

Mothers, Fathers, and Others: Competition and Cooperation in the Aftermath of Conflict

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Abstract

We investigate the possibility that females and males had a distinct path in the evolution of prosociality and competitiveness. We collected experimental data measuring preferences for individual competition and in-group cooperation for a randomly selected sample of 751 individuals in Sierra Leone (aged 18-85) to contrast the behavioural consequences of victimization during the 1991-2003 civil war across gender and parental roles. Our data shows that conflict exposure, in general, tames competitive tendencies, but has the opposite effect for mothers. Victimization increases egalitarianism towards the in-group among non-parents, especially for non-parent males, who are the least egalitarian to start with. Our results imply that the behavioural consequences of conflict close sex and parental gaps in behavioural preferences. To the extent that group harmony may be enhanced by more equal in-group outcomes and more homogenous preferences, these results further lend credence to the idea that the behavioural effects of conflict prime individuals towards group survival. It also suggests that escaping perils and the harshness of resource constraints enables group differences in pro-social preferences (across genders and parental status) that may be detrimental to group harmony and group survival, a fate perhaps currently affecting societies with rising trends of inequality and polarization.

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1. Introduction

Behavioral studies in the aftermath of conflict point to the emergence of a set of psychological traits ---such as parochial altruism, egalitarianism, and selective trust (i.e. in-group vs. out-group)-- conducive to societal cooperation and coordination (e.g. Bellows and Miguel 2009; Voors et al. 2012; Bauer et al. 2014; 2016; Cassar et al. 2013). These results are usually explained within the framework of evolutionary theories of inter-group conflict (Bowles 2006; 2008; 2009; Choi and Bowles 2007). The idea is that, if inter-group conflict was a frequent human experience, evolution would favour groups with higher proportions of prosocial individuals, i.e. individuals ready to fight and sacrifice themselves for their in-group against the out-group, and to share resources more equally in order to enhance group survival. Thus, conflict would select for preferences that enhance in-group cooperation, such as parochial altruism and egalitarianism (Bernhard, Fischbacher, and Fehr 2006). Variations of these theories have produced evolutionary models in which altruism evolved through the selective (cultural or biological) extinction of groups in inter-group conflicts whose agents have no gender (e.g. Bowles, Choi and Hopfensitz 2003), leaving the possibility of a distinct role of sex in the evolution of prosociality unstudied.

Measuring preferences in post-conflict societies, through the comparison of individuals with varying degrees of victimization exposure, has been used in recent years to get insights into those behavioural reactions expected to be adaptive to group and/or individual survival. More fundamentally, the idea is that a specific trait or behaviour, empirically observed, may tell us something about the evolutionary forces that contributed to shape it. Initially employed to explain anatomical features, this method is embodied in the concept that form follows function: we can infer ancestral selection pressures by looking at the physical traits that selection pressures designed.¹ Not without controversy, this approach has increasingly been applied to psychological traits as well. Looking at behaviours and preferences, one asks which functions they were serving, and proceeds to investigate the kind of selection pressures that could have shaped them (e.g. Henrich et al. 2001; Bernhard, Fischbacher, and Fehr 2006; Apicella and Silk 2019). In this paper, we investigate the possibility that females and males had, on top of a similar one, an additional distinct path in the evolution of egalitarianism-based prosociality and competitiveness under the pressures of inter-group conflict.

¹ For example, recent research is showing that male traits, like a deep voice and facial features, appear to have evolved more for male-male competitions, i.e. dominance, rather than for being a trait favoured by females for reasons other than dominance (Puts, Apicella and Cardenas 2012; Hill et al. 2013).

Our empirical strategy is to contrast the effect of individual victimization across parents and non-parents, and men and women, in a sample of 751 individuals in Sierra Leone between the ages of 18 and 85 (median age: 33). We consider the behavioural consequences of different types of victimization (destruction of material resources, injury and loss of life) during the 1991-2003 civil war on social preferences towards the in-group.² We collected experimental data measuring preferences for individual competitiveness and cooperation, as well as survey data on socio-demographic characteristics and experiences of victimization.

Our results paint a rich picture of the differential behavioural consequences of conflict across both gender *and* parental status. We find that conflict victimization is associated with increases in in-group egalitarianism, but only for non-parents, and especially non-parent males, who were the least egalitarian to start with. We also find that conflict, in general, tames competitive tendencies, but has the opposite effect for mothers. For mothers, who are otherwise the least competitive to start with, victimization *increases* competitiveness. The magnitude of these effects is considerable, to the extent that conflict victimization completely closes the gap in in-group cooperation between parents and non-parents, and closes the gender gap in competitiveness. Hence, a correlate of our results is that conflict victimization reduces within-group behavioural differences in cooperation and competitiveness, thereby further contributing to equalizing outcomes within the group. Our evidence also suggests that the results are primarily being driven by the negative economic consequences of conflict: the effects are especially binding when victimization consists of material destruction, and for mothers who are most likely to be struggling economically. We discuss how our results can be explained within a theory framework comprised of life stages, cooperative breeding and inter-group conflict. Conflict exposure increases in-group cooperation and curbs in-group competition for non-parents, those who may be most needed to contribute to group survival but the least likely to do so in the absence of conflict. The effect is present for both sexes but slightly stronger for non-parent males, perhaps because group survival may depend not only on their willingness to share resources, as it does for women, but also to fight for their group, an even more extreme form of cooperation. For mothers, the increase in competitiveness may be primarily driven by the constraints of kin survival, which may, for them, be as important (or even dominate in the short term) group survival constraints.

Our work contributes to two strands of literature. First, to the literature on sex differences in behaviour, with a particular focus on female strategies from an evolutionary perspective. Second,

² More detail on the conflict is in Appendix C.

on the behavioural consequences of conflict, from the perspective of inter-group conflict as potential catalyst to prosociality and cooperation. While our results are consistent with the rest of the literature that documents increases in in-group altruism and egalitarianism, we bring a finer understanding of the underlying mechanism by documenting heterogeneous effects across gender and parental status. We also shed light on a vastly understudied trait in relation to the behavioural consequences of conflict and disasters: competitiveness. To the best of our knowledge, the only other paper on conflict exposure and competitiveness is Cecchi, Leuvelde and Voors (2016), although their focus is on competitiveness towards the out-group and only for males. Hence, we document for the first time how conflict curbs in-group competitiveness. This result complements the existing literature by showing that competitiveness comes at the expense of egalitarianism, suggesting that curbing competitiveness promotes cooperation within the group.

Existing studies of the effects of conflict on social preferences are silent about gender differences. This is especially interesting in light of the vast literature on behavioural differences between men and women in the absence of conflict. A robust finding in this literature is that women are less competitive than men (Niederle, and Vesterlund 2007; Niederle 2015 for a survey). More broadly, our study also contributes to the idea that gendered differences in behavior emerge only once people escape various kind of scarcity. A recent exciting discovery regarding gendered behavior is that sex differences in personality traits and behavioural preferences tend to be much more pronounced in individualistic, gender-egalitarian societies (Del Giudice 2015) and tend to be associated with economic development as well as gender equality (Falk and Hermlle 2018). Those findings provide supporting evidence to the novel hypothesis that greater availability of material and social resources lifts the gender-neutral goal of subsistence and creates the scope for gender-specific ambitions, desires, and preferences. Our current study, using the quasi-natural experimental variation in material and relational scarcity brought about by conflict, supports the idea that female competitiveness responds to the specifics of both biological (motherhood) and socioeconomic contexts.

