ Note that after the 1994 ceasefire, only the Eastern segments of Agdam, Fizuli and Terter remained under Azerbaijan’s jurisdiction as parts of what, in Azerbaijani language, is known as the Upper-Karabakh (Yuxarı-Qarabağ) region (UN Security Council 1993a-d). The remainder of these districts was controlled by Armenian-supported separatists as part of the *de facto* Republic of Nagorno-Karabakh/Artsakh.

control for all (time-invariant) unobservable factors at the cohort-, district- and country-level. In specific, γ_k helps controlling for the underlying trend in IPV due to belonging to a younger or older cohort. This might be affected by, for instance, general changes in societal values that may lead younger women to be less tolerant of spousal abuse (Arestoff and Djemai 2016). The other two account for time-invariant local conditions affecting IPV independent of conflict and common to women in the same districts/country.

Next, I delve into when in early-life conflict occurs using the following specification:

$$Y_{iksdc} = \alpha + \beta_1 Conflict0_{10}_{ksdc} + \beta_2 Conflict11_{15}_{ksdc} + \beta_3 Conflict16_{19}_{ksdc} + \theta' X_{iksdc} + \gamma_k + \delta_d + \varphi_c + \varepsilon_{iksdc} \quad (2)$$

Here the conflict dummies reflect the developmental age-periods identified above. Hence, the coefficients β attached to each dummy measure the associations between experiencing conflict in a specific life-stage (e.g., between 0-10) on the outcome compared to not being exposed, ever as well as at those particular ages. Some points are worth noting. First, this construction implies that for older (earlier) age-periods, the comparison group includes respondents exposed to war exclusively in earlier (older) periods. Hence, coefficients are on the conservative side. Second, age-periods are not mutually exclusive: a subject could have experienced conflict continuously between ages 0-15 or 11-19 (though not in all three life-stages given the duration of the conflicts). For instance, the age-period variables for childhood and early adolescence are both coded as 1 for a Tajik woman in a conflict-affected district who was 7 when the war started in 1992 because she was aged 12 at its end in 1997. Figure 2 allows to visualise the cohorts of interest, the relative proportions of those affected by war (at different ages) in each country sample, and the comparison groups. In the first specification, the comparison group includes all women ‘making-up’ the grey bars; in the second specification, for instance, the comparison group to those exposed to war between ages 0-10 (dark blue) comprises also women ‘making-up’ lighter-blue bars (except for respondents who due to their age at conflict onset/end fall into both the 0-10 and 11-15 age-group variables, as in the example of the Tajik woman above). To thoroughly tackle this aspect and investigate if exposure to war earlier in life moderates the association between exposure at older ages and the outcomes, I later also add an interaction term between the age-period conflict dummies.

In the absence of older survey waves to examine pre-conflict trends in IPV, I rely on within-cohort/within-district comparisons, controlling for known confounding factors. Finally, I am aware that the lack of full migration histories and information on place of birth raises concerns about selection bias due to endogenous migration. I address this issue in the robustness checks using a restricted sample of women who never migrated since the onset of conflicts. As additional checks, I limit the sample to women married after 1991, explore alternative age cut-offs and spatial buffers, estimate country-specific models and models that progressively exclude countries. I use weights for selection in the IPV module following survey weights re-scaling and robust standard errors clustered at the district-level, the lowest unit available in all surveys (Bertrand et al. 2004).

Results

Descriptive results

Table 1 shows summary statistics for the pooled and country-specific samples of women completing the IPV modules. Overall, about 22% of respondents report having ever experienced at least one form of IPV during the lifetime and 19% in the 12-months prior to the interview. Rates are lowest in Armenia (around 10% and 6%), and highest Moldova and Tajikistan (both above 20%). In Tajikistan, rates increased over time. The cross-country similarity in lifetime and past-year IPV suggests that most women who ever experienced IPV were (also) victimised the year before the survey. Forms of physical violence are generally the most frequently declared, yet only 2% of respondents in the pooled sample reported sexual abuse. Partners' controlling behaviour appears particularly common, with most women (over 71% in pooled sample) experiencing at least one form of control.

As for conflict, about 34% of respondents in the pooled sample experienced armed violence at some point in their lives. 26% before age 20. Around 17% was exposed in childhood (0-10), nearly 11% between 11-15 and 9% at ages 16-19. As Fig.3 showed, Tajikistan has the highest proportion of women affected by war, with over half experiencing it by age 19. Here, the majority experienced conflict in childhood, whereas Azerbaijan has the opposite trend with most women affected by conflict in adolescent ages. Young-age exposure to war is lowest in Moldova, where only about 2% experienced conflict in either childhood or adolescence.

As per other characteristics, about 19% of women report having a violent father and 44% a partner drinking alcohol. On average, women married in their early 20s, mainly reside in rural areas and have at least 9 years of schooling. Most respondents were unemployed and 5 or less years younger than partners (Table A-2).

Moving to the bivariate associations between the main variables of interest, two points seem particularly salient (Table 2). First, women exposed to conflict by age 19 generally report higher rates of domestic abuse (and related condoning attitudes) than those not exposed at corresponding ages, or ever. For instance, about 27% of women exposed in early childhood (0-10) or adolescence (11-15) report having ever experienced IPV (correspondingly, 73% do not) as compared to 21% of those living in more peaceful conditions. Differences are particularly evident for physical violence and controlling behaviour, but not for sexual or psychological violence. Second, associations appear stronger and differences wider the younger the age at conflict exposure. The weaker associations between most IPV outcomes and exposure at older ages may be due to the comparison group, which includes women exposed only in childhood. Nevertheless, there seems to be a pattern of early childhood war exposure linked to greater future victimisation, particularly physical, from partners. The next section examines the relationship with regression models.

Estimation results

Table 3 reports the results of linear models for exposure to conflict by age 19, whereas Table 4 presents estimates of models with age-periods dummies. In both Tables, the first two columns show the baseline model for lifetime IPV, controlling for country (Col.1), district and birth-year dummies (Col.2) only. Column 3

reports fully-adjusted estimates. Columns 4-7 detail the specific relationship with each form of violence and with controlling behaviour from partners. The last column examines past-year IPV.

Results indicate a significant positive association between exposure to conflict before age 20 and women's probability of later victimisation from partners (Table 3). When I disentangle the relationship by key developmental ages, I find that the link is essentially driven by exposure in early childhood (0-10). Specifically, experiencing war before age 11 increases the likelihood of lifetime (Table 4, Col.3) and past-year (Col.8) victimisation by 7 and 5 percentage points, respectively. Though these may appear minor impacts at first, they are equivalent to a nontrivial increase of 32% and 28% relative to the sample means of each outcome (recall that 21% reported lifetime and 19% past-year IPV). Furthermore, their similar coefficient sizes suggest little fading in the impact of conflict on IPV, or recall bias. As for exposure to war at older ages (11-19), the relationship remains positive, but is generally not significant, except for a moderate link between past-year IPV and conflict in early teens (11-15).

Moving to specific forms of IPV, experiencing war before age 20 is associated with greater likelihood of experiencing all forms of abuse from partners, and again these results are driven by exposure at the youngest ages. In particular, early childhood exposure is strongest linked to physical and sexual abuse (Cols.4-5), and more mildly to psychological violence from partners (Col.6). Conversely, I find no evidence of a relationship with partners' controlling behaviours, though coefficients are still positive.

Besides conflict violence in early childhood, having a violent family history and a partner drinking alcohol significantly increase the probability of experiencing all outcomes, particularly physical abuse. Conversely, the relationship with education is negative: *ceteris paribus*, women who completed 9+ years of schooling are consistently less likely to experience IPV, but not controlling behaviours from partners. Residence type, employment status and spousal age difference are not associated with IPV, whereas early marriage and having more children increase vulnerability (not shown).

Interactions

So far, I examined the relationship first by looking broadly at exposure by age 19 and then separately at each early-life stage. However, a woman could have experienced conflict both in early childhood and early teens (0-15), or continuously during adolescence (11-19). To allow war exposure at earlier ages to moderate the relationship at older ages, I introduce interaction terms between the age-period conflict dummies.

Table A-3 presents results for lifetime IPV. Other outcomes are not shown as the main results are equivalent. In Col.1, the coefficients of each age-period conflict dummy (β_1 - β_3) estimate the main relationship for those exposed only at ages 0-10, 11-15 and 16-19. The coefficient β_4 shows additional changes in the relationship for exposure between 0-15, and β_5 for those experiencing conflict in both adolescent periods (11-15 and 16-19). In Col.2, I combine adolescent ages into a single variable (11-19) and interact it with childhood exposure to capture more succinctly any moderating influence of childhood exposure on adolescent exposure. In all

models, findings show no additional change in the relationship due to continuous exposure to conflict and confirm that war is associated with IPV exclusively when experienced before age 11.

Alternative specifications and robustness checks

Results are robust to various checks. First, we may worry of potential selection bias due to endogenous migration. Suppose that more vulnerable women are more likely move out of conflict areas, and vulnerability correlates with greater likelihood of IPV, then estimates would be dragged against finding significant results. Alternatively, coefficients may be biased towards significance if poor social networks prevent some women to migrate from conflict zones, and weak ties are associated with higher risk of IPV (La Mattina and Shemyakina 2020). To examine the extent of this bias, I limit the analytical sample to women who did not migrate since the start of each conflict ($N=9,447$), using questions on years lived in the current location.^{6,7} This check is also important in light of the migratory moves happening between conflict and survey data collection which, for instance, were considerable in Tajikistan (O'Brein 2021). The direction and significance of the relationships are unchanged to models using the full samples (Table 5): exposure to conflict in early childhood is positively associated with IPV, particularly physical abuse, and the increase is comparable to that observed in the full sample (e.g., the coefficient of 0.09 in Col.1 represents an increase of 38% in the likelihood of experiencing IPV for never-migrant women exposed to conflict in early childhood with respect to their sample mean). Exposure at any other age, and in multiple periods (not shown) is not associated with later-life IPV.

