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ABSTRACT

Child Discipline in Times of Conflict

Using a unique pairing of household survey data and geolocational conflict data, we investigate the relationship between local conflict intensity and the disciplinary methods employed by Iraqi households. We find that parents in high-conflict areas are more likely to use both moderate and severe corporal punishment, and are less likely to use constructive parenting techniques like redirection. While there is a general sense that war has profound long-term impacts on the psychological health of children, research on transmission mechanisms is very limited. These are among the first results that rigorously document an association between violent conflict and child maltreatment and, to our knowledge, the first that document changes in child discipline practices even across a mainstream parenting spectrum. Given the persistence of early childhood outcomes into adulthood, these results are potentially an important piece of assessing and mitigating the long-term costs of war on the civilian population.

JEL Classification: D10, F51, J13, N45

Keywords: Iraq war, child discipline, mental health, Middle East, household interactions

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I. Introduction

The Iraq war has imposed large costs on the Iraqi population. For example, Stiglitz (2008) notes that Iraqi GDP basically flatlined in the years following the second Gulf War, despite a more than 100% increase in the price of oil. The human cost has also been large. As of June 2017, the Iraq Body Count (IBC) database has recorded as many as 196,000 civilian deaths related to violence during and after the war.

The impact of war-related violence on households can be devastating. War results in long-term income and property losses, in addition to permanent increases in risk for both physical and mental-health related disorders. These stresses can spill over to the ways in which families interact. While there is some work on the impact of war on spousal domestic violence, work on the relationship between violent conflict and child-rearing is sparse. This paper attempts to fill the gap.

The limited data that are available suggest that child maltreatment in Iraq is serious. A 2013 report issued by Iraq's Ministry of Labor and Social Affairs claims that as many as 5 of 6 children in Iraq are exposed to domestic violence in some form and notes serious inadequacies in the legal infrastructure for addressing domestic violence (Al Monitor). Similarly, the UN Office of the High Commissioner for Human Rights, in a 2011 report, finds that Iraqi children suffer from high levels of domestic violence but that lack of good data make the extent of the problem "difficult to ascertain." The limited work that exists on child maltreatment in the context of other international conflicts also suggests that the problem can be serious. Catani et al. (2008) document high levels of child maltreatment during conflict periods in Afghanistan and Sri Lanka, but note that analyzing the impact of war is difficult because of a lack of comparable pre- and post-conflict data.

Our study uses temporal and geographic variation in conflict across Iraq to investigate the relationship between conflict intensity and child discipline. Using a unique pairing of household

data from the 2006 and 2011 waves of the UNICEF-sponsored Multiple Indicator Cluster Survey (MICS) for Iraq, together with geolocational conflict data from the Iraq Body Count database, we explore the association between the intensity of violence around the respondent's domicile and the child discipline methods employed by the family. We find, after controlling for a whole host of factors known to be associated with parenting decisions, that increased local violence is strongly associated with increased use of severe corporal punishment (e.g. beating with objects), with increased use of moderate corporal punishment (e.g. spanking with a hand), with increased use of punitive verbal correction (e.g. yelling and name-calling), and with a corresponding decline in the use of constructive discipline methods like redirection and taking away privileges. While data limitations prevent us from rigorously establishing a causal effect, falsification tests suggest that selection is not a large problem.

Our contribution to the literature is twofold. First, our results add rigor to previous work suggesting that child maltreatment is an important social cost associated with war. Previous research on the impact of war on household and familial relationships is limited, and what does exist is not rigorous about establishing a causal link. Second, while previous work documents extreme outcomes like sexual abuse and unequivocal physical abuse, our paper appears to be the first that studies the relationship between conflict and the choice among mainstream parenting techniques. Thus, our study has the potential to provide a more complete picture of the impact of war on a typical household. Given the unfortunate likelihood of continuing conflict in the Middle East, the high youth population in the Middle East, and the lifelong persistence of early childhood experiences, many with measurable economic costs, these findings are important for policymakers as they attempt to address the long-term costs of this continuing conflict.

The paper proceeds as follows. Section II reviews the literature on the war-related violence and family problems, exploring the underlying causal links between the two. Section III discusses the data and section IV presents the results. Section V concludes.

II. Related Literature

One can imagine a number of plausible mechanisms through which war-related conflict might impact parenting decisions. First, in a direct and straightforward way, Levy and Sidel (1997) observe that exposure to external war violence creates social conditions that foster violence within the household – being acclimatized to war makes violence "easier to accept" and leads people "to believe in resolving conflict by violent means." Indeed, Lansford and Dodge (2008) find that use of corporal punishment among cultural groups is strongly correlated with inculcation to warfare within the culture's experiences. Along similar lines, Ember and Ember (2005) note that corporal punishment is not universal and is infrequent in many societies, but that it is more common in societies with externally-imposed power inequalities, as would be expected in war.

