Contextual Violence and Support for Violent Extremism: Evidence from the Sahel

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This study examines the effect of exposure to communal violence on support for violent religious extremism. We argue that in communities with high levels of violence, individuals normalize aggressive behaviors and come to see non-conventional, black-or-white ideologies as more appealing. Using data from over 7,500 respondents in Burkina Faso, Niger, and Chad, we employ multilevel structural equation models to evaluate both the individual- and community-level factors that might impact support for terrorism. The results suggest overwhelmingly that people in communities where violence is perceived to be high are more likely to express support for violent religious extremism, and the community-level influence appears stronger than the effect of individual-level variation in perceptions of violence. We also test potential mediators of the relationship and find modest support for decreases in social trust and increases in out-group bias as indirect links between exposure to violence and support for violent extremism, though the direct, community level effect remains strongest. The study brings together previously distinct literatures on exposure to violence and combatting violent extremism, and it suggests a restructuring of strategies to fight the spread of terrorism.

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Introduction

Recent studies have brought increasing attention to personal and psychological factors—such as poverty (Mousseau 2011), religious fanaticism (Atran 2003), education (Sageman 2004), and economic dissatisfaction (Jo 2012)—potentially linked to support for violent extremism. Yet, evidence also indicates clear geographic patterns in levels of support for terrorist groups, even within the Muslim world: in the Palestinian Territories and in Indonesia, surprisingly high numbers of respondents express sympathy for groups like Al Qaeda, whereas in Senegal, Turkey, and Lebanon, very few respondents share that view.[1] That such patterns exist raises the possibility that support for terrorism and violent extremism may be driven in large part by the contextual characteristics of the village, neighborhood, or state in which an individual resides.

In this study, we examine how one particular contextual factor—the presence of communal violence—might influence the likelihood that individuals express support for violent extremism. Whereas exposure to communal violence may generate some pro-social behaviors such as political participation (Bellows and Miguel 2009; Blattman 2009), it also tends to undermine trust and to make deviant, aggressive behaviors appear more appropriate (Fowler et al. 2009; Rohner et al. 2013). Thus, we ask: when communities suffer from conflict and violence, do the attitudes of residents change, making them more susceptible to the pull of religious terrorism? Importantly, we conceptualize communal violence broadly, to include all forms of local violence without state participation, not just (relatively rare) terrorist attacks. In this sense, we are able to explore how the general disruption and insecurity that communal violence of any type engenders may act as an underexplored cause of support for terrorism. We also evaluate

[1] See Pew Research Center, 2013. http://www.pewglobal.org/2013/09/10/muslim-publics-share-concerns-about-extremist-groups/.

how this contextual factor stands up against individual-based motivations as an explanation for terrorist support.

Understanding why some individuals are more prone than others to support ideologies of terrorism stands as one of the most pressing social science question of the time. Recent attacks have implicated terrorists who "radicalized quickly" or who acted with little to no infrastructural support.[2] In those contexts, the reach of operational intelligence is limited and the identification of behavioral patterns becomes more critical. From a theoretical standpoint, scholars need to continue refining their understanding of violent extremism as a concept distinct from religiosity, inter-group discord, social movements, or violence itself. Furthermore, identifying the contextual factors that might explain individual-level support for terrorism can suggest new strategies for keeping populations safe.

We argue that the level of violence experienced by one's community has a direct and important impact on the likelihood that he or she will support violent religious ideologies. In violent communities, deviant behaviors are normalized and compromise withers, making black-or-white beliefs that quell fear and justify violence more appealing. Religious terrorist ideologies address that desire, allowing support for violent extremism to flourish.