2. Theoretical Background and Methods

2.1. Theoretical Background

The set of theories that brings inter-group warfare as catalyst to human cooperation implicitly focuses on the needs of men's organized activities--- the formation of coalitions---by highlighting

mechanisms relevant for the selection of male traits: aggression towards the outsiders and altruism towards insiders (e.g. Wrangham 2018, Benenson and Markovits 2014). When it comes to women's contribution to the evolution of prosociality preferences, the potential for conflict-based female strategies selective mechanisms remains unstudied. Models based on cooperative hunting also tend to be tacit about women's active contribution beyond a passive role of chooser of next generation's genetic pool (i.e. the best hunters), where selection operates on male characteristics as a result of female mate choice (Kaplan and Hill 1985). In light of this theoretical silence and lack of sufficient empirical backing, we enquire whether prosociality could have wider roots and involve all members of a group, through both similar and gender-specific mechanisms. To do so, we employ random variation in conflict victimization to isolate behavioural reactions along gender lines. Importantly, to properly include female strategies, we further distinguish along life stages, as it is in the domain of parental investment within a framework of both natural and sexual selection that evolutionary psychology traces the origins of gendered behavioural differences (Trivers 1972; Hrdy 2009; Cassar and Zhang 2021). Our goal is, primarily, to investigate female strategic behaviours and, secondarily, to contribute empirical evidence to the literature that links the evolutionary origin of human prosociality to inter-group conflicts.

To root specifically female adaptive strategies into an evolutionary theory context, we turn to an alternative hypothesis for solving the puzzle of human prosociality. Given the tremendous challenges faced by our ancestors to the successful rearing of their young, early hominin mothers relied on group members to help care for, protect, and nourish their unusually slow-maturing children (Hrdy 2009). Such cooperative breeding was sometimes based on coercion, but more often than not on altruistic cooperation, trust and reciprocity. The need to elicit help from others, kin and not, in an environment challenging for survival, would have proved the underpinning for human mutual understanding and inter-subjectivity, i.e. those precursors of other-regarding preferences crucial for prosociality. This pressure to cooperate for survival would have been felt by all: mothers of a species not capable of producing enough calories to bring a large-brained baby till maturity; fathers required to provision and protect; other members of the group (other adult men and postmenopausal women) expected to serve alloparental functions. Furthermore, to make sense of features of human cooperation such as its existence between unrelated individuals, in short-term interactions, in large scale groups, and with a high degree of variability among societies, such psychological apparatus would have needed to be especially adapted for the cultural learning of social norms, as this mechanism would facilitate the assortment of cooperation necessary to solve the problem of free riding (Apicella and Silk 2019).

In this paper, we examine the differential effect of conflict on individual social preferences as a function of both gender and reproductive stage. We focus both on individual competitiveness and in-group cooperation (measured by egalitarian preferences). We look at the behavioural response to victimization, expecting each actor to react to negative shocks with a complex set of strategies, possibly embodied in social norms, that contribute differently to either individual or group survival depending on the individual sex and life history. Some of the costs and benefits to cooperate and compete are equal to both sexes at both life stages (those that have consequences for access to resources necessary for survival). Others are specific to each sex and reproductive stage. As a result of exposure to conflict, we expect males and females without children to invest more resources in the group wellbeing, by being more egalitarian and less competitive towards a member of the same group. On the contrary, mothers may become relatively more competitive for resources that benefit their children and less willing to decrease their share of resources. Father should be more egalitarian in general than non-fathers, as reciprocity by other male members is critical to household survival, unless they are in critical need as when injured or lacking resources, when individual survival is at stake.

2.2. Participants

Data were collected during May-August 2018. The sample consists of 751 individuals from two randomly selected regions out of the four provinces of Sierra Leone: Makeni in the Northern Province and Kenema in the country's Eastern Province (Figure C.1 in Appendix). Within each province we randomly selected seven villages, for a total of fourteen sampled villages. Within each village, starting from pre-specified points of randomly selected neighborhoods, our team of researchers and enumerators invited into the study the occupants of every third house until the predetermined number of participants was reached. One condition for inclusion in the sample was for each household to have most of its adult members able and willing to participate at the same time. Selective entrance into the sample turned out not to be a concern as nearly all the invited households accepted to participate. Given the poverty of the region and lack of profitable opportunities outside the homes, most individuals were either already home at the time of the study or not too far, so those that were not present were promptly called home, by cellphone, by their family members. All of the activities took place outside the participants' homes in secluded areas, ensuring subjects' privacy when playing and confidentiality of answers.

2.3. Experimental Methods

Each experimental session consisted of a series of games designed to elicit individual preferences for competition and cooperation, plus a final survey. Each subject was paid a show up fee of SL 5,000 and a fee of SL 10,000³ as compensation for the hours of labor potentially missed while participating in this study, plus a variable payment of about SL 1,827 for one round, randomly chosen, of the experimental games. In total, the average payout each subject received was Le16,827 (about \$2.15 at the time when \$1=Le7,900). Each participant took his/her decision in private and such choices were kept confidential to both elicit more truthful responses and to eliminate the potential for retaliation or expected redistribution of the gains after the session. All the activities were conducted in random order to balance learning effects.

2.3.1 The Competition Game

The competition game is based on an oral version of the standard experimental protocol for eliciting competitive preferences (Niederle and Vesterlund 2007). The game main task is to perform one-minute of mental summation: $1+8=9$, $9+3=12$, $12+2=14$, etc. Adding up in one's mind is a quotidian function in Sierra Leone where even those with little education and low literacy perform it regularly to complete transactions and, in general, are very good at it. To keep the task difficulty constant and equal among subjects, we worked from a predetermined list of additions, adding only one-digit number to each previous total.

The competition game unfolds in a sequence of three rounds. The first two rounds are the same for everyone and expose the subjects to two different payment schemes. The first method, termed Piece-Rate, is a payment method for which subjects receive a relatively low but certain amount per correct answer (Le1,000). A second scheme, named Tournament, is a compensation method in which subjects are paid twice as much per correct answer as the Piece-Rate method (Le2,000 per correct answer), but only if they solve correctly more additions than a randomly matched partner. This second round is a compulsory competition against an anonymous person from the same village whose score has been obtained in advance (during pilots of the experiment).

What matters for us, though, is not how well a subject can solve additions as in Round 1 or 2, but which payment scheme is preferred by a subject that has experienced both environments: a low but certain rate or a higher, yet uncertain, one that involves measuring oneself against others. The relevant part of the experiment, then, starts with Round 3, when subjects are asked to decide, privately, whether they choose to be paid according to the Piece-Rate rule or the Tournament rule

³ 10,000 Leones is roughly equivalent to 1 USD.

for the round to follow. The important feature to this design is that, when tournament is chosen, each subject's current performance, is matched against the opponent past performance in Round 2. This was done for several reasons: to compare both competitors' performances under the same competitive environments, to make sure each subject had a partner (the new partner may have chosen piece-rate), and, most important of all, to remove the motive of not wanting to impose a cost (by winning) on another and confound competition with other-regarding preferences. In this paper we focus on the third round where each subject is given the choice to compete or not against an anonymous person from the same village as a measure of in-group competitiveness. This choice to compete or not is what we use as measure of an individual preference for pure competition, isolated from other-regarding consequences (which will instead be the object of the second game).

Since competitiveness as a trait is inextricably linked to confidence and tolerance to risk, we also elicit a measure of risk aversion by including an incentivized simple risk game experimental module (unitary lottery) and a "guess how good you were" module to measure respondent's confidence. Controlling for risk and confidence enables us to isolate competitiveness behavior from its usual confounds. We also control for respondents' ability (measured by the number of correct answers in Round 1), which could influence willingness to compete.

2.3.2 The Cooperation Game

The cooperation game is based on Fehr, Bernhard and Rockenbach (2008) protocol to elicit other-regarding preferences. A modified version was used by Bauer et al. (2014) to obtain prosocial preferences for children and adults who have experienced conflict. The experiment consists of a series of four dictator games: the sharing, costless sharing, envy and costless envy games. The game was here adapted to measure prosocial preferences towards the in-group (a random person in the same village). Combining the choices between the various dictator games we can isolate different motives and assign subjects a category of behavior. In this paper, we are interested in prosociality motives, i.e. preferences that may be conducive to societal cooperation. The literature has isolated egalitarianism as an important catalyst for further cooperation. Specifically, here we define *Egalitarian* a subject that selects 1,1 for the sharing and envy games described below. Subjects who do not conform to this category will have a 0 value for this variable.