Second, war has a severe and prolonged impact on the psychological health of parents. Nickerson et al. (2010) and Steel et al. (2006), for the specific case of Iraqi refugees, find permanent increases in Post-Traumatic Stress Disorder (PTSD), depression and mental disability resulting from exposure to violent conflict.[1] The literature is clear that war is harmful for the mental health of adults. In turn, the link between psychological health of parents and corporal punishment of their children is well-established. Straus and Stewart (1999) argue that mental instability and stress are important causal factors underlying parental use of corporal punishment. For causal channels that underlie this link with respect to war-related violence, Garbarino and Kostelny

[1] We refer interested readers to Murthy et al. (2006), who provide an extensive review of empirical work on mental health-related consequences associated with a whole host of global conflicts

(1996) argue that punitive parenting can be a way of adapting to external dangers, while Adjukovic (1996) argues that conflict-related stress inhibits maternal affection.

Third, war can devastate labor markets and drain family income and assets, leading to impoverishment. Barber (2008) emphasizes that these economic tensions disrupt caregiving and familial relationships, again inhibiting constructive parenting practices, and notes that these effects can persist well after the cessation of violent conflict. Akmatov (2010) finds generally that, across multiple countries and cultures, reductions in income are associated with higher rates of child maltreatment. Whether low income itself is a direct causative factor for abuse or whether the association between income and child maltreatment operates via stress associated with low income is a hotly debated question (Mayer 1997), but the existence of a correlation is uncontroversial. Levy and Sidel (1997) argue that loss of housing is especially destructive to economic security, and the United Nations claims at this point that there are more than 2 million Iraqi refugees.

Fourth, conflict can disrupt social institutions. In a direct sense, nonfunctional governments lead to a breakdown in child welfare services, and there is a direct link between public investment in child welfare services and child welfare outcomes (Malcolm 2012). In a more indirect sense, war (and especially dislocations) can lead to a breakdown in informal community support structures, and Belsky (1980) argues that close community, religious and familial ties are an ameliorative factor for child maltreatment risk. The institutional context is especially important in the case of Iraq. The Iraqi Supreme Judicial Council issued a report in 2013 detailing “numerous loopholes and defects in Iraqi laws” that are designed to protect children from abuse and found that applying civil law in the context of tribal structures is particularly problematic (Al Monitor). In other words, informal enforcement among family or tribal units is important for reducing child abuse, but war and dislocations can disrupt these community ties.

Fifth, war can cause parental absences – either because of death, or because of dislocations. For example, a parent might leave to seek work elsewhere because of a depressed economy. Rentz et al. (2007) find using US data on Iraq war veterans that their absences are associated with increases in child abuse. This includes both abuse perpetrated by PTSD-inflicted veterans upon returning home and abuse by non-military family while the deployed parent was absent.

While empirical work on the link between war and child maltreatment is limited, there is a small body of work on the related question of violent conflict and intimate-partner violence. Haj-Yahia and Clark (2013) and Clark et al. (2010) find in the case of Palestine that exposure to political violence among men is a significant predictor of spousal violence. Levy and Sidel (1997) reach the same conclusion with respect to Bosnia, and Horn et al. (2014) along with Vinck and Pham (2013) with respect to political violence in Sierra Leone and Liberia. While these studies focus on spousal violence, there is a direct link to child welfare, both because exposure to spousal violence is itself commonly regarded to be a form of child abuse, and because of the strong correlation between spousal maltreatment and child maltreatment (Ali et al. 2014). Moreover, Dubow et al. (2012) find that, among Palestinian and Israeli children, the impact of exposure to violence on the mental health of children is cumulative and progressive – in other words, compounding household violence on top of political violence intensifies PTSD-like symptoms.

Empirical work directly addressing the question at hand is extremely limited. Al-Sabah et al. (2015) find a prolonged impact on adolescents following the war in Bosnia; they suggest that impaired caregiver relationships and parenting may be a cause, but offer no empirical support for this particular causal channel. Usta and Farver (2010) find an increase in child sexual abuse during the 2006 war in Lebanon, although their study is case-based and with an extremely small sample. Finally, Catani et al. (2008) use aggregate statistics to document extensive domestic violence

against children in the context of wars in Sri Lanka and Afghanistan, but the paper lacks empirical analysis of the association between the two; indeed, the authors note that there is "virtually no literature addressing the effects of mass trauma on the family and community systems". Catani (2010) speculates on the deep etiological links between child abuse and war trauma, but again notes an absence of empirical work. Thus, our study adds to the literature in two important ways. First, while there is a general sense that violent conflict can lead to child maltreatment, our study adds empirical rigor to this assertion. Second, previous work on this topic focused primarily on actions that unequivocally constitute domestic violence or child abuse. Our paper reinforces these findings, but also considers the exercise of more mainstream parenting techniques like moderate corporal punishment and punitive verbal reprimand. Our focus on non-extreme outcomes thus gives a more complete picture into the impact of war on average households.

