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Patriarchal Norms, Bargaining, and Gendered Attitudes on Intimate Partner Violence

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Abstract: How do the underlying mechanisms of social norms and bargaining power relate to the acceptance of intimate partner violence within households? How do short run and long run determinants of gender norms affect attitudes toward IPV? This study begins to decompose the dynamics of the acceptance of IPV within couples using data from the Demographic Health Survey, as well as examine the relationship in the context of patriarchal societies using data from the Ethnographic Atlas. I find that females are more accepting than males of intimate partner violence, and females becoming more educated is associated with her being less accepting of violence, even if her male partner believes it is justifiable. Additionally, being a member of a more patriarchal society is associated with couples disagreeing more often about the acceptability of IPV.

1. Introduction

The World Health Organization reports that 1 in 3 women worldwide will experience sexual and/or physical intimate partner violence in their lifetime (WHO, 2017). Intimate partner violence (IPV)¹ refers to coercive and assaultive behaviors that can include physical assault of kicking, hitting, or beating; coercive sex; or psychological attacks of humiliation, belittling, and intimidation (Garcia-Moreno et al., 2005; Ibrahim et al., 2014; Owoaje & OlaOlarun, 2012). Intimate partner violence is associated with poor long-term health status, as well as immediate negative physical and mental health effects, such as miscarriages, depression, and sexually transmitted infections (Cools & Kotsdam, 2017; Durevall & Lindskog, 2015; Krishnan, 2005; Yount et al., 2011; Boy & Salihu, 2004; Campbell, 2002; Ellsberg et al., 2008; Yount et al., 2015).

Despite the unquestionable occurrence of IPV, accurate measurements of the prevalence of violent events are limited due to self-reporting, a method commonly leading to underreporting. Aizer (2010) tries to overcome the problem of self-reporting by constructing a new measure of domestic violence prevalence. The author derives this measure from “administrative data on female hospitalizations for assault” (Aizer, 2010). This uses physician classifications of the injuries instead of self-reports of incidence, which overcomes one problem with the data while creating a new one. This new measure is still biased downwards, because it excludes any domestic violence incidents that did not lead to hospitalization, such as minor injuries or psychological attacks.

Due to the struggles of measuring the prevalence of IPV with accuracy, this study will be using attitudes toward intimate partner violence for its analysis. Besides being self-reported, prevalence of IPV may also be underreported due to social desirability bias (Sugarman & Hotaling, 1997). Social desirability is the idea of answering questions in a way that is perceived favorably by others; this can lead to underreporting of undesirable behavior (Sugarman & Hotaling, 1997). There is less social stigma when discussing beliefs about violence than when admitting to being a victim or perpetrator of IPV.

Additionally, beliefs that IPV is acceptable are a high-risk factor for the increased prevalence of IPV, since the social costs of committing violence are diminished as society views

¹ The term ‘domestic violence’ typically refers to partner violence but the term can also encompass child or elder abuse, or abuse by any member of a household. ‘Intimate partner violence’ is between two people who have been intimately involved.

it as tolerable (Gelles, 1983). In various other empirical studies, accepting attitudes and beliefs toward IPV were identified as the most important risk factors for the occurrence of violent acts (Perez et al., 2006; Perez-Jimenez et al., 2017; Orpinas, 1999; Boyle et al. 2009; Bucheli & Rossi, 2017). Although attitudes and prevalence are endogenous with one another, studies continue to determine that attitudes of acceptance toward IPV are the strongest predictors of violence among other observable traits (Faramariza et al., 2005; Yoshikawa et al., 2014). These connections point to the idea of using attitudes toward IPV as a potential point of intervention for policies and programs aimed at reducing the occurrence of violence within households (Yount et al., 2015). This is consistent with studies that conclude attempts to reduce the prevalence of IPV can be obstructed by social norms of acceptance of IPV (Bucheli & Rossi, 2017). These norms that allow the justification of violence are established through cultures that value masculinity, perceive inferior female economic status, and condone female domination (Wubs, 2015).

Although measures of attitudes are more accurate than prevalence measures and could be the key to future policies, there is limited research in this specific area. Domestic violence researchers acknowledge this gap and call for additional studies to be done on these attitudes (Krause et al., 2016; Cools & Kotsdam, 2017; Perez-Jimenez et al., 2017; Yoshikawa et al., 2014). Not only is there a gap in the literature concerning attitudes, but that gap is widened when the search is restricted to male attitudes (Yoshikawa et al., 2014). This study adds to the existing literature by discussing and decomposing couple dynamics of intimate partner violence acceptance. And, to the best of our knowledge, this work is the first to combine data for all DHS couples' surveys available globally in order to investigate correlates of attitudes toward intimate partner violence.

Furthermore, this study examines the dynamics of acceptance in the context of patriarchal and non-patriarchal societies. We employ agricultural tool usage as long run determinants, specifically the plough, to signify which ethnic groups have more patriarchal structures. In societies that implemented hand tools, women tended to work more in agricultural activities than men (Boserup, E., 1970). Contrastingly, in societies that used the plough, men labored more in agriculture than women, due to the strength needed to control the animal and the tool. Once the plough had been pulled through a field, there was less need for additional tasks to be done by hand, like weeding (Boserup, 1970).

Norms about the role of females in economic activity developed differently based on the agricultural tools used. Ethnic groups containing plough agriculture presented more unequal beliefs about the roles of males and females in society, which has persisted until present day (Boserup, 1970; Alesina, A., Giuliano, P., & Nunn, N., 2013). In this paper, I examine whether this ancestral differential gender valuation in economic development is reflected in the extent to which IPV is accepted and the disagreement within a couple about the acceptance of violence. The concentration on ancestral agricultural tools as an influencer of the acceptance of IPV is not meant to suggest that other historical or present-day factors are unconnected in determining the extent of acceptance.

The remainder of this paper is organized as follows. Section 2 will include relevant literature on social norms and intimate partner violence, where I will present existing research on variables that influence IPV. Section 3 will contain information on the data used in this analysis. Section 4 will include an analysis and discussion of the results. Section 5 will cover concluding remarks.

2. Literature Review

2.1 Social Norms

The present paper is related to literature on the determinant of social norms, dynamics of violence within a bargaining household, and existing studies on the acceptance of IPV. Attitudes towards IPV can be considered an outcome of social norms. Incorporating multiple backgrounds of theory will help identify the variables that influence the acceptance of IPV, which will then help target policy and programs more efficiently. Staveren and Ode bode (2007) conducted a case study of the Yoruba women in Nigeria and noted several gendered and asymmetric social norms in this society. These roles are taught to them very early in their childhood, and the norms are validated by the community's shared beliefs (Staveren & Ode bode, 2007). These norms became strengthened as more people within the community matched their beliefs.

Bisin and Verdier (2001) discuss how social norms within a household can be transmitted through generations by parents imbuing their preferences into their children's lives. This transmission comes from a paternalistic altruism called *imperfect empathy*. Socialization within a family and socialization within a society act as the mechanism by which social norms are transmitted. This can be done by imitating role models or learning from peers. Interestingly, the long run distribution of preferences is heterogeneous as the norms evolve

during their spread. This progression, however, weighs family socialization too heavily, leading to an inefficient process and *profile of preferences*, where what is normalized within a household may not fully line up with social preferences (Bisin & Verdier, 2001). This can prevent more efficient division of roles and divert people from coordination within a household and community (Veblen, 1964).

It follows that there can also be intergenerational transmission of the norms of violence. A child observing violence between their parents is more likely to be involved in violence when they mature (Kalmuss, 1984). While there are not specific *gender* effects here, the author determines there are specific *role* effects. A son observing his father be violent against his mother is more likely to be a victim of violence if he takes on a submissive role in his own relationship, but he is also more likely to be a perpetrator of violence if he takes on the dominant one (Kalmuss, 1984). Since there is an aspect of acceptance of violence that is learned from parents, this same transmission of ideology could happen between partners, as well.

Elster (2001) reinforces the idea of inefficient role division. Economics as a field relies on *homo economicus* when creating theory and expectations for behavior; it requires people be rational decision makers. However, the world more realistically contains *homo sociologicus*, whose behaviors are dictated by social norms. Decision makers cannot always be assumed to be outcome oriented, meaning that social norms can influence the manner by which someone makes a choice more heavily than rationality (Elster, 2001). Even though domestic violence does not lead to an efficient distribution of welfare in a household, preferences toward dominance and punishment can still lead to the decision to commit intimate partner violence.