To test these claims, we rely on data drawn from over 7,500 individuals across the Sahel region of Africa, in Chad, Niger, and Burkina Faso. The Sahel, a predominantly Muslim stretch where North and sub-Saharan Africa meet, constitutes one of the flashpoints for recent terrorist attacks and for the mobilization of potential terrorist group members.[3] While the context differs across the three countries—in ways we explore below—the enumeration areas in all three suffer

[2] See Politico (2016) on the quick radicalization of the attacker in Nice, France. See The Guardian (2016) on the loose affiliation between the Islamic State and the attacker in Orlando, Florida.
[3] Recent attacks have taken place in Burkina Faso, northern Cameroon, Chad, Ethiopia, Mali, Niger, and northern Nigeria. Terrorist groups are also increasingly targeting the region for recruits (see Alexander 2016).

from well-documented challenges that some suggest make the region ripe for terrorist recruitment (see, for example, Filiu 2010). Using data on both community-level patterns and individual-level factors, we employ multilevel structural equation modeling to test the relationship between exposure to violence and support for terrorism, and to examine the factors that potentially mediate that relationship. The results suggest overwhelmingly that people in communities where violence is perceived to be high are more likely to express support for violent religious extremism: substantively, a one-unit increase in average community-level violence is associated with an average *three*-standard deviation change in support for violent extremism. The community-level influence appears stronger than the effect of individual-level variation in perceptions of violence, and we find modest support for decreases in social trust and increases in ethnic and religious group polarization as mediators of that relationship. The direct, community-level effect, however, remains the strongest predictor.

The study makes contributions in several respects. First, we link two literatures—one on exposure to violence, the other on explanations for religious terrorism—in what we hope constitutes a meaningful contribution to both. Second, we use a multilevel structural equation model to explicitly examine the impact of between-community factors (at the village level) and within-community factors (at the individual level) as explanations for support for terrorism. This empirical approach adds the paper to a growing list of studies that seek to problematize individual-level views on terrorism that may be affected by environmental features, and it allows us to determine the relative contributions of each level. Finally, we take advantage of an original, multi-country data set drawn from a region that remains under-examined by scholars of both exposure to violence and support for violent extremism, despite its critical location. Burkina Faso, Niger, and Chad fall in the crosshairs of Boko Haram and Al Qaeda in the Islamic

Maghreb (AQIM), as well as ISIS and other terrorist groups with expansive ambitions, making this particular geographic context an important one for the study of violent extremism.

Linking Exposure to Violence and Support for Violent Extremism

A rich literature describes the impacts that arise—both adverse and beneficial—as a result of exposure to violence. A separate, burgeoning literature suggests numerous explanations for individual-level radicalization, terrorist ideologies, and support for violent extremism. As noted above, we have reason to believe that these two critical concepts may be related, and that the former may have an overlooked but important effect on the latter. The channel through which exposure to violence affects support for violent religious extremism, however, is potentially a complex one explained by distinct and sometimes competing mechanisms. We thus consider the direct effects of perceptions of violence on religious extremism at both the community level and the individual levels. We also weigh explanations rooted in those two literatures that might mediate the relationship indirectly.

Direct Effects of Violence on Religious Extremism

Scholars have noted that, when surrounded by violence, people often perceive a diminished sense of reciprocity between individuals, and individuals can become more sensitive to actions they perceive as negative (Zeitzoff 2014). These effects are well-documented in the field of developmental psychology, where studies have related community violence to deviant and aggressive behavior, cruelty, and support for aggressive acts (see Elbert et al. 2006). The negative impact of exposure to violence has been particularly clear among youth. For example, young people exposed to communal violence often externalize their experiences, treating deviant and aggressive behavior as appropriate (Fowler et al. 2009; Schwab-Stone et al. 1999). Through

interviews with former child soldier combatants in northern Uganda and the Democratic Republic of Congo, Elbert et al. (2010) demonstrate that exposure to violence forms neural connections that are integrated with an appetite for aggression toward others. Similar experiences can affect adult brains exposed to traumatic events like violence, resulting in plasticity in attitudes (Elbert et al. 2006). Prior exposure to violence not only increases aggression but also creates more favorable attitudes toward aggression, as well as aggressive fantasies (Guerra, Huesmann, and Spindler 2003). Thus, at a personal level, violence itself can foster the aggressive behaviors and attitudes that underpin more systematic support for violent ideologies (of any kind).

In addition to cultivating more aggressive attitudes, evidence suggests that exposure to violence can enhance the appeal of radical or black-or-white social ideologies. No longer are individuals content to accept nuanced appeals to social cohesion or to commit to the notion that individuals must conform to a set of social norms to ensure the sound functioning of society (Baskin and Sommers 2014; Hong et al. 2014; Eitle and Turner 2002). Instead, the social disruption that comes with communal violence can unburden (increasingly) aggressive individuals from normative strictures rooted in compromise and the rule of law, leaving them in search of ideologies that promote simple answers or that paint one side as good and another as evil (Hirsch-Hoefler et al. 2014).