Second, I restrict the sample to women who married/cohabited after 1991 ($N=12,887$), i.e., after the onset of each conflict, to make the exposed and non-exposed groups as comparable as possible at the detriment of sample size. Again, the only significant relationship is with early childhood exposure (Table A-5). Its strength and size are though weaker, suggesting more homogenous outcomes for women who formed unions after the Soviet break-up.

Third, I run all models using both the full and the non-migrant samples excluding or including only Azerbaijan as I there defined conflict exposure using a combination of information on self-reported IDP/refugee status and residence in conflict-affected districts, not geospatial measures. In both cases, results remain qualitatively equivalent (Tables A-6 and A-7), although in the Azerbaijan-only sample ($N=3,186$) the association is weaker. The same is when I limit the analyses to Moldova ($N=3,773$), where only 2% of respondents were exposed to conflict before age 20 (Table A-8); when I exclude ($N=9,683$) or only include cases from Tajikistan ($N=8,104$), the country which provided most cases and where respondents were exceedingly more likely to be exposed to war and report IPV (Table A-9 and A-10).

⁶ For Azerbaijan, I employ this information to identify non-IDP/refugee women never moving from Karabakh territories. Respondents from Tajikistan 2012 DHS are excluded from these analyses as not asked about years lived in current residence.

⁷ Table A-4 reports tests of differences in observable characteristics between migrants and non-migrants. Non-migrants are more likely to report IPV and have experienced conflict violence, yet less likely to have a history of family violence.

Fourth, I estimate models using different age cut-offs for conflict exposure. Given the relevance of early childhood, I first split the youngest age-group category into exposure between 0-5 and 6-10 (there were too few cases of exposed women at very early ages (0-2, 3-5) in Moldova (none) and Azerbaijan ($n=13$) to subdivide this age-group into smaller categories). While further disaggregation of this kind may lead to less precise estimates, it can inform us on whether, for instance, conflict exposure influenced differently girls who were of pre-school versus schooling ages, and hence shed some light on driving routes. Then, I do the opposite and collapse the age-groups into non-teen (0-12) and teen-ages (13-19). Results broadly mirror those of the main models (Tables A-11 and A-12). Specifically, both (and only) pre-school and early schooling age conflict exposure (as well as exposure before age 13) are positively associated with greater likelihood of IPV. Sexual abuse is now strongly, yet only, linked with exposure in infancy (0-5).

Finally, I perform analyses using progressively increasing (20km) and decreasing (10km) buffer radii for the countries providing geospatial survey data. I do this for two main reasons: first, in the absence of theoretical or empirical priors, I chose the 15km conflict “catchment” areas for practical reasons related to the small size of the selected countries; second, because DHS randomly displace cluster coordinates by up to 5km to ensure respondents’ privacy. Estimates are comparable to the main specification using a 15km buffer (Table A-13 and Fig.A-4, Panel A). For the full sample, the coefficient size for those exposed in childhood increases with the buffer radius. Conversely, in the non-migrant sample, the magnitude of the association decreases with distance (Table A-14 and Fig.A-4, Panel B). This could suggest particular vulnerability to IPV for women living in close proximity to conflict events when young and who never relocated since.

Potential mechanisms

Attitudes towards IPV

The above findings indicate a higher risk of abusive relationships in later life for women exposed to war in early childhood. One plausible reason why may be that armed violence in childhood affects perceptions of acceptable social behaviour to the extent that it legitimises force within private relationships. If violence becomes a shared norm, girls exposed to war may become more vulnerable to IPV because of increased emotional callousness to abuse. It is also plausible to expect a normalisation in the use of violence in future interpersonal relations in men exposed to conflict when young.⁸ I next assess the ‘desensitisation-normalisation’ hypothesis in women and men as a potential channel.

Apart from actual experiences of spousal abuse, DHS collect information on attitudes towards IPV in several situations (e.g., if the woman neglects children, burns the food or refuses sex. Table A-1 for specific questions) from all female respondents and from one randomly selected man (aged 15-49/59) in a sub-sample of households.⁹ I use these information to generate two new dependent variables, one for whether the respondent agrees with at least one statement on wife-beating, the other counting the total number of instances in which

⁸ These mechanisms can operate inversely (e.g., normalisation may make women more prone to be violent against partners). As I examine male-to-female IPV only, I do not consider this alternative.

⁹ Since the Tajik DHS did not collect information from men, estimates come from the Armenia, Azerbaijan, and Moldova surveys only.

the respondent justifies violent partner behaviour¹⁰, and estimate models for each gender. As I did for women, I generate conflict variables for men using geocoded measures or IDP/refugee information.

Results for women are presented in Cols.1-2 of Table 6. Estimates show no association between the exposure to conflict violence and number of episodes in which women justify wife-beating. The same is for justifications of wife-beating in at least one situation, when the models are estimated for the non-migrant sample and when I introduce interaction terms (not shown). Conversely, all else equal, family violence is strongly associated with increased acceptance of IPV. That is, I find no evidence that women early exposed to conflict violence acquired more tolerant views of IPV (though Table 2 showed higher justification of IPV among the exposed); that is the case for those experiencing parental violence while growing up.

To further explore the ‘desensitisation’ side of the hypothesis, I draw on Gallegos and Gutierrez (2016) and look at the probability of separation/divorce in women who reported experiencing IPV. The rationale for this is that, if war desensitises women to violence within unions, then those exposed to conflict should be less likely to leave abusive relationships. However, I find no differences in the likelihood of union dissolution for women exposed to violence in childhood in this sub-sample (not shown). This further discards desensitisation as a potential channel of transmission.

Patterns in attitudes towards IPV are more complex for men (Table 6, Cols.3-4). Exposure to war as a young boy is not associated with either indicators of acceptance of wife-beating. Conversely, conflict in late adolescence only (16-19) significantly increases the number of episodes in which men deem IPV acceptable and the probability of justifying it in at least one situation. The result is confirmed when including an interaction between the age-period conflict dummies (not shown). The size of the impact is considerable: conflict exposure in late teens increases the chance of responding affirmatively to at least one question on wife-beating by 0.169, namely by 48% relative to the sample mean of 0.350. This perhaps signals that war carries ‘normalising’ consequences on IPV-related attitude formation for men, and especially for those who arguably suffered to a greater degree from direct engagement/participation in armed violence, i.e., adolescent boys.

Other plausible mechanisms

Women’s higher probability of experiencing abusive relationships following conflict exposure in early childhood appears in part plausibly connected to a greater normalisation of violence in men. However, the relationship may run through several other channels. Conflict-induced changes education, marriage timing and spousal age difference are the few I can test with present data. These pathways give us cues on conflict-related changes in marriage market conditions that may be linked to IPV.

I thus examine the associations between early-age conflict exposure and (i) years of education attained by women and (ii) by their partners, (iii) female age at marriage and (iv) spousal age difference. For all outcomes, I find no significant differences associated with women’s exposure to conflict before age 20. I only find small

¹⁰ Models using a standardised scale averaging the five questions and constructed with the `alpha` command in Stata (inter-item reliability 0.88, mean zero and standard deviation one) yielded identical results.

reductions in female educational attainment (3.5 months, $p=0.017$) and an increase in age at marriage (about 6 months, $p<0.001$) associated with conflict exposure between ages 11-15. There is also no relationship between exposure to conflict by age 19 and men's educational attainment (not shown). None of these channels thus seem to add explanations to either the higher IPV risk of women early-exposed to war or to the greater toleration of men affected by conflict when adolescents.

Limitations

There are some limitations warranting mention. While I endeavoured to exploit the depth and breadth of available information on both forms of violence, available data are cross-sectional and do not allow exploring pre-conflict trends in IPV. Any attempt of causal interpretation rests on the assumption that trends in IPV across cohorts would have been the same in conflict-affected and non-affected areas, had the war not occurred. To the degree that this assumption is violated, my estimates represent correlations. The occurrence of war in the midst of a politico-economic transition represents an additional challenge in this respect. However, by leveraging on the uneven geographical distribution of the conflicts, I show that domestic abuse for the youngest conflict-affected cohorts was higher not only than for older women, but importantly than for their peers who 'only' experienced the transition to a market economy.

Results should also be interpreted with caution and as lower-bound estimates given potential reporting bias. Despite DHS rigorous data collection procedures, conflict in the study settings may have exacerbated barriers to IPV disclosure and social desirability bias that are widespread even in peaceful contexts, or created other obstacles to honest reporting, e.g., via rule-of-law deficits and cultures of impunity (Palermo et al. 2014; Okello and Hovil 2007). It is also worth reminding that all estimates come from samples of survivors to conflict and IPV at survey time. Knowing if IPV correlated with one's survival chances is not possible, and so is to account for those who emigrated from each country, whether or not due to conflict/spousal violence.

Due to lack of data, I cannot explicitly analyse the frequency of IPV (though comparing results for lifetime and past-year abuse partially serves in this respect) or systematically investigate "intensive" margins of victimisation. Relatedly, one of the reasons for data pooling was to minimise the estimation issues associated with small sample size. These risks are automatically re-introduced when trying to disentangle narrower relationships with specific forms of IPV (and/or with smaller ages at exposure as shown in sensitivity analyses). This limitations highlights another reason why the relationship between multiple forms of violence over time is poorly documented at the micro-level.

Data constraints also precluded additional analyses that could shed more light on driving mechanisms, such as stress/trauma, patterns in alcohol consumption, or parental characteristics. Exploring these pathways alone and their interactions represents a crucial avenue for future research as any single channel is unlikely fully explanatory. Relatedly, given the smaller sample (men's questionnaires were administered to a sub-sample of households, and not collected in Tajikistan), I choose to examine men's views of IPV including all male respondents, not only women's current partners. Interest in uncovering conflict-related changes in normative values affecting the whole group of potential perpetrators, not just partnered men, further justified this choice.

Linking men's exposure to conflict to women's actual reporting of domestic abuse, for instance, via matching techniques represents another promising research avenue. Similar advances though must be preceded by wider investments in data collection at the couple-level.

