Article

Polygynous Neighbors, Excess Men, and Intergroup Conflict in Rural Africa

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Abstract
We argue that polygyny creates a social imbalance where few, economically well-off men marry many wives and many poor men marry late or never. By definition, polygyny produces what we refer to as “excess men.” In order to gain material wealth, excess men are likely to raid, plunder, and rob neighboring ethnic groups. We test this hypothesis with georeferenced data on polygyny and intergroup conflict in rural Africa and find strong support. Drawing on Afrobarometer survey data, we explore the underlying mechanisms and find that young men who belong to polygynous groups feel that they are treated more unequally and are readier to use violence in comparison to those belonging to monogamous groups. Our article makes an important contribution to the peace, conflict, and development literature by emphasizing a fundamental aspect of human life: marriage and family.

Keywords
intergroup conflict, polygyny, Africa, GIS, family, ethnicity

Social institutions have long been a focal point in the analysis and explanation of intrastate peace and conflict. While state institutions have been studied to a large extent in this context, the internal norms, traditional institutions, and customary laws

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of ethnic groups have not yet received much attention. Key institutions that influence the social order of ethnic groups are marriage and family. In most societies, the family is the smallest social entity that shapes the everyday life of people (Weber [1922] 1980, xvii). The family typically fulfills reproductive, social, economic, and prestige functions (Becker 1993; Murdock 1949; Hudson and Matfess 2017).

We argue in this article that the type of marriage institution practiced by an ethnic group, monogamy or polygyny, affects the likelihood of members of that group attacking neighboring groups. By definition, polygyny creates a social imbalance: while some men marry several wives, rear many children, and have large families, other men marry late in life or not at all. A common pattern is that marriage is confined to economically well-off men in the highest tiers of society, leaving economically deprived men unwed (Irons 1983; Mesquida and Wiener 1999; McDermott 2018). We refer to the latter as excess men. In traditional rural societies where social norms make a man’s reputation dependent on, among other things, the size of his family, excess men fail to meet basic criteria for attaining social prestige (Henrich, Boyd, and Richerson 2012, 657; Hudson and Matfess 2017, 12).

However, in our understanding, excess men will not accept the fate of remaining bachelors. According to Hans Morgenthau, propagation is one of the main drivers of any political action ([1948] 1985, 39). Since economic resources are key to getting married and starting a family, excess men have incentives to acquire these resources. When legitimate sources of income are unavailable or insufficient, excess men become “risk-takers” (Barash 2016, 30): crime, theft, violence, and raids become viable options. Excess men in rural areas who strive to conform to the social norms that derive from marriage and family therefore have two basic choices: to steal from, plunder, and raid one’s own group or to do the same to another group.

Since ethnic groups often function as extended families and have established mechanisms to monitor and sanction misbehavior (cf. Fearon and Laitin 1996), excess men will be more likely to raid other groups than their own. Following this reasoning, we expect that polygyny does not necessarily increase intragroup violence but rather heightens the risk of violence for neighboring ethnic groups.

In our analysis, we examine whether the extent of borders shared with polygynous ethnic groups increases a group’s risk of experiencing intergroup violence. Specifically, we create a risk profile for each ethnic group that measures the percentage of total border shared with polygynous neighbors. Building on the growing literature that analyses the long-term effect of historical institutions and politics (e.g., De Juan and Koos 2019; Wig 2016; Michalopoulos and Papaioannou 2016; Nunn and Wantchekon 2011; Nunn 2008), we rely on precolonial data on ethnic groups’ mode of marriage—which has been shown to correlate with current polygyny rates (Dalton and Leung 2014)—to predict contemporary violent conflict events between ethnic groups in rural Africa. Using a set of pretreatment exogenous geographical and historical variables that could have affected both the prevalence of polygyny and intergroup conflict (e.g., ancient wars, slave trade, and malaria prevalence), we show robust evidence that for groups with higher percentages of shared
boundaries with polygynous groups, the number of violent events increases substan-
tively, a finding which supports our hypothesis.

In a second step, we employ a pooled sample of Afrobarometer survey data to
better understand the underlying mechanisms of this relationship. We are able to
demonstrate that childless young men who belong to polygynous ethnic groups feel
that they are treated more unequally and regard violence more frequently as a
justified means to achieve their goals in comparison to their peers in monogamous
groups. This lends support for our proposed mechanism, which suggests that excess
men are the linkage between polygyny and intergroup violence.

In addition to our contribution to the literature on the long-term effects of his-
torical institutions, we provide a substantially refined theoretical argument and
improved empirical test to the literature on family institutions and violent conflict,
an aspect that has not received adequate attention. Additionally, we complement the
literature on local-level and communal conflicts (e.g., Eck 2014; Fjelde and von

Polygyny and Conflict: Concepts and Gaps

We argue in this article that polygyny is a group-specific institution, which should
affect violent conflict between ethnic groups. To justify our approach, we discuss the
literature on polygyny and conflict, identify critical shortcomings, and in the process
describe how we address them in this article.

The only two existing quantitative studies on polygyny and armed conflict have
focused on state-based violence, which has led to contradictory findings. While
Kanazawa (2009) finds that higher rates of polygyny measured at the state level
increase the risk of large-scale civil wars, Gleditsch et al. (2011) cannot replicate this
finding either at the state or the group level. We see two major reasons for the
nonreplicability of Kanazawa’s (2009) finding, one relates to the theory and
mechanisms and the other to the data sources used to operationalize polygyny. 1

The first concern relates to the theoretical foundation behind the type of violence
chosen as well as the level of analysis. Both articles analyze the effect of polygyny
on conflicts in which one party represents the state. However, it remains unclear how
polygyny features in these kinds of conflicts—that is, why the state would be the
appropriate target of organized violence by excess men. In fact, the only evidence we
find suggests that polygyny—or a skewed sex ratio toward young single males—
increases nonpolitical violence such as homicides (Wilson and Daly 1985), violent
crime and property crime (Edlund et al. 2007), societal violence (Hudson and Den
Boer 2002), or violence against women (McDermott and Cowden 2018). Therefore,
we do not expect polygyny to affect large-scale mobilization against the state.

In this vein, we also suggest an analysis that takes this variation at the meso-level
into account instead of aggregating to the state level. Our understanding of polygyny
is that of a group-specific institution, with local effects on conflict. Marriage,
throughout the world, is frequently regulated not only by state law but also by
customary law and local social norms and practices. Especially in Africa, the mode of marriage is essentially group-specific since many ethnic groups have their own set of customary law and traditional institutions (Holzinger et al. 2018; Holzinger, Kern, and Kromrey 2016). The ethnic group therefore lends itself as a natural unit of observation with which to study the effect of polygyny on conflict in Africa.