While we will not explore this assertion in detail, there appears to be near-consensus among child psychologists that any corporal punishment is harmful for child development (Straus 2001), and that the long-term consequences have an important economic dimension inasmuch as they reduce productivity and earnings later in life. Thus, results along these lines are potentially an important component of policy analysis for policymakers analyzing the long-term impact of conflict on children and on society at large. In particular, while other researchers such as Al-Sabah et al. (2015) document extensive long-term consequences of war on child and adolescent mental health, research on the causal channels underlying the association is very limited. Our results suggest that disruptions to healthy parenting practices may represent an important part of the impact on children.

III. Data and Methods

Household-level data come from the Iraq Multiple Indicator Cluster Survey (MICS), a large and nationally-representative sample of Iraqi households conducted jointly by UNICEF and by the Iraqi government. We use data from the 3rd wave (2006) and from the 4th wave (2011) to create a pooled cross-section. The sample sizes from the two survey waves we are using are 18,136 households and 36,592 households respectively. The interviews are conducted in person by the survey administrators.

Each household was asked to list all children between 2 and 14 years of age. For households with eligible children, one child was chosen at random by the survey administrator, and this child is the subject of the discipline-related questions. The questions were addressed to the mother or the primary caretaker of the child. The survey lists a series of 13 disciplinary methods and asks respondents whether "you or anyone else in your household has used this method with (child) in the past month". Table 1 provides the exact language (in translation from the Arabic) and the overall incidence rates.

<<INSERT TABLE 1 HERE>>

It is problematic to study each disciplinary behavior in isolation since a household might not use a particular method of corporal punishment (e.g. slapping on the hand) but use another instead (e.g. slapping on the bottom), and so the negative response for slapping on the hand means very little in context. Thus, we operationalized our analysis of disciplinary methods by defining four binary variables as follows.

1. Only constructive discipline used – Equal to 1 if household uses *only* restriction of privileges, verbal explanation and/or redirection (lines 1-3 on Table 1).
2. High-intensity verbal discipline used – Equal to 1 if household uses yelling and/or calling names (lines 4-5 on Table 1).
3. Low-intensity physical discipline used – Equal to 1 if household uses any of: shaking, spanking on bottom with bare hand, slapping on face, slapping on hand or leg (lines 6-9 on Table 1).
4. High-intensity physical discipline used – Equal to 1 if household uses any of: hitting with an object, beating with an implement, burning or biting (lines 10-13 on Table 1).

Intensive verbal reprimand and low-intensity corporal punishment are relatively common. For example, 75% of caretakers in 2006 reported yelling and 42% reported spanking on the bottom. High-intensity physical punishment is relatively uncommon, with 14% of caretakers in 2006 reporting hitting with an object, and fewer than 10% reporting any of the other behaviors. Overall, use of all physical discipline declined from 2006 to 2011, which is consistent with a general decline in employment of corporal punishment worldwide.

To study the determinants of family disciplinary methods, we employ a number of control variables from MICS: the child's sex and age, the head of household's sex and educational attainment (whether he/she finished primary and secondary school), the age of the child's primary caretaker and whether the domicile is in an urban area. These are standard controls for research on determinants of parental corporal punishment. See, for example, Straus and Stewart (1999). The educational attainment of the child's primary caretaker (typically the mother) may also be an important control variable, but there is a substantial amount of missing data that reduces the sample

size by about a third. Thus, we show results both with and without these covariates, and the results turn out to be similar. The family's economic situation is also thought to be an important covariate, but unfortunately only the 2011 survey collects data on household wealth (an indicator by quintile). Thus, we conducted our analysis both on the pooled 2006 and 2011 samples and on the 2011 sample only. The former constitutes a larger sample size and more variation in conflict levels, but the latter sample allows us to control for household wealth. We also used dummy variables for whether the respondent lives in a majority Sunni, Shia or Kurdish province to control for unobserved cultural and religious differences across Iraq.[2]

While these household controls are important, our primary explanatory variable of interest is a measure of the level of conflict in the region in which the respondent lives. Specifically, for each observation, MICS records the province in which the respondent lives. We merged this record with data from IBC on conflict-related casualties by province. This allows us to construct, for each household, a measure of conflict intensity in the province in which the household resides. Importantly for our analysis there was substantial variation in conflict intensity across provinces in the period under study. For example, in the Kurdish Dohuk region there was only one conflict-related casualty in 2006, while in Baghdad there were almost 18,000 (2.61 per thousand people). We use the rate of casualties per 1000 people, lagged by one year, as our measure of conflict intensity. We tried a number of alternative specifications for conflict, including lagging casualty rates by two years, averaging several previous years of casualty rates and using logs instead of rates, and the results were qualitatively similar.

[2] The motivation for the regional controls is important in the context of our findings. Prior to the rise of ISIL, the Kurdish region specifically was comparatively very stable, with a well-functioning security apparatus and public institutions. The Kurds had been essentially self-governing since sanctions following first Gulf War severely limited Sadaam Hussein's ability to exercise any authority in the region. See Viviano (2006) for an account of successful Kurdish self-governance. The Education Policy and Data Center reports that school completion rates in the Kurdish provinces far outstrip those in any other area (Buckner 2012).