Finally, as in all studies employing DHS-GIS data, the displacement of survey cluster locations may affect the accuracy of measures based on georeferencing (Skiles et al. 2013). Nonetheless, the spatial measurements used in this study are more fine-grained and precise in terms of geographical units than the large regional variation employed in prior research (La Mattina and Shemyakina 2017). Results were also robust to the use of different "catchment" areas, together increasing confidence in the findings. Conflict measures based on IDP/refugee status may too be influenced by reporting issues and not fully comparable to geocoded ones. However, as a direct indicator of conflict exposure seldom available in surveys, IDP/refugee status represented the most suitable alternative to missing GIS data. Related concerns are reduced as the main results did not change when I only included/excluded Azerbaijan in the analyses.

Discussion and conclusion

The end of a conflict not always brings an end to violence. In war-torn zones, violence can morph into less visible forms, "carrying-over" from the surrounding society into people's homes. Its scars can also persist throughout the lifespan. To my knowledge, this paper is the first to systematically examine the long-term 'transmission' of violence across social spaces, with fine conflict measures and in post-Soviet Eurasia, where IPV is largely perceived as a serious concern, but legislative instruments weak (Gallup World Poll. 2015).

The results show greater IPV victimisation for women who experienced armed conflict in early childhood. Exposure in adolescent ages (11-19) is too positively linked to partner abuse, yet the association was generally not significant nor was exposure across multiple periods. Findings hold both for lifetime and past-year IPV, and irrespective of migration. Conflict in childhood was strongly associated with physical forms of IPV, and with future sexual abuse when experienced in infancy. Although this latter result should be taken with care due to small numbers, the overall message is that the earliest the conflict experience, the more scarring and physically damaging the possible consequences.

These results agree with previous research documenting increasing levels of IPV in contexts affected by armed conflict (e.g., Østby 2016), thereby extending the pool of evidence on the transmissibility of violence across social spaces. Importantly, they align with the two prior studies that further explored its lifecourse aspect, though my estimates tend to be larger in size (Gallegos and Gutierrez 2016; La Mattina and Shemyakina 2017).¹¹ Despite methodological differences, this consistency of findings across studies (therefore sites and conflicts) increases confidence in the results and calls for greater attention to be paid to armed violence when studying the determinants of IPV.

¹¹ In particular, my estimates are comparable to that Gallegos and Gutierrez (2016) found for women exposed to highest number of conflict events in Peru.

If domestic abuse in war settings is not isolated from the experience of conflict itself, what processes may promote this continuation of violence? My empirical investigation of some of the many theoretically plausible avenues suggest that neither conflict-related changes in marriage market conditions, nor in women's attitudes towards IPV explain the link. Conversely, the finding that men exposed to war in late adolescence are more inclined to justify IPV provides some support to the 'normalisation' of violence hypothesis in possible perpetrators. As these men experienced conflict in ages when they would be more likely to be mobilised and fight, it is possible that they modelled their later-life beliefs and value system (and, presumably, behaviours) on what they learned in the battlefield (Mendelsohn and Straker 1998).

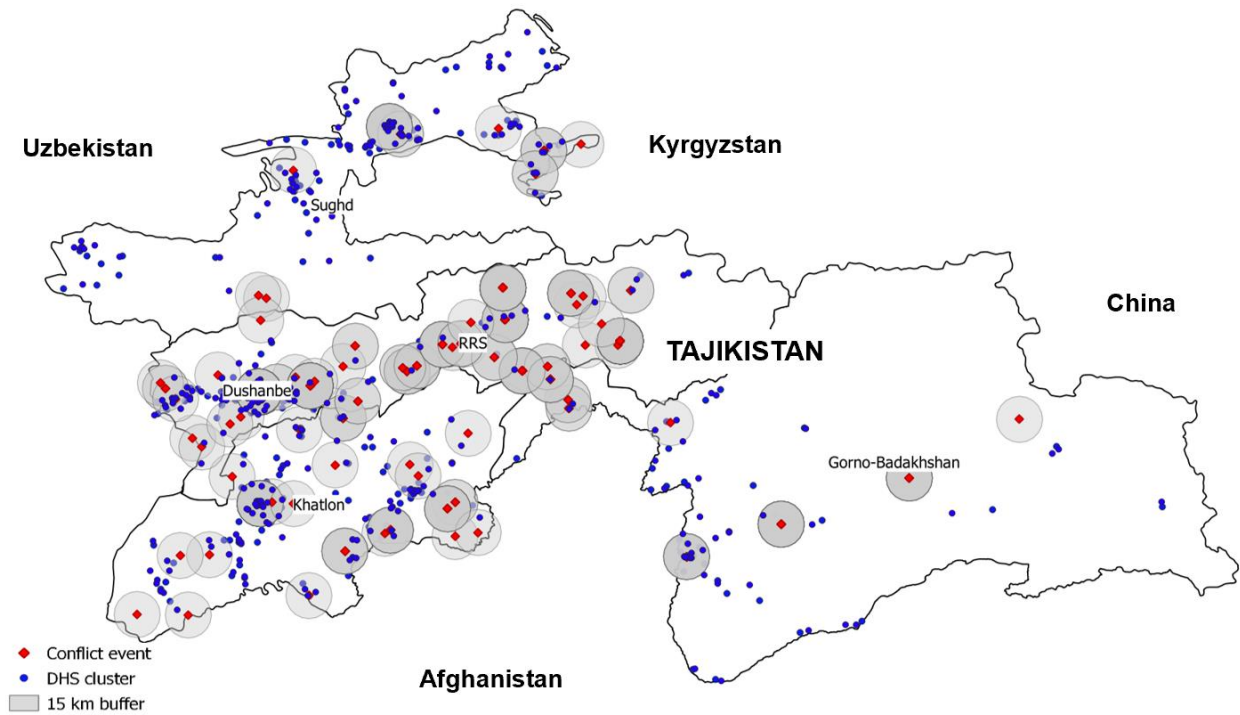
This finding draws attention to another gender-related difference in the legacy of war that has not yet been thoroughly examined. While the gendered consequences of armed violence on health and survival (Ghobarah et al. 2003; Plümper and Neumayer 2006), education and labour market outcomes (Bertoni et al. 2019; Shemyakina 2011; Justino 2017) are vastly documented, only recently interest has been directed to attitude formation, especially concerning interpersonal violence (La Mattina and Shemyakina 2020).. Results further stress the importance of considering the interconnection between gender and age (i.e., *when* exposure occurred) when analysing the consequences of such shocks.

Addressing the transmission of violent behaviour through the lenses of attitude formation, and with a focus on the age at exposure to war is key for the development of programs that can respond to specific patterns and drivers of violence. My findings suggest that women-targeting policies should give close attention to their early childhood experiences, and ensure safe environments for them that can prevent future desensitisation to abuse. At the same time, results indicate that interventions tackling IPV could devote *ad-hoc* resources to the cohorts of boys exposed to political violence, and to their "incubation" period. This could be achieved through a mix of initiatives focused on trauma-healing, de-escalation and promoting non-violent models of masculinity (Fulu et al. 2013). Tailored interventions of this kind, if implemented promptly, would not only help breaking the cycle at the individual-level, but also prevent intergenerational ripple effects otherwise difficult to dismantle (Kelly et al. 2018).

Besides tangible destruction, armed conflicts cause a lasting amount of confrontation with violence of all kinds. Violence within the home needs to be analysed as part of the troubling social relations war creates and situated along the same *continuum* of oppression to have a complete understanding of the legacy of war on individuals and society at large and to devise comprehensive instruments to support the long-term path to recovery.

Figures

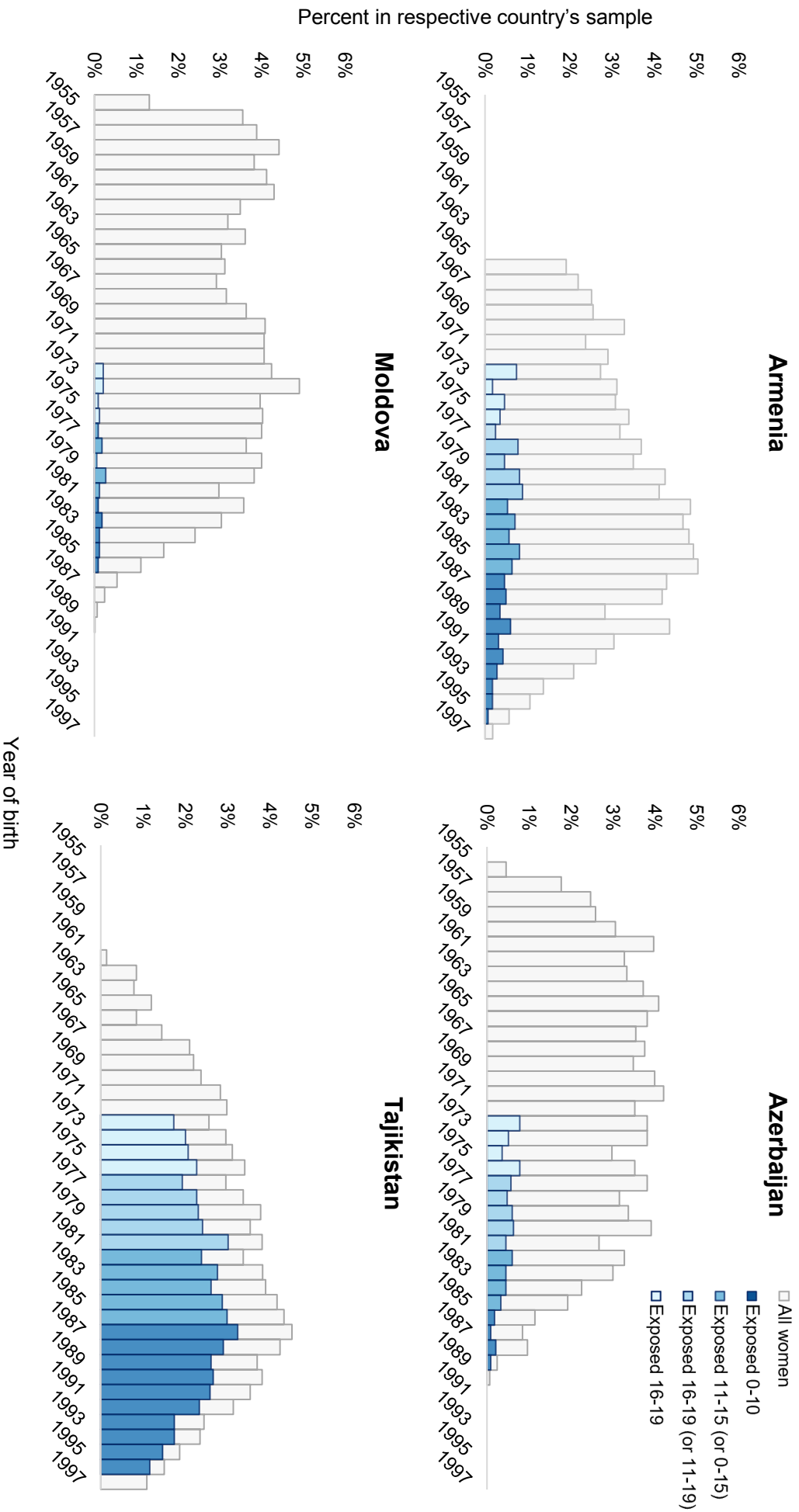
Fig. 1 Buffer (15km) around conflict events occurred in 1991– 1997 in Tajikistan and DHS clusters (2012 and 2017)