Thorstein Veblen (1964) saw gender norms as institutions that influenced the “economic process of provisioning today” through cultural patterns. The author felt institutional economists often ignored gendered institutions, so he used these norms to examine the influence of ideology and power on the economy (Veblen, 1964). Burda, Hamermesh, and Weil (2007) consider social norms as economic determinants, specifically that different *social norms of leisure* established total work for men and women. Total work comes from market work and non-market work together, and in wealthier countries, total work is the same for both genders. There is a negative relationship between the gendered total work differential (per day) and real GDP per capita (Burda, et. al., 2007).

Using twenty-five countries, they determined males and females have the same levels of total work, although many fields believe female levels are higher due to higher levels of non-

market work. Because there is intrahousehold variation in the total work by gender, family level norms are not likely to be the source of the gendered work differentials. The authors theorize that social norms are better suited to explain why the gender differential is smaller within education group or within region, instead of between group differences (Burda, et. al., 2007).

Based on the original hypothesis by Boseup (1970), Alesina, Giuliano, and Nunn (2013) are able to trace the use of the plough in agriculture to current persisting gender norms. Ethnic groups that used the plough, as opposed to hand tools, were more reliant on male labor, due to the physical strength required for this technology. This created social norms that males were more valuable to economic activity than females in those ethnic groups. This reinforces the idea of intergenerational transmission of social norms and the persistence of those norms over time.

Alesina et. al. find that societies that traditionally used the plough in agriculture have more unequal gender norms, which is measured through attitudes and female economic participation. The author strengthen their conclusions by also testing if immigrants to the United States and Europe who originated in societies that used the plough had less equal views on gender norms. They find these groups have more unequal beliefs about gender and violence than those without that connection (Alesina et. al., 2013). In a related study using data from the continent of Africa, researchers connect present attitudes about spousal violence to various ancestral traits in order to bring a focus to the significance of considering deeply rooted social norms when creating programs and policies meant to eliminate partner violence (Alesina, Brioschi, & La Ferrara 2016).

2.2 Domestic Violence & Bargaining

There is evidence that women with higher levels of education have lower levels of acceptance of IPV (Jewkes, 2002; Martin et. al., 1999; Steinmets, 1987). Obtaining education alters a female's self-confidence, social networks, and ability to use her resources, which increases her levels of empowerment (Jewkes, 2002). This author concludes that the dynamic between education and IPV is intricate, meaning other factors also influence the impact, like education levels relative to those of a spouse.

Referring back to the study on the Yoruba women, an additional social norm exists that discussing personal income is inappropriate, even within a household (Staveren & Ode bode, 2007). Both partners are expected to earn an income; however, each is expected to control their

own money so there is no pooled income (Staveren & Ode bode, 2007). In relation to household models, the absence of income pooling undermines the unitary model, as well as any idea of cooperative bargaining. A man in the Yoruba society would have the dominant gender role; he could easily assume his income is higher than his partner's, because the social norms drive women to unpaid, non-market work (Staveren & Ode bode, 2007).

Sociology has theories about what changes the rate of domestic violence occurrence. Socio-cultural models of "male backlash" predict that as women's wages increase, violence against them increases because men feel their traditional gender role threatened (Macmillan & Gartner, 1999). As a 'breadwinner,' a male partner could see that status being diminished if his female partner becomes employed. However, in this case, the female is coming from a status below her husband to a status equal or similar to his own. This is not the situation Macmillan et. al. refers to when they hypothesize "male backlash." The authors discuss how men feel the need to maintain their dominance if he and his wife are both unemployed and then she becomes employed. In this case, both were in an equal position, and then the wife takes the dominant role. IPV can be seen as a source of satisfaction, and as a way to control the partner's behavior. The measurements completed in this study came from a 1993 Violence Against Women Survey conducted by Statistics Canada (Macmillan & Gartner, 1999). The incidences of intimate partner violence were self-reported by the women, which could lead to biased results due to under-reporting.

An early sociologist incorporates economic bargaining theory into his examination of the causes of domestic violence. Gelles (1983) combines social control theory and exchange theory to pinpoint three situations that contribute to domestic violence—when the rewards to violence outweigh the cost of violence; when there are lacks of social controls or norms that effectively discourage violence; and when perceptions of inequality and masculinity also reduce the costs of being violent. These situations exist because the reward from being violent (reaffirming inequality) is high. This theory holds if there is no bargaining between partners, meaning one partner consistently benefits from the situation without providing any benefits to their partner, but if there is any bargaining ability, the partner not receiving any benefits (but receiving the abuse) will leave the relationship (Gelles, 1983). The author does point out that a partner may not have the ability to end a relationship if there is an imbalance in resources.

2.3 Attitudes Toward Intimate Partner Violence

Researchers have begun using attitudes toward spousal violence as a measure of prevalence and social norms, but many studies fail to include both female and male attitudes. While these studies are useful in identifying variables that may push acceptance around, they potentially miss out on any relationship a female's observable traits have relative to her partner's.

Income shocks traced back to changing algae populations in Indonesian show women become less accepting of domestic violence as her share of household income increases, and her bargaining power increases, consistent with the non-cooperative bargaining model (Krupoff et al., 2018). In communities of Sub-Saharan African with higher levels of female acceptance of IPV, women who are employed face a greater risk of experience spousal violence (Cools & Kotsdam, 2017). In Uruguay, using data from a survey of women done by the National Innovation Agency and UNICEF, researchers concluded age did not influence a female's acceptance of violence, but experiencing violence as a child led an adult woman to be tolerant of intimate partner violence (Bucheli & Rossi, 2017). In Tanzania, a cross-sectional study determined age, employment, education, and motherhood were all factors that influenced a women's risk of experiencing IPV (Prabhu et al., 2001). This study also concluded that HIV counseling and testing centers were a useful location to implement programs for IPV screening and counseling (Prabhu et al., 2001). Numerous other studies also conclude socio-economic factors are useful in uncovering what determines IPV and women's tolerant attitudes towards it (Owoaje & OlaOlorun, 2012; Allen & Raghallaigh, 2013; Linos et al., 2013; Olayanju et al., 2013; Kwagala et al., 2013).

However, there is a growing body of research that examines both female and male acceptance of spousal violence (Abiona & Koppensteiner, 2016; Wubs, 2015; Allen & Devitt, 2012; Perez-Jimenez et al., 2017). In a survey done in 2011 in Nepal, results concluded that there was no significant difference between acceptance levels of females and males (Yoshikawa et al., 2014). A survey of 13 countries from various regions of the world found that women were more accepting of spousal violence in 54% of cases. Men were more accepting of violence in countries from Central and Eastern Europe (Tran et al., 2016). This article did include a more extensive analysis of female's attitudes, because the authors had data from an additional twenty-six countries on females. Even though both men and women were included in this

study, the number of countries with data available on men illustrates the disparity in knowledge on males' acceptance of violence.

A study found that women are more accepting (73.4%) of intimate partner violence across various scenarios than males (56.9%) in Uganda (Speizer, 2010). Interestingly, the author concludes these results must be specific to Uganda due to cultural context. A population-based survey from Rwanda found that females are 14.3% more likely to be exposed to acts of IPV than males (Umubyeyi, 2014). In Vietnam, 65.4% of men are tolerant of spousal violence, and 91.7% of women are tolerant (Krause et al., 2016). Again, the authors determine the cultural context of their study is the reason for such striking results and that additional research is needed to understand why females are more accepting than men (Krause et al., 2016). Additionally, research conducted in the cultural context of sub-Saharan Africa (Uthman, Lawoko & Moradi, 2009) and the entire continent of Africa (Alesina, Brioschi & La Ferrara, 2016) found consistent results. Females are more accepting of intimate partner violence than males. The results from my study support the existing literature and expand it to a global context across almost twenty years.

3. Data Sources

The gap between partner attitudes toward domestic violence and the correlation between couples' attitudes has not been explored near as extensively as female attitudes alone. Weather or income shocks are likely to alter or create a divergence of opinions within a couple, but currently that analysis type is sparse. Leaving out half of the partnership when thinking about domestic violence, its causes, and the variables that alter its prevalence, does not capture the whole picture. In order to address the two separate categories of research questions, I first examine the total DHS couples' data, before combining it with the data on agricultural tools from the Ethnographic Atlas.