This notion is underpinned by anthropological, archaeological, and psychological research suggesting that polygyny may rather be associated with intergroup violence than with civil wars. Henrich, Boyd, and Richerson (2012) argue that due to the negative effects of polygyny, such as crime and violence, polygyny creates a comparative disadvantage in intergroup competition leading to intergroup clashes. In his study of the Yanomamö tribes in southern Venezuela and northern Brazil, Chagnon (1988) finds that more successful warriors are married to more wives than their less successful counterparts, providing a link between polygyny and violent raids of other communities. Raffield, Price, and Collard (2017) use archaeological evidence to show how intergroup Viking raids in Scandinavia during the Late Iron Age were related to an increase in unmarried men, which was caused by polygyny, concubinage, and increasing social inequality. Using three case studies, Hudson and Matfess (2017) identify polygyny, alongside inflationary bride-prices, as a marriage market barrier “predisposing young men to become involved in organized group violence” (2017, 8). While these findings come from diverse disciplines, they support our claim that the subnational variance in marital institutions between ethnic groups should rather play out locally and affect conflicts between groups rather than between groups and the state.

The second issue with the existing research concerns the data and the potential of reverse causality. Although most of the—qualitative and quantitative—studies hypothesize that polygyny is a cause of violence, it may be the case that the relationship runs the other way. This is due to explanations as to why polygyny emerged in the first place. One widely accepted explanation is demographic: polygyny is likely to be the result of actual skewed sex ratios tipped toward women, due to external influences that change the gender ratio (White and Burton 1988). Changes in this ratio can have many causes such as labor migration, slave trade (Dalton and Leung 2014), and male fatalities during wars, leading to excess women (cf. Gleditsch et al. 2011, 267; Goldstein 2001, 226; White and Burton 1988). It follows that polygyny could also be caused by deadly conflict. This would lead polygyny to at least partially fluctuate over generations in response to demographic changes and war. However, with contemporary measures of polygyny as coded by Kanazawa and Still (1999) and replicated by Gleditsch et al. (2011), this potential reverse causal direction cannot be accounted for (see Online Appendix Section 1 for data validity and persistence).

To address this problem, we argue that historical evidence on marriage institutions helps to circumvent concerns about reverse causality. Albeit possible time variance and societal changes, there is reason to believe that polygyny as a family institution stays intact once sex ratios are even again, that is, a generation after
warfare has ceased. First, theories on institutional path dependence and the so-called stickiness of institutions (cf. Fukuyama 2011, 450) claim that institutions are change resistant. Pierson (2000, 252) formalizes this claim by arguing that “relative benefits of the current activity compared with other possible options increase over time,” which increases the probability of institutional persistence. Institutions, such as polygyny, can then be described as endogenous in themselves. Second, socialization processes through cultural transmission can amplify path dependence when it comes to family institutions (Bisin and Verdier 2000). In their theoretical model, Bisin and Verdier (2000) show that the intergenerational transmission of traits—and thereby the adaption of patterns by children—is especially resilient for ethnic and religious minorities. Anthropological research underpins this theory, showing that polygyny as a marital institution is “self-sustaining” (Dalton and Leung 2014, 607). Furthermore, McDermott and Cowden (2018) argue that the persistence of polygyny is sustained by those who practice it, as these are beneficiaries of the system, for instance through male kin networks (see also Hudson 2018).

There is also empirical evidence that polygyny persists. Dalton and Leung (2014, 613) test the persistence of polygyny as coded in George Murdock’s (1969) Ethnographic Atlas (EA). The EA systematically codes the sociocultural traits of more than 386 ethnic groups in Africa at the time before their first encounter with Europeans, including the dominant mode of marriage. Dalton and Leung use a pooled sample of 238,075 respondents from recent Demographic and Health Survey (DHS) data in Africa and find that contemporary polygyny rates are five times as high in ethnic groups that were coded as polygynous (10 percent practiced polygyny) in the EA relative to those coded monogamous (2 percent practiced polygyny). This lends strong support to the idea that polygyny is indeed persistent over time and can be conceptualized as a “sticky” institution.

Furthermore, Fenske (2015, 72) analyzes the effect of colonial education in comparison to current expansion of education in Africa and finds that “ethnic institutions are shaped by history.” We also compare specific groups. For instance, the Bashi in South Kivu, DR Congo, are categorized by Murdock as a polygynous group. According to a representative household survey conducted in March 2017 by one of the authors, 13 percent of Bashi men reported having more than one wife. If these 13 percent of polygynous men marry only two wives, they marry 26 percent of the potential brides and thereby leave 13 percent of the excess men without prospects of marrying. Again, this evidence supports the idea that polygyny exhibits a substantial degree of continuity over long periods of time.

The long-term effect of social institutions has furthermore been documented in numerous studies (e.g., Michalopoulos and Papaioannou 2013, 2016; Wig 2016; Nunn 2008; Alesina, Giuliano, and Nunn 2013). Given the potential endogeneity of polygyny and conflict, we believe that employing historical data such as the EA is more appropriate to the study of the effect of polygyny on conflict. By that it is possible to circumvent the problem of reverse causality and rely on those family institutions that are deeply entrenched.
The literature reviewed here highlights the conceptual and empirical gaps in the research on polygyny and violent conflict. Most of the findings of these diverse studies show that polygyny most likely results in violence between individuals and groups, not with the state. We therefore present a new theoretical account, which points out how the group-internal norms and geographical dimensions of polygyny affect intergroup conflict, rather than state-based conflict. We suggest departing from civil war definitions of conflict and turning to more local forms of violence. That said, we expect polygyny to have a geographical effect: excess men—the product of polygyny—should be more likely to attack neighboring groups, not government forces. We thus believe that our article is more sensitive—theoretically and empirically—to the dynamics on the ground.

**Theorizing the Link between Polygyny and Intergroup Conflict**

We argue that the practice of polygynous marriage within ethnic groups leads to an increased likelihood of conflict between neighboring ethnic groups. We start by discussing why marriage and family are valuable objectives for males to achieve, particularly in developing countries. We then make the case that polygyny by definition creates a social imbalance that produces young, frustrated, poor, unintegrated men who become a risk—not so much for their own groups but for neighboring ethnic groups.

**The Benefits of Marriage and the Value of Family in Africa**

The family is the smallest social unit shaping the everyday lives of most humans (Weber [1922] 1980). In many societies, the family is defined by the institution of marriage, the purpose of which is to have and bring up children (Borgia 1980; Becker 1993). Being married—and thus secured reproduction—is therefore one of the most prevalent social norms, which brings about the fulfillment of basic needs. Not only is the family the natural unit for the feeling of belonging for many people, but being married is usually thought to bring about social and economic benefits. On the one hand, being married and having children leads to social standing and acceptance within a community (Mealey 1985; Wilson and Daly 1985, 61). For instance, Levinson (1996, 5) states that “childlessness is one of the most serious misfortunes imaginable” for many people in Africa.