Sources: Tajikistan (2012 and 2017) DHS for survey clusters. UCDP-GED (2020) for conflict data. DIVA-GIS for map shapefile.

Notes: The red dots represent conflict events, while the grey circles their 15km catchment areas. Blue dots are DHS clusters. Among these latter, those falling inside the grey circles are considered as conflict-affected clusters.

Fig. 2 Cohort percentages and conflict-affected women in each cohort, by country



Sources: Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Note: Blue bars indicate women who were exposed to conflict between 0-19. Dark blue bars on the right-hand side indicate women exposed to conflict between ages 0-10 only; lighter blue bars on the left-hand side indicate women who were exposed to conflict between 16-19 only. Women in middle lighter blue bars were exposed to conflict between 11-15 and 16-19, but could also have been consecutively exposed between 0-15 or 11-19.

Tables

Table 1 Descriptive statistics for pooled and country-specific samples

Country	Survey year	N in pooled sample	% in pooled sample	Ever experience d IPV (%)		Ever experienced (%)				Conflict exposure (%)				
				IPV (%)	IPV (%)	Physical violence	Sexual violence	Psychological violence	Controlling behaviour	Ever exposed	0-19	0-10	0-11	16-19
Armenia	2005	2,724	15.31	9.58	6.19	4.25	0.57	7.49	44.61	9.35	6.96	3.81	3.66	3.15
Azerbaijan	2006	3,186	17.91	11.49	10.26	8.51	1.78	4.44	84.41	12.04	5.76	1.73	3.42	4.03
Moldova	2005	3,773	21.21	28.10	26.19	17.81	3.14	20.05	65.13	4.71	2.10	0.72	0.74	0.63
Tajikistan	2012	3,646	20.51	24.22	20.51	15.49	4.26	11.23	76.01	60.12	51.30	28.75	21.09	15.49
Tajikistan	2017	4,458	25.06	29.50	24.66	22.63	1.44	14.73	82.11	69.27	57.08	40.76	20.15	16.32
<i>Total sample</i>		17,787	100	21.85	18.72	14.81	2.31	12.19	71.92	34.27	25.92	17.15	10.70	8.60

Source: Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Notes: The sample includes women interviewed in the IPV module. Questions on IPV refer to the current partner for married women and to the most recent partner for divorces, separated or widowed women. Observations are weighted using provided sampling weights for selection into the IPV module.

Table 2 Associations between conflict exposure at different life stages, IPV outcomes and attitudes

Ever experienced	Conflict exposure between											
	Ages 0-19		Ages 0-10		Ages 11-15		Ages 16-19					
	Exposed	Not exposed	Exposed	Not exposed	Exposed	Not exposed	Exposed	Not exposed				
		<i>p</i> -value			<i>p</i> -value			<i>p</i> -value				
Any IPV	26,6%	20,2%	<0.001	27,5%	20,7%	<0.001	26,7%	21,3%	0.002	24,8%	21,6%	0.273
Physical violence	20,0%	13,0%	<0.001	20,4%	13,6%	<0.001	20,5%	14,1%	<0.001	19,0%	14,4%	0.001
Sexual violence	2,0%	2,4%	0.208	2,3%	2,3%	0.755	1,9%	2,4%	0.251	1,5%	2,4%	0.173
Psychological violence	13,0%	11,9%	0.485	13,2%	12,0%	0.691	13,6%	12,0%	0.962	12,6%	12,2%	0.081
Controlling behaviour	78,9%	69,5%	<0.001	81,0%	70,1%	<0.001	77,6%	71,3%	<0.001	75,3%	71,6%	0.020
Has experienced past-year IPV	23,1%	17,2%	<0.001	24,2%	17,6%	<0.001	22,8%	18,2%	0.011	20,7%	18,5%	0.752
Justifies wife beating at least once	66,2%	41,7%	<0.001	68,5%	43,8%	<0.001	65,5%	45,9%	<0.001	62,5%	46,7%	<0.001

Source: Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Notes: age categories are not mutually exclusive (a respondent could be exposed to conflict in two consecutive life stages). "Exposed" indicates to women who experienced conflict during the specified ages. "Not exposed" refers to women who did not experienced conflict ever or in the specified ages, but may have in earlier/later age periods.

Table 3 Exposure to conflict before age 20 and women's experiences of IPV

	Ever experienced any violence			Ever experienced				Past-year IPV (8)
	(1)	(2)	(3)	Physical violence (4)	Sexual violence (5)	Psychological violence (6)	Controlling behaviour (7)	
Exposure to conflict at age 0-19	0.009 (0.01)	0.069*** (0.02)	0.063*** (0.02)	0.041** (0.01)	0.011* (0.01)	0.036** (0.01)	0.015 (0.02)	0.054*** (0.01)
District FE	NO	YES	YES	YES	YES	YES	YES	YES
Birth-year FE	NO	YES	YES	YES	YES	YES	YES	YES
Controls	NO	NO	YES	YES	YES	YES	YES	YES
Observations	17,787	17,787	17,787	17,787	17,787	17,787	17,787	17,787
R-squared	0.039	0.117	0.168	0.145	0.045	0.107	0.181	0.153
F test p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000

Source: Women recode of the Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey country dummies. Beyond the shown covariates, other controls in Cols:3-8 include urban residence, spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born and employment status. The sample includes all women who were interviewed in the IPV module. In Cols: 1-3, the dependent variable is whether the woman ever experienced IPV from her partner. In Cols:4-7, whether she experienced each specific type of violence or controlling behaviour from her partner. In Col: 8, the dependent variable indicates whether the woman experienced any form of IPV in the 12 months preceding the survey. †p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Table 4 Early-life exposure to conflict and women's experiences of IPV

	Ever experienced any violence				Ever experienced				Past-year IPV (8)
	(1)	(2)	(3)	Physical violence (4)	Sexual violence (5)	Psychological violence (6)	Controlling behaviour (7)		
Exposure to conflict at age 0-10	0.007 (0.015)	0.079*** (0.020)	0.070*** (0.019)	0.039* (0.018)	0.019** (0.007)	0.031* (0.015)	0.011 (0.020)	0.052** (0.019)	
Exposure to conflict at age 11-15	0.018 (0.017)	0.034† (0.019)	0.030 (0.019)	0.032† (0.018)	-0.003 (0.006)	0.027† (0.015)	0.006 (0.020)	0.036* (0.018)	
Exposure to conflict at age 16-19	-0.007 (0.018)	0.015 (0.021)	0.017 (0.021)	0.006 (0.019)	0.003 (0.007)	0.013 (0.017)	0.024 (0.022)	0.014 (0.020)	
History of family violence									
Yes			0.180*** (0.011)	0.123*** (0.010)	0.030*** (0.005)	0.108*** (0.010)	0.066*** (0.010)	0.170*** (0.011)	
Partner's alcohol abuse									
Yes			0.126*** (0.009)	0.101*** (0.008)	0.014*** (0.003)	0.068*** (0.007)	0.091*** (0.009)	0.113*** (0.008)	
Education									
>9 years			-0.038*** (0.008)	-0.020*** (0.007)	-0.007* (0.003)	-0.025*** (0.007)	-0.013 (0.009)	-0.033*** (0.008)	
District FE	NO	YES	YES	YES	YES	YES	YES	YES	
Birth-year FE	NO	YES	YES	YES	YES	YES	YES	YES	
Observations	17,787	17,787	17,787	17,787	17,787	17,787	17,787	17,787	
R-squared	0.039	0.119	0.169	0.145	0.046	0.107	0.182	0.153	
F test p-value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	

Source: Women recode of the Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey country dummies. Beyond the shown covariates, other controls in Cols.3-8 include urban residence, spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born and employment status. The sample includes all women who were interviewed in the IPV module. In Cols. 1-3, the dependent variable is whether the woman ever experienced IPV from her partner. In Cols.4-7, whether she experienced each specific type of violence or controlling behaviour from her partner. In Col. 8, the dependent variable indicates whether the woman experienced any form of IPV in the 12 months preceding the survey. †p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Table 5 Early-life exposure to conflict and non-migrant women's experiences of IPV