3.1 DHS Data

To link couples' attitudes toward intimate partner violence, I draw on from the Demographic and Health Surveys (DHS), a collection of nationally representative samples of women (generally 15-49) and of men (generally 15-59). The household characteristics are combined with the domestic violence module² to conduct this study. Even though the DHS is

² The domestic violence module is an optional questionnaire add-on to the standard DHS model, therefore, not every country and year has this data available.

designed to allow for cross-survey and cross-country comparisons, completed questionnaires may differ occasionally between those units. In order to be included in this study, surveys must include both female and male responses to the domestic violence module, which includes the attitudes toward IPV questions. Due to that criterion, only Couples Recode³ surveys completed after the year 2000 can be included, meaning this paper uses 113 surveys in 56 countries from five DHS-defined regions of Sub Saharan Africa, Central Asia, South & Southeast Asia, Latin America, and Central Europe & Western Africa (See Table 1 for a list of countries and survey years).

This study exploits a set of attitudinal measures that reflect when an individual is accepting of intimate partner violence. Respondents are asked if a husband is justified in beating his wife if she (i) burns the food, (ii) goes out without telling him, (iii) neglects the children, (iv) refuses sex, and (v) argues with her husband⁴. Both males and females are asked these questions in order to determine the total level of acceptance of violence. While the survey does also contain questions about prevalence, this five-part question about attitudes helps determine when people believe IPV is justifiable, and it can be used in analysis as the measure for when violence acceptance shifts.

3.2 Ethnographic Atlas Data

In addition, we use data on ancestral agricultural tools used in preindustrial societies by different ethnicities. The Ethnographic Atlas (EA) is our data source for tool usage; our sample comprises the 102,569 couples with plough data by ethnic group. The measure of plough agriculture is constructed from the variable *v39* of the *Ethnographic Atlas*, which is a dataset that contains information on 1,265 ethnic groups (Murdock, 1967).

The variable *v39* sorts each ethnic group into one of the following categories: (1) the plough was absent, (2) the plough existed at the time the group was observed, but it was not aboriginal, and (3) the plough was aboriginal, having existed prior to contact. Using this data, I create an indicator variable that equals one if the plough was ever adopted (categories 2 and 3) and zero otherwise (category 1). The sample of the DHS merged with the EA has 85,748 couples from non-plough ethnic groups and 16,339 couples from plough groups.

³ The Couples Recode survey includes male and female pairs of data for cohabitating and/or married couples.

⁴ The exact phrasing varied slightly in some countries: if food is late or not well prepared (Cambodia); if the wife does not cook food properly and if the wife neglects the house or children (India); if the wife fails to provide food on time (Bangladesh).

4. Results & Discussion

I start by documenting the key fact that underlies our analysis: females are more accepting of intimate partner violence than males at the population level as well as intracouple. I then introduce the use of the Ethnographic Atlas in tandem with the DHS to present long run factors. Additionally, we incorporate rainfall data as a short run economic shock into the combined DHS and EA dataset. We conclude this section by documenting similar relationships between socioeconomic factors and acceptance of IPV, regardless of plough usage.

4.1 Documenting Relationships

I initiate the analysis by observing the raw data. In this global DHS sample, the average age for females is 31.5 years and 37.4 for males. The difference in means could be due to the male sample having a larger age range than the female sample. Females have, on average, 5.1 years of education, while males have a mean of 6.3 years of education. Sixty-five percent of the sample lives in rural areas. Forty-two percent are categorized as poor by the wealth index (in the lowest two quintiles of the index), and 38% are categorized as rich (in the highest two quintiles of the index) (See Table 2). There are 437,873 couples in this data.

Across the sample, 46.2% of females are willing to justify IPV in any scenario, while only 31.6% of males are willing to accept in the same situations. When broken out into each scenario, females are more accepting of IPV than males—in each case, by more than 10 percentage points. For neglecting children, the most accepted situation, 41.8% of females felt IPV was justified, and only 27.6% of males felt the same (See Figure 1). Globally, females and males seem to rank neglecting children as the most acceptable situation in which to beat a female, then goes out without permission, argues with spouse, refuses sex, and burns food (See Table 3). The relationship between gender and justification can be broken out into various other categories.

The Sub Saharan Africa region has the highest levels of acceptance of the five regional groups of the DHS, which are above the global averages. Females are more accepting of IPV across all five situations. The scenario where a wife neglects the children has the highest acceptance of violence rate for males and females. Latin America, contrastingly, has the lowest acceptance of IPV, with all means below 13% acceptance. At the lowest levels, only 4.3% of females and 2.0% of males accept in the case of burns food—this is much lower than the global averages of 16.2% and 7.1%, respectively.

In South and Southeast Asia, females are more accepting than males in every situation. Males are similarly accepting of IPV in the cases of going out and arguing at 25% and 23%. Additionally, females have very similar acceptance levels for refusing sex and burning food, at 15.7% and 14.3%. None of the average acceptance levels are this similar for females.

The gender differentials in Central Europe have a greater variance than the other regions. For males, neglecting children and arguing are the situations with the highest levels of acceptance, while females rank the five situations in the same order as the global averages and the other regions. Males are more accepting of violence than females for the argues situation by 7.0 percentage points, and both genders are equally accepting in the situation where a wife goes out without permission. Females are more accepting of IPV than males in the scenarios of refusing sex and burning food. These are similar to the Central European results presented in Tran et al., 2016.

A visual representation of the extent at which females and males acceptance IPV can be found in Figure 4. The maps display country-level acceptance across the five scenarios presented in the DHS. A similar visualization is presented in Figure 5 that displays the country-level average of disagreement intracouple concerning the acceptability of IPV. The higher levels indicate higher disagreement.

As we examine the same distributions across years of schooling, we see an interesting picture about the relationship between IPV and education (See Figure 3 for Figures 3A-3E). Low education is defined as having no education or primary education, while high education is defined as secondary and above. The level of education does not change males acceptance of IPV in any of the scenarios; however, using the *ksmirnov test*, we can determine that female acceptance distributions are statistically smaller for high education than low education in each situation. A more educated female is less accepting of IPV than a female with lower education levels; this is consistent with existing literature.

4.2 Long Run Determinants

In the DHS sample with the Ethnographic Atlas data, the average age for females is 30.5 years and 38.0 for males. Females have, on average, 3.6 years of education, while males have a mean of 5.0 years of education. Seventy percent of the sample lives in rural areas. Forty-four percent are categorized as poor by the wealth index (in the lowest two quintiles of the index), and 37% are categorized as rich (in the highest two quintiles of the index) (See Table 2). There are 102,569 couples in this data.

Across the sample, 57.3% of females are willing to justify IPV in any scenario, while only 35.9% of males are willing to accept in the same situations. When broken out into each scenario, females are more accepting of IPV than males—in each case, by more than 10 percentage points. For neglecting children, the most accepted situation, 51.7% of females felt IPV was justified, and only 31.2% of males felt the same (See Figure 1 and Table 3).

To estimate the relationship of patriarchal societies with acceptance of IPV, I implement a pooled OLS specification on repeated cross-sections at the country and the ethnicity level to compare changes in the extent of acceptance and disagreement about acceptance intracouple in households in plough and non-plough ethnic groups. I employ three outcome variables: one being the female extent of acceptance, the male extent of acceptance, and the disagreement measure. I run the following regression

$$Y_{iect} = \alpha + \beta_1 \text{Plough}_{ie} + \beta_o \mathbf{X}_{iect} + \epsilon_{iect} \quad (1)$$

where Plough is an indicator variable taking the value of one if the ancestral ethnic group used the plough; \mathbf{X} is a vector of controls including age, education, wealth, and if a household is in a rural area; and ϵ is the error term. Since it is typical to cluster standard errors at the level at which treatment was assigned, I cluster standard errors at the ethnicity level because the ‘treatment variable’ of the plough is assigned by ethnicity. It is also likely that outcomes are correlated across couples within an ethnic group.

In some cases, the regression will be run conditional on the partner accepting or never accepting violence⁵. This is included in order to determine if couple dynamics are a driving force in the extent to which IPV is accepted, which has been excluded from prior research in this field.

Finally, in some instances, I will include country fixed effects in order to account for unobserved time-invariant characteristics that may influence the dependent variables. However, there is low to no country level variation of plough use based on ethnicity, so there is not enough identifying variation when using fixed effects. Including the fixed effects does allow for a within-country examination of the long run factors.

The first outcome variable of interest is the female extent of acceptance, which is the total number of times a female states she believes beating a wife is acceptable. I construct this

⁵ This is an indicator variable that takes on the value 1 if a respondent said ‘yes’ to any of the violence questions and 0 if a respondent does not say ‘yes’ to the five scenarios.

variable by summing the number of times a female responds “yes” to any of the five questions about IPV on the DHS. This variable can take on the values 0 – 5.