The Sharing game presents the subject with the choice between an allocation of 1,1 (1 unit for self, the "sender", and 1 unit for the "receiver") vs. an allocation of 2,0 (2 units for self and 0 for the receiver). The respective cash payoffs are such that 1 unit is equivalent to Le5000. Therefore, each subject in this game has to decide between splitting the pie equally (Le5,000-Le5,000) or keeping

it all for his/herself (Le10,000-Le0). Sharing could be an expression of generosity and costly gift-giving or could be a desire to maintain equality between the matched partners. Whatever the motivation behind the choice to share, the economic impact on the receiver would be unambiguously positive⁴ while on the subject it would be unambiguously negative (costly).

The Envy game turns to disadvantageous inequalities. The sender has to choose between 1,1 vs. 2,6 (Le5,000 for self and the receiver or Le10,000 for self and Le30,000 for the receiver). The 2,6 choice could reveal either a preference for desiring more resources for self, a desire to send consistently more resources to the partner, and/or a will to maximize the resources extracted from the experimenter. The 1,1 choice would reveal either a strong preference for egalitarianism or a dislike of disadvantageous inequalities⁵.

The complete experimental design comprises of several rounds of competitiveness and dictator games against a series of characters in a subject's network. The subjects were instructed that they would not be paid for each single round they played, but only for one round randomly drawn at the very end (among all the rounds of all the games they played). In this paper we focus on behavior towards an anonymous counterpart from the same village. Despite our best effort at incentivizing the games for both the senders and the anonymous receivers, after piloting, we decided to incentivize only the senders' decisions (i.e. how much our participants kept for themselves), out of respect for the strong case made by the local enumerators on the ground who were very worried that sending nothing versus different amounts (no matter how small) to neighbors would create tensions within each village. This modification of the original feature effectively biases our results against us finding differences across recipients and against us finding significant levels of generosity. Yet, as we show in the next sections, subjects systematically and significantly chose more egalitarian distributions of the resources, displaying deeply seated norms of cooperative behavior⁶.

⁴ The Costless Sharing Game is similar to the previous one, except that the sender's payoff is identical under both options, i.e. 1,1 vs. 1,0 (equivalent to Le5,000 for self in either case, and either Le5,000 or nothing for the receiver). This game reveals preferences for sharing when it costs nothing to the sender. Choosing 1,0 instead of the egalitarian option reveals a preference for advantageous inequalities, i.e. the sender prefers to have more than the receiver (or the receiver to have less) even when giving is free.

⁵ The Costless Envy Game, offers a choice between 1,1 and 1,2, (Le5,000-Le5,000 vs. Le5,000 for self and Le10,000 for the receiver). Similar to the previous game, the sender can send a gift to the receiver without losing anything. Choosing the unequal allocation may indicate generosity or efficiency, a desire to maximize total resources. Choosing the equal allocation indicates that the sender is averse to disadvantageous inequality.

⁶ Given the length of the full experimental protocol, for space considerations, the written version of the orally explained instructions for all the games can be found in the online Appendix and upon request (acassar@usfca.edu).

2.4. Descriptive statistics

Demographics. Our sample consists of 751 adults (653 parents and 98 non-parents, a natural unbalance given the adult age range we targeted). The relevant descriptive statistics for our samples are in Table 1. Since we aim to contrast the effect of conflict as a function of reproductive roles and of gender, we present our analysis separately for parents vs. non-parents; and for women vs. men. Women are slightly over-represented in our sample of parents (387 mothers vs. 266 fathers) but balanced in the sample of non-parents (47 females and 51 males). The average number of children (intensive margin) is 3.69, with fathers reporting more children compared with mothers due to the high prevalence of polygyny in our sample (44.94% of our sample is in a polygynous household). The majority of our sample is Christian, with the Muslim minority slightly over-represented in the non-parent sample (19% vs. 13%, p-value⁷: 0.07). In the survey, we asked about people's age. However, inspecting the age distribution reveals bunching around multiples of five, suggesting that people do not report their age precisely. To reduce measurement error, we capture age by terciles of the age distribution: young (18, our youngest respondent, to 28), middle aged (29-39), and old (above 40). Parents are, expectedly, much older than non-parents (89% of them are young, compared to 29% of parents).

Competition and cooperation. Average competition (choosing to compete in the tournament, as described in Section 3.1.) does not differ across the two samples of parents and non-parents (58% vs. 60%, two-sided difference in means P-value: 0.72). However, men, and especially fathers, are more competitive than women: the two-sided difference in means between fathers (65%) and all women (54%) P-value is 0.01. In other words, the main divide for competition is across gender lines.

In contrast, for egalitarianism, the divide is not across genders, but across parental status. Parents are a lot more cooperative than non-parents: 36% of parents are egalitarian within their in-group, compared to 26% of non-parents (P-value: 0.05), with no difference between mothers and fathers (35% vs. 36%, P-value: 0.73) or between non-parent men and women (25% vs. 26%, P-value: 0.99).

Victimization. We consider three measures of individual victimization. The first (*Injured*) is a dummy variable taking value 1 if either the respondent was injured or one of his or her household member was injured during the civil conflict. The second (*Destruction*) takes value 1 if the

⁷ Unless otherwise indicated, all reported P-values are for two-sided differences in means.

respondent reports loss of property as a result of the conflict. The third (*Killed*) is a dummy variable taking value 1 if a member of the respondent's household was killed during the conflict. Incidence of victimization is very high in our sample. Since parents are older and the conflict spanned over the entirety of the 1990s, incidence of victimization is particularly high in the sample of parents. 66% of parents and 53% of non-parents report injury; 60% of parents and 47% of non-parents report death; 79% of parents and 61% of non-parents report destruction.

2.5. Empirical strategy

Empirical specification. We investigate how war victimization affects preferences for in-group competition and egalitarianism. Since our hypothesized mechanism consists of the effect of war on material resources, we focus on the types of victimization that impose material costs: (i) whether one or one's family member was injured (engendering medical expenditures and loss of earning potential), and (b) whether the household's property was destroyed, as a result of the conflict. We consider in Appendix the effect of having a family member killed during the conflict (which may add to material injuries also emotional hurt and loss of kin support), and the results are consistent. The analysis compares individuals who suffered these types of victimization to individuals that did not, using an Ordinary Least Square Regression, with our proxies for in-group competition and cooperation as the dependent variables.⁸ The general form of the estimation equation is as follows:

$$Y_{ij} = \beta_0 + \beta_1 V_{ij} + \beta_2 F_{ij} + \beta_3 X_{ij} + \gamma_j + \varepsilon_{ij} \quad (1)$$

where our outcome variable Y_{ij} proxies behavioural preferences (alternatively competition and egalitarianism) of respondent i in village j ; V_{ij} is a measure of individual victimization, F_{ij} is a dummy indicator for female respondents, X_{ij} is a set of individual controls, and γ_j is a set of village fixed effects. Standard errors are corrected for potential heteroskedasticity and for potential clustering at the village level (14 clusters) using the wild cluster bootstrap method based on 1,000 replications, as recommended by Cameron et al. (2008) and Cameron and Miller (2015) to adjust for the small number of clusters.

We focus on two axes of heterogeneity in our analysis: parental status and gender. We chose to combine two-sample split analysis with two-way interaction to keep our results tractable (rather than four-sample split, or three-way interaction). To estimate whether the association between conflict and pro-social preferences differs across parental status and gender, we estimate (1) with

⁸ We verify that our results are robust to using non-linear models such as logit, and the results are consistent. These results are included in Appendix A (Tables A4 and A5). We chose to focus on OLS as our main specification due to issues arising from the estimation of interaction effects in non-linear models (see Ai and Norton 2003).

an additional interaction term between female and victimization and we do so separately in the two subsamples of parents and non-parents:

$$Y_{ij} = \beta_0 + \beta_1 V_{ij} + \beta_2 F_{ij} + \beta_3 F_{ij} * V_{ij} + \beta_4 X_{ij} + \gamma_j + \varepsilon_{ij} \quad (2)$$

where β_3 captures the differential effect of victimization for females.