On the other hand, starting a family and with it a common household is tied to economic benefits. These can stem from official support for family unions, such as tax relief and access to social benefits in functioning states with a social welfare system, but they are especially pronounced in the context of rural communities without welfare systems that apply the principle of compensation. In such contexts, a family and children can compensate for the absence of the welfare state by providing social benefits such as retirement provisions (e.g., Shanas 1979). In sum, for
men—particularly in Africa—the value of having a family, especially a large family, is immense.

**Polygyny Deprives Young, Poor Men of the Benefits of Marriage**

The social standing and economic prospects related to marriage apply equally to females and males. However, in a community where polygyny is practiced, women’s chances of marrying remain unchanged, whereas men’s chances decrease. By definition, polygyny creates a social imbalance among males: a few men marry several women, and some men cannot marry or marry late in life.

The ability to marry is tied to preexisting social and economic status. As Mesquida and Wiener note, “there should be an association between a man’s socio-economic status and his reproductive success” (1999, 182). When polygyny is practiced within a community, the ability to marry several wives will thus be “confined to higher-status males” (Irons 1983, 196). With reference to Dalton and Leung’s (2014) finding of an average of 10 percent polygyny rates in polygynous groups, a simple example shows that a stark social imbalance can result from polygyny: a society in which 10 percent of the highest-status men live in polygynous marriages with only one second wife each and 10 percent of the male population remains unmarried. Under these conditions, a society with a generation of 10,000 young males would be expected to produce 1,000 excess men. We can suspect that excess men are therefore torn between the societal expectations of starting a family and their perceived inability of living up to these norms.

Polygyny can therefore be understood as “the functional equivalent of a high sex ratio” (Hudson and Den Boer 2002, 25) tipped toward young males. It reduces the prospect of marriage drastically among those who do not belong to the top tier of society. This, in turn, creates competition within the cohort of young males of marriageable age to acquire the resources necessary to marry, start a family, and form a household (Yair and Miodownik 2016, 26).

We argue that this nurtures a frustration–aggression mechanism among those with poor chances of marrying due to a perception of relative deprivation (Gurr 1970, 24; Dollard et al. 1939). These individuals perceive a gap between the values to which they “believe they are rightfully entitled” and what “they think they are capable of getting and keeping” (Gurr 1970, 24). This relative deprivation can then lead to increased frustration, which can turn into aggression and a readiness to exert violence in an attempt to achieve the goals they feel deprived of (cf. Homer-Dixon 1999, 136).

**Excess Men and the Risk of Intergroup Conflict**

Since polygyny acts as a barrier to fulfilling the desire and expectation to marry, young males will opt for alternative strategies to attain the resources that enable them to reach their societal and economic goals. Anthropological research suggests
that polygyny-induced reproductive competition will lead to conflicts between groups (e.g., Borgia 1980; Raffield, Price, and Collard 2017; Henrich, Boyd, and Richerson 2012). We therefore expect theft and raids to take place in neighboring communities and not in excess men’s own groups. Hence, we argue that polygyny makes local forms of intergroup violent conflict more likely.

Our intuition is that the institutions of ethnic groups, as well as the dense social networks within groups, should deter young males from opting to use violence against members of their own group to obtain critical resources that would allow them to marry. Fearon and Laitin (1996) show that intragroup punishment and a high likelihood of detection prevent group members from disturbing the peace within their communities. Hence, we do not expect raids to take place within young males’ own ethnic communities but rather outside in neighboring ethnic groups where the identification and punishment of perpetrators is less likely. Gaining access to resources in this way is less costly as the violence is directed toward another group and group-internal reputation and prestige is not jeopardized, perhaps even rewarded.

We further hold that violence intended to secure access to resources in order to marry is largely spontaneous, individualistic, and local. Hence, in comparison to political violence against the state, it does not require sophisticated mobilization strategies that involve ideology, elite leadership, and resource mobilization (cf. Fjelde and von Uexkull 2012, 446; Fearon and Laitin 2000). The raiding of another community by individuals or groups may then result in further violence between the groups (Fearon and Laitin 1996). Due to the feasibility of the violence and small-scale mobilization, we expect raids to have a geographical dimension: they are most likely to take place within close proximity of the raiding group.

To derive our hypothesis, we conceptualize a risk profile for each ethnic group, which expresses the percentage of their border shared with polygynous neighboring groups. Hence, ethnic groups—indeed of their own marriage institutions—that are surrounded by polygynous neighboring groups—and thus excess men—should be at greater risk of being attacked. When groups share a higher percentage of their borders with polygynous groups, there is a larger pool of excess men likely to attack the respective community.

**Hypothesis 1a:** The greater an ethnic group’s share of common borders with polygynous neighboring groups, the higher their risk of intergroup conflict.

We furthermore hold that the risk of intergroup conflict should be higher in border regions, particularly when the homelands of ethnic groups are large. The argument is straightforward: raiding is a costly and risky endeavor. Geographical distance should therefore play a role in the opportunity structure that leads excess men to choose to raid neighboring ethnic groups. Excess men will refrain from intruding deeply into the territory of other ethnic groups and instead choose villages close to the border regions for tactical reasons. We therefore expect that the effect of
our explanatory variable, the share of common borders with polygynous neighboring groups, to be stronger for intergroup conflict events close to group borders. Figure 1 illustrates this conceptualization.

Based on this notion, we derive our second hypothesis:

**Hypothesis 1b:** The risk of intergroup conflict should be higher in the border regions between polygynous groups and their neighbors.

**Data**

We examine our hypothesis in the context of Africa. Africa is well suited for studying this question because it is home to thousands of ethnic groups that practice monogamy or polygyny. Since our analysis examines the relationship between polygyny and contemporary intergroup violence between neighboring groups, we rely on spatial information. Nunn and Wantchekon (2011) provide a georeferenced map of the ethnic groups identified in Murdock’s (1959) *EA*. This map covers 815 groups which serve as our unit of analysis. The EA documents more than eight sociocultural, political, and economic features of ethnic groups in Africa before their first contact with Europeans (Fenske 2013; Michalopoulos and Papaioannou...
While Murdock’s *EA* surely does not measure all group features accurately, something which Murdock (1969, 3) himself admits, it is the most comprehensive and coherent source on the sociocultural characteristics of ethnic groups in Africa and is explicitly meant to facilitate comparative cross-cultural research. For our purposes, the *EA* is superior to other data—for instance, the *Encyclopedia of World Cultures (EWC; Levinson 1996)* used by Kanazawa (2009) and in the subsequent response by Gleditsch et al. (2011)—for three reasons. First, the *EWC* only covers 91 ethnic groups, as compared to the 837 covered in the *EA*. Second, the *EA* provides a complete and systematic coding of polygyny, while the *EWC* only sporadically provides information on marriage patterns for better-documented groups, not for all groups. Third, as discussed above, by utilizing historical data, we can circumvent the problem of reverse causality.