Initially we examine the relationship between female extent and socioeconomic factors, conditional on male acceptance levels (See Table 5). Being in an ethnic group with ancestral connections to plough usage has a positive relationship with female extent of acceptance for the unconditional sample and when a male partner does not believe IPV is justifiable in any of the five scenarios. There is not a significant relationship when a male partner believes IPV is justifiable; however, the sign of the coefficient is consistent with the other results reported in the table.

A household moving up the wealth index is associated with a female becoming less accepting of IPV, indicating there is a relationship between poverty and women believing IPV is justified. Correspondingly, if a household is in a rural area, a female is more likely to have a higher total acceptance level, conditional on a male partner’s acceptance. The relationship between rural location and female extent becomes more significant when we look within a country (See Table 6). These two results remain when running the regression conditional on male partners accepting violence in any of the five scenarios or never accepting it.

An increase in a female’s age is associated with a decrease in acceptance of IPV, regardless of her male partner’s belief about violence. This is consistent with existing conclusions that permeate the domestic violence literature. Female years of education remain influential on female extent of acceptance, regardless of her partner’s total acceptance (Table 4). Because this relationship is maintained even when a male partner believes IPV is justifiable, this could be a key channel for policy makers to exploit.

Using country fixed effects, we can examine variation in acceptance of IPV within couples for each country with the same specification (See Table 6). Due to a lack of variation within country on plough use, the relationship between plough and female extent of acceptance does not remain significant. The remaining vector of controls is virtually unaffected by the additional of the country fixed effects.

A country-level measure of plough use and societal characteristics, originally assembled by Alesina, et al., 2013 based on the Ethnographic Atlas, are also included for a more robust exploration of the relationship between female extent of acceptance and patriarchal societies (See Table 11). The positive coefficients for the plough remain; however, the relationship

between country-level plough and female extent is only significant when a male partner reports that IPV is acceptable.

The next outcome variable is male extent of acceptance, which is constructed the same as the female extent. This variable is the number of times a male responds “yes” to any of the five questions about IPV on the DHS. This variable can take on the values 0 – 5.

A similar analysis is conducted with male extent as the dependent variable, and it is conditional on an indicator for female acceptance or not. When fixed effects are not included, being in an ethnic group with ancestral connections to plough usage has a relationship with the extent to which a male believes IPV is acceptable, in all of the three specifications. The coefficients are positive; indicating being in a more patriarchal society is associated with higher levels of male acceptance of IPV (See Table 7). Yet again, when country level fixed effects are included, these results do not persist due to the lack of within country variation of plough use (See Table 8).

Comparable to female extent, living in a rural area is significantly associated with higher levels of male extent in all three specifications of the model when using country level fixed effects (See Table 8), but these results are consistent, even if there are lower levels of significances, without fixed effects. Male extent of acceptance decreases as a household gets wealthier, regardless of female responses (See Table 5).

Male years of education and male age have a statistically significant inverse relationship with male extent of acceptance of IPV, regardless of female acceptance. A female partner who is more accepting of violence does not influence her male partner’s attitudes in these cases (Table 7).

As an additional check of the relationship between patriarchal societies and male extent of acceptance, we include country-level plough use variables from Alesina et al., 2013 (See Table 12). The coefficients on the plough variable are positive and significant at the 1% level for the unconditional regression and when a female partner believes IPV is justifiable.

The primary outcome of interest is the disagreement measure, created by measuring the angle between the two vectors of the couple’s responses to the IPV questions. I created two 1x10 vectors include yes or no responses and I don’t know responses, in order to cover the different combinations of answers to these five questions by a couple. Using the cosine similarity formula, I was then able to calculate the angle between the two vectors. A larger value for the angle indicates a couple disagrees with each other about the acceptant of IPV to a

higher degree. The smaller the angle measure, the more the couple agrees across the five scenarios.

In the DHS sample with the EA included, the largest angle is 155° and the smallest is 0° , indicating the couple completely agrees with each other (See Figure 2). This agreement could either be all 'yes', all 'no', or all 'I don't know'. An analysis can be conducted of which variables drive the acceptance gap within a couple using this disagreement measure.

From the unconditional regression, we see that being in an ethnic group that has ancestral plough usage makes a couple more likely to disagree with each other concerning intimate partner violence; this holds with and without fixed effects (See Tables 9 and 10). This is also true when the regression is conditional on female 'yes' and male 'yes'. Even though there is not a significant relationship between the plough indicator and the disagreement measure when the regression is conditional on a partner responding 'no', the signs on the coefficients are consistent with the other three specifications (See Table 10).

For wealth, female age, female education, male education, and rural location, we see the opposite sign from the expected relationship if the regression is conditional on either the female or male saying 'yes' violence is acceptable. Otherwise we do see the expected relationship between these socioeconomic variables and disagreement within a couple. A one-year increase in female age is associated with a decrease in disagreement; a one year increase in female and male education is associated with a decrease in disagreement; and moving up the wealth index is associated with a decrease in disagreement—conditional on the partner saying 'no' or being the unconditional regression.

If a household is in a rural area, a couple is more likely to disagree with each other, unless the regression is conditional on either female or male saying 'yes'. In those cases, the couple is likely to disagree less. As a household moves up the wealth index, couples are less likely to disagree with each other; however, couples are more likely to disagree when either partner believes IPV is acceptable in any of the scenarios. These economic variables indicate there is some underlying relationship between poverty and the justification of intimate partner violence, which is consistent with the existing literature, but also adds that disagreement also has an intricate relationship with the beliefs in a household (See Table 6).

From the three outcome variables, a clearer picture of long run determinants of gendered social norms and violence can be drawn. The long run factors that shape patriarchal ethnic groups are related to two broad changes: either the female in the partnership will

internalize violence and become more accepting of it, or the male will, but the increasing intrahousehold disagreement measure suggests this internalization is happening in different households. It is unlikely both the male and female in an intimate relationship will internalize and accept violence at a higher extent. This suggests that norm formation and enforcement are not as shared within a household as previously thought, yet the norms are still enforced elsewhere through different parts of the community internalizing violence.

4.3 Short Run Economic Shocks

As an additional source of short run variation, we include seasonal rainfall z-scores as a treatment that may influence any of the three outcomes of interest (See Table 13). A z-score has been created for the current rainy season and the previous season. For female extent of acceptance, higher levels of rain this season and being in a patriarchal ethnic group leads to lower levels of acceptance of violence. Contrastingly, it seems that positive rainfall shocks last season in more patriarchal societies tend to increase female extent of acceptance, with similar but statistically insignificant shifts in male attitudes.

This opposite relationship is consistent with existing literature on shifts in bargaining power from income shocks and females' adjusting social norms around intimate partner violence; however, this is an emerging area of study with a multitude of factors to include. For example, the field has not yet decided on a unified manner in which to use precipitation information in the analysis.

5. Conclusion

This paper complements and adds to the literature on the acceptance of intimate partner violence, utilizing paired observations of females and males in order to examine intrahousehold dynamics concerning IPV. Females are more accepting of IPV than their male partners, across five various scenarios. This study contributes new information to the literature about long run and short run socioeconomic variables and the extent to which individuals believe IPV is justifiable, conditional on their partner's beliefs. An older female or a more educated female is less accepting of IPV, even if her male partner believes IPV is appropriate. Due to this persisting relationship, education is a potential intervention point for policies and programs aimed at reducing the prevalence of IPV.

This is the first study to include an intracouple analysis as well as a population level one. This provides the opportunity to examine within household dynamics concerning acceptance of violence, creating a more full-bodied story about the factors influencing IPV. It

is important to continue work at this level considering intimate partner violence exists within a couple.

Additionally, we implement an ethnicity-level plough variable based on male ethnicity linked to the Ethnographic Atlas. This is an attempt to expand on the work by Alesina et al., 2013 that implements a country-level plough variable. We find there is little variation and little advantage to using the individual plough variable when attempting to add depth to the data.

Turning to the underlying mechanisms at work, the topic of social norms and bargaining power within a household is a complex area. This study began examining the different dynamics within households when it comes to believing IPV is justified across short run and long run factors, but there is more to be done in uncovering the entire set of variables that influences these norms. Mechanisms that determine these social norms are hard to isolate, but conditions like fear of retribution or social desirability bias needs to be considered.

Accordingly, there is space in the literature for future causal impact studies in the area using a variety of exogenous shocks to households. The estimates from this study show that ethnic groups with ancestral plough use tend to have more disagreement within couples concerning the acceptance of intimate partner violence, but a more rigorous exogenous source could determine that patriarchal ideas cause this intracouple disagreement.