As for using casualty rates as a proxy for conflict intensity, generally, this is common in quantitative studies of international conflict (e.g. Looney 2006 and Berman et al. 2011, both dealing with Iraq). One reason is availability of consistent data. Additionally, Fox and Sandler (2006) argue that the level of violence is the best measure of the impact of conflict on the civilian population, and that the number of deaths is a good proxy for the intensity of violence.

Table 2 presents summary statistics, both for the 2011 sample and for the 2006/2011 pooled sample. As explained previously, the former is a smaller sample size and has less variation in conflict levels, but allows us to control for household wealth, which is not available in the 2006 dataset. The data are reasonably representative, with approximately equal numbers of boys and girls, split about evenly among Sunni, Shia and Kurdish areas. The sample also spans the whole wealth distribution, and with considerable variation in education levels both of the head of household and of primary caretakers.

<<INSERT TABLE 2 HERE>>

IV. Results

Using a probit model, we fit a regression of the household discipline variables described in the previous section on our local conflict variable and on our other household and child controls. The results are given in Tables 3 and 4.

<<INSERT TABLE 3 HERE>>

<<INSERT TABLE 4 HERE>>

Across specifications, increases in intensity of local conflict are associated with reductions in the use of exclusively constructive discipline methods, with increases in the use of punitive verbal reprimand, with increases in the use of low-intensity physical discipline and with increases in the use of high-intensity physical discipline. For the pooled sample, all of these associations are significant at the 1% level. For the 2011 data only (which includes wealth controls), all of these associations are significant at the 1% level, except for the results on high-intensity physical discipline, which are significant at the 5% and 10% level respectively, depending on whether the full sample is used or only the subsample containing data on the caretaker's education level.

As for magnitude, the estimated impact can be substantial. For example, if we use the 2011 results that incorporate controls for household wealth, each 0.1-unit increase in the casualty rate (approximately one standard deviation) is associated with a 3% reduction in the use of exclusively constructive discipline, with a 5% increase in the use of harsh verbal correction, with a 6% increase in the use of moderate corporal punishment and with a 0.7% increase in the use of severe corporal punishment. For estimation using the full sample, without household wealth controls, the estimated magnitudes of the partial effects are smaller, although they follow the same basic pattern – the percentage-point impact of local conflict on harsh verbal correction and on moderate corporal punishment is stronger than the impact on severe corporal punishment.

The other comparative statics are consistent with existing literature on child discipline. Boys are subject to corporal punishment with greater frequency than girls are. Use of corporal punishment by age is nonlinear – increasing until 7-8 years old and then declining thereafter. Education is also a modulating factor. Households where the head of household completed secondary school are less likely to use corporal punishment. The same result holds for the child's caretaker, and is especially strong if the caretaker attended post-secondary school. Wealthier

households are less likely to employ corporal punishment, and this result holds consistently as we ascend each successive wealth quintile. The converse of all of the above results holds for exclusive use of constructive discipline. In other words, the data show that declines in the use of corporal punishment correspond to increasing use of constructive discipline techniques. The consistency of our results with previous work on corporal punishment is evidence for the reliability of the data.

Specific to the case of Iraq, households in Shia-majority regions are more likely to employ corporal punishment and households in Kurdish-majority regions are less likely to employ corporal punishment than households in Sunni-dominated provinces. This is again a testament to the relatively high levels of education and well-functioning social support systems in Kurdish areas, at least prior to the rise of ISIL, relative to the other regions in Iraq.[3]

Results on the caretaker's age are mixed, although when we control for the caretaker's education level there is a consistent nonlinear effect – corporal punishment use increases with age until the caretaker reaches her mid 20's, after which it falls. Results on the impact of living in an urban area are also mixed, although for the pooled sample households living in urban areas consistently employ corporal punishment less frequently (this may be because of the absence of controls for household wealth in this sample).

What is particularly interesting to note about these results is that the apparent correlation between conflict and parenting goes beyond an increased incidence of extreme events. While there *is* a discernible uptick in extreme parenting behaviors like beating with objects, the larger impact is on the marginal choice among low-intensity corporal punishment, punitive verbal reprimand, and the use of constructive discipline methods. Other authors have focused on child abuse, and our

[3] Other researchers have obtained similar results. For example, a survey of more than 10,000 girls between the ages of 10 and 14 conducted by Iraq's Central Statistical Organization in 2013 finds that the rate of abuse perpetrated by fathers in Sunni and Shia areas is more than twice the rate in Kurdish areas, and that the rate of abuse perpetrated by mothers is more than 50% higher.

results are consistent with theirs. However, we have additionally shown that the relationship between conflict and parenting spills over into mainstream, non-abusive parenting choices. If the literature from psychology is correct that even light corporal punishment is harmful to children, then the larger impact on child welfare may be a disruption of normal parenting practices and an uptick in moderate corporal punishment, rather than the marginal impact on extreme abuse.