Our cautious confidence in Murdock’s *EA* is further supported by a number of already-seminal studies which examine the long-term effects of precolonial traditional institutions, agriculture, the slave trade, and colonial borders on contemporary political and economic development (e.g., Wig 2016; Nunn and Wantchekon 2011; Michalopoulos and Papaioannou 2013; Alesina, Giuliano, and Nunn 2013; Fenske 2013; Nunn 2008; Michalopoulos and Papaioannou 2016). Our initial sample is composed of 815 ethnic groups on mainland Africa and Madagascar georeferenced by Nunn and Wantchekon (2011). Of these 815, we lose 9 groups for which no polygyny data are available and one duplicate entry, leaving us with 805 ethnic groups in our sample.

**Explanatory Variable: Polygynous Neighbors**

To operationalize our explanatory variable, we rely on the variable *family organization* of the *EA*. This variable documents the prevailing form of domestic and familial organization of an ethnic group. It can take up to sixteen different values and indicates not only monogamy or polygyny but also the living arrangements of extended families. We recode all ethnic groups according to Murdock’s coding scheme to create a variable that distinguishes between “monogamy” (44 groups), “limited or occasional polygyny” (118 groups), and “general polygyny” (643 groups; Murdock 1969, 47). Since Murdock does not provide information about when groups are considered “limited or occasionally polygynous,” we focus on the effect of general polygyny. This corresponds to our theoretical argument because it will be general polygyny that produces a critical mass of excess men and increases competition for brides among males.

Panels (A) and (B) in Figure 2 show the spatial distribution of polygyny among ethnic groups in Africa. We can see that in all regions of Africa, both monogamous and polygynous groups exist. However, there is a certain degree of clustering, which we take into account with country fixed effects in the statistical analysis and a quasi-experimental matching approach in the robustness checks.

According to our argument, the social pressure that polygyny creates for unmarried men has little effect on violent conflict within a group but rather affects violence
toward other neighboring groups independent of whether these are monogamous or polygynous. We use the QGIS software version 3.4 to calculate the percentage of the border that is shared with neighboring polygynous groups (*polygynous neighbors*) for each observed group. This measure of relative exposure to polygynous neighboring ethnic groups ranges from 0 to 100 percent.

For instance, if a group has a total border length of hundred kilometers and fifty kilometers thereof are shared with polygynous groups and the remaining fifty kilometers are shared with monogamous groups, the explanatory variable *polygynous neighbors* has a value of 0.5. Figure 3 shows the density of this variable. We can observe that about 60 percent of groups are completely surrounded by polygynous groups (value 1), which represents the highest risk profile according to our hypothesis. The remaining 40 percent are evenly distributed between no polygynous neighbors at all (value 0) and being largely surrounded by polygynous neighbors (value 0.9).

In addition to our main explanatory variable *polygynous neighbors*, we include a binary measure that captures whether the observed group itself practices polygyny. While our theoretical argument is silent about the risk other polygynous groups pose, we believe it is important to control for potential group-internal confounding effects of polygyny.

**Outcome Variables: Intergroup Conflict**

Our outcome is intergroup conflict. Intergroup conflicts refer to violent conflict events between members of ethnic groups including armed civilians and ethnic militias. We draw our conflict data for Africa from the Armed Conflict Location and Event Data (ACLED, version 7, 1997–2016) project (Raleigh et al. 2010) and the Uppsala...
Conflict Data Program (UCDP) Georeferenced Event Dataset (UCDP-GED, version 17.1, 1989–2016; Sundberg and Melander 2013; Croicu and Sundberg 2017). As both data sets have their merits, we use ACLED and UCDP-GED as separate samples to assess our hypotheses.\(^\text{11}\) We project violent events of the respective data sets onto the map of the ethnic homelands (see panels [A] and [B] in Figure 2).

As already discussed, we theorize that polygyny pushes men into criminal or violent activities. Since men won’t turn against their own group, they will direct violence against other groups, most likely neighboring groups, to accumulate assets and—at times—women and children. We therefore restrict our analysis to intergroup violent events within an ethnic group’s territory and exclude any events of political violence that include state actors.\(^\text{12}\) We assume that the institution of polygyny is most “sticky” in rural areas where modernization processes are slower to occur and traditional norms and practices can withstand the influence of market economies, education, and modernization processes. Therefore, we exclude events of urban violence by placing a buffer of twenty kilometers around urban centers (population > 100,000) and excluding events that fall within these boundaries. This leaves our ACLED sample with 4,919 events from 1997 to 2016 and our UCDP-GED sample with 2,933 events from 1989 to 2016. We are left with events of intergroup violence in rural areas and explicitly exclude ethnic urban violence (e.g., the ethnic postelection clashes in Nairobi in 2008). We rely on this outcome measure to examine Hypothesis 1a. To test Hypothesis 1b, we add a fifty kilometer buffer zone to all group boundaries (twenty-five kilometers into each group’s territory, see Figure 1) and then count only those violent events from our specification that have occurred within this buffer zone inside an ethnic group’s territory. This reduces the ACLED sample to 3,724 events and the UCDP-GED sample to 2,134 events.

Figure 4 shows the density plots of these two outcome variables for the ACLED sample (panels [A] and [B]) and the UCDP-GED sample (panels [C] and [D]).
variables show a negative binomial distribution—that is, almost 60 and more than 70 percent of ethnic groups have not experienced intergroup conflict in their territory according to ACLED and UCDP-GED, respectively. We want to emphasize here that ACLED and UCDP-GED reflect certain biases. First, there are no data for violent events before 1996 in ACLED and 1989 for UCDP-GED. Second, since ACLED and UCDP rely on news reports, reporting bias is at work. Media bias is likely to particularly underestimate rural and nonlethal violent events, which are less likely to be covered by international media outlets than urban and large-scale violence (cf. Weidmann 2016). Nevertheless, these are the most established subnational violent-event data sets that span dozens of countries and are therefore appropriate for cross-country analysis.