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Figure 1: Average Acceptance of IPV for Each Situation, by Gender

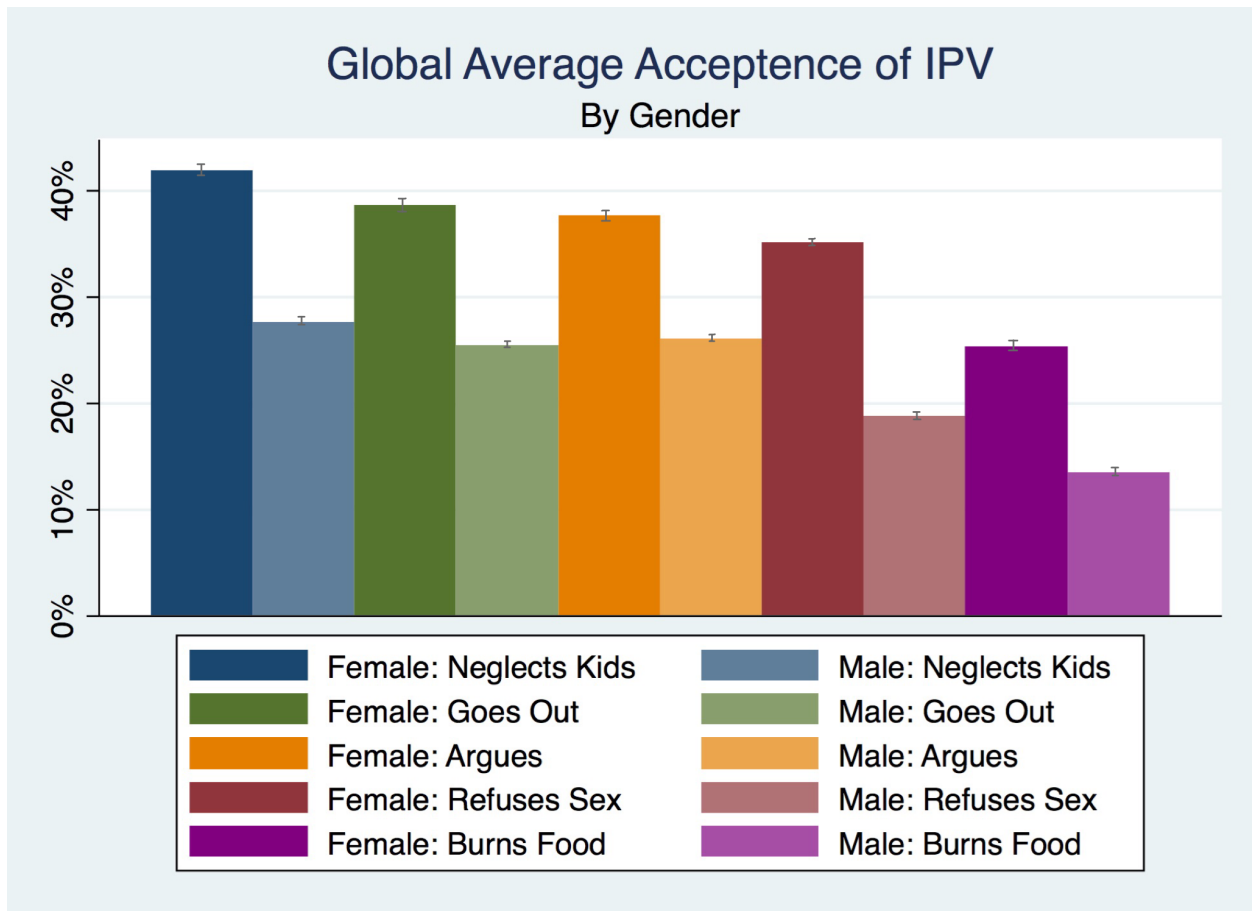
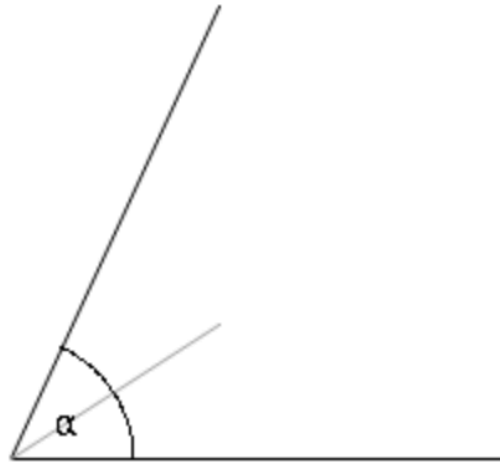
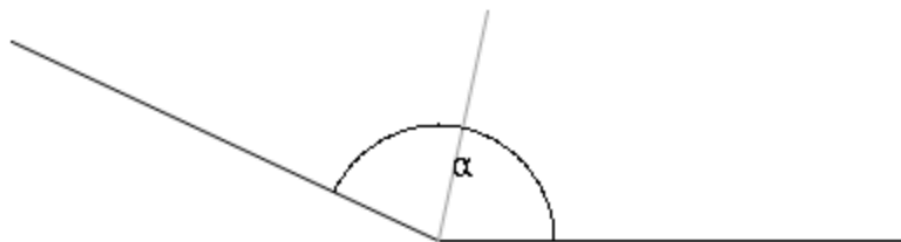