Violent religious extremism is particularly well-suited as an alternative ideology in that context. First, terrorist groups operating in the region, such as Boko Haram and Al Qaeda in the Islamic Maghreb, openly reject conventional forms of social order and politics (Agbiboa 2014), employing instead non-conventional forms of contestation that are increasingly appealing to residents—especially young people—in violence-ridden communities. Second, they provide a

justification for the use of violence and aggressive behaviors – the very norms that emerge as more common in settings of communal violence, albeit most often for different reasons. As Boko Haram leader Abubakar Shekau notoriously stated in explaining that previous leadership was too soft, "I enjoy killing anyone that God commands me to kill the way I enjoy killing chickens and rams" (Simon 2014). Terrorist groups that normalize violence in this manner (here, to please God) offer to young people caught in violence a rationale—however dubious—for the behaviors in which they are subsumed.

Third, contemporary religious terrorist groups such as those operating in the Sahel typically espouse belief in an uncompromising form of religious ideology, such that anyone—even fellow Muslims—perceived to reject their views or tactics is labeled an apostate and subject to punishment. Irrespective of residents' own religious practice or views, exposure to communal violence tends to make uncompromising ideologies of this sort more appealing in their clarity as other, more moderate social norms dissolve. It so happens that the contemporary, black-or-white ideology available as an option to residents of the study region is rooted in radical religious teachings, increasing the likelihood that exposure to (even non-religious) communal violence will exacerbate support for religious terrorism.

Finally, ideologies of violent religious extremism can offer to residents of violence-ridden communities a worldview that at once makes sense of violence more broadly and also quells the fear and insecurity that emerges as a function of living in such contexts. Norris and Inglehart (2004) describe how residents of areas afflicted with violence, natural disaster, extreme poverty, or other forms of disruption suffer from an existential insecurity that makes religion more appealing; religion, in those contexts, provides hope for better conditions in an afterlife. Thus, religious ideologies of any form may receive increased support in communities exposed to

violence. Taking the logic a step further to violent religious ideologies, Almond et al. describe "strong religions" as promoting strict or violent practice as a way to reclaim self-worth (2011). Iannaccone (1994) argues that strict or extremist forms of religion rely on gratuitous costs to practitioners that could, in the context of communal violence, further justify some of the suffering they have experienced.

Because communal violence makes religious extremism appealing in the ways outlined above, we expect that in communities where exposure to violence is high, residents will express greater support for religious terrorism. We also expect there to be a within-communities effect, such that individuals who perceive of more communal violence in their community will exhibit greater levels of support for terrorism, controlling for other factors.

Indirect Mediators Linking Exposure to Violence to Religious Extremism

While the primary hypothesis driving this research concerns the direct impact of exposure to violence on support for violent extremism, four factors receive attention in the literature as potential indirect mediators of the relationship between exposure to violence and violent religious extremism. Two derive from the literature on exposure to violence: a decline in trust, and an increase in exclusionary attitudes towards out-group members. As Cassar et al. (2013) note in a study on the Tajik Civil War and Rohner et al. (2013) describe in the context of Uganda, violence undermines generalized trust within localities. Concerning exclusionary attitudes, Bauer et al. (2014) note that violence can stimulate egalitarian attitudes of support for one's own group but not of out-groups, and McCauley (2014) argues that conflict hardens negative attitudes between groups, making in-group members less willing to live peacefully with out-group members. The logic of indirect mediation from these literatures would suggest that

communal violence leads to decreased trust or exclusionary attitudes toward out-groups, and those sentiments then lead to greater support for violent extremism.

Two other potential mediators derive from the literature on combatting violent extremism. That literature suggests, first, that grievances associated with poor government performance could lead to support for extremism, if aggrieved individuals join homogeneous and unintegrated groups—including religious ones—in which political violence is more likely to be justified (Bhavnani and Becker 2007). Second, some scholarship on violent extremism argues that politicized forms of religiosity are increasing in non-Western parts of the world (Almond et al. 2003), which fosters unfavorable opinions of Western cultural norms and can generate resentment that motivates extremist attitudes (Atran 2008; Karsh 2006). The logic of indirect mediation from these perspectives would work as follows: communal violence gives rise to either grievances or politicized religiosity, and those outcomes then influence support for violent extremism.