Causal identification. The identification of the causal effect of violence is impaired if victims are different from non-victims for specific reasons. Any comparison of victims and non-victims may conflate the impacts of war with pre-existing differences that led some people to be victimized. This is especially problematic if the characteristics associated with victimization are also those associated with pro-social preferences. If, for example, more competitive or cooperative individuals, or villages with higher proportions of such individuals were systematically targeted, this would result in an estimation bias of any effect of the civil war on social preferences. To address this issue, we check that our results are robust to the inclusion of a large number of individual controls. First, we include characteristics that cannot have been affected by victimization, such as age, gender, and religious affiliation⁹ (Muslim vs. Christian). Second, we empirically investigate what individual characteristics are associated with victimization in order to check to what extent victimization was systematic and to potentially limit the selection bias by including individual correlates of conflict as controls. In Appendix Table A1, we present the estimation results of a regression of our indices of victimization on a wide range of individual controls. We include both individual controls that are pre-determined (e.g. gender, age) as well as controls that are more likely to be endogenous to victimization and to prosocial preferences. Since our major concern is that people were selected into victimization precisely on the basis of their prosocial preferences, we also include controls for respondents' confidence, ability, and risk preferences in our robustness specifications. Inspection of Table A1 reveals that older people are more likely to be affected by the conflict, a logical result since the conflict took place between 1991 and 2003. We also find that the likelihood of having property destroyed as a result of the conflict is positively correlated with the number of children and with ability, and negatively with confidence, although these variables are not robustly associated with the other dimensions of conflict, such as injury. Controls such as number of children, confidence, or risk preferences may result in an over-controlling problem (since fertility, confidence, and risk aversion may be both directly impacted by victimization and correlated with prosocial preferences) but will still provide a useful check for the validity of our causal interpretation of the results.

⁹ Religious affiliation is different from religiosity which, on the contrary, could have been affected by conflict (Henrich et al., 2019).

To further reduce the scope of a potential endogeneity bias, we include village fixed effects to account for the local nature of the conflict. With these, identification of the causal effect of conflict requires victimization to be -as good as- random within villages, conditionally on individual characteristics.

3. Results

3.1 Competition

Conflict closes the gender gap in parents. Figure 1 (Panel A) reports the unadjusted differences in preferences for competition between men and women, as a function of individual victimization. Panel B and C disaggregate the results for parents and non-parents. Overall, men are more competitive than women, but conflict reduces men's preferences for competition to a much greater extent than women's. Women who experience injury actually become *more* competitive. As a result, the gender gap in competition is drastically reduced, nearly closed, by the experience of conflict. Panel B and C show that all these results are driven exclusively by the sample of parents. For non-parents, we do not observe any gender gap in competitiveness, and victimization lowers the desire to compete significantly for both.

Table 2 confirms these results in a regression framework, controlling for individual characteristics and village fixed effects, as specified in (1) and (2). Panel A presents the results for parents. The coefficient associated with female is consistently negative and statistically significant, confirming the existence of a gender gap in competition. Mothers are at least 10 percentage point less likely than fathers to choose the tournament payment scheme. Destruction of property reduces competitiveness, but only for men. For women, victimization, whether it consists of injury or destruction, *increases* competitiveness. Indeed, the coefficient associated with the interaction between female and alternative proxies of victimization is consistently positive and statistically significant, suggesting that victimization increases the relative preferences for competition for mothers. In fact, the experience of victimization closes the gender gap in competitiveness in this sample of parents. Controlling for village fixed effects and individual controls, mothers who have not experienced injury are 10 percentage points less likely than non-victimized fathers (the excluded category in our regression) to choose the competition tournament. However, mothers who have experienced injury are 15 percentage points more likely to do so when compared to non-victimized fathers, and 20 percentage points when compared to victimized fathers. For destruction, the magnitude of the effects is even larger and more precisely estimated. While non-

victimized mothers are 16 percentage points less likely than non-victimized males to choose the tournament, victimized mothers are 20 percentage points more likely than non-victimized fathers to do so, and 33 percentage points more likely than victimized fathers to choose the competition tournament.

For non-parents, we do not see any evidence of a gender gap in competition. Still, we observe that both genders decrease competitiveness if victimized. Victimization is negatively associated with competitiveness, but now the effect is not statistically robust to all specifications, nor heterogenous across gender.

Potential Mechanisms. We further examine various mechanisms that may explain the relative increase in competitiveness in mothers as a result of conflict. If behavioural changes experienced as a result of victimization are due to increased material stresses, we would expect the changes to be more pronounced in mothers who need to compete most for scarce resources, such as single, widowed, or divorced mothers; or those who have more children. We also expect the magnitude of the behavioural effect of conflict to be particularly large and more precisely estimated for the indicator of victimization that directly captures the destruction of material resources. We test for these mechanisms using the sub-sample of parents and victimization through material destruction in Table 3. We estimate equation (2) for different subsamples, defined by marital status (widowed, divorced, single versus partnered, Columns 1 to 4) and number of children (more or less than the village average, Columns 5 to 8). Once we control with fixed effects and individual controls, the effect of destruction in increasing the relative competitiveness of mothers is statistically robust only for single, widowed, or divorced mothers (Column 2), as opposed to partnered mothers (Column 4); and for women with many (Column 6), as opposed to few (Column 8), children¹⁰. In particular, the effect of conflict on competitiveness is more than two and a half times as large for single, widowed, or divorced mothers compared to their partnered counterparts. This suggests that the behavioural effect of conflict on mothers' competitiveness is channeled through the economic effect of conflict. Mothers who have been hit economically by the conflict and who have to rely on only themselves, or who have to take care of many children, are no less competitive than men. This result is consistent with our theoretical predictions rooting women's competitive preferences in the parental investment framework. It is also consistent with large cross-country evidence that

¹⁰ *Many children* is defined as having more children than the village average. Having equal to or less children than the village average is consequently defined as *few children*.

finds that gendered differences in preferences only appear once people have escaped subsistence constraints (Falk and Hermle 2018).

External Validity – Parents in Colombia. We confirm the external validity of our results using a sample of parents from Colombia. The same experimental game was played with 191 parents (118 mothers vs 73 fathers) from Medellin, Colombia to test whether victimisation increases competitive preferences among mothers. Our measure of victimisation for Colombia is displaced, a type of victimisation which also imposes large material costs and reflects an increase in scarcity of material resources¹¹. The unadjusted means reported in Table A4 show that mothers are in fact less competitive than fathers (38% vs 50%, P-value: 0.22) and conflict victimisation closes this gender gap in preferences. Figure 2 shows the unadjusted differences in competitive preferences between mothers and fathers, as a function of individual victimisation and confirms that mothers are in fact less competitive than men and forced displacement during the conflict increases their competitive preferences but leaves the competitive preferences for fathers unchanged.

Table 4 confirms these results in a regression framework controlling for individual characteristics. The results for the full sample show no effect of conflict victimisation on competitive preferences (Columns 1-4). However, when we break down the sample across fathers (Columns 5-7) and mothers (Columns 8-10) we see that while there is no change in preferences for fathers, but victimised mothers are 21 percentage points more likely to choose the competition tournament than non-victimised mothers. These results from a different conflict and country lend further support to our findings described above that resource constraints reduce the scope for gender specific preferences. They also provide external validity to our argument that the evolutionary theory of conflict needs to be augmented with the cooperative breeding framework to fully understand the heterogenous changes in behaviours witnessed in the aftermath of conflicts.