Figure 2: Angles of the Disagreement Measure

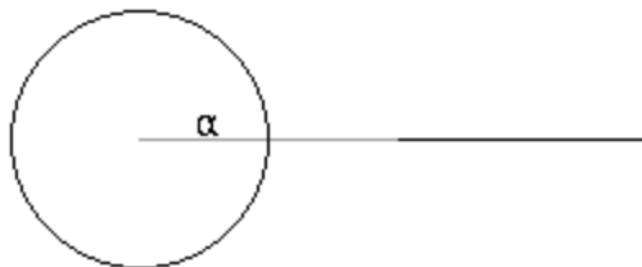
Average Angle Measure: 65.1°



Maximum Angle Measure: 155°



Minimum Angle Measure: 0°



Figures 3A – 3E: Density Curves for Each Situation, by Education

Figure 3A: Neglects Children

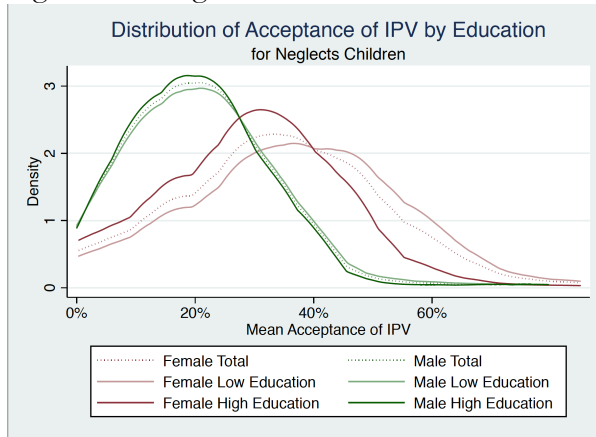


Figure 3E: Refuse Sex

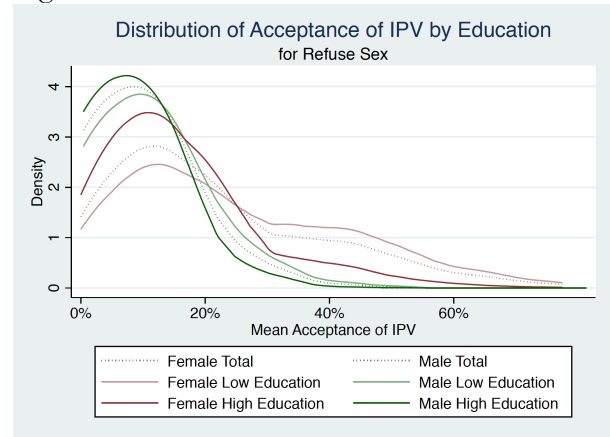


Figure 3B: Goes Out

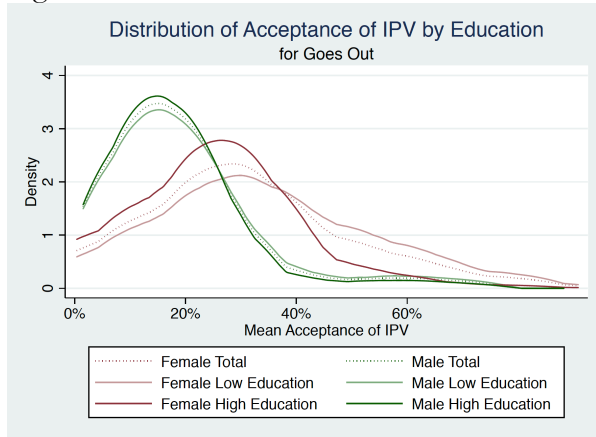


Figure 3F: Burns Food

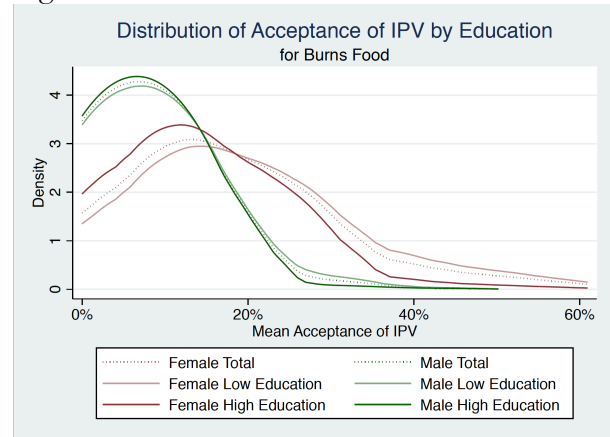


Figure 3D: Argues

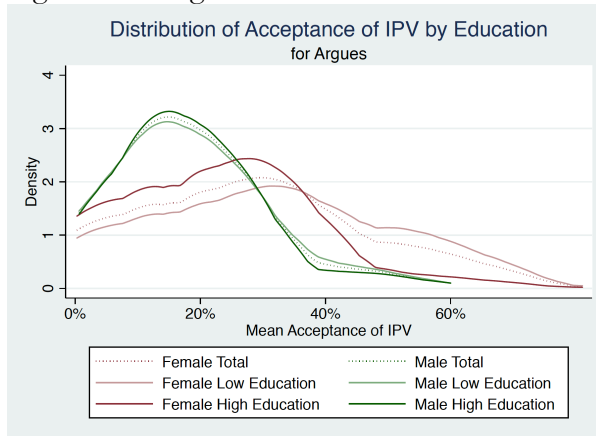


Figure 4: Extent in the Sample of DHS Countries

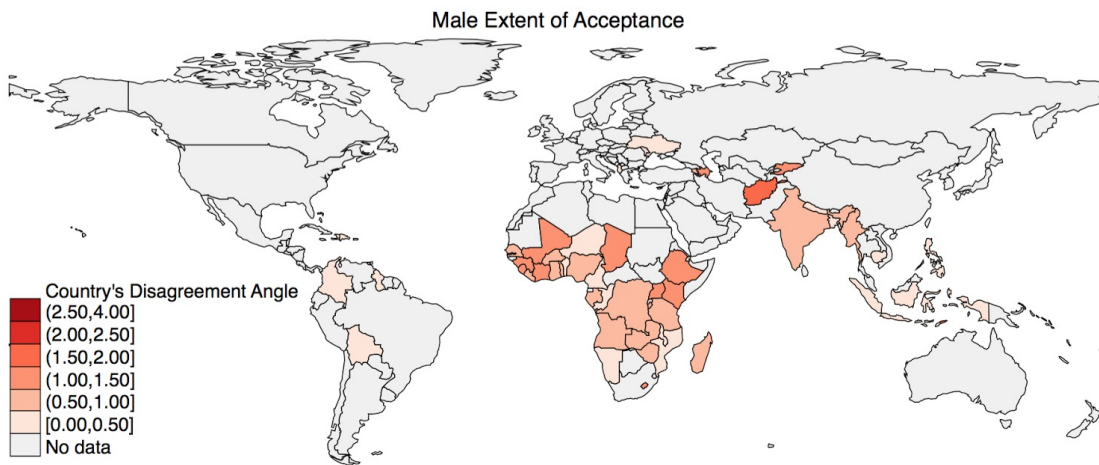
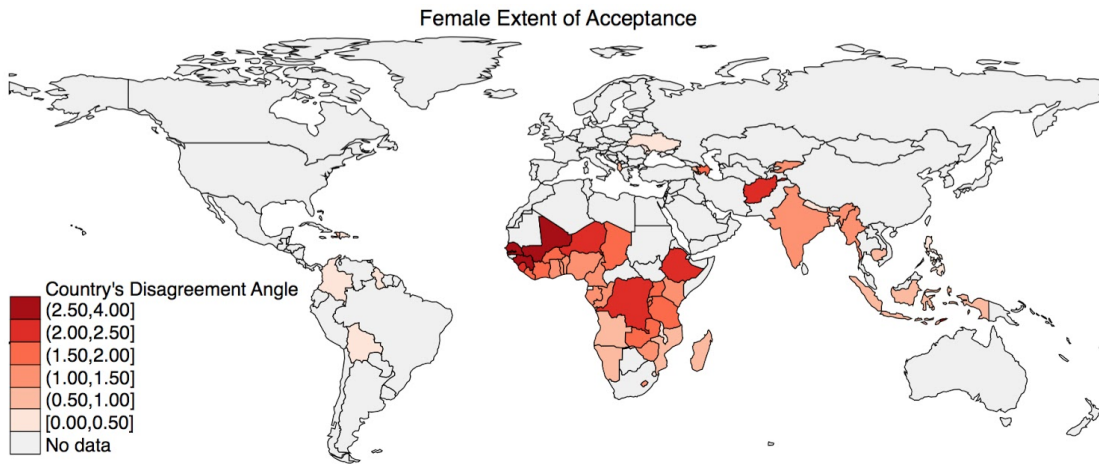


Figure 5: Extent in the Sample of DHS Countries

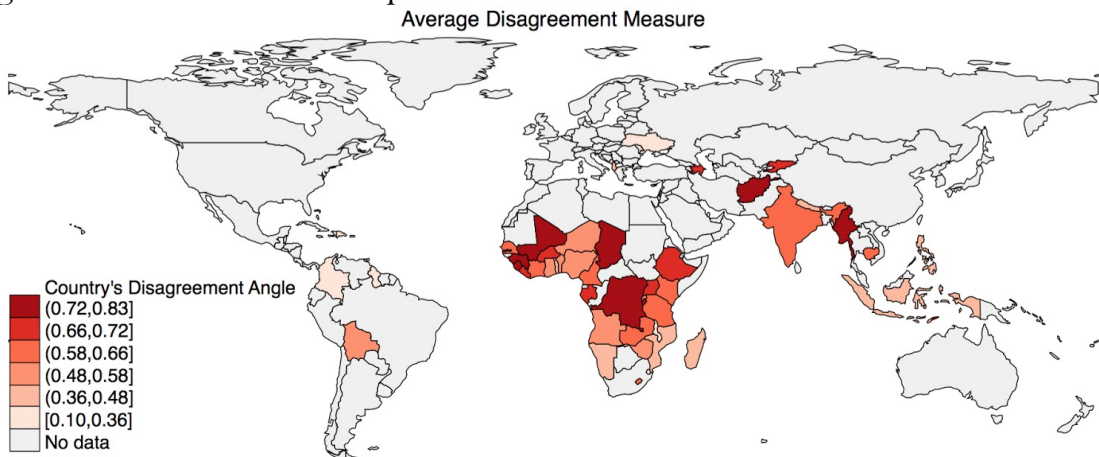


Table 1: Demographic Health Surveys Included in the Total DHS Sample

Afghanistan: 2016	Kenya: 2003, 2008, 2014
Albania: 2008	Kyrgyz Republic: 2012
Angola: 2015	Lesotho: 2004, 2009, 2014
Armenia: 2000, 2005, 2010, 2015	Liberia: 2006, 2013
Azerbaijan: 2006	Madagascar: 2003, 2008
Bangladesh: 2004, 2007	Malawi: 2000, 2004, 2010, 2015
Benin: 2001, 2006, 2011	Maldives: 2009
Bolivia: 2003	Mali: 2001, 2012
Burkina Faso: 2003, 2011	Moldova: 2005
Burundi: 2010, 2017	Mozambique: 2003, 2011, 2015
Cambodia: 2014	Myanmar: 2015
Cameroon: 2011	Namibia: 2000, 2006, 2013
Chad: 2014	Nepal: 2000, 2005, 2010, 2016
Colombia: 2015	Niger: 2012
Comoros: 2012	Nigeria: 2003, 2008, 2013
Congo Democratic Republic: 2013	Philippines: 2003
Congo: 2011	Rwanda: 2000, 2005, 2010, 2014
Cote d'Ivoire: 2011	Sao Tome and Principe: 2008
Dominican Republic: 2002, 2007, 2013	Senegal: 2010, 2014, 2016
Ethiopia: 2003, 2008	Sierra Leone: 2008, 2013
Gabon: 2012	Swaziland: 2006
Gambia: 2013	Tanzania: 2004, 2009, 2015
Ghana: 2003, 2008, 2014	Timor-Leste: 2009, 2016
Guinea: 2012	Togo: 2013
Guyana: 2009	Uganda: 2000, 2006, 2011, 2016
Haiti: 2000, 2012	Ukraine: 2007
India: 2005, 2015	Zambia: 2001, 2007, 2013
Indonesia: 2002, 2007, 2012	Zimbabwe: 2005, 2010, 2015