It is important to note that our results are statistical associations and that our ability to draw causal inferences is limited by the structure of the data. Households are not placed in provinces at random, and there could be other factors correlated with conflict levels that influence child-rearing practices. In brief, people living in high-conflict areas might be different from their counterparts in low-conflict areas even in the absence of war.

Available data suggests two falsification tests to assess the impact of potential selection bias on our results. First, the survey asks caretakers whether they "believe that in order to raise (child) properly, you need to physically punish him/her." Interestingly, the level of conflict is not a significant determinant of an affirmative response. In other words, parents living in high-conflict areas do not have different attitudes from their counterparts about whether children *should* be raised using corporal punishment, but rather conflict appears to be associated with the use of corporal punishment in practice. This result suggests that the correlations that we have identified are not simply a selection effect of caretakers living in conflict-ridden areas having different social values with respect to parenting practices. Rather, conflict appears to be associated with the *actions* that caretakers undertake in rearing their children. Second, if we use contemporaneous or one-year-ahead casualty rates rather than lagged conflict rates, there is no longer a statistically significant relationship between casualty rates and child discipline methods. Indeed, previous literature suggests that the impact of conflict-related stress, especially to the degree that it operates

through the mental health channel, is cumulative and progressive over time. The fact that it is *only* lagged casualty rates that are associated with changes in child discipline practices is again suggestive that the associations we have identified are not merely a selection effect related to innate differences across provinces.

V. Conclusion

Al-Sabah et al. (2015) recorded a persistent and long-term impact of the Bosnian conflict on the psychological health of adolescents. While it is generally understood that war is particularly damaging to children, empirical work on the nature of the link is extremely limited. In this paper, we have provided evidence for a link that operates via parenting. Catani et al. (2008) and Catani (2010) document that child abuse is high during wars and discuss the underlying psychological transmission mechanisms, but ours appears to be the first paper that identifies an empirical association between conflict intensity and parenting choices. Further, by considering mainstream parenting practices, and not only unequivocal child abuse, we have given a more complete picture of the relationship. We have shown that children who live in conflict-ridden areas are more likely to experience both moderate and severe corporal punishment, and punitive verbal reprimands like name-calling and shouting. Correspondingly, they are less likely to be reared exclusively using the healthiest parenting techniques like redirection and explanation. Moreover, conflict intensity is not correlated with *attitudes* about whether corporal punishment is acceptable, but rather with the *exercise* of corporal punishment, which suggests the absence of a large selection issue.

The discussion from section II provides a number of plausible explanations for this result. High rates of PTSD among the Iraqi population, along with large income and property losses, create mental distress, which is known to be associated with poor parenting. In a more direct sense,

acclimatization to violence, especially local violence as we measure in this paper, can lead to a paradigm shift that results in the exercise of more violence at home. Many families have suffered a death in the family, or there are long parental absences for other reasons, e.g. emigration to find stable employment, and the literature is clear that these absences are associated with increases in child maltreatment. Finally, the Iraq war has decimated the social services and health care infrastructure, especially in high-conflict areas. This is important because, particularly in the predominantly tribal context, a poorly functioning social services infrastructure reduces the ability of public authorities to monitor for child maltreatment or to intervene.

The context of these results in the Middle East is especially important. Instability in Iraq is only intensifying; the United Nations estimates that there are more than 2 million Iraqi refugees at this point, and the number continues to grow. Unfortunately, lack of good data in the Middle East is a persistent problem for researchers and it impairs policy analysis. Thus, our pairing of geolocational conflict data together with household-level survey data is potentially a new path for analyzing the impact of war on families, which Catani (2010) argues is sorely lacking. One path forward is to try to develop more localized measures of conflict intensity. Unfortunately, IBC data is currently identified in a consistent way only at the level of the province.

The policy implications of this work are manifold. Most importantly, researchers are developing an increasing awareness of how persistent early childhood experiences can be into adulthood. Heckman and Masterov (2007) find a whole host of public costs associated with negative early childhood experiences, including permanently lower productivity and increased propensity to commit crimes. Specifically with respect to parenting techniques, Straus (2001) argues that there are whole host of long-term consequences associated with even moderate corporal punishment, including anti-social behavior, violent behavior and reduced earnings later in life. All

of these impose costs not only on the child, but also external costs to society. The specter of long-run persistence of negative youth experiences is especially concerning given the population configuration of the Middle East, which demographers describe as a "youth bulge" (Dhillon 2008). Counseling the cessation of wars is probably futile, but we can at least echo Catani (2010) regarding the urgent need for investment in counseling and psychological services for civilians who are impacted by violent conflict, especially children and caretakers. Furthermore, the reconstruction of a well-functioning health and social service infrastructure must take the highest priority following wartime conflict, especially inasmuch as locational displacements and deaths can upend the more informal family and community-based support systems that complement formal public institutions.

War devastates children directly, but also because it impairs the well-being of the adults on whom they rely for guidance and support. Fostering a climate of nurturing child-rearing is a compelling public interest and an understudied aspect of the consequences of war.