Regarding the mediation hypotheses, we remain largely agnostic as to which set of theories might best explain the link between exposure to violence and extremism, above and beyond the direct effects that we expect to see. The multilevel structural equation models that we present below will allow us to adjudicate between them at both the individual and community levels.

Data

The Study Environment

The literature on violent extremism now spans most of the world, from the U.S. (Brooks 2011) to the Middle East (Shafiq and Sinno 2007) to Africa (Aldrich 2014), Europe (Dalgaard-Nielsen 2010), and Asia (Ollapally 2008). The data that serve this analysis were collected from

northern Burkina Faso, the southern half of Niger, and the middle portion of Chad, placing the study squarely within the Sahel region of Africa (see the map in Figure 1). This stretch, approximately within the band between the twelfth and sixteenth parallels, constitutes a portion of the longest geographic fault line between Islam and Christianity in the world (McCauley forthcoming), though the data we rely on come solely from the northern, Muslim side of that fault line. Terrorist activity has expanded rapidly in the study region, putting residents at the risk of both violence and recruitment pressures. Because we focus our analysis on the predominantly Muslim parts of these countries, the data that we use are not intended to be nationally representative. Instead, they are representative of the largely Muslim Sahel regions in each country.

[Figure 1 here]

Important similarities germane to the study of violent extremism exist across Burkina Faso, Niger, and Chad. All three are former French colonies, having gained their independence from France in 1960; in view of France's own struggle with violent extremism, the francophone countries in Africa have come under increasing scrutiny as potential recruiting grounds (Laachir 2007). Further, Burkina Faso, Niger, and Chad stand out as three of the poorest in the world: they currently rank among the bottom five countries listed in the United Nation's Human Development Index (UNDP 2015). We thus focus the data collection on an area of extreme poverty where opportunities are perceived to be low and the pull of terrorist ideologies potentially strong. Within that context, we can then explore how a number of other factors might affect support for terrorism, and we find sufficient variation in household wealth to also control for the effects of socioeconomic status on terrorist support. Third, security threats have multiplied in all three countries as arms have spread from Libya into Mali and then across

borders, and as Boko Haram has migrated outside of Nigeria in response to pressure from security forces there (Larémont 2011).

Notable differences also exist across the three countries. Burkina Faso is a majority Muslim country (approximately 60 percent of inhabitants are Muslim), though also a relatively secular one in terms of daily practice and religious influence in politics (McCauley and Posner 2016). Since pushing Blaise Compaoré from power in 2014, the population has since lived through a coup attempt, a transitional government, new elections, and a terrorist attack in Ouagadougou that killed over 20 people in January of 2016. Niger is a heavily Muslim country: over 90 percent of the population is Muslim, and much of the social fabric for Nigeriens is organized around the Muslim faith. It is also a deeply religious country: a recent Gallup poll lists Niger as the most religious country in the world (Gallup 2010). Terrorist attacks on the local population occurred in 2014 and 2015 (U.S. Department of State 2015), and during our field work for this study, local officials in some eastern villages noted that Boko Haram militants were now living among them. Chad's overall population is comparable to Burkina Faso's in religious terms: approximately 60 percent of the population is Muslim, the rest a mix of Christian and traditional African religious beliefs. Unlike Burkina Faso, however, Chad has experienced periodic inter-group conflict described at times in religious terms and at times in ethnic terms (Ploch 2010), and has engaged in regional military interventions described as supporting Muslim rebels (see BBC 2014). During the period of data collection, stability in Chad was interrupted by terrorist attacks on the capital of N'Djamena, for which Boko Haram militants were held responsible (U.S. Department of State 2013).

Data collection took place across 83 total administrative zones in the three countries between March and November 2013.[4] Administrative zones are communes—the lowest geographic subdivision in rural areas—or arrondissements within larger cities. In total, the results we report include input from 7,720 respondents, though certain information was gathered only from a subset (see analyses below). The table in the Appendix summarizes the data collection timeline, the number of sampled zones, and the number of interviews conducted by country.