3.2 Egalitarianism

Conflict closes the parental gap in egalitarianism. Descriptive statistics showed that the main dividing line in predicting cooperation ran along parental status, with parents being a lot more egalitarian. The framework advanced in Section 2 predicts that parents, in general, should be more attentive to in-group cooperation than non-parents, hence more egalitarian, but that conflict exposure should act especially on those group members that start less prosocial, i.e. non-parents, both male and female, who should become more egalitarian as a result. Our result show that

¹¹ *Displaced* is a dummy variable equal to one if the respondent or any member of the respondent's household was forcibly displaced by the FARC during the Colombian civil conflict.

indeed, parents are, in general, more egalitarian (36% vs. 26%, P-value: 0.05), and that conflict closes the gap between parents and non-parents. Figure 3 (Panel A) shows unadjusted differences in egalitarianism between men and women, as a function of individual victimization. We see no average effect of conflict injury, albeit a more visible one for destruction. However, once we break down the samples across parents and non-parents in Panels B and C, it becomes clear that conflict increases egalitarianism, but only for non-parents (who are the least egalitarian to start with). Importantly, it does so for non-parent males more than females (as predicted by inter-group conflict theoretical framework), although our sample of non-parents is too small to estimate this difference precisely enough. For parents, we see no effect, either for mothers or fathers.

Table 5 confirms these results in a regression framework, controlling for individual characteristics and village fixed effects, as specified in (1) and (2). Panel A presents the results for parents, and Panel B for non-parents. For either mothers or fathers, we observe no change in egalitarianism as a result of victimization. In contrast, non-parents who have experienced injury or destruction are much more egalitarian than non-victimized ones. The magnitude of the effect is large, with a 32 percentage point increase in egalitarianism as a result of victimization, and the magnitude is comparable across the two victimization measures.¹²

3.3 Competition versus Cooperation

We have so far discussed in-group competition and in-group cooperation separately. To reconcile our findings and paint a richer picture of the effect of conflict on in-group social preferences, it is useful to study how in-group competition and cooperation interact, and in particular whether one comes at the expense of the other. To study this, we regress our measure of egalitarianism on our measure of competition and report the results in Appendix Table A2. We also include the usual controls and village fixed effects to check the robustness of the correlation.¹³

The raw correlation between in-group competition and cooperation is negative and statistically significant (Column 1), suggesting that indeed, competition usually comes at the expense of cooperation. However, when we inspect how this correlation differs by parental status in Columns 3 and 4, we find that competition comes at the expense of cooperation only for those who do not have children. For parents, there is no such trade-off. We confirm in Appendix Table A3 that this

¹² However, Appendix B Table B2 shows that this effect loses much of its significance, although still remaining positive, when we use as measure of victimisation whether these non-parents had a household member killed during the conflict.

¹³ These results are just indicative of how different dimensions of social preferences correlate. No causal interpretation is attached to them.

differential effect is really driven by parental status, as opposed to age, which differs across the two groups of parents and non-parents.

3.4 Potential limitations

Our study is subject to potential limitations, which we now discuss.

Functional form. We check in Appendix Tables A5 and A6 that our main results are robust to using a nonlinear estimation method.

Survival bias. The main threat to internal validity, as we have already discussed consists of the non-randomness in victimization. Although we have shown that evidence for systematic targeting as a function of observable characteristics and proxies for other behavioural characteristics is weak in our sample, one important caveat consists of sample selection. We only observe survivors. Even if we do not observe systematic selection among survivors, survivors themselves could be a selected group. It could be the case that conflict does not affect preferences, but that only a selected group of people with given preferences survived the conflict. For example, it could be the case that men who were particularly competitive were all killed in the conflict, leaving as survivors men with weaker preferences for competition. While we have no way to directly address this question, the fact that we observe similar effects for women, and only for those who do not have children, suggests a more complex picture that may be harder to reconcile with pure selection effects. Moreover, the evidence presented in Table A1 and discussed above suggests that there was no systematic selection into victimization as a result of the conflict. Even the effect of gender is not consistently robust across specifications. Overall, systematic survival bias on the basis of social preferences is hard to reconcile with the contrasting effects of conflict along both gender and parental status lines that we document in this paper.

4. Discussion

Our study, using the quasi-natural experimental variation in material and relational scarcity brought about by conflict, supports the idea that female competitiveness responds to the specifics of both the biological (fertility stage) and socioeconomic contexts. Our results suggest that the evolutionary theory of conflict alone, which has been the sole framework of the pre-existing studies of conflict, cannot fully explain the variegated effects of conflict exposure on social preferences. We suggest instead that it needs to be augmented with the cooperative breeding framework in order to fully

capture the complexity of the effects of conflict on pro-social preferences and how they depend on both gender and parental status.

We find that conflict, in general, tames competitive tendencies, but has the opposite effect for mothers. Conflict increases in-group egalitarianism for non-parents, and even more so for non-parent males, who were the least egalitarian to start with. Our evidence also suggests that the results may be primarily driven by the negative economic consequences of conflict: the effects we find here are in general larger in magnitude and more precisely estimated for indicators of victimization that capture economic costs and for mothers who are most likely to be struggling economically.

Our results can be explained by a combination of evolutionary theory of parental investment, cooperative breeding, and inter-group conflict under the effects of economic deprivation brought about by victimization. We find that conflict's pro-social effects towards the in-group, which have been the focus on almost all previous literature of conflict, are, in fact, only driven by non-parents, who are, furthermore, the group that is otherwise the least cooperative. Our interpretation is that the imperatives of group survival exacerbated by conflict induce people to become more cooperative towards the in-group, and that this effect is binding for those who may not be necessarily inclined so otherwise. We find that this effect is present for both sexes but slightly stronger for non-parent males, perhaps because group survival may depend not only on their willingness to share resources, as it does for women and as predicted by cooperative breeding, but also on their willingness to fight for their group, as predicted by evolutionary theory of inter-group conflict.

We also find that the in-group competitive tendencies of non-parents are curbed as a result of victimization. Given that competition comes at the expense of cooperation for them, the reduction in in-group competitiveness may be necessary both to guarantee sharing of resources within the group and to strengthen the in-group's position in inter-group conflict. By contrast, mothers, and especially those who are likely to struggle most economically, become more competitive as a result of conflict exposure. Yet, conflict exposure does not significantly alter mothers' prosociality, who stays roughly constant across victimization exposure, and always higher than non-mothers: economically constrained mothers have to fight particularly hard for their offspring, and for them, this kin survival constraint may dominate group survival constraints when it comes to competing.

Through these contrasting effects, conflict closes the competition gap across genders, and closes the cooperation gap across parental status, thereby leading to much more homogenous behavior across the subgroups. To the extent that group harmony may be hurt by within-group differences

in competitiveness and cooperation, these results further lend credence to the idea that the behavioural effects of conflict contribute prime individuals towards group survival. It also suggests that escaping conflict and deprivation enables sex and, more generally, group differences in pro-social preferences that may be detrimental to group harmony and group survival, a fate perhaps currently affecting societies with rising trends of inequality and polarization.