**Control Variables**

As shown by Dalton and Leung (2014), the social institution of polygyny as coded by Murdock’s $EA$ has persisted over time and is highly correlated with contemporary
levels of polygyny in Africa. Since our main goal is to estimate a causal relationship and not primarily to explain as much variance in our outcome as possible, our conditioning strategy and the selection of control variables aim to block the backdoor paths, meaning noncausal associations, between our explanatory variable polygyny—the shared border with polygynous neighbors—and intergroup conflict (Morgan and Winship 2014, Part III; Pearl 2009).

Since Murdock’s coding of polygyny relates to the time before colonialization, we need to consider only those factors that may have contributed to the emergence of polygyny in the first place and may affect our outcome intergroup conflict through mechanisms other than polygyny.

Using the most parsimonious setup, we control for the size of the territory of an ethnic group (log of land area) and the group size (log of population). Furthermore, there are several geographic conditions that can confound the relationship between polygyny and conflict. High agricultural fertility, value of land, and intensive agriculture may have resulted in more economic prosperity and affected social class stratification, thereby allowing wealthier men to marry more women (Fenske 2013). Furthermore, there may be a connection between peasant violence and marriage institutions (Mokuwa et al. 2011). At the same time, valuable land may have led to more competition and cycles of conflict between groups over time, independent of polygyny. We therefore include measures that express land value, including distance to coast, mean elevation, agricultural suitability, and a malaria stability index.

Apart from these geographic features, several historical pretreatment conditions could have similarly affected both our explanatory and outcome variables through backdoor paths. Therefore, we further include an indicator for distance to empires, the nearest precolonial conflict, and a dummy for the existence of ancient cities (Besley and Reynal-Querol 2014).

We also control for slave exports, as the extraction and death of men may well contribute to the emergence of polygyny and, independent of that, keep fueling contestation and conflict between groups over time. We draw the above control variables from a data set by Michalopoulos and Papaioannou (2013). Lastly, we include a variable, which measures the share of Muslims per country since the Koran allows marrying several wives (Pew Research Center 2011).

Broadly speaking, our model specification is consistent with other works that examine the long-term effects of historical institutions (e.g., Nunn and Wantchekon 2011; Michalopoulos and Papaioannou 2013; Alesina, Giuliano, and Nunn 2013). We provide the descriptive summary statistics for all variables in Table A1 of the Online Appendix.

**Analysis**

Our outcome variable counts the number of intergroup conflict events per total ethnic group territory (Hypothesis 1a) and those within a twenty-five kilometer buffer along the group’s border to its neighboring group (Hypothesis 1b). As Figure
4 has shown, these count variables are overdispersed. Therefore, we use a negative binomial model with robust standard errors clustered at the country level and we include country fixed effects to account for unobserved heterogeneity.

In Table 1, we test Hypothesis 1a using both ACLED and UCDP-GED. We focus first on the discussion of the main variables and then highlight some control variables. Columns 1 and 3 show the parsimonious models including our main explanatory variable *polygynous neighbors*, the polygyny status of the observed group, and land area and population size of the ethnic group. As expected by Hypothesis 1a, a higher share of common borders with *polygynous neighbors* has a positive and statistically significant effect on the likelihood of intergroup conflict. Columns 2 and 4 show our main specification, in which we control for pretreatment exogenous geographic and historical variables. Essentially, the effect of polygynous neighbors remains robust to the parsimonious model. These results lend support to Hypothesis 1a, which suggests that a higher percentage of shared borders with polygynous groups increase an observed group’s conflict risk.

To assess Hypothesis 1b, Table 2 shows the results when we limit our outcome variable to conflicts within a twenty-five kilometer distance from group boundaries. We argue that excess men on raids have a tactical advantage in villages in the outer regions of neighboring groups’ territories, which lie closer to their own homelands. As in Table 1, columns 1 and 3 show the parsimonious models and columns 3 and 4 our main specification. We see an essentially similar pattern at work: sharing more borders with polygynous neighboring groups increases the number of conflicts for an observed group. While the results are supportive of our general theoretical argument, the regression coefficients of *polygynous neighbors* are similar to Table 1. We examine the substantive effects below.

Apart from our main variable, a few other variables are noteworthy. For instance, in all models using the ACLED sample, we see that when an observed group is polygynous, the effect is negative and statistically significant. Monogamous groups are therefore more likely than polygynous groups to experience violent events on their territories. We did not formulate prior expectations on the effect of an observed group’s mode of marriage and can therefore only propose a tentative explanation. As an addition to our main theoretical argument, an observed group’s mode of marriage may proxy a target selection mechanism. Excess men that result from polygynous groups are easily mobilized for offensive acts but should also increase defensive capabilities of their group. However, monogamous groups should not produce excess men and thereby the pool of mobilized defenders should be smaller. These fighting capabilities may matter greatly for excess men’s strategic considerations of whom to attack. When the pool of defenders in monogamous groups is smaller than in polygynous ones, attacking excess men should rationally choose the easier target: monogamous groups. Consequently, monogamous groups should be attacked more often and thus experience higher levels of violence. Nevertheless, we believe that this aspect requires more in-depth research to be understood more comprehensively.
The other control variables have the expected effect direction and significance. Land area and population size increase the number of conflict events. The indicator for slave exports has a consistent negative effect in the ACLED sample, which reflects previous findings arguing that areas affected by the slave trade and the resulting reduction of men in these societies reduced the pressure on the marriage market (Dalton and Leung 2014).

Table 1. Polygynous Neighboring Groups and Intergroup Conflict Events.