	Ever experienced		Ever experienced			
	Ever experienced IPV (mean=0.230)	Past-year IPV (mean=0.196)	Physical violence (mean=0.160)	Sexual violence (mean=0.019)	Psychological violence (mean=0.136)	Controlling behaviour (mean=0.684)
	(1)	(2)	(3)	(4)	(5)	(6)
Exposure to conflict at age 0-10	0.087*** (0.026)	0.067** (0.025)	0.076** (0.025)	0.004 (0.07)	0.022 (0.022)	0.010 (0.027)
Exposure to conflict at age 11-15	0.006 (0.025)	0.018 (0.024)	0.002 (0.023)	-0.001 (0.006)	0.033 (0.022)	-0.001 (0.022)
Exposure to conflict at age 16-19	0.033 (0.028)	0.043 (0.028)	0.027 (0.025)	-0.01 (0.009)	0.025 (0.025)	0.020 (0.025)
History of family violence						
Yes	0.189*** (0.015)	0.174*** (0.015)	0.144*** (0.014)	0.023*** (0.006)	0.104*** (0.014)	0.074*** (0.014)
Partner's alcohol abuse						
Yes	0.115*** (0.011)	0.101*** (0.010)	0.091*** (0.014)	0.012*** (0.003)	0.063*** (0.009)	0.094*** (0.013)
Education						
>9 years	-0.036*** (0.011)	-0.030** (0.010)	-0.019* (0.009)	-0.001* (0.004)	-0.020* (0.009)	-0.006 (0.011)
District FE	YES	YES	YES	YES	YES	YES
Birth year FE	YES	YES	YES	YES	YES	YES
Observations	9,447	9,447	9,447	9,447	9,447	9,447
R-squared	0.236	0.230	0.234	0.055	0.133	0.223
F test p-value	0.000	0.000	0.000	0.000	0.000	0.000

Source: Women recode of the Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2017) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey country dummies. Beyond the shown covariates, other controls include urban residence, spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born and employment status. The sample includes all women who were interviewed in the IPV module and who never migrated from their location since the start of each conflict (for the Azerbaijani sample this includes IDPs/refugee and women who never migrated from Karabakh territories since 1991). The dependent variable in Col. 1 is whether the woman ever experienced IPV from her partner, in Col. 2 if she experienced it the year prior to the survey, in Col. 3-6 whether the woman ever experienced specific forms of IPV or controlling behaviour. †p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Table 6 Early-life exposure to conflict and women's attitudes toward IPV

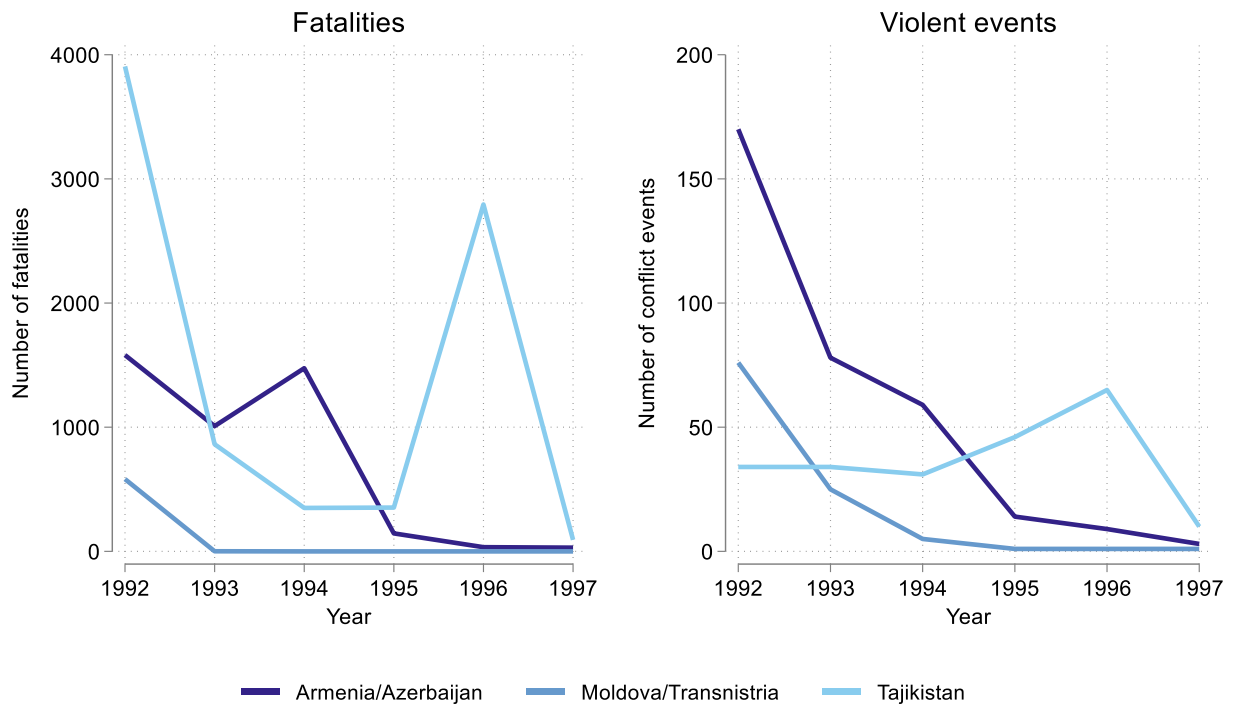
	Women		Men	
	N. of situations in which wife beating is justified (mean=1.471) (1)	Wife beating justified in at least one situation (mean=0.480) (2)	N. of situations in which wife beating is justified (mean=0.802) (3)	Wife beating justified in at least one situation (mean=0.350) (4)
Exposure to conflict at age 0-10	0.081 (0.084)	-0.005 (0.021)	-0.184 (0.137)	-0.076 (0.055)
Exposure to conflict at age 11-15	-0.007 (0.078)	0.02 (0.020)	0.041 (0.168)	-0.037 (0.055)
Exposure to conflict at age 16-19	0.036 (0.089)	-0.023 (0.023)	0.331* (0.163)	0.169** (0.054)
History of family violence				
Yes	0.187*** (0.039)	0.071*** (0.011)		
Partner's alcohol abuse				
Yes	-0.009 (0.032)	0.038*** (0.009)		
Education				
>9 years	-0.273*** -0.032	-0.073*** -0.009	-0.173*** (0.053)	-0.039 (0.020)
District FE	YES	YES	YES	YES
Birth year FE	YES	YES	YES	YES
Observations	17,787	17,787	8,350	8,350
R-squared	0.369	0.335	0.307	0.279
F test p-value	0.000	0.000	0.000	0.000

Source: Women and men (excluding Tajikistan for the male sample) recodes of the DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey country dummies. Beyond the shown covariates, other controls include urban residence and employment status. For the women sample, they further include spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born. In Cols. 1-2, the sample includes all women who were interviewed in the IPV module. In columns 3-4, the sample includes all men who were interviewed in men questionnaire. In Cols. 1 and 3, the dependent variable is the number of situations in which wife-beating is justified (0-5). In Cols. 2 and 4, the dependent variable is a binary that takes the value of one if wife-beating is justified in at least one situation. †p<0.10, *p<0.05, **p<0.01, ***p<0.001.