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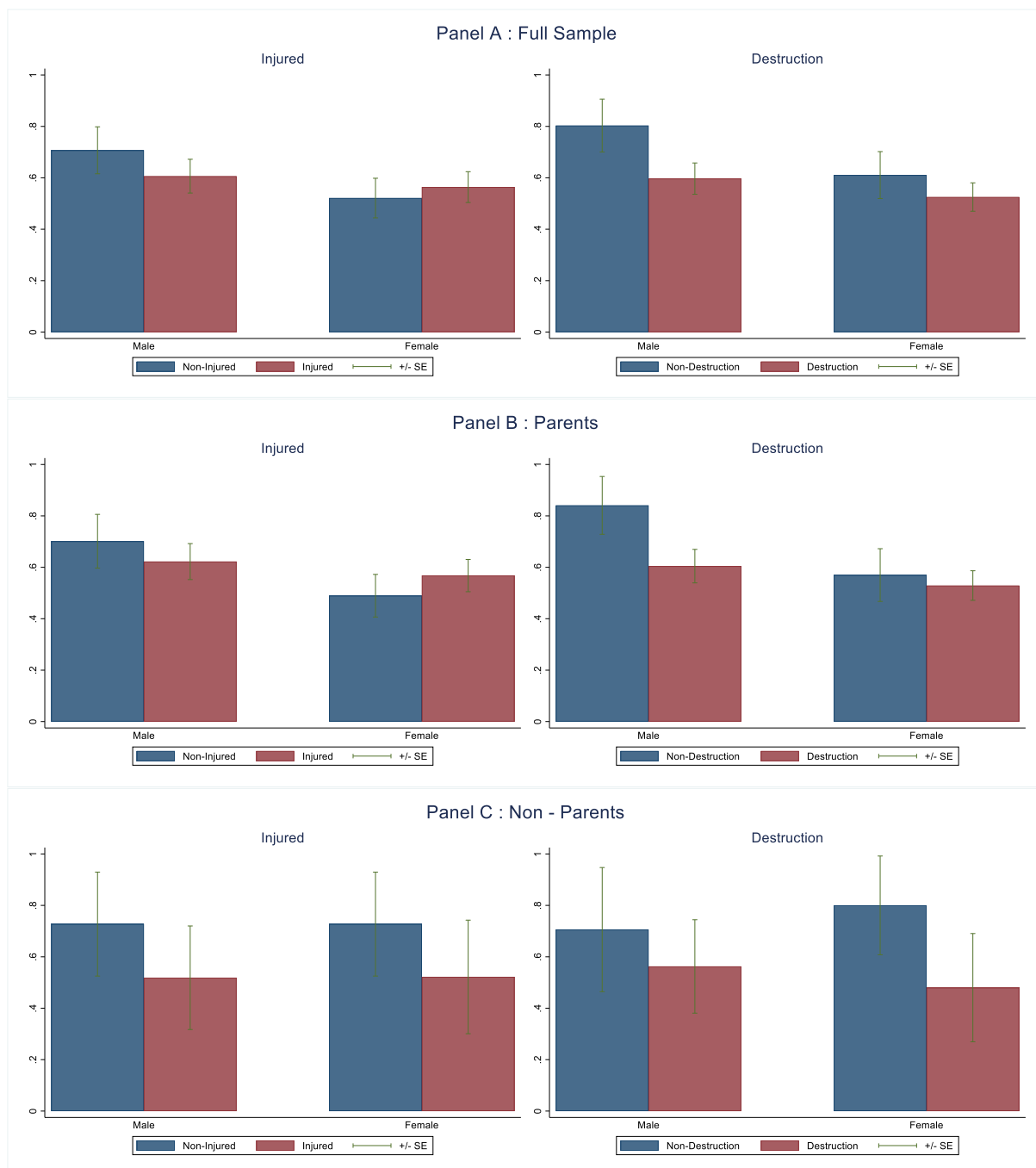
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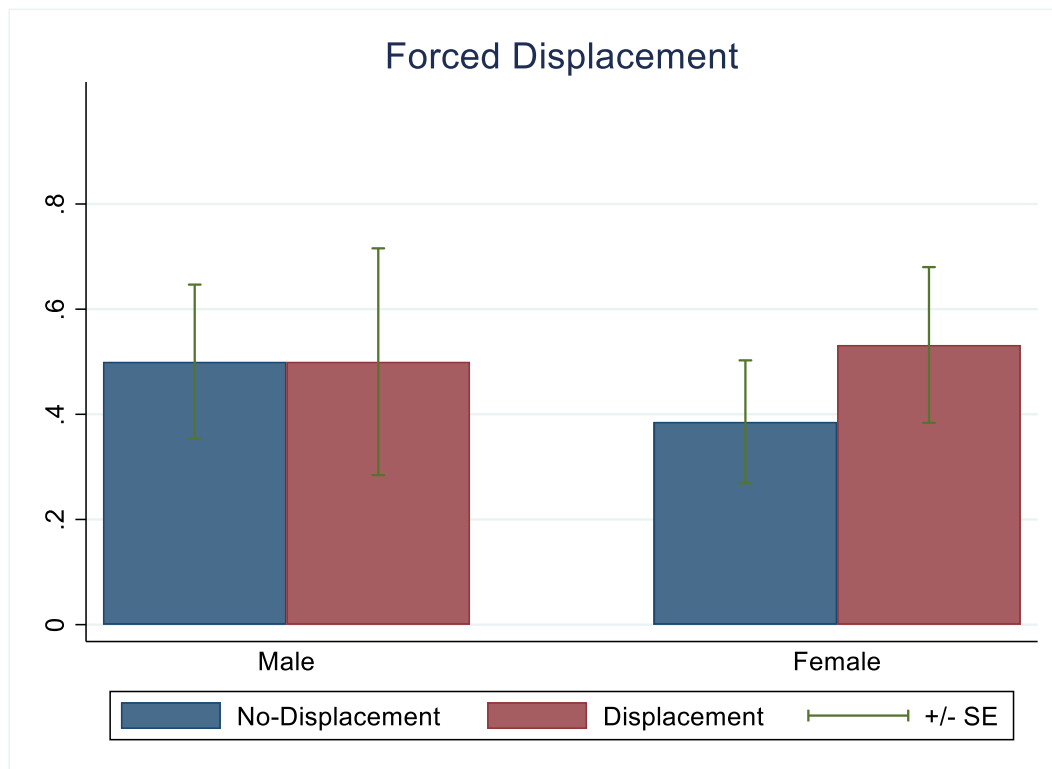
Figures

Figure 1: Mean Preference for Competitiveness by Gender and Parental Status



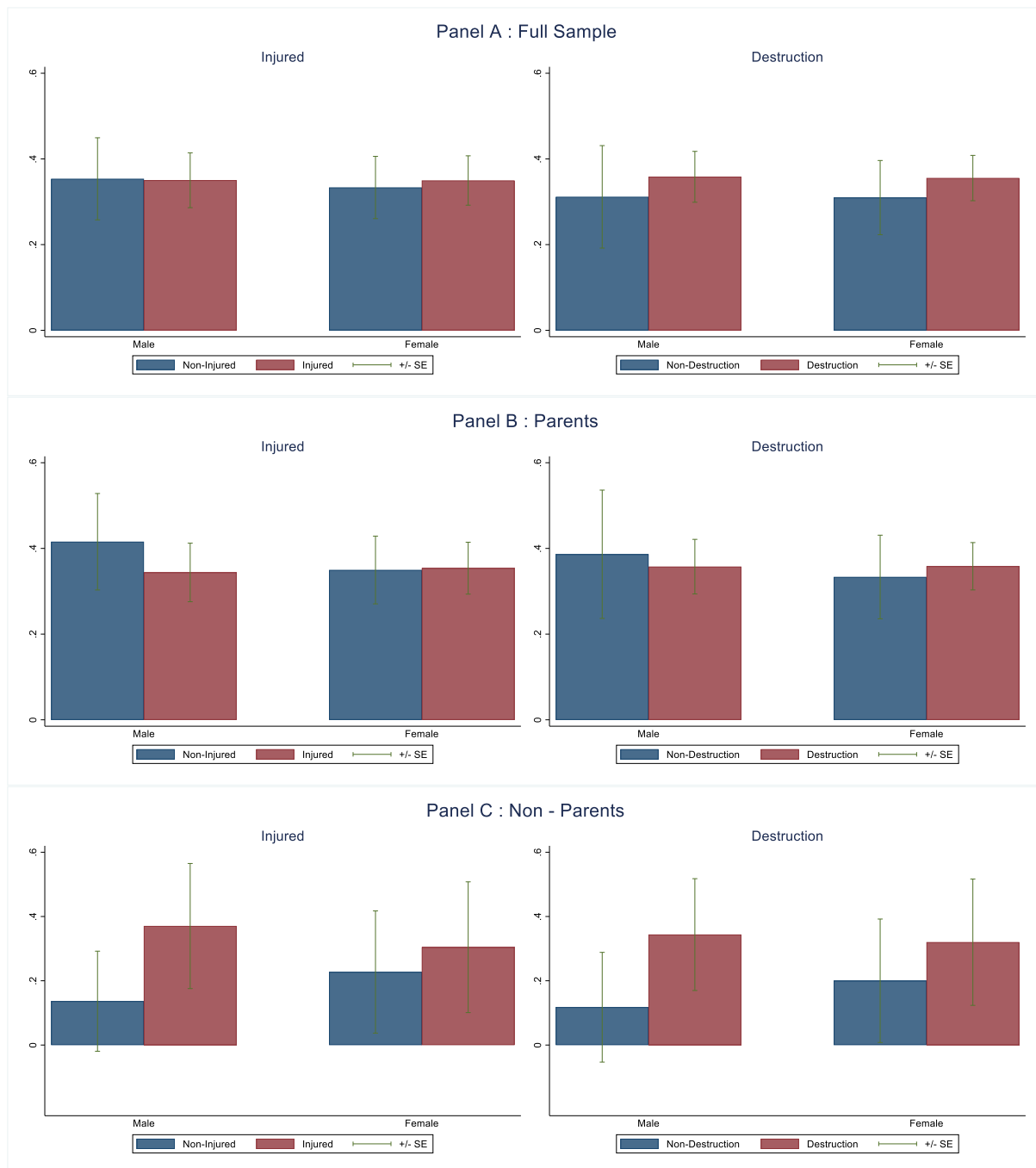
Note: The graphs illustrate the unadjusted differences in the mean choice to compete between men and women for measures of individual victimisation. *Injured* is a dummy variable equal to one if the respondent or any member of the respondent's household was injured during the conflict while *Destruction* is a dummy variable equal to 1 if the respondent reports any loss of property as a result of the conflict. *Competition* is a dummy variable equal to one if the respondent chooses the tournament condition. Panel A shows that men are more competitive than women overall and that victimisation reduces this gender gap in preferences. Panel B and C show that the gender gap in competitive preferences is driven almost entirely by parents. Non-parents do not exhibit any gender gap in competitive preferences regardless of victimisation status.