<table>
<thead>
<tr>
<th></th>
<th>ACLED</th>
<th>ACLED</th>
<th>UCDP-GED</th>
<th>UCDP-GED</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>(1)</td>
<td>(2)</td>
<td>(3)</td>
<td>(4)</td>
</tr>
<tr>
<td>Polygynous neighbors</td>
<td>1.55** (0.56)</td>
<td>1.66*** (0.34)</td>
<td>1.65+ (0.96)</td>
<td>1.80** (0.66)</td>
</tr>
<tr>
<td>Observed group:</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Polygynous</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Land area (log)</td>
<td>0.45*** (0.11)</td>
<td>0.41*** (0.06)</td>
<td>0.48* (0.24)</td>
<td>0.51*** (0.12)</td>
</tr>
<tr>
<td>Population (log)</td>
<td>0.43*** (0.09)</td>
<td>0.56*** (0.06)</td>
<td>0.42+ (0.22)</td>
<td>0.59*** (0.13)</td>
</tr>
<tr>
<td>Precolonial conflict</td>
<td>0.31 (0.55)</td>
<td></td>
<td>0.15 (1.22)</td>
<td></td>
</tr>
<tr>
<td>Distance to coast</td>
<td>0.00+ (0.00)</td>
<td></td>
<td>0.00* (0.00)</td>
<td></td>
</tr>
<tr>
<td>Mean elevation</td>
<td>-0.24 (0.63)</td>
<td></td>
<td>-0.01 (0.77)</td>
<td></td>
</tr>
<tr>
<td>Agricultural suitability</td>
<td>0.28 (0.62)</td>
<td></td>
<td>1.34 (0.87)</td>
<td></td>
</tr>
<tr>
<td>Malaria stability index</td>
<td>-0.54 (0.73)</td>
<td></td>
<td>-2.16* (1.05)</td>
<td></td>
</tr>
<tr>
<td>Precolonial kingdom</td>
<td>-0.59** (0.20)</td>
<td></td>
<td>-1.31*** (0.27)</td>
<td></td>
</tr>
<tr>
<td>Distance to empires</td>
<td>0.35 (0.60)</td>
<td></td>
<td>-0.19 (0.94)</td>
<td></td>
</tr>
<tr>
<td>Major city in AD 1400</td>
<td>-0.64* (0.28)</td>
<td></td>
<td>-0.65 (0.61)</td>
<td></td>
</tr>
<tr>
<td>Slave exports by land (log)</td>
<td>-0.10** (0.04)</td>
<td></td>
<td>-0.10 (0.07)</td>
<td></td>
</tr>
<tr>
<td>Muslims (%)</td>
<td>0.21*** (0.04)</td>
<td></td>
<td>-0.54** (0.20)</td>
<td></td>
</tr>
<tr>
<td>Intense agriculture</td>
<td>-0.42** (0.15)</td>
<td></td>
<td>-0.46* (0.22)</td>
<td></td>
</tr>
<tr>
<td>Country FE</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Pseudo $R^2$</td>
<td>.146</td>
<td>.164</td>
<td>.158</td>
<td>.189</td>
</tr>
<tr>
<td>AIC</td>
<td>2,966.20</td>
<td>2,923.44</td>
<td>1,851.33</td>
<td>1,781.38</td>
</tr>
<tr>
<td>BIC</td>
<td>3,008.42</td>
<td>3,012.57</td>
<td>2,015.51</td>
<td>1,936.18</td>
</tr>
<tr>
<td>Observations</td>
<td>805</td>
<td>805</td>
<td>805</td>
<td>805</td>
</tr>
</tbody>
</table>

Note: Outcome variable: number of intergroup conflict events per ethnic group territory. Robust standard errors clustered by country. ACLED = Armed Conflict Location and Event Data; UCDP-GED = UCDP Georeferenced Event Dataset; FE = fixed effects; AIC = Akaike information criterion; BIC = Bayesian information criterion.

*p < .10.

*p < .05.

**p < .01.

***p < .001.
Apart from the statistical significance, the results of our main models 2 and 4 in Tables 1 and 2 are substantively meaningful. We use these four models to compute the predicted number of events by varying the values of our explanatory variable polygynous neighbors from its minimum 0 to its maximum 1. Each of the panels in Figure 5 shows that an increase in shared borders with polygynous groups increases the predicted number of intergroup conflict events significantly. Moving from 0 percent to 100 percent shared border with polygynous groups increases the predicted number of intergroup conflict events by about 300% from less than two events to
almost eight in panel (A). The pattern is similar in the other three panels, albeit the effect strength is somewhat smaller, in particular when using the UCDP-GED data. While the pattern holds for conflicts in border regions (Hypothesis 1b), we do not find a stronger effect and thus do not find support for Hypothesis 1b. Although the absolute number of predicted events appears small, the effects are massive in magnitude for both hypotheses. Remember that violent-event data particularly for rural areas—not so much for cities—typically suffer from underreporting bias (cf. Eck 2012; Weidmann 2016). We therefore assume to underestimate the effect. It is furthermore important to note that the substantive effect occurs not only when we compare the extremes of having no (0) to only (1) polygynous neighbors but also with more moderate in-between ranges.

Figure 5. Predicted number of conflict events. The black line represents the predicted number of conflict events based on varying percentages of the border shared with polygynous neighboring groups. The gray shaded areas indicate a 95 percent confidence interval. The predictions are based on models 2 (panel A) and 4 (panel C) of Table 1 and models 2 (panel B) and 4 (panel D) of Table 2. (A): ACLED events. (B): ACLED events, 50 km buffer. (C): UCDP-GED events. (D): UCDP-GED events, 50 km buffer.
In sum, we find robust support for Hypothesis 1a, which suggests that a larger share of polygynous neighbors increases the number of conflict events between ethnic groups. The effect of polygynous neighbors on conflicts in the border regions (Hypothesis 1b) is of comparable magnitude, but not stronger. Bringing this result back to our research question, we can say that polygyny is associated with higher levels of intergroup conflict.

Robustness Tests

Next, we perform a number of robustness checks to minimize the risk of model and specification dependence. First, we exchange country-level fixed effects against region-level fixed effects and add spatial lags of the outcome variable on the left-hand side of the model. This model reflects our main intuition that states (i.e., country fixed effects) can be conceptualized as posttreatment variables (see King, Keohane, and Verba 1994, 182). Table A2 shows that the results remain almost identical. Importantly, our explanatory variable polygynous neighbors retains its positive effect and is highly significant both in the UCDP-GED and in the ACLED sample.

Second, we take a closer look at our outcome variable and exclude events that could potentially reflect intragroup fighting and not intergroup conflict. To do so, we manually exclude UCDP-GED events in which ethnic subgroups are mentioned to fight against each other. The number of UCDP-GED events decreases by 111 from 3,085 to 2,974. In the ACLED sample, we excluded 378 events in which both conflict actors have the same name. This reduced the number of events from 4,985 to 4,607 events. We employ the same specification as in the main results presented above. The coefficient of the polygynous neighbors variable remains robust in both samples UCDP-GED and ACLED (Table A3).

Third, we use different specifications for our explanatory variable. In a first step, we rely on the EA’s initial coding of the polygyny variable, which includes an intermediate category for “limited or occasional polygyny.” Table A4 in the Online Appendix shows the results when using the ACLED data (model 1) and the UCDP-GED data (model 2). There are now two border variables. The variable polygynous neighbors: limited expresses the percentage of border shared with groups that practice “limited or occasional” polygyny. The variable polygynous neighbors: general is identical to the one used in the main analysis. Model 1 shows that while the limited polygyny variable is positive and insignificant, the general polygyny variable has a stronger effect on the number of conflict events than in the main model. Model 2 uses the UCDP-GED data and shows a similar pattern. This result supports our suspicion that it is general and widely practiced polygyny that results in intergroup conflict.