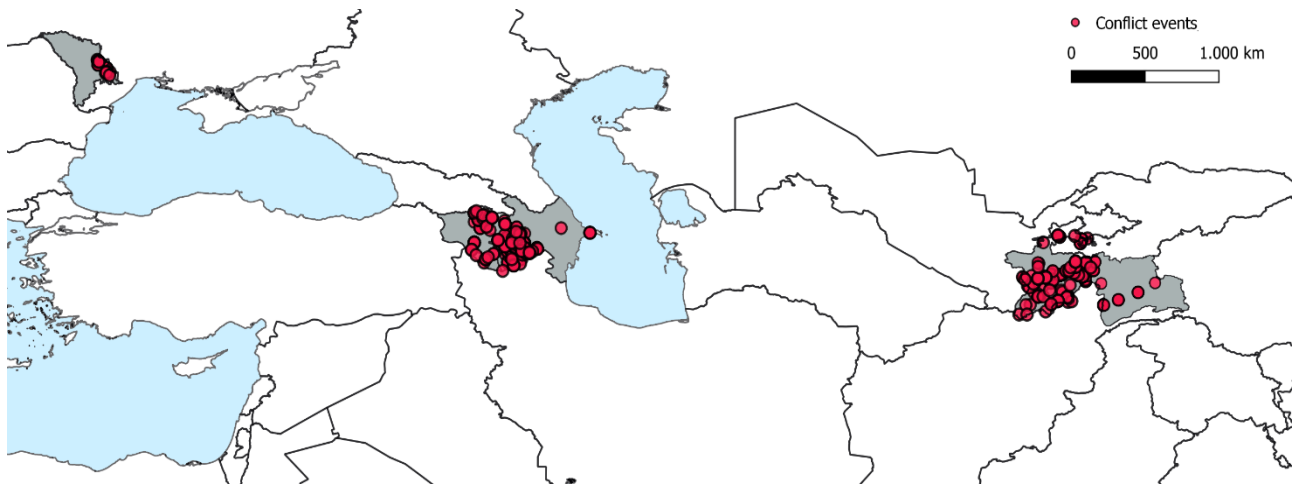
Appendix

Fig. A-1 Fatalities and violent events by conflict between 1992-1997



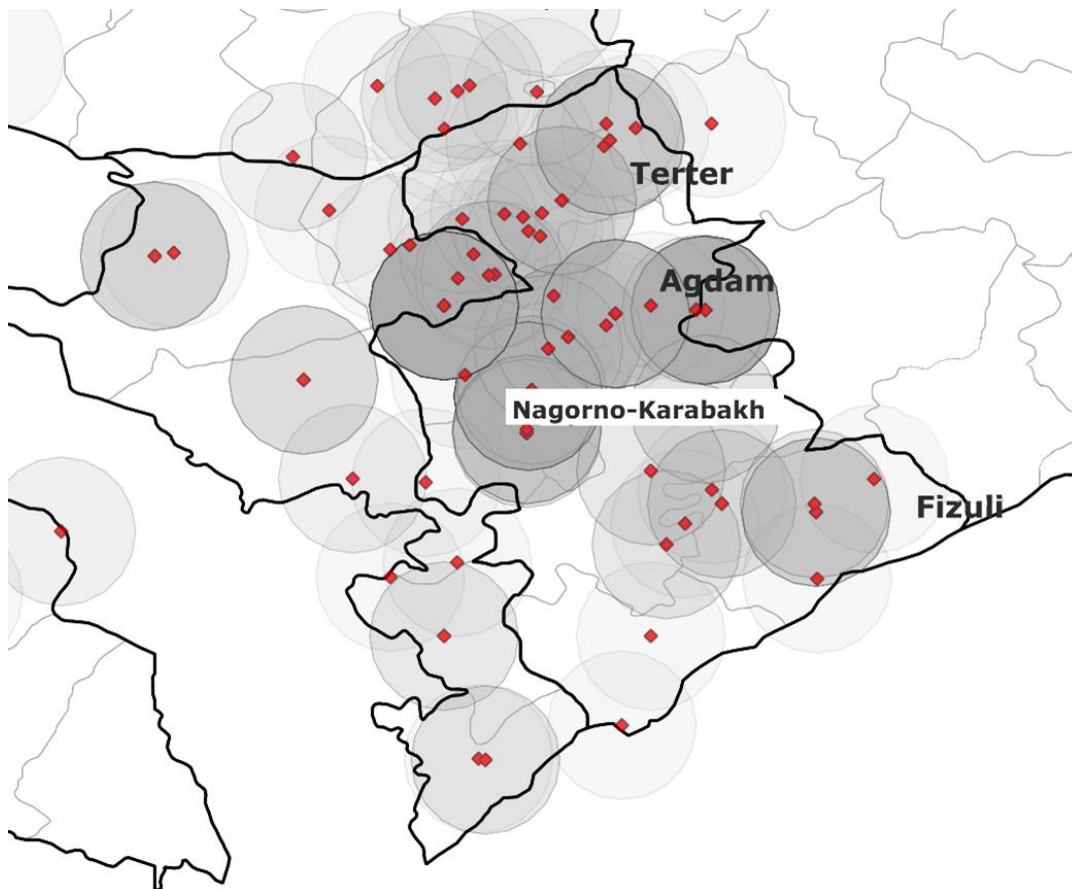
Source: UCDP-GED (2020) for conflict data.

Fig. A-2 Conflict events in the selected countries since 1991



Sources: UCDP-GED (2020) for conflict data. DIVA-GIS for world map shapefile.

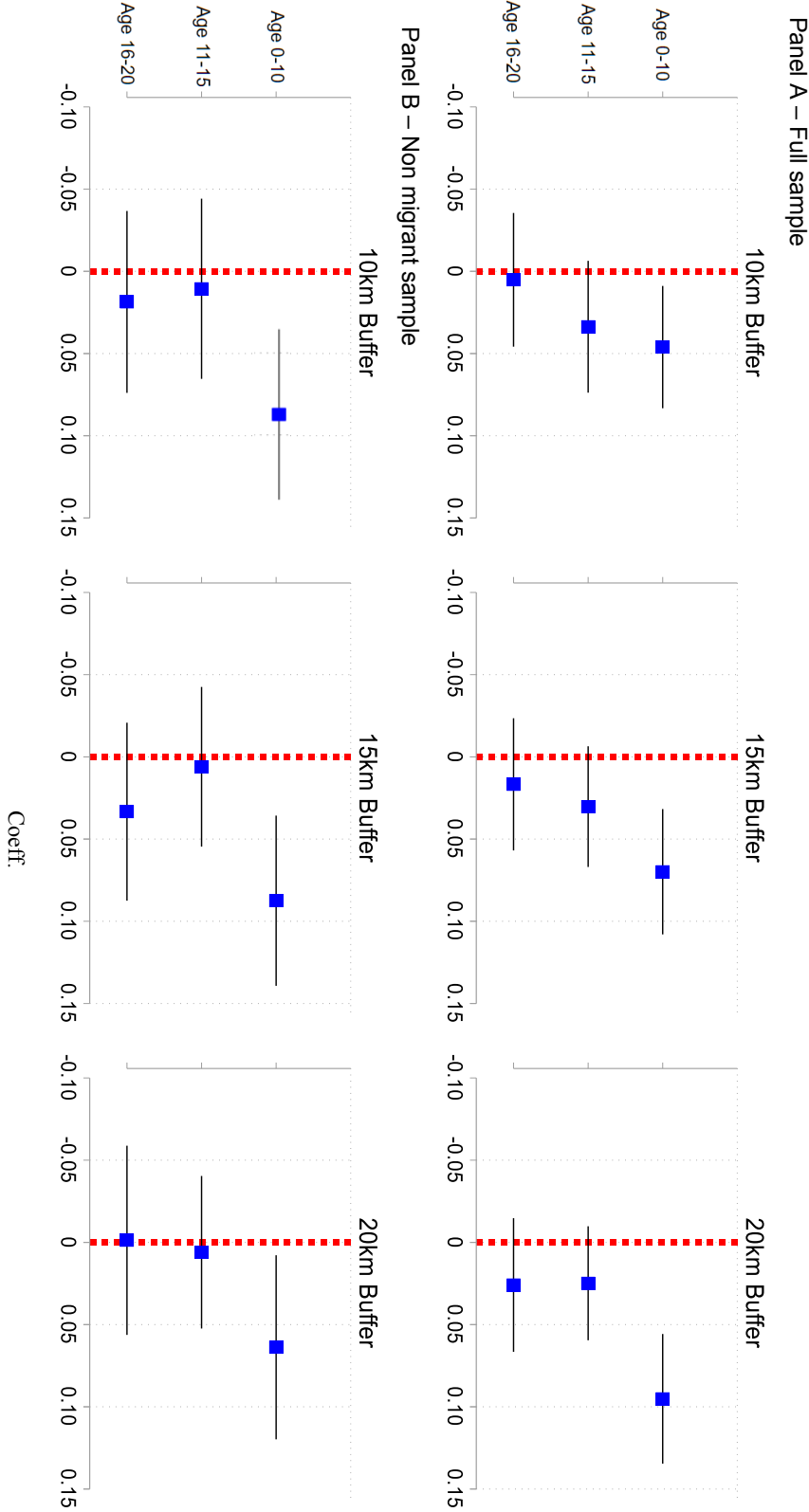
Fig. A-3 Buffer (15km) around conflict events between 1992-1996 in Nagorno-Karabakh and in the partially Armenian-controlled districts of Agdam, Fizuli and Terter



Sources: UCDP-GED (2020) for conflict data. DIVA-GIS for map shapefile.

Notes: The red dots represent conflict events, while the grey circles their 15km catchment areas. These cover almost entirely the geographical spread of the three partially Armenian-controlled conflict-torn districts of Agdam, Fizuli and Terter.

Fig. A-4 Results from models with different buffer radii – migrant (Panel A) and non-migrant samples (Panel B)



Notes: As per estimates in Table A-13 (Panel A) and Table A-14 (Panel B)

Tables

Table A-1 DHS Questions on experiences and attitudes towards IPV

Types of IPV	DHS Questions
Psychological violence	(1) Ever (or in the past 12 months) been humiliated by partner (2) Ever (or in the past 12 months) been threatened by partner (3) Ever (or in the past 12 months) been insulted or made feel bad by partner
Physical violence	(1) Ever (or in the past 12 months) been pushed, shook or had something thrown (2) Ever (or in the past 12 months) been slapped (3) Ever (or in the past 12 months) been punched with fist or hit by something harmful (4) Ever (or in the past 12 months) been kicked or dragged (5) Ever (or in the past 12 months) been strangled or burnt (6) Ever (or in the past 12 months) been threatened with a weapon by partner (7) Ever (or in the past 12 months) had bruises because of partner (8) Ever (or in the past 12 months) had eye injuries, sprains, dislocations or burns because of partner (9) Ever (or in the past 12 months) had wounds, broken bones, teeth or other serious injuries because of partner
Sexual violence	(1) Ever (or in the past 12 months) been physically forced into unwanted sexual intercourse (2) Ever (or in the past 12 months) been physically forced into other unwanted sexual acts by partner
Controlling issues	(1) Partner is jealous if respondent talks to other men (2) Partner accuses respondent of unfaithfulness (3) Partner tries to limit respondent's contact with family (4) Partner does not allow meeting female friends (4) Partner insists on knowing where respondent is
Attitudes towards IPV	Wife beating is justified <i>if she...</i> (1) Goes out without telling husband (2) Neglects the children (3) Burns the food (4) Argues with husband (5) Refuses to have sex with husband

Source: Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Table A-2 Additional descriptive statistics for pooled sample

	Percent OR Mean	N
Age at interview (years, mean)	33.7	17,787
Age at first marriage (years, mean)	20.25	17,787
Children ever born (mean)	2.44	17,787
Urban	37.91%	6,744
9+ years of education	57.13%	10,162
Employed	33.60%	5,977
History of family violence	18.48%	3,287
Partner drinks alcohol	43.78%	7,787
Difference in age between husband and wife		
No difference or husband younger	7.12%	1,266
1-5	67.00%	11,917
6-9	21.24%	3,777
10+	4.65%	827
Total		17,787

Source: Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Notes: The sample includes women interviewed in the IPV module. Observations are weighted using provided sampling weights for selection into the IPV modules.