Figure 2: Mean Preference for Competitiveness- Colombia



Note: The graphs illustrate the unadjusted differences in the mean choice to compete between men and women for measures of individual victimisation for a sample of parents only. *Displaced* is a dummy variable equal to one if the respondent or any member of the respondent's household was forcibly displaced during the conflict. *Competition* is a dummy variable equal to one if the respondent chooses the tournament condition. The graph confirms our results from Figure 1 showing that fathers are more competitive than mothers and that victimization reduces this gender gap in competitive preferences.

Figure 3: Mean Preference for Egalitarianism by Gender and Parental Status



Note: The graphs illustrate the unadjusted differences in egalitarianism between men and women as a function of individual victimisation. *Injured* is a dummy variable equal to one if the respondent or any member of the respondent's household was injured during the conflict while *Destruction* is a dummy variable equal to 1 if the respondent reports any loss of property as a result of the conflict. *Egalitarianism* is a dummy variable equal to 1 if the respondent chooses the costly sharing and the costly envy option in the dictator game while playing with someone from the same village, indicating their preference for egalitarianism. Panel A shows that there is no gender gap or change in egalitarian preferences as a result of victimisation. Panel B and C disaggregate these preferences by Parents and Non-Parents to show that victimisation increases egalitarianism in non-parents to close the gap with parents. This increase in egalitarian preferences is higher for non-parent males than females. There is no change in egalitarian preferences as a result of victimisation for parents, either mothers or fathers.

Tables

Table 1: Descriptive Statistics

Variable	Full Sample					Female					Male				
	obs	mean	s.d	min	max	obs	mean	s.d	min	max	obs	mean	s.d	min	max
Panel A: Parents															
Competition	652	0.58	0.49	0	1	387	0.54	0.50	0	1	265	0.65	0.48	0	1
Egalitarian	653	0.36	0.48	0	1	387	0.35	0.48	0	1	266	0.36	0.48	0	1
Injured	652	0.66	0.47	0	1	386	0.63	0.48	0	1	266	0.71	0.45	0	1
Destruction	651	0.79	0.41	0	1	386	0.76	0.43	0	1	265	0.83	0.37	0	1
Killed	650	0.60	0.49	0	1	386	0.58	0.49	0	1	264	0.63	0.48	0	1
Middle Age	653	0.35	0.48	0	1	387	0.37	0.48	0	1	266	0.33	0.47	0	1
Old	653	0.36	0.48	0	1	387	0.23	0.23	0	1	266	0.56	0.50	0	1
Muslim	653	0.13	0.33	0	1	387	0.12	0.32	0	1	266	0.14	0.35	0	1
# Children	653	3.69	2.39	1	18	387	3.21	1.76	1	10	266	4.39	2.96	1	18
Risk	653	3.18	1.85	1	6	387	3.11	1.86	1	6	265	3.28	1.85	1	6
Ability	652	5.36	2.83	0	9	387	4.79	2.94	0	9	265	6.18	2.45	0	9
Confidence	652	2.11	2.42	-6	9	387	1.84	2.39	-6	9	265	2.50	2.42	-5	9
Panel B: Non-Parents															
Competition	98	0.60	0.49	0	1	47	0.60	0.50	0	1	51	0.61	0.49	0	1
Egalitarian	98	0.26	0.44	0	1	47	0.26	0.44	0	1	51	0.25	0.44	0	1
Injured	94	0.53	0.50	0	1	45	0.51	0.51	0	1	49	0.55	0.50	0	1
Destruction	94	0.61	0.49	0	1	45	0.56	0.50	0	1	49	0.65	0.48	0	1
Killed	94	0.47	0.50	0	1	45	0.47	0.50	0	1	49	0.47	0.50	0	1
Middle Age	98	0.07	0.26	0	1	47	0.06	0.25	0	1	51	0.08	0.27	0	1
Old	98	0.04	0.20	0	1	47	0.09	0.28	0	1	51	0.00	0.00	0	0
Muslim	98	0.19	0.40	0	1	47	0.19	0.40	0	1	51	0.20	0.40	0	1
Risk	98	3.59	1.80	1	6	47	3.40	1.90	1	6	51	3.76	1.72	1	6
Ability	98	5.96	2.30	0	9	47	5.38	2.55	0	9	51	6.49	1.91	0	9
Confidence	98	2.73	2.05	-3	9	47	2.38	1.97	-3	7	51	3.06	2.09	-1	9

Table 2: Effect of Victimization on Competitive Preferences

	Dependent variable: Choice to compete over cash							
	1	2	3	4	5	6	7	8
Panel A: Parents								
Female	-0.10*** (0.04)	-0.21*** (0.07)	-0.10* (0.06)	-0.10* (0.06)	-0.11*** (0.04)	-0.27*** (0.08)	-0.16** (0.07)	-0.16** (0.07)
Injured	0.02 (0.04)	-0.08 (0.06)	-0.10 (0.06)	-0.05 (0.06)				
Female x Injured		0.16* (0.08)	0.17** (0.08)	0.15** (0.07)				
Destruction					-0.11** (0.05)	-0.24*** (0.06)	-0.23*** (0.06)	-0.13** (0.06)
Female x Destruction						0.20** (0.09)	0.21*** (0.08)	0.20*** (0.07)
Controls	N	N	Y	Y	N	N	Y	Y
Village FE	N	N	N	Y	N	N	N	Y
Number of clusters	14	14	14	14	14	14	14	14
Observations	651	651	651	651	650	650	650	650
R-squared	0.01	0.02	0.22	0.39	0.02	0.02	0.23	0.39
Panel B: Non- Parents								
Female	0.00 (0.10)	0.00 (0.14)	0.11 (0.13)	0.03 (0.16)	-0.01 (0.10)	0.09 (0.15)	0.17 (0.15)	0.12 (0.17)
Injured	-0.21** (0.10)	-0.21 (0.14)	-0.19 (0.13)	-0.22* (0.13)				
Female x Injured		0.00 (0.20)	0.05 (0.19)	0.08 (0.21)				
Destruction					-0.23** (0.10)	-0.14 (0.14)	-0.09 (0.14)	-0.03 (0.14)
Female x Destruction						-0.18 (0.20)	-0.08 (0.20)	-0.07 (0.23)
Controls	N	N	Y	Y	N	N	Y	Y
Village FE	N	N	N	Y	N	N	N	Y
Number of clusters	14	14	14	14	14	14	14	14
Observations	94	94	94	94	94	94	94	94
R-squared	0.05	0.05	0.22	0.39	0.05	0.06	0.21	0.37

Notes: Robust standard errors are given in parenthesis below the coefficients. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Potential clustering at the village level (14 clusters) is corrected for using the wild cluster bootstrap method based on 1,000 replications as recommended by (Cameron, Gelbach et al. 2008) and (Cameron and Miller 2015). The wild bootstrap P-values are given in parenthesis below the robust standard errors. Village fixed effects and controls are included where indicated. Controls include the respondents' age, gender, religious affiliation (Muslim vs Christian), number of children as well as risk, ability, and confidence scores. Age is captured by terciles of age distribution: young (18, our youngest respondent, to 28), middle age (29-39), and old (above 40). *Injured* is a dummy variable equal to one if the respondent or any member of the respondent's household was injured during the conflict while *Destruction* is a dummy variable equal to 1 if the respondent reports any loss of property as a result of the conflict. *Choice to compete* is a dummy variable equal to one if the respondent chooses the tournament condition.