Respondents were selected using a multistage, clustered random sampling procedure with stratification by gender. Each administrative zone was divided into a maximum of eight sub-areas, which in turn were divided into potential primary sampling units (PSU) containing approximately 200 households. Next, one PSU was randomly selected from each sub-area. Within each PSU, enumerators identified households using a fixed-interval procedure and randomly drew a respondent between the ages of 15 and 65 from within that household. Overall, between 80 and 110 respondents were interviewed in each zone. Again, the data cannot be considered nationally representative but are representative of the administrative zones surveyed.

The dependent variable is *support for violent extremism* (VE). Violent extremism is generally defined as an ideology that advocates the use of violence to further social, political, or religious goals that run counter to society's conventional values (see, for example, Nasser-Eddine 2011; Neumann 2011; USAID 2011), which we believe can be captured through three measures. First, we underscore Rapaport's (2013) remark that the current wave of terrorism

[4] The data come from two overlapping surveys, one implemented by International Relief and Development (IRD) and the second by the Evaluation and Analytic Support (EAS) team (comprised in part of the authors of this paper) at the University of Pittsburgh. The latter replicated the former but added a subset of questions and covered additional administrative zones. Data collection was funded by the United States Agency for International Development (USAID). The data set in use has received an exemption from the university's Institutional Review Board (study number PRO16070006).

invokes ties to religion. That characterization is befitting of the context in which our data was drawn; for that reason, we interchangeably refer to violent extremism, terrorism, and violent religious extremism. In focus groups that we conducted for the study, respondents noted that they colloquially refer to terrorists and their supporters as "jihadis", a label evocative of the religious nature of recent violent extremism that has been employed with similar breadth elsewhere (see Mahan and Griset 2013). Second, violent extremism implies a normative justification for non-state sanctioned violence, whether or not the individual in question aims to participate. Finally, in addition to evoking religion and to assigning normative justification to acts of violence, supporters of violent extremism tend to view violence as a solution to perceived injustices against their own group. To incorporate these elements, we combine respondents' answers to the following three questions:

a) When do you think that violence is an effective method to solve problems: often, sometimes, or never?

b) Do you personally feel that using arms and violence against civilians in defense of your religion can be often justified, sometimes justified, or never justified?

c) Do you agree or disagree with the following statement: Violence in the name of Islam can be justified?

All three items are coded on a 3-point scale, with higher values indicating greater support for violent extremism. Our composite measure represents respondents' average score across the three items, and we run analyses using those items discretely in the robustness checks that follow.

The key independent variable is *exposure to violence*. We faced three concerns in using actual episodes of conflict reported in conventional datasets on conflict. First, unbiased figures that would allow us to compare the prevalence of violence in each local administrative zone may

be poorly reported or otherwise not available. Second, the kinds of contextual violence potentially related to support for terrorism extends beyond inter-group conflict: whereas measures of communal violence typically focus on groups with ascribed identity characteristics (Ostby 2013) engaged in conflict without state participation (Sunberg, Eck, and Kreutz 2012) often involving a minority group (Gurr 1993), our primary interest is to evaluate the effects of any violence that could cause disruption, instability, and ultimately the interest in terrorism that we outlined above. That would include widespread violent crime, unchecked and systematic sexual violence, and other forms of violence in addition to conventional inter-group conflict. Thus, we measure exposure to violence by asking respondents about the extent to which they feel that their community or neighborhood is affected by violence. The variable is coded 1 for "never", 2 for "sometimes", and 3 for "often". We use the average of all respondents' answers in an administrative zone as a measure of the prevalence of violence within that zone. We note that the multi-level model we employ helps to reinforce our claim that perceptions of communal violence are consistent with actual exposure to violence: if a contextual effect exists above and beyond the individual-level perceptions of violence—which, indeed, we find to be the case—this is suggestive of the fact that the average perceptions of communal violence at the community level must be based on real, shared experiences. Otherwise, the additional community-level effect would have to be attributed to a collective but false hysteria over violence, which we view as less plausible.