Table 2: Sample Summary Statistics

	Total Sample	Sub-sample with EA
Female Age	31.48 (8.297)	30.45 (8.116)
Male Age	37.44 (9.044)	38.05 (9.263)
Male – Female Age Difference	5.958 (5.560)	7.603 (6.091)
Female Education	5.086 (4.855)	3.628 (4.474)
Male Education	6.318 (4.985)	5.043 (5.049)
Male – Female Edu Difference	1.231 (3.919)	1.413 (3.806)
Rural Households	65.3% (0.476)	70.4% (0.456)
Wealth Index		
Poor	42.1% (0.494)	43.5% (0.496)
Middle	19.8% (0.398)	19.8% (0.398)
Rich	38.1% (0.486)	36.8% (0.482)
N	437,873	102,569

Notes: The means of the specified variables are calculated separately for the entire sample and for the sub-sample with matches to the Ethnographic Atlas by ethnicity. The standard deviations appear in parentheses.

Table 3: Sample Summary Statistics for IPV Acceptance

	Total Sample	Sub-sample with EA
Female		
Yes at All	0.462 (0.499)	0.573 (0.495)
Goes Out	0.386 (0.897)	0.511 (0.974)
Neglects Kids	0.418 (0.908)	0.517 (0.981)
Argues	0.376 (0.964)	0.496 (1.017)
Refuse Sex	0.351 (1.108)	0.483 (1.177)
Burns Food	0.253 (0.891)	0.336 (1.014)
Male		
Yes at All	0.316 (0.465)	0.359 (0.480)
Goes Out	0.254 (0.849)	0.312 (0.917)
Neglects Kids	0.276 (0.847)	0.314 (0.919)
Argues	0.261 (0.909)	0.309 (0.985)
Refuse Sex	0.187 (0.905)	0.247 (1.006)
Burns Food	0.135 (0.741)	0.162 (0.836)
N	432,507	102,174

Notes: The means of the specified variables are calculated separately for the entire sample and for the sub-sample with matches to the Ethnographic Atlas by ethnicity. The standard deviations appear in parentheses.

Table 4: Summary Statistics for Each Situation, by Region

	Central Europe	Central Asia	Sub Saharan Africa	South & Southeast Asia	Latin America	Global
Neglects Children						
Male	0.211 (0.101)	0.394 (.)	0.229 (0.123)	0.300 (0.204)	0.0880 (0.0833)	0.226 (0.139)
Female	0.207 (0.125)	0.350 (.)	0.400 (0.176)	0.349 (0.216)	0.127 (0.0847)	0.351 (0.188)
Goes Out						
Male	0.176 (0.130)	0.336 (.)	0.199 (0.117)	0.253 (0.211)	0.0782 (0.0792)	0.194 (0.134)
Female	0.172 (0.162)	0.348 (.)	0.368 (0.185)	0.296 (0.247)	0.103 (0.102)	0.318 (0.201)
Argues						
Male	0.210 (0.156)	0.246 (.)	0.188 (0.109)	0.231 (0.152)	0.0359 (0.0382)	0.181 (0.123)
Female	0.140 (0.110)	0.266 (.)	0.342 (0.179)	0.264 (0.239)	0.0504 (0.0392)	0.283 (0.197)
Refuse Sex						
Male	0.0548 (0.0453)	0.0667 (.)	0.126 (0.0852)	0.103 (0.0865)	0.0290 (0.0249)	0.108 (0.0841)
Female	0.0593 (0.0580)	0.100 (.)	0.290 (0.171)	0.157 (0.148)	0.0478 (0.0492)	0.230 (0.180)
Burns Food						
Male	0.0235 (0.0241)	0.0328 (.)	0.0803 (0.0648)	0.0939 (0.102)	0.0200 (0.0163)	0.0706 (0.0685)
Female	0.0418 (0.0471)	0.0844 (.)	0.202 (0.133)	0.143 (0.133)	0.0425 (0.0300)	0.162 (0.134)
N	8	1	75	15	10	113

Notes: The means of the specified variables are calculated based on the country-year level mean. The standard deviations appear in parentheses.

Table 5: Female Extent of Acceptance, Conditional on Male Partner Acceptance with No Fixed Effects

--- Pooled OLS on Repeated Cross Sections, Clustered Standard Errors at Ethnicity Level---

	Total	Male IPV Dummy	
		NO	YES
Plough Dummy	0.290** (0.131)	0.299* (0.161)	0.117 (0.118)
Wealth Index	-0.100*** (0.018)	-0.120*** (0.018)	-0.0734*** (0.026)
Female Age	-0.0254*** (0.005)	-0.0270*** (0.007)	-0.0210*** (0.005)
Male Age	0.0196*** (0.004)	0.0214*** (0.006)	0.0191*** (0.004)
Female Education	-0.0747*** (0.009)	-0.0671*** (0.009)	-0.0705*** (0.009)
Male Education	-0.0276*** (0.005)	-0.0238*** (0.006)	-0.0229*** (0.004)
Rural	0.0802 (0.051)	0.0345 (0.055)	0.162*** (0.056)
Constant	2.337*** (0.142)	2.159*** (0.141)	2.384*** (0.156)
N	95,398	55,399	29,842
Outcome Mean	1.718	1.426	2.139

Note: Outcome variable is the female extent of acceptance; it can take on the values 0 – 5. The male dummy variable is any amount of female acceptance; it can take on the values 0 or 1. Column (1) is the unconditional sample. Column (2) is conditional on a male partner never accepting. Column (3) is conditional on a male partner accepting IPV. Standard errors are in parentheses & clustered at the ethnicity level. No fixed effects. *p<0.10 **p<0.05 ***p<0.01

Table 6: Female Extent, Conditional on Male Partner Acceptance with Fixed Effects

---OLS with Country Fixed Effects, Clustered Standard Errors at Ethnicity Level---

	Total	Male IPV Dummy	
		NO	YES
Plough Dummy	-0.120 (0.188)	-0.0921 (0.176)	-0.238 (0.146)
Wealth Index	-0.115*** (0.0171)	-0.117*** (0.0214)	-0.102*** (0.0137)
Female Age	-0.00937*** (0.00172)	-0.0108*** (0.00244)	-0.00501* (0.00257)
Male Age	0.00373** (0.00143)	0.00398** (0.00199)	0.00566** (0.00240)
Female Education	-0.0495*** (0.00427)	-0.0490*** (0.00494)	-0.0394*** (0.00443)
Male Education	-0.0122*** (0.00275)	-0.0116*** (0.00351)	-0.00480 (0.00336)
Rural	0.190*** (0.0329)	0.200*** (0.0277)	0.175*** (0.0583)
N	95,398	55,398	29,841
Outcome Mean	1.718	1.426	2.139

Note: Column (2) is conditional on a male partner never saying IPV is acceptable. Column (3) is conditional on a male partner saying IPV is acceptable in any situation. Standard errors are in parentheses and clustered at ethnicity level. Country level fixed effects. *p<0.10 **p<0.05 ***p<0.01

Table 7: Male Extent of Acceptance, Conditional on Female Partner Acceptance with No Fixed Effects

--- Pooled OLS on Repeated Cross Sections, Clustered Standard Errors at Ethnicity Level---

	Total	Female IPV Dummy	
		NO	YES
Plough Dummy	0.531*** (0.151)	0.310** (0.124)	0.561*** (0.156)
Wealth Index	-0.0820*** (0.00911)	-0.0688*** (0.00991)	-0.0822*** (0.0125)
Female Age	-0.00107 (0.00250)	-0.00247 (0.00203)	0.00243 (0.00308)
Male Age	-0.00811*** (0.00235)	-0.00515** (0.00205)	-0.0114*** (0.00271)
Female Education	-0.0177** (0.00719)	-0.0107* (0.00540)	-0.0104* (0.00588)
Male Education	-0.0162*** (0.00210)	-0.0143*** (0.00253)	-0.0153*** (0.00207)
Rural	0.0701* (0.0388)	0.0151 (0.0359)	0.103** (0.0447)
Constant	1.353*** (0.0922)	1.089*** (0.0910)	1.451*** (0.0857)
N	95,398	40,210	52,813
Outcome Mean	0.762	0.503	0.963