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Table 1: Incidence of Discipline Methods

Discipline Method	Incidence (2006)	Incidence (2011)
1. Took away privileges, forbade something (child) liked or did not allow him/her to leave house	0.47	0.37
2. Explained why something (the behavior) was wrong	0.88	0.86
3. Gave him/her something else to do	0.54	0.49
4. Shouted, yelled at or screamed at him/her	0.75	0.69
5. Called him/her dumb, lazy or another name like that	0.37	0.35
6. Shook him/her	0.46	0.41
7. Spanked, hit or slapped him/her on the bottom with bare hand	0.42	0.32
8. Hit or slapped him/her on the face, head or ears	0.26	0.25
9. Hit or slapped him/her on the hand, arm or leg	0.33	0.30
10. Hit him/her on the bottom or elsewhere on the body with something like a belt, hairbrush, stick or other hard object	0.14	0.09
11. Beat him/her up with an implement (hit over and over as hard as one could)	0.06	0.04
12. Burn him/her with a heated metal	0.02	0.01
13. Bite him/her	0.05	0.03

Table 2: Summary Statistics

Variable	Description	Mean	S.dev.	Min	Max
Casualty Rate	Casualties per 1000 population, lagged 1 year	0.1022 *0.1956*	0.1128 *0.3090*	0 *0*	0.4030 *1.4546*
Child sex	=1 if child is male	0.5155 *0.5148*	0.4998 *0.4998*	0 *0*	1 *1*
Child age	Child's age, in years	7.57 *7.66*	3.88 *3.88*	2 *2*	14 *14*
Head sex	=1 if head of household is male	0.9406 *0.9365*	0.2364 *0.2439*	0 *0*	1 *1*
Head primary	=1 if HOH completed primary school only	0.3574 *0.3422*	0.4792 *0.4745*	0 *0*	1 *1*
Head secondary	=1 if HOH completed secondary school	0.4374 *0.4526*	0.4961 *0.4978*	0 *0*	1 *1*
Caretaker age	Caretaker's age, in years	35.90 *36.10*	9.06 *9.21*	11 *11*	99 *99*
Caretaker secondary	=1 if caretaker completed secondary school only	0.1966 *0.2032*	0.3974 *0.4024*	0 *0*	1 *1*
Caretaker post-secondary	=1 if caretaker completed post-secondary school	0.1662 *0.1775*	0.3722 *0.3821*	0 *0*	1 *1*
Wealth second	=1 if household wealth in second quintile	0.2327	0.4225	0	1
Wealth third	=1 if household wealth in third quintile	0.1887	0.3912	0	1
Wealth fourth	=1 if household wealth in fourth quintile	0.1524	0.3594	0	1
Wealth highest	=1 if household wealth in highest quintile	0.1203	0.3253	0	1
Urban	=1 if domicile in urban area	0.5838 *0.6074*	0.4929 *0.4883*	0 *0*	1 *1*
Shia	=1 if domicile in Shia-majority province	0.3511 *0.3800*	0.4773 *0.4854*	0 *0*	1 *1*
Kurd	=1 if domicile in Kurd-majority province	0.2747 *0.2507*	0.4464 *0.4334*	0 *0*	1 *1*
Only constructive discipline	=1 if only constructive discipline used	0.1838 *0.1723*	0.3873 *0.3776*	0 *0*	1 *1*
High-intensity verbal discipline	=1 if high-intensity verbal discipline used	0.7107 *0.7307*	0.4535 *0.4436*	0 *0*	1 *1*
Low-intensity physical discipline	=1 if low-intensity physical discipline used	0.5905 *0.6151*	0.4917 *0.4866*	0 *0*	1 *1*
High-intensity physical discipline	=1 if high-intensity physical discipline used	0.1166 *0.1381*	0.3209 *0.3450*	0 *0*	1 *1*

Notes: Summary statistics given for 2011 sample and for pooled 2011 and 2006 sample (in italics) respectively.