We include a number of control variables that have been associated with support for violent extremism. First, research has found males to be more likely to exhibit extremist attitudes (Bakker 2006; Nesser 2004); we therefore include a binary variable coded 1 for males and 0 for females. Second, older individuals have been shown to be less likely to share extremist religious

tendencies (Bakker 2006; Fair and Shephard 2006); we thus include respondents' age in years. Third, studies have found an effect of education on extremist attitudes, with some suggesting a negative relationship (Bakker 2006) and others a positive one (Sageman 2004). Education is included on a 10-point scale ranging from no formal education to the completion of a postgraduate degree. Fourth, unemployment has been shown to foster violent extremism (Sageman 2008; Rougier 2009), so we include a binary variable coded 1 if a respondent is unemployed and 0 otherwise. Fifth, studies also disagree on the effect of wealth on extremist attitudes, with some suggesting a negative relationship (Mousseau 2011) and others a positive one (Blair et al. 2013). To measure wealth, we created an additive index denoting how many out of twelve possible household items such as a refrigerator, TV, and radio respondents have in their household. Lastly, it has been suggested that social capital decreases violent extremism (Cragin 2014; Sageman 2008). To measure this, we ask respondents whether or not they are members of nine possible types of groups, such as youth groups and trade unions; we then create an additive index of these nine binary items.

We also include variables to test the four mechanisms through which exposure to violence might indirectly contribute to violent extremism. The first, an erosion of social trust, is gauged by asking respondents whether they agree or disagree with the statement that most people are *willing to help* if asked for help. The resulting variable is coded on a three-point scale, with higher values representing greater trust. The second mechanism is an intensification of out-group bias, which is captured by two separate variables. First, *perceived ethnic and religious divisions* are measured by asking respondents to what extent ("not at all", "somewhat", or "a lot") they feel that ethnic/religious differences tend to divide people in their community; we then created a composite measure that takes the average of respondents' scores across the two items (ethnic and

religious), with higher values representing greater perceived divisions. Second, *exclusionary attitudes* are gauged by asking respondents a) how they feel about their (future) children marrying someone from a different ethnic group, and b) how much they think people from other ethnic groups should be allowed to participate when important decisions are made in their community. Both variables are coded on a three-point scale, with higher values indicating greater exclusion; our composite measure represents respondents' average score across the two items.

The third mechanism is an intensification of grievances; to capture respondents' level of grievances, *life satisfaction* is measured by asking them to locate themselves on a ladder consisting of eleven steps (0-10), with the top of the ladder (10) representing the best life imaginable and the bottom (0) representing the worst possible one. The fourth mechanism, politicized religiosity, is captured by two separate variables. First, respondents were asked whether they feel that the U.S. is at *war with Islam* as a whole. This variable is coded on a 3-point scale, with higher values indicating greater aversion to the United States/U.S. foreign policy. Second, respondents were asked a) whether they agree with the statement that their country should be governed by Sharia law, and b) how strictly they would like to see Sharia law imposed if it were to be implemented. Both variables are coded on a three-point scale, with higher values indicating greater *support for Sharia Law*. The variable we use represents respondents' average scores across those two items. A more detailed overview of the survey items and their corresponding variables is provided in the Appendix.

Table 1 presents the descriptive statistics for the variables discussed in this section. For each variable, it lists the possible range of values, mean, total variance, "between variance" (the variation between the zone-level averages), and the interclass correlation (ICC) which measures

the proportion of the total variation that is comprised of between-level variation. When the ICC is 0, no differences exist in average levels between zones, and individuals within zones are thus no more similar to one another in terms of the variable of interest than individuals from different zones. Conversely, when the ICC is 1, individuals within zones all have the same value on the variable, so that variation only exists between zones, not among individuals within zones. There is a modest amount of between-zone variation on most of the variables in the study, with ICC values of .10 to .13 on the key variables in our study, *support for violent extremism* and *exposure to violence*. The ICCs for some variables, e.g., *household items* and *support for Sharia law*, are relatively high, and for others, such as *unemployment* and *social trust*, are quite low. Given their possible ranges from 1-3, both the primary dependent and independent variables have means roughly in the middle of the scale, with significant variation in both the individual and zone-level averages. 11 percent of the total sample reports that there is "often" violence in their community, and nearly one-third of respondents report that violence occurs either "often" or "sometimes". Zones differ significantly in terms of their overall average, ranging from 1.0 to 2.044 on the three-point scale. Regarding the dependent variable, approximately 20 to 30 percent of the total sample believes that violence against civilians is "often" or "sometimes" justified to defend ones' religion, is "often" or "sometimes" an effective method to solve problems, and that "violence in the name of Islam" can be justified. Zones differ significantly on the dependent variable, with averages ranging from 1.04 to 1.90 on the three-point scale.