Fourth, in Table A5, we use state-based conflict events on the group’s territory as the outcome variable. We include these two models to demonstrate that polygyny is not related to state-based conflict as argued in our theory. We exclude the polygynous neighbors variable since this measure has no theoretical relationship or
conceptual relevance to violence between an ethnic group and the state. If anything, in the spirit of Kanazawa (2009) and Gleditsch et al.’s (2011) work, we believe that polygyny can additionally create youth bulges that serve as a recruitment pool for rebel groups or government forces in civil wars. However, this does not seem to be the case since the variable observed group: polygynous is not significant.

Fifth, we preprocess the data with the coarsened exact matching (CEM) algorithm to remove observations without common empirical support. Blackwell et al. (2009) have shown that CEM reduces model and specification dependence and thereby improves causal inference. The detailed approach of applying the CEM procedure is described in the Online Appendix before the presentation of the results in Table A6. The results confirm our main findings, although the CEM procedure significantly reduces our sample size. The effect of our explanatory variable polygynous neighbors is statistically significant at 1 percent.

Sixth, we additionally test political (polity level and change) and economic variables (GDP growth) used in standard civil war models as well as measures for legal polygamy, polygamy provisions in customary law, and a women’s rights indicator from the data used by Gleditsch et al. (2011) on the basis of the Woman-Stats Project (Caprioli et al. 2009). In Table A7, we present the results which show that our explanatory variable polygynous neighbors remains statistically significant. Note that our sample is reduced from 805 to 761 observations due to missing data. These tests demonstrate that even with the inclusion of posttreatment political, economic, and legal variables, our hypothesis holds.

Finally, we use the number of polygynous neighboring groups instead of the percentage of shared border with polygynous neighboring groups as explanatory variable. The number of polygynous neighbors ranges from 0 to 19 with a mean value of 4.2 and a standard deviation of 2.5. Table A8 reports the results in the same regression setup as in the main table. The results strongly support our previous findings. The number of polygynous neighbors is statistically significant at 1 percent and 5 percent (models 1 and 2) and 1 percent (models 3 and 4), respectively. The other variables retain their effect direction and statistical significance.

**Mechanism: Frustration and Aggression among Excess Men**

In the previous section, we have performed an analysis at the ethnic group level and established a link between polygyny and intergroup conflict. Next, we provide evidence on the suggested mechanism linking polygyny and conflict between ethnic groups: the role of excess men. Specifically, we rely on individual-level evidence from a pooled sample of Afrobarometer surveys, which we matched with our polygyny measure.

We have argued that polygyny produces excess men who are disadvantaged in competing as viable partners on the marriage “market,” largely because they lack the financial means to compete with better-off men. We further argued that this inability leads to frustration because the expectations and social pressure on men to start a
family and produce offspring are supposedly particularly high in such traditional polygynous social environments. We should therefore observe that young men without family in polygynous ethnic groups perceive more inequality than their peers in monogamous ethnic groups where the competition on the marriage market is by definition much less fierce.

Since gaining resources through stealing, raiding, and plundering in neighboring ethnic groups allows excess men to increase the financial competitiveness on the marriage “market,” we should also observe that men in polygynous societies are somewhat more inclined to accept violence as a legitimate means. We test the mechanism using data from the 2005 Afrobarometer. In this version of the Afrobarometer, Nunn and Wantchekon (2011) have matched the ethnic group names of Murdock’s EA with those respondents reported in the Afrobarometer. We match our polygyny dummy variable to the ethnic groups to distinguish between respondents who belong to monogamous or polygynous ethnic groups.

The fully merged sample of the Afrobarometer includes 25,397 respondents from eighteen countries. These countries reflect a bias in the sense that these are rather stable countries (e.g., Benin, Botswana, Ghana, Kenya, Mozambique) and exclude African conflict hotspots such as the DR Congo, Sudan, South Sudan, or Chad. However, we believe that traces of our mechanisms should be independent of the political context. In order to test our assumptions, we limit the Afrobarometer sample to those we believe are most severely affected, young men below 40 years without children (excess men). Furthermore, we employed placebo tests on two further samples where we would not expect a similar effect: (a) for men above 40 years and (b) for women.

We have identified two questions in the Afrobarometer that tap into aspects that we believe are indicative of a frustration–aggression mechanism, which we propose to link to polygyny and conflict. These questions reflect perceptions of inequality and a justification to use violence.

In Figure 6, we show the predicted values for the two questions depending on whether a respondent belongs to a polygynous group (1) or not (0). The underlying regression models are presented in Table A9 in the Online Appendix. The left panels show the results for men below 40 years without children (excess men), the central panels for men above 40 years, and the right panels for women. The upper row shows the predicted values for the degree to which people feel treated unequally under the law (Q53D). Higher values indicate higher perceptions of inequality. Young childless men in polygynous societies are significantly more likely to report higher perceived inequality than their peers belonging to monogamous groups. For men above 40 years, we do not find this effect. Women in polygynous groups also report perceptions of inequality, which we believe resonates with the notion of gender inequality associated with polygyny (cf. McDermott and Cowden 2018; Hudson et al. 2010).

The lower row shows the results for the question on whether people see the use of violence as a justified means for their cause (Q51), where higher values
indicate agreement. While young men below 40 years without children (excess men) are significantly more likely to view violence as justified, our placebo groups of men above 40 years and women do not share this perspective. This result supports our initial argument that excess men are an important link between polygyny and conflict and not a broader societal disposition toward violence.

For males above the age of 40, we do not find any statistically significant difference in the two survey items between polygynous and monogamous groups. Next to other possible explanations, such as age, this could be argued to add to the self-sustainability of polygyny as a sticky institution. Thereby, one could speculate that polygynous males will likely be more supportive of transmitting the marriage institution of polygyny to the next generation (McDermott and Cowden 2018; Hudson 2018).

In sum, the results provide individual-level evidence that excess men hold views compatible with a disposition to theft, crime, and raids. These results provide suggestive support for our mechanisms that young, childless men in polygynous societies are under social pressure to perform. They perceive this pressure as unequal and
unfair and that, more broadly, they evince a greater readiness to exert to violence than their peers in monogamous groups. We acknowledge that these questions are very general and do not really point toward violence against neighboring ethnic groups. However, given the data constraints and the usual noise in survey data, we believe these findings lend additional powerful evidence to our theoretical argument that polygyny produces excess men which in turn contribute to intergroup violence experienced between neighboring ethnic groups.

**Conclusion**

We have argued that, by definition, polygyny creates a social imbalance where a few, usually well-off, men marry many wives and many, usually poor, men marry late or never. Polygyny therefore systematically creates a surplus of young, poor, unmarried men: excess men. Since marriage, family, and offspring are often the social metrics according to which the value of a man is assessed in traditional societies, excess men seek alternatives to become viable mates. In traditional and particularly rural settings, the ethnic group is perceived as the extended family, which leads excess men to abstain from turning against their kin; however, they have an incentive to pursue violent economic ventures (e.g., theft, crime, raids) in neighboring groups. From a security perspective, polygyny is not a problem for the polygynous group itself but rather for its neighbors. Being surrounded by many polygynous groups increases the risk of intergroup violence.