Table 3: Determinants of Discipline Method – 2011 Observations Only

	Only constructive discipline used		High-intensity verbal discipline used		Low-intensity physical discipline used		High-intensity physical discipline used	
Casualty rate (per 1000)	-1.1806*** (0.1667) [-0.3051]	-1.2777*** (0.1820) [-0.3259]	1.5801*** (0.1474) [0.5339]	1.8191*** (0.1614) [0.6100]	1.6263*** (0.1396) [0.6307]	1.7699*** (0.1525) [0.6825]	0.3989** (0.1721) [0.0741]	0.3638* (0.1905) [0.0663]
Child sex	-0.1662*** (0.0178)	-0.1671*** (0.0211)	0.1679*** (0.0161)	0.1590*** (0.0191)	0.1964*** (0.0154)	0.1828*** (0.0182)	0.2151*** (0.0202)	0.2323*** (0.0241)
Child age	-0.1260*** (0.0117)	-0.1159*** (0.0139)	0.1709*** (0.0107)	0.1677*** (0.0126)	0.1426*** (0.0103)	0.1443*** (0.0121)	0.1103*** (0.0136)	0.1085*** (0.0162)
Child age^2	0.0081*** (0.0007)	0.0074*** (0.0009)	-0.0101*** (0.0007)	-0.0099*** (0.0008)	-0.0098*** (0.0006)	-0.0099*** (0.0007)	-0.0060*** (0.0008)	-0.0060*** (0.0010)
Head sex	-0.0815 (0.0382)	-0.0627 (0.0476)	0.1043*** (0.0348)	0.0777* (0.0431)	0.0500 (0.0338)	0.0469 (0.0415)	0.0144 (0.0434)	-0.0011 (0.0532)
Head primary	0.0169 (0.0258)	0.0064 (0.0376)	-0.0165 (0.0233)	-0.0195 (0.0337)	0.0367* (0.0221)	0.0359 (0.0319)	0.0107 (0.0277)	0.0347 (0.0402)
Head secondary	0.1269*** (0.0265)	0.1265*** (0.0375)	-0.1163*** (0.0240)	-0.1119*** (0.0337)	-0.0741*** (0.0229)	-0.0727** (0.0319)	-0.1355*** (0.0294)	-0.0814** (0.0408)
Caretaker age	-0.0042 (0.0062)	-0.0208** (0.0094)	0.0097* (0.0057)	0.0289*** (0.0086)	0.0075 (0.0057)	0.0221*** (0.0084)	0.0131 (0.0080)	0.0294** (0.0118)
Caretaker age^2	0.0002** (0.0001)	0.0004*** (0.0001)	-0.0003*** (0.0001)	-0.0005*** (0.0001)	-0.0003*** (0.0001)	-0.0005*** (0.0001)	-0.0003*** (0.0001)	-0.0005*** (0.0002)
Caretaker secondary		0.0009 (0.0286)		-0.0014 (0.0259)		-0.0142 (0.0245)		-0.0473 (0.0320)
Caretaker post-sec		0.0939*** (0.0318)		-0.1262*** (0.0291)		-0.0994*** (0.0281)		-0.1604*** (0.0399)
Wealth second	-0.0066 (0.0260)	-0.0035 (0.0328)	-0.0249 (0.0235)	-0.0280 (0.0295)	-0.0074 (0.0224)	0.0081 (0.0279)	-0.0972*** (0.0279)	-0.1033*** (0.0344)
Wealth third	-0.0003 (0.0285)	-0.0088 (0.0351)	-0.0451* (0.0257)	-0.0302 (0.0315)	-0.0430* (0.0245)	-0.0367 (0.0298)	-0.1323*** (0.0310)	-0.1359*** (0.0373)
Wealth fourth	0.0209 (0.0315)	0.0048 (0.0378)	-0.0557** (0.0284)	-0.0584* (0.0339)	-0.0628** (0.0271)	-0.0417 (0.0321)	-0.2169*** (0.0352)	-0.2050*** (0.0412)
Wealth highest	0.2752** (0.0338)	0.2517*** (0.0404)	-0.2118*** (0.0313)	-0.1723*** (0.0371)	-0.2323*** (0.0302)	-0.1825*** (0.0355)	-0.4314*** (0.0428)	-0.3745*** (0.0488)
Urban	0.0222 (0.0210)	-0.0060 (0.0254)	-0.0437** (0.0190)	-0.0056 (0.0229)	-0.0739*** (0.0181)	-0.0710*** (0.0217)	0.0422* (0.0231)	0.0549** (0.0277)
Shia	-0.2168*** (0.0379)	-0.2347*** (0.0418)	0.4534*** (0.0338)	0.5012*** (0.0375)	0.3057*** (0.0321)	0.3300*** (0.0356)	0.1470*** (0.0401)	0.1545*** (0.0452)
Kurd	0.1302*** (0.0414)	0.0684 (0.0465)	0.0527 (0.0370)	0.1522*** (0.0417)	-0.0069 (0.0354)	0.0471 (0.0340)	-0.2558*** (0.0459)	-0.1984*** (0.0529)
Constant	-0.4528*** (0.1233)	-0.1562 (0.1735)	-0.3787*** (0.1123)	-0.7562*** (0.1581)	-0.3324*** (0.1110)	-0.6284*** (0.1537)	-1.6879*** (0.1519)	-2.0001*** (0.2130)
Observations	27,919	19,952	27,919	19,952	27,919	19,952	27,919	19,952

Notes: Probit regression used throughout. Casualty rate measures conflict-related casualties per 1000 population in province in which respondent lives, lagged by one year. Child sex = 1 for male; Head sex = 1 for male; Lowest wealth quintile is the omitted dummy; Urban = 1 if respondent lives in urban area; Sunni-majority is the omitted region dummy. Standard errors appear in parentheses. Marginal effects, evaluated at the mean, appear in brackets. * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.