Table A-3 Early-life exposure to conflict and women's experiences of IPV - interactions

	Ever experienced IPV	
	(1)	(2)
Exposure to conflict at age 0-10 (β_1)	0.078***	
Exposure to conflict at age 11-15 (β_2)	0.087	
Exposure to conflict at age 16-19 (β_3)	0.005	
Exposure to conflict at		
0-10 * 11-15 (β_4)	-0.076	
11-15 * 16-19 (β_5)	-0.035	
Exposure to conflict at age 0-10 (β_6)		0.078***
Exposure to conflict in adolescence (11-19) (β_7)		0.035
Exposure to conflict at		
0-10 * 11-19 (β_8)		-0.023
District FE	YES	YES
Birth year FE	YES	YES
Observations	17,787	17,787
R-squared	0.169	0.169
Test $\beta_1 + \beta_4 = 0$ (p -value)	0.983	
Test $\beta_2 + \beta_4 = 0$ (p -value)	0.660	
Test $\beta_1 = \beta_2$ (p -value)	0.922	
Test $\beta_2 + \beta_5 = 0$ (p -value)	0.056	
Test $\beta_3 + \beta_5 = 0$ (p -value)	0.753	
Test $\beta_2 = \beta_3$ (p -value)	0.392	
Test $\beta_6 + \beta_8 = 0$ (p -value)		0.022
Test $\beta_7 + \beta_8 = 0$ (p -value)		0.657
Test $\beta_6 = \beta_7$ (p -value)		0.053

Source: Women recode of the Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey country dummies. Beyond the shown covariates, other controls include urban residence history of family violence, partner drinking alcohol, urban residence, education (more or less than 9 years), spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born and employment status. The sample includes all women who were interviewed in the IPV module. Column 1 shows the relationship using three conflict-age dummies (0-10, 11-15 and 16-19) and their interaction; Column 2 merges teen ages (0-10, 11-19). † $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table A-4 Balancing test migrant and non-migrant women

	Percent OR Mean		Difference	<i>p</i> -value
	Non migrants (<i>N</i> =9,447)	Migrants (<i>N</i> =4,694)		
Ever experienced IPV	21.89%	18.17%	0.04	<0.001
Past-year IPV	18.78%	15.59%	0.03	<0.001
Conflict exposure (any age)	24.99%	19.69%	0.05	<0.001
History of family violence	18.93%	21.38%	-0.02	0.001
Partner drinks	50.04%	50.95%	-0.01	0.311
Wife beating justified in at least one situation	40.69%	43.91%	-0.03	<0.001
Urban	50.38%	46.87%	0.04	<0.001
9+ years of education	58.52%	52.04%	0.06	<0.001
Age at first marriage (years, mean)	20.43	20.72	-0.29	<0.001
Children ever born (mean)	2.27	2.23	0.04	0.060

Source: Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2017) DHS.

Notes: The sample includes women interviewed in the IPV module. Non migrants are defined as women who never migrated from their location since the start of each conflict (for the Azerbaijani sample this includes IDPs/refugee and women who never migrated from Karabakh territories since 1991).

Table A-5 Early-life exposure to conflict and women's experiences of IPV (sample married after 1991)

	Ever experienced IPV		Physical violence	Ever experienced Psychological violence		Controlling behaviour
	(1)	(2)		(3)	(4)	
Exposure to conflict at age 0-10	0.053* (0.022)	0.040 [†] (0.021)	0.032 (0.020)	0.010 (0.007)	0.022 (0.0164)	0.007 (0.022)
Exposure to conflict at age 11-15	0.024 (0.019)	0.029 (0.018)	0.026 (0.017)	-0.002 (0.006)	0.022 (0.0156)	-0.001 (0.020)
Exposure to conflict at age 16-19	-0.004 (0.024)	-0.003 (0.023)	-0.005 (0.022)	-0.003 (0.007)	-0.004 (0.019)	0.017 (0.025)
History of family violence						
Yes	0.192*** (0.014)	0.182*** (0.014)	0.134*** (0.013)	0.029*** (0.007)	0.107*** (0.013)	0.067*** (0.012)
Partner's alcohol abuse						
Yes	0.122*** (0.010)	0.111*** (0.010)	0.101*** (0.009)	0.012*** (0.004)	0.058*** (0.009)	0.074*** (0.011)
Education						
>9 years	-0.032** (0.010)	-0.024** (0.009)	-0.017* (0.008)	-0.006 (0.003)	-0.024** (0.008)	-0.017 (0.010)
District FE	YES	YES	YES	YES	YES	YES
Birth year FE	YES	YES	YES	YES	YES	YES
Observations	12,877	12,877	12,877	12,877	12,877	12,877
R-squared	0.182	0.168	0.170	0.045	0.104	0.223
F test p-value	0.000	0.000	0.000	0.000	0.000	0.000

Source: Women recode of the Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey country dummies. Beyond the shown covariates, other controls include urban residence, spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born, employment status. The sample includes all women who were interviewed in the IPV module and who had their first union/cohabitation after 1991. The dependent variable in Col. 1 is whether the woman ever experienced IPV from her partner, in Col.2 if she experienced it the year prior to the survey, in Col.3-6 whether the woman ever experienced specific forms of IPV or controlling behaviour. †p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Table A-6 Early-life exposure to conflict and women's experiences of IPV, excluding Azerbaijan

	All women				Non-migrants	
	Ever experienced IPV		Past-year PV		Ever experienced IPV	Past-year PV
	(1)	(2)	(3)	(4)	(5)	(6)
Exposure to conflict at age 0-10	0.074*** (0.020)	0.085*** (0.020)	0.055** (0.020)	0.062** (0.021)	0.092*** (0.028)	0.070** (0.027)
Exposure to conflict at age 11-15	0.036† (0.020)	0.118 (0.009)	0.040* (0.019)	0.109 (0.096)	0.007 (0.027)	0.019 (0.026)
Exposure to conflict at age 16-19	0.028 (0.022)	0.007 (0.026)	0.023 (0.022)	0.012 (0.025)	0.053 (0.031)	0.063* (0.031)
Exposure to conflict at ages						
0-10 * 11-15		-0.111 (0.096)		-0.086 (0.100)		
11-15 * 16-19		-0.044 (0.097)		-0.049 (0.100)		
District FE	YES	YES	YES	YES	YES	YES
Birth year FE	YES	YES	YES	YES	YES	YES
Observations	14,601	14,601	14,601	14,601	7,943	7,943
R-squared	0.167	0.167	0.155	0.156	0.236	0.232
F test p-value	0.000	0.000	0.000	0.000	0.000	0.000

Source: Women recode of the Armenia (2015), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey country dummies. Beyond the shown covariates, other controls include history of family violence, partner drinking alcohol, urban residence, education (more or less than 9 years), spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born and employment status. In Col.1-4, the sample includes all women who were interviewed in the IPV module. In Col.5-6, those who also never migrated from their location since the start of each conflict (here the sample excludes women from the 2012 Tajikistan DHS as it did not collect information on years lived in current location of residence). In Cols.1, 2 and 5, the dependent variable captures whether the woman ever experienced IPV. In Cols.3, 4 and 6, if she experienced it the year prior to the survey. In Cols.2 and 4, an interaction between the age-specific conflict indicators is included. †p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Table A-7 Early-life exposure to conflict and women's experiences of IPV, Azerbaijan only

	All women		Non-migrants	
	Ever experienced IPV	Past-year PV	Ever experienced IPV	Past-year PV
	(1)	(2)	(3)	(4)
Exposure to conflict at age 0-10	0.090 [†] (0.078)	0.105 [†] (0.077)	0.140 (0.089)	0.161 (0.087)
Exposure to conflict at age 11-15	-0.018 (0.059)	-0.015 (0.058)	-0.042 (0.066)	-0.047 (0.065)
Exposure to conflict at age 16-19	-0.049 (0.056)	-0.031 (0.055)	-0.087 (0.063)	-0.068 (0.062)
District FE	YES	YES	YES	YES
Birth year FE	YES	YES	YES	YES
Observations	3,186	3,186	3,186	3,186
R-squared	0.128	0.116	0.191	0.196
F test p-value	0.000	0.000	0.000	0.000

Source: Women recode of the Azerbaijan (2006) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. models control for survey dummies. Beyond the shown covariates, other controls include history of family violence, urban residence, partner drinking alcohol, education (more or less than 9 years), spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born and employment status. In Col.1-2, the sample includes all women who were interviewed in the IPV module. In Col.3-4, those who also never migrated from their location since the start of the conflict with Armenia (i.e., IDPs/refugees and women who never migrated from Karabakh territories since 1991). In Cols.1 and 3, the dependent variable captures whether the woman ever experienced IPV. In Cols.2 and 4, if she experienced it the year prior to the survey. †p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Table A-8 Early-life exposure to conflict and women's experiences of IPV, Moldova sample only

	All women		Non-migrants	
	Ever experienced IPV	Past-year PV	Ever experienced IPV	Past-year PV
	(1)	(2)	(3)	(4)
Exposure to conflict at age 0-10	0.062 [†] (0.095)	0.054 (0.096)	0.210 [†] (0.115)	0.191 [†] (0.115)
Exposure to conflict at age 11-15	0.148 (0.095)	0.161 [†] (0.097)	0.179 (0.113)	0.209 [†] (0.116)
Exposure to conflict at age 16-19	-0.098 (0.103)	-0.092 (0.104)	-0.050 (0.125)	-0.039 (0.125)
District FE	YES	YES	YES	YES
Birth year FE	YES	YES	YES	YES
Observations	3,773	3,773	3,773	3,773
R-squared	0.140	0.134	0.158	0.149
F test p-value	0,000	0,000	0,000	0,000

Source: Women recode of Moldova (2005) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey dummies. Beyond the shown covariates, other controls include history of family violence, partner drinking alcohol, urban residence, education (more or less than 9 years), spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born and employment status. In Cols.1-2, the sample includes all women who were interviewed in the IPV module. In col.3-4, those who also never migrated from their location since the start of the conflict in Transnistria. In cols.1 and 3, the dependent variable captures whether the woman ever experienced IPV. In Cols.2 and 4, if she experienced it the year prior to the survey. [†]p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Table A-9 Early-life exposure to conflict and women's experiences of IPV, excluding Tajikistan