Note: Outcome variable is the male extent of acceptance; it can take on the values 0 – 5. The female dummy variable is any amount of female acceptance; it can take on the values 0 or 1. Column (1) is the unconditional sample. Column (2) is conditional on a female partner never accepting. Column (3) is conditional on a female partner accepting IPV. Standard errors are in parentheses & clustered at the ethnicity level. No fixed effects. *p<0.10 **p<0.05 ***p<0.01

Table 8: Male Extent, Conditional on Female Acceptance

---OLS with Country Fixed Effects, Clustered Standard Errors at Ethnicity Level---

	Total	Female IPV Dummy	
		NO	YES
Plough Dummy	-0.0364 (0.196)	-0.0160 (0.127)	-0.0578 (0.211)
Household Wealth Index	-0.0658*** (0.0158)	-0.0477*** (0.0118)	-0.0664*** (0.0187)
Female Age	-0.00377** (0.00144)	-0.00343** (0.00137)	-0.00335* (0.00179)
Male Age	-0.00475*** (0.00109)	-0.00439*** (0.00116)	-0.00509*** (0.00145)
Female Education	-0.0169*** (0.00255)	-0.0141*** (0.00260)	-0.0163*** (0.00319)
Male Education	-0.0240*** (0.00225)	-0.0192*** (0.00210)	-0.0270*** (0.00329)
Rural	0.0762*** (0.0282)	0.0507** (0.0239)	0.0780** (0.0380)
N	95,398	42,585	52,813
Outcome Mean	0.762	0.503	0.963

Note: Column (2) is conditional on a female partner never saying IPV is acceptable. Column (3) is conditional on a female partner saying IPV is acceptable in any situation. Standard errors are in parentheses and are clustered at ethnicity level. Country level fixed effects. *p<0.10 **p<0.05 ***p<0.01

Table 9: Couple's Disagreement Measure, Conditional on Couple Acceptance

---OLS Estimations, No Fixed Effects---	
	(1)
	Disagreement Measure
Plough Dummy	0.111*** (0.0268)
Wealth Index	-0.0252*** (0.00336)
Female Age	-0.00398*** (0.000835)
Male Age	0.00105 (0.000818)
Female Education	-0.0130*** (0.00259)
Male Education	-0.00522*** (0.00130)
Rural	0.0138 (0.0169)
Constant	0.800*** (0.0260)
N	80,033
Outcome Mean	0.597

Note: Column (1) uses the disagreement measure as the outcome variable. Standard errors are in parentheses & clustered at the ethnicity level. No fixed effects. *p<0.10 **p<0.05 ***p<0.01

Table 10: Couple's Disagreement Measure, Conditional on Couple Acceptance

---OLS with Country Fixed Effects, Clustered Standard Errors at Ethnicity Level---

	Total	Female Extent		Male Extent	
		NO	YES	NO	YES
Plough Dummy	0.0664* (0.0387)	0.0274 (0.0486)	0.0596*** (0.0183)	0.0524 (0.0463)	0.0864*** (0.0242)
Wealth Index	-0.0209*** (0.00214)	-0.0145*** (0.00270)	0.0110*** (0.00298)	-0.0271*** (0.00350)	0.0163*** (0.00390)
Female Age	-0.00255*** (0.000482)	-0.00169*** (0.000556)	0.000886*** (0.000319)	-0.00289*** (0.000637)	0.000886 (0.000542)
Male Age	-0.000708* (0.000373)	-0.00182*** (0.000524)	-0.000358 (0.000317)	0.000518 (0.000487)	-0.000745 (0.000542)
Female Education	-0.0118*** (0.00133)	-0.00536*** (0.000844)	0.00520*** (0.000626)	-0.0119*** (0.00150)	0.00501*** (0.000902)
Male Education	-0.00487*** (0.000869)	-0.00687*** (0.000840)	0.00322*** (0.000488)	-0.00303*** (0.00107)	0.00371*** (0.000670)
Rural	0.0412*** (0.00960)	0.0256*** (0.00766)	-0.0196*** (0.00632)	0.0410*** (0.00916)	-0.0197* (0.00995)
N	76,921	36,847	40,074	53,441	23,478

Note: Column (2) is conditional on a female partner never saying IPV is acceptable. Column (3) is conditional on a female partner saying IPV is acceptable in any situation. Column (4) is conditional on a male partner never saying IPV is acceptable. Column (5) is conditional on a male partner saying IPV is acceptable in any situation. Standard errors are in parentheses and clustered at the ethnicity level. Country level fixed effects. *p<0.10 **p<0.05 ***p<0.01

Table 11: Female Extent, Conditional on Male Partner Acceptance with Ancestral Controls

---OLS with No Fixed Effects, Clustered Standard Errors at Ethnicity Level---

	Total	Male IPV Dummy	
		NO	YES
Country Level Plough	0.300 (0.234)	0.222 (0.283)	0.806*** (0.224)
Agricultural Suitability	-0.468 (0.292)	-0.574* (0.322)	0.302 (0.368)
Tropical Climate	0.807* (0.461)	0.863* (0.454)	1.388*** (0.412)
Large Animals	-0.231 (0.663)	-0.447 (0.648)	0.707 (0.664)
Political Hierarchies	0.0789 (0.130)	0.171 (0.136)	-0.234* (0.131)
Constant	1.800*** (0.547)	1.621*** (0.549)	0.683 (0.648)
N	95563	55516	29889

Note: Outcome variable is the female extent of acceptance; it can take on the values 0 – 5. The male dummy variable is any amount of female acceptance; it can take on the values 0 or 1. Column (1) is the unconditional sample. Column (2) is conditional on a male partner never accepting. Column (3) is conditional on a male partner accepting IPV. Same vector of controls is included but not reported here. Standard errors are in parentheses clustered at ethnicity level. No fixed effects.
*p<0.10 **p<0.05 ***p<0.01

Table 12: Male Extent, Conditional on Female Partner Acceptance with Ancestral Controls

---OLS with No Fixed Effects, Clustered Standard Errors at Ethnicity Level---

	Total	Female IPV Dummy	
		NO	YES
Country Level Plough	0.492*** (0.138)	0.0915 (0.120)	0.690*** (0.131)
Agricultural Suitability	-0.341* (0.173)	-0.471*** (0.147)	-0.0846 (0.177)
Tropical Climate	-0.464* (0.246)	-0.510*** (0.163)	-0.822** (0.349)
Large Animals	-1.572*** (0.413)	-1.209*** (0.252)	-1.742*** (0.568)
Political Hierarchies	0.0509 (0.0984)	0.105 (0.0753)	-0.0665 (0.122)
Constant	3.326*** (0.395)	2.745*** (0.301)	4.075*** (0.459)
N	95563	40391	52785

Note: Outcome variable is the male extent of acceptance; it can take on the values 0 – 5. The female dummy variable is any amount of female acceptance; it can take on the values 0 or 1. Column (1) is the unconditional sample. Column (2) is conditional on a female partner never accepting. Column (3) is conditional on a female partner accepting IPV. Standard errors are in parentheses clustered at the ethnicity level. No fixed effects.
*p<0.10 **p<0.05 ***p<0.01

Table 13: Rainfall Shocks in Patriarchal Societies

---OLS with Region and Year Fixed Effects, Clustered Standard Errors at Region Level---

	(1)	(2)	(3)
	Disagreement	Female Extent	Male Extent
Lagged Seasonal Rainfall z-score	-0.00923 (0.0127)	-0.0552 (0.0641)	0.0878 (0.0821)
Lagged Seasonal Rainfall z-score X Plough Dummy	-0.00950 (0.0809)	0.304** (0.122)	0.162 (0.197)
Current Seasonal Rainfall z-score	-0.00983 (0.0154)	-0.0868 (0.0527)	-0.00815 (0.0675)
Current Seasonal Rainfall z-score X Plough Dummy	-0.0833 (0.0568)	-0.255*** (0.0932)	-0.162 (0.143)
N	127,616	174,511	174,511
Outcome Mean	0.538	1.550	0.518

Note: Column (1) uses the disagreement measure as the outcome variable. Column (2) uses the female extent of acceptance as the outcome variable. Column (3) uses the male extent of acceptance as the outcome variable. Standard errors are in parentheses. Region and year fixed effects. *p<0.10 **p<0.05 ***p<0.01