Table 3: Mechanisms Through which Conflict Affects Competitiveness

		Dependent variable: Choice to compete over cash							
		1	2	3	4	5	6	7	8
Sample		Single, Widowed or Divorced		Partnered		Many children		Few Children	
Female		-0.44*** (0.13)	-0.36** (0.14)	-0.23*** (0.09)	-0.11 (0.08)	-0.32*** (0.12)	-0.22** (0.11)	-0.24** (0.10)	-0.12 (0.09)
Destruction		-0.46*** (0.08)	-0.38*** (0.12)	-0.19*** (0.07)	-0.08 (0.07)	-0.23** (0.10)	-0.17* (0.10)	-0.24*** (0.09)	-0.10 (0.09)
Female x Destruction		0.41** (0.16)	0.40** (0.16)	0.15 (0.10)	0.15* (0.08)	0.24* (0.14)	0.24** (0.12)	0.17 (0.12)	0.18* (0.10)
Village FE		N	Y	N	Y	N	Y	N	Y
Controls		N	Y	N	Y	N	Y	N	Y
Observations		124	124	521	521	324	324	326	326
R-squared		0.05	0.37	0.02	0.41	0.02	0.40	0.03	0.41

Notes: See notes to Table 2. *Many Children* considers only the parents with more children than the village average, while *Few Children* are those that have either the same number of children as the village average or fewer. The table explores mechanisms through which victimisation, especially a loss of material resources could increase competitiveness. It shows that the effect of victimisation (destruction) is most pronounced for Single, Widowed or Divorced women as opposed to partnered women and for women with many children as opposed to a few children. These results lend support to the idea that the negative economic effect of conflict may be behind the behavioural changes observed.

Table 4: Effect of Victimisation on Competitive Preferences – Parents in Colombia

Sample	Dependent variable: Choice to compete									
	1	2	3	4	5	6	7	8	9	10
	Full Sample			Males			Females			
Female	-0.06 (0.07)	-0.06 (0.08)	-0.04 (0.08)	0.04 (0.09)						
Displacement		0.09 (0.08)	0.12 (0.08)	0.16* (0.09)	-0.00 (0.13)	0.02 (0.14)	0.11 (0.14)	0.15 (0.09)	0.21** (0.10)	0.21* (0.11)
Age			-0.00 (0.00)	0.00 (0.00)		-0.01 (0.01)	-0.00 (0.01)		0.01 (0.01)	0.01 (0.01)
Education			0.01 (0.05)	-0.00 (0.05)		-0.07 (0.07)	-0.07 (0.06)		0.07 (0.06)	0.08 (0.06)
Income			-0.02 (0.04)	-0.02 (0.04)		-0.07 (0.05)	-0.05 (0.06)		0.02 (0.05)	0.01 (0.05)
Score				0.02* (0.01)			0.02 (0.01)			0.01 (0.01)
Risk				0.03 (0.02)			0.03 (0.03)			0.03 (0.03)
Confidence				-0.00 (0.01)			0.01 (0.02)			-0.01 (0.01)
Constant	0.51*** (0.06)	0.47*** (0.06)	0.52** (0.25)	0.10 (0.33)	0.50*** (0.07)	1.13*** (0.35)	0.49 (0.52)	0.39*** (0.06)	0.03 (0.29)	-0.19 (0.37)
Individual Controls	N	N	Y	Y	N	Y	Y	N	Y	Y
Additional Controls	N	N	N	Y	N	N	Y	N	N	Y
Observations	191	189	172	161	72	64	58	117	108	103
R-squared	0.00	0.01	0.02	0.05	0.00	0.07	0.16	0.02	0.05	0.07

Notes: Robust standard errors are given in parenthesis below the coefficients. *** p<0.01, ** p<0.05, * p<0.1. .

Displaced is a dummy variable equal to one if the respondent or any member of the respondent's household was forcibly displaced during the conflict. *Choice to compete* is a dummy variable equal to one if the respondent chooses the tournament condition.

Table 5: Effect of Victimisation on Egalitarian Preferences

	Dependent variable: Egalitarian							
	1	2	3	4	5	6	7	8
Panel A: Parents								
Female	-0.01 (0.04) (0.75)	-0.07 (0.07) (0.56)	-0.09 (0.07) (0.03)	-0.05 (0.07) (0.56)	-0.01 (0.04) (0.8)	-0.05 (0.09) (0.60)	-0.08 (0.09) (0.44)	-0.05 (0.09) (0.61)
Injured	-0.02 (0.04) (0.68)	-0.07 (0.07) (0.43)	-0.07 (0.07) (0.32)	-0.01 (0.07) (0.81)				
Female x Injured		0.08 (0.08) (0.52)	0.08 (0.08) (0.37)	0.07 (0.08) (0.45)				
Destruction					0.01 (0.05) (0.88)	-0.03 (0.08) (0.77)	-0.02 (0.08) (0.81)	-0.01 (0.08) (0.96)
Female x Destruction						0.05 (0.10) (0.57)	0.06 (0.10) (0.56)	0.07 (0.09) (0.49)
Controls	N	N	Y	Y	N	N	Y	Y
Village FE	N	N	N	Y	N	N	N	Y
Number of clusters	14	14	14	14	14	14	14	14
Observations	652	652	651	651	651	651	650	650
R-squared	0.00	0.00	0.04	0.19	0.00	0.00	0.04	0.19
Panel B: Non- Parents								
Female	0.01 (0.09) (0.92)	0.09 (0.12) (0.53)	0.04 (0.12) (0.60)	0.06 (0.13) (0.50)	0.02 (0.09) (0.82)	0.08 (0.12) (0.54)	0.06 (0.13) (0.65)	0.09 (0.13) (0.43)
Injured	0.16* (0.09) (0.09)	0.23* (0.12) (0.00)	0.23* (0.12) (0.00)	0.32** (0.15) (0.00)				
Female x Injured		-0.16 (0.18) (0.22)	-0.20 (0.18) (0.13)	-0.12 (0.19) (0.57)				
Destruction					0.17* (0.09) (0.07)	0.23* (0.12) (0.00)	0.24* (0.13) (0.00)	0.32** (0.14) (0.00)
Female x Destruction						-0.11 (0.18) (0.41)	-0.17 (0.19) (0.27)	-0.14 (0.20) (0.41)
Controls	N	N	Y	Y	N	N	Y	Y
Village FE	N	N	N	Y	N	N	N	Y
Number of clusters	12	12	12	12	12	12	12	12
Observations	94	94	94	94	94	94	94	94
R-squared	0.03	0.04	0.14	0.29	0.04	0.04	0.14	0.29

Notes: See notes to Table 2. Our measure of cooperation: *Egalitarian*, is a dummy variable equal to 1 if the respondent chooses the costly sharing and the costly envy option in the dictator game while playing with someone from the same village indicating their preference for egalitarianism. The table shows that victimisation increases egalitarianism in non-parents only and there are no heterogeneous effects by gender.