	All women			
	Ever experienced IPV		Past-year PV	
	(1)	(2)	(3)	(4)
Exposure to conflict at age 0-10	0.054*	0.050†	0.048†	0.036
	(0.034)	(0.037)	(0.034)	(0.036)
Exposure to conflict at age 11-15	0.048	0.080	0.050	0.087
	(0.032)	(0.096)	(0.032)	(0.098)
Exposure to conflict at age 16-19	-0.035	-0.024	-0.026	-0.007
	(0.035)	(0.040)	(0.034)	(0.039)
Exposure to conflict at ages				
0-10 * 11-15		-0.026		-0.014
		(0.040)		(0.111)
11-15 * 16-19		-0.053		-0.0759
		(0.104)		(0.105)
District FE	YES	YES	YES	YES
Birth year FE	YES	YES	YES	YES
Observations	9,683	9,683	9,683	9,683
R-squared	0.165	0.166	0.163	0.156
F test p-value	0.000	0.000	0.000	0.000

Source: Women recode of the Armenia (2015), Azerbaijan (2006), Moldova (2005) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey country dummies. Beyond the shown covariates, other controls include history of family violence, partner drinking alcohol, urban residence, education (more or less than 9 years), spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born and employment status. The sample includes all women who were interviewed in the IPV module. In Cols.1 and 2, the dependent variable captures whether the woman ever experienced IPV. In Cols.3 and 4, if she experienced it the year prior to the survey. In Cols.2 and 4, an interaction between the age-specific conflict indicators is included. †p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Table A-10 Early-life exposure to conflict and women's experiences of IPV, Tajikistan only

	All women		Non-migrants	
	Ever experienced IPV (1)	Past-year PV (2)	Ever experienced IPV (3)	Past-year PV (4)
Exposure to conflict at age 0-10	0.063* (0.026)	0.040 (0.025)	0.087* (0.038)	0.050 (0.036)
Exposure to conflict at age 11-15	-0.003 (0.031)	0.008 (0.029)	-0.053 (0.045)	-0.027 (0.041)
Exposure to conflict at age 16-19	0.050 (0.033)	0.031 (0.031)	0.105* (0.048)	0.084† (0.044)
District FE	YES	YES	YES	YES
Birth year FE	YES	YES	YES	YES
Observations	8,104	8,104	3,390	3,390
R-squared	0.166	0.145	0.278	0.275
F test p-value	0.000	0.000	0.000	0.000

Source: Women recode of the Tajikistan (2012 and 2017) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. The all women sample includes all women who were interviewed in both surveys IPV module. The non-migrant sample includes non-migrant women who were interviewed in the 2017 DHS sample only as the 2012 DHS did not collect information on years spent in current residence. Models for all women control for survey country dummies. Beyond the shown covariates, other controls include urban residence, spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born and employment status. †p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Table A-11 Early-life exposure to conflict and women's experiences of IPV (exposure in pre-schooling and schooling age)

	Ever experienced IPV	Past-year IPV	Ever experienced			
			Physical violence	Sexual violence	Psychological violence	Controlling behaviour
	(1)	(2)	(3)	(4)	(5)	(6)
Exposure to conflict at age 0-5	0.087*** (0.025)	0.067** (0.024)	0.022 (0.022)	0.026*** (0.007)	0.044* (0.020)	0.034 (0.026)
Exposure to conflict at age 6-10	0.087*** (0.022)	0.083*** (0.022)	0.008* (0.022)	0.013 [†] (0.007)	0.055** (0.020)	0.030 (0.024)
Exposure to conflict at age 11-15	-0.016 (0.024)	-0.020 (0.023)	0.050 (0.020)	-0.003 (0.008)	-0.010 (0.019)	-0.024 (0.026)
Exposure to conflict at age 16-19	-0.018 (0.021)	-0.016 (0.020)	-0.008 (0.019)	-0.005 (0.006)	-0.003 (0.017)	0.011 (0.022)
District FE	YES	YES	YES	YES	YES	YES
Birth year FE	YES	YES	YES	YES	YES	YES
Observations	17,787	17,787	17,787	17,787	17,787	17,787
R-squared	0.169	0.153	0.145	0.046	0.107	0.182
F test p-value	0.000	0.000	0.000	0.000	0.000	0.000

Source: Women recode of the Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey country dummies. Beyond the shown covariates, other controls include history of family violence, partner alcohol consumption, urban residence, education (more or less than 9 years), spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born, employment status. The sample includes all women who were interviewed in the IPV module. The dependent variable in Col.1 is whether the woman ever experienced IPV from her partner, in Col.2 if she experienced it the year prior to the survey, in Col.3-6 whether the woman ever experienced specific forms of IPV or controlling behaviour. [†]p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Table A-12 Early-life (non-teen and teen age) exposure to conflict and women's experiences of IPV

	Ever experienced IPV	Past-year IPV	Ever experienced			
			Physical violence	Sexual violence	Psychological violence	Controlling behaviour
	(1)	(2)	(3)	(4)	(5)	(6)
Exposure to conflict at age 0-12	0.068*** (0.016)	0.051*** (0.015)	0.039** (0.014)	0.016** (0.005)	0.034** (0.012)	0.003 (0.016)
Exposure to conflict at age 13-19	0.012 (0.015)	0.008 (0.010)	0.010 (0.014)	0.002 (0.005)	0.014 (0.013)	0.023 (0.016)
District FE	YES	YES	YES	YES	YES	YES
Birth year FE	YES	YES	YES	YES	YES	YES
Observations	17,787	17,787	17,787	17,787	17,787	17,787
R-squared	0.168	0.153	0.145	0.045	0.107	0.181
F test p-value	0.000	0.000	0.000	0.000	0.000	0.000

Source: Women recode of the Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey country dummies. Beyond the shown covariates, other controls include history of family violence, partner alcohol consumption, urban residence, education (more or less than 9 years), spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born, employment status. The sample includes all women who were interviewed in the IPV module. The dependent variable in Col.1 is whether the woman ever experienced IPV from her partner, in Col.2 if she experienced it the year prior to the survey, in Col.3-6 whether the woman ever experienced specific forms of IPV or controlling behaviour. †p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Table A-13 Early-life exposure to conflict and women's experiences of IPV - conflict exposure at various buffer radii

	Ever experienced IPV (mean=0.218)			Past-year IPV (mean=0.187)		
	Buffer radius			Buffer radius		
	10km (1)	15km (2)	20km (3)	10km (4)	15km (5)	20km (6)
Exposure to conflict at ages						
0-10	0.046* (0.019)	0.070*** (0.019)	0.095** (0.020)	0.037* (0.018)	0.052** (0.019)	0.089** (0.019)
11-15	0.034† (0.020)	0.030 (0.019)	0.025 (0.018)	0.041* (0.019)	0.036* (0.018)	0.026 (0.017)
16-19	0.005 (0.021)	0.017 (0.21)	0.026 (0.021)	-0.002 (0.020)	0.014 (0.020)	0.035† (0.020)
District FE	YES	YES	YES	YES	YES	YES
Birth year FE	YES	YES	YES	YES	YES	YES
Observations	17,787	17,787	17,787	17,787	17,787	17,787
R-squared	0.168	0.169	0.169	0.153	0.153	0.154
F test p-value	0,000	0,000	0,000	0,000	0,000	0,000

Source: Women recode of the Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2012 and 2017) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey country dummies. Other controls include history of family violence, partner alcohol consumption, urban residence, education (more or less than 9 years), spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born, employment status. The sample includes all women who were interviewed in the IPV module. The dependent variable in Cols.1-3 is whether the woman ever experienced IPV from her partner, in Cols.4-6, whether she experienced each specific type of violence or controlling behaviour from her partner. In Cols.1 and 4, the conflict buffer has a radius of 10km from each conflict event, 15km in Cols.2 and 5 (main specification) and 20km in Cols.3 and 6. †p<0.10, *p<0.05, **p<0.01, ***p<0.001.

Table A-14 Early-life exposure to conflict and non-migrant women's experiences of IPV - conflict exposure at various buffer radii

	Ever experienced IPV (mean=0.230)			Past-year IPV (mean=0.196)		
	Buffer radius			Buffer radius		
	10km (1)	15km (2)	20km (3)	10km (4)	15km (5)	20km (6)
Exposure to conflict at ages						
0-10	0.089* (0.026)	0.087*** (0.26)	0.064* (0.028)	0.066† (0.025)	0.067** (0.025)	0.066** (0.027)
11-15	0.011 (0.027)	0.006 (0.025)	0.006 (0.024)	0.026 (0.026)	0.018 (0.024)	0.014 (0.022)
16-19	0.019 (0.028)	0.033 (0.028)	-0.001 (0.029)	0.023 (0.027)	0.043 (0.028)	0.032 (0.028)
District FE	YES	YES	YES	YES	YES	YES
Birth year FE	YES	YES	YES	YES	YES	YES
Observations	9,447	9,447	9,447	9,447	9,447	9,447
R-squared	0.235	0.236	0.235	0.229	0.230	0.229
F test p-value	0.000	0.000	0.000	0.000	0.000	0.000

Source: Women recode of the Armenia (2015), Azerbaijan (2006), Moldova (2005), Tajikistan (2017) DHS.

Notes: The results are estimated using OLS. Regressions are weighted using survey weights for selection into the IPV module. Robust standard errors are clustered at the district level. All models control for survey country dummies. Other controls include history of family violence, partner alcohol consumption, urban residence, education (more or less than 9 years), spouses age difference (0 or husband younger, 1-5, 6+), age at marriage, children ever born, employment status. The sample includes all women who were interviewed in the IPV module and who never migrated from their location since the start of each conflict (for the Azerbaijani sample this includes IDPs/refugee sand women who never migrated from Karabakh territories since 1991). The dependent variable in Cols.1-3 is whether the woman ever experienced IPV from her partner, in Cols.4-6, whether she experienced each specific type of violence or controlling behaviour from her partner. In Cols.1 and 4, the conflict buffer has a radius of 10km from each conflict event, 15km in Cols.2 and 5 (main specification) and 20km in Cols.3 and 6. †p<0.10, *p<0.05, **p<0.01, ***p<0.001.

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