[Table 1 here]

Estimation

We test the direct and indirect hypotheses via multilevel structural equation modeling, which allows for the simultaneous estimation of individual and contextual effects on our primary

outcome of interest, support for violent extremism. We can express an initial baseline model of support for violent extremism by individual *i* who resides in community or zone *j* as:

$$(1)\quad Y_{ij} = b_{0j} + b_{1j}X_{1ij} + b_{2j}X_{2ij} + \ldots b_{kj}X_{kij} + e_{ij}$$

where X_1 through X_k represent independent variables, β_{0j} the community (zone)-specific intercept or average commune level of support for violent extremism, β_{1j} to β_{kj} the community (zone)-specific regression coefficients linking the independent and dependent variables, and ε_{ij} an individual-specific error term.

Equation (1) represents the model at the individual level, or the lowest level (Level 1) of the data hierarchy. With multilevel data structures, we may incorporate variables from higher levels—in this case, the community or zone level—as predictors of the Level 1 regression coefficients. Moreover, this strategy allows for random community-level residual variation in the Level 1 coefficients, so that higher level variables may predict the Level 1 coefficients only imperfectly. Our theory suggests, for example, that individuals residing in communities with higher average levels of perceived violence will be more likely to support violent extremism than individuals residing in areas with less average violence, regardless of (or in addition to) the impact of the individual's (Level 1) demographic characteristics, attitudes, or perceptions. This extends the model as:

$$(2)\quad b_{0j} = b_{00} + b_{11}\overline{X}_{1j} + z_j$$

with equation (2) predicting the community-level intercept, or average level of support for violent extremism in (1) along with community-level average exposure to violence and a random zone level error term ζ_j. Substituting equation (2) into (1) yields a mixed or multilevel model

predicting support for violent extremism with both Level 1 (individual) and Level 2 (community) independent variables:

$$(3)\quad Y_{ij} = b_{00} + b_{1j}X_{1ij} + b_{11}\overline{X}_{1j} + b_{2j}X_{2ij} + \ldots b_{kj}X_{kij} + z_j + e_{ij}$$

With the usual assumptions about the Level 1 (ε_{ij}) and Level 2 (ζ_j) error terms – i.e., that they are homoscedastic, normally distributed, and uncorrelated with each other and with the X variables in their respective equations—the model can be estimated via maximum likelihood methods implemented in standard statistical software packages. If we assume that the regression coefficients linking the independent variables to the dependent variables are fixed across zones, the model is also equivalent to a standard multilevel random intercept model.

The multilevel specification is critical for our purposes, in that our theory stipulates that the effects of exposure to violence may operate at both the contextual or community level and the individual level, corresponding to the impact of X_{1ij} and $\overline{X}_{1j}$ in equation (3). That is, higher levels of perceived community violence ($\overline{X}_{1j}$) can impact the average level of support for violent extremism in the community (directly or indirectly), and, at the individual level, personal exposure to or perceptions of violence in one's surroundings (X_{1ij}) may lead the individual to express greater support for violent extremism, as well. We delineate the two kinds of effects more clearly through an elementary algebraic manipulation of equation (3). Adding and subtracting $\beta_1 * \overline{X}_{1j}$ to the right side of equation (3) and collecting terms yields:

$$(4)\quad Y_{ij} = b_{00} + b_1(X_{1ij} - \overline{X}_{1j}) + b_1^{*}\overline{X}_{1j} + b_2X_{2ij} + \ldots b_kX_{kij} + z_j + e_{ij}$$

where $\beta^*_1 = \beta_1 + \beta_{11}$ from equation (3). This formulation expresses Y as a function