To examine this theory, we have applied georeferenced data on polygyny for more than 800 African ethnic groups and combined these with violent-event data. We have used a set of exogenous geographic and precolonial controls and report a strong effect of polygyny on conflict—that is, we find robust support for this theory. By exploiting Afrobarometer survey data, we find additional individual-level evidence for our proposed underlying mechanism that respondents who belong to polygynous ethnic groups hold more problematic views on perceived fairness, the obedience to the rule of law, and the readiness to use violence.

Our article contributes to several research strands and should therefore be of interest to a wide audience of scholars. First of all, it emphasizes the importance of the institutions of marriage and family and their role in social order, peace, and conflict. Our study substantially improves the only two existing quantitative studies with conflicting findings on polygyny and conflict in several ways. We view polygyny as a local dynamic that affects local violence. We also use more coherent, expansive, and reliable data and engage in elaborate reliability tests using alternative data sources. We provide a more sensible model specification, taking into account the geographic and historical determinants that have affected the emergence of polygyny in the first place.

Second, our article contributes to the small but growing literature on low-intensity community-level conflict (e.g., Eck 2014; Varshney 2003; Fjelde and von
Uexkull 2012; Raleigh 2010). This research strand has significantly increased our understanding of conflict processes worldwide, also because local violent events frequently spur larger conflicts (Brass 1997). Due to this, we stress that the type of conflict analyzed should be carefully chosen on the basis of theoretical considerations. We disagree, for instance, that large-scale civil wars are driven by polygyny as a “first law” (Kanazawa 2009).

Third, this study contributes to the literature on the long-term effects of historical institutions. As we have theorized and demonstrated, polygyny can be understood as a “sticky” institution that is still at work in today’s societies in Africa (Dalton and Leung 2014). In this sense, our article adheres to the spirit of recent seminal studies examining the long-term effects of traditional institutions (Wig 2016; Michalopoulos and Papaioannou 2013), precolonial nation states (De Juan and Koos 2019), the slave trade (Nunn 2008; Nunn and Wantchekon 2011), the Berlin Conference (Michalopoulos and Papaioannou 2016), and ancient wars (Besley and Reynal-Querol 2014).

With regard to its practical relevance, our article provides insights for humanitarian and development agencies. We are aware that polygyny does not explain all conflicts, but we believe that our study provides systematic support for anecdotal examples where polygyny and conflict are widespread—for instance, in South Sudan, the DR Congo (Verweijen 2017), Nigeria, and even Western countries (Rauch 2006). While our analysis focuses on Africa, we believe that the operating principles and societal implications of polygyny are—with few exceptions—universally problematic as they create a cohort of society that has always been associated with trouble around the world: excess men.

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Supplemental Material
Supplemental material for this article is available online.

Notes
1. Gleditsch et al. (2011) furthermore substantiate the nonreplicability by arguing that misogyny, rather than polygyny, is the mechanism driving political violence, which they test at the state level. Although a broader set of gender-based discrimination may be a source of political violence (see, e.g., Melander 2005; Hudson et al. 2010), we do not believe that polygyny—which can be regarded as part of misogynistic practices—and a general concept of misogyny adhere to the same underlying mechanism with regard to local conflict. In other words, misogyny and polygyny cannot be seen as competing hypotheses when studying intergroup conflicts at the local level.
2. Another explanation of the emergence of polygyny is economic, that is, as the result of income inequality and female subsistence contributions (see White and Burton 1988, 872, for an overview).
3. Dalton and Leung (2014) arrive at their results by analyzing forty-five DHS surveys in twenty-five African countries between 1990 and 2010. They use a question which asks married female respondents whether they have a co-wife to calculate current polygyny rates at the ethnic group level specified by Nunn’s and Wantchekon’s (2011) EA map.
4. This does not mean that these marriages are voluntary unions. For a discussion on female choice in polygynous societies, see the third and fourth chapter of Barash (2016).
5. For a comparative assessment of socioeconomic inequality, hierarchy, and polygyny, see Betzig (1986).
6. For the Kisama and Bomvana, there are two entries (name=KISAMA and v107=BOMVANA).
7. For a description of the coding of the variable, see Online Appendix Section 2.
8. We provide robustness checks using the three-scale variable (monogamy, limited polygyny, and general polygyny) in Table A4 in the Online Appendix. The results are robust.
9. To produce the maps, we used the georeferenced group borders used in Nunn and Wantchekon (2011). These are available at http://scholar.harvard.edu/files/nunn/files/murdock_shapefile.zip.
10. If a group borders the sea, a lake, or uninhabited territory (i.e., West Saharan Desert, Libyan Desert), we exclude these border segments from the denominator.
11. One favorable feature of ACLED is that its categories—in particular communal militia activity—resonate well with our hypothesized effect on local intergroup violence. Relatedly, ACLED also includes nonlethal violent events, which also speaks to our theory. Adversely, ACLED has been criticized to incorporate an urban bias (Eck 2012, 132), a problem we can address as we exclude events in urban areas. Conversely, UCDP-GED is argued to be superior to ACLED because the media sources of UCDP-GED are more consistent by focusing on major international media outlets.
12. Specifically, for the ACLED sample, we use the INTERACTION variable, which classifies each event according to prespecified actor interactions. We are interested only in
those events which involve ethnic militias but exclude any political or rebel-based organizations. We use only the following interaction values: 40—sole communal militia action, 44—communal militia versus communal militia, 47—communal militia versus civilians. Furthermore, we restrict our sample to events where (1) the spatial location quality (GEO_PRECIS) is exact or (2) part of a region. We exclude (3) less precise events. From the UCDP-GED, we include only events which have been categorized as nonstate conflict (type_of_violence = 2) and events whose location (where_precise) was either (1) exactly identified or (2) identified within a twenty-five kilometer radius [“region” = “Africa” AND “type_of_violence” = 2 AND (“where_precise” = 1 OR “where_precise” = 2)].

13. All tables are produced using estout (Jann 2005, 2007).
14. Unfortunately, these Afrobarometer surveys do not include questions on whether a respondent is married, but we believe that having no children is a reasonable indicator of being married or not in many African societies.
15. Figure A1 shows the first differences between members of polygynous and monogamous groups, and the results are robust to those in Figure 6.
16. We use a linear model with robust standard errors and control for age, age², education, assets, and a dummy for urban/rural residence.

References