Table 4: Determinants of Discipline Method – Pooled 2006 and 2011 Observations

	Only constructive discipline used		High-intensity verbal discipline used		Low-intensity physical discipline used		High-intensity physical discipline used	
Casualty rate (per 1000)	-0.3330*** (0.0419) [-0.0838]	-0.3624*** (0.0479) [-0.0895]	0.4864*** (0.0376) [0.1595]	0.5347*** (0.0433) [0.1730]	0.2946*** (0.0340) [0.1135]	0.2939*** (0.0388) [0.1124]	0.1479*** (0.0373) [0.0285]	0.1700*** (0.0432) [0.0320]
Child sex	-0.1648*** (0.0149)	-0.1577*** (0.0177)	0.1599*** (0.0135)	0.1483*** (0.0160)	0.1980*** (0.0128)	0.1807*** (0.0152)	0.1839*** (0.0159)	0.2037*** (0.0190)
Child age	-0.1266*** (0.0098)	-0.1161*** (0.0116)	0.1610*** (0.0089)	0.1585*** (0.0105)	0.1496*** (0.0085)	0.1508*** (0.0100)	0.1241*** (0.0107)	0.1285*** (0.0128)
Child age^2	0.0082*** (0.0006)	0.0076*** (0.0007)	-0.0097*** (0.0005)	-0.0096*** (0.0006)	-0.0104*** (0.0005)	-0.0106*** (0.0006)	-0.0072*** (0.0006)	-0.0076*** (0.0008)
Head sex	-0.0787** (0.0312)	-0.0555 (0.0390)	0.0689** (0.0286)	0.0423 (0.0356)	0.0621** (0.0272)	0.0497 (0.0336)	0.0485 (0.0335)	0.0369 (0.0417)
Head primary	-0.0107 (0.0217)	-0.0206 (0.0319)	-0.0056 (0.0196)	-0.0164 (0.0287)	0.0337* (0.0185)	0.0382 (0.0269)	-0.0097 (0.0221)	0.0214 (0.0322)
Head secondary	0.1379*** (0.0213)	0.1151*** (0.0313)	-0.1345*** (0.0193)	-0.1230*** (0.0283)	-0.1054*** (0.0183)	-0.0775*** (0.0265)	-0.2010*** (0.0223)	-0.1117*** (0.0321)
Caretaker age	0.0032 (0.0045)	-0.0215*** (0.0070)	0.0057 (0.0042)	0.0226*** (0.0065)	-0.0011 (0.0041)	0.0209*** (0.0063)	-0.0015 (0.0052)	0.0235*** (0.0084)
Caretaker age^2	0.0001* (0.0001)	0.0004*** (0.0001)	-0.0002*** (0.0001)	-0.0004*** (0.0001)	-0.0002*** (0.0001)	-0.0004*** (0.0001)	-0.0001 (0.0001)	-0.0004*** (0.0001)
Caretaker secondary		0.0498** (0.0235)		-0.0161 (0.0214)		-0.0599*** (0.0201)		-0.0754*** (0.0247)
Caretaker post-sec		0.1611*** (0.0249)		-0.1472*** (0.0229)		-0.1634*** (0.0219)		-0.2814*** (0.0295)
Urban	0.1013*** (0.0158)	0.0654*** (0.0199)	-0.1113*** (0.0143)	-0.0793*** (0.0180)	-0.1407*** (0.0135)	-0.1195*** (0.0169)	-0.0702*** (0.0164)	-0.0248 (0.0206)
Shia	-0.1241*** (0.0239)	-0.1370*** (0.0273)	0.2979*** (0.0215)	0.3152*** (0.0246)	0.1191*** (0.0201)	0.1219*** (0.0230)	0.1622*** (0.0243)	0.1733*** (0.0284)
Kurd	0.2410*** (0.0242)	0.2021*** (0.0288)	-0.1554*** (0.0219)	-0.1069*** (0.0262)	-0.2389*** (0.0210)	-0.2176*** (0.0251)	-0.2251*** (0.0273)	-0.1960*** (0.0333)
Year is 2011	0.0534*** (0.0200)	0.0363 (0.0242)	-0.0460** (0.0182)	-0.0313 (0.0221)	-0.1315*** (0.0171)	-0.1158*** (0.0207)	-0.2460*** (0.0200)	-0.2250*** (0.0244)
Constant	-0.8046*** (0.0933)	-0.3953*** (0.1321)	0.0475 (0.0857)	-0.2412** (0.1218)	0.1885** (0.0829)	-0.1921 (0.1176)	-1.2293*** (0.1038)	-1.7517*** (0.1539)
Observations	40,922	29,245	40,922	29,245	40,922	29,245	40,922	29,245

Notes: Probit regression used throughout. Casualty rate measures conflict-related casualties per 1000 population in province in which respondent lives, lagged by one year. Child sex = 1 for male; Head sex = 1 for male; Urban = 1 if respondent lives in urban area; Sunni-majority is the omitted region dummy; 2006 observations are the omitted time dummy. Standard errors appear in parentheses. Marginal effects, evaluated at the mean, appear in brackets. * indicates significance at 10%; ** indicates significance at 5%; *** indicates significance at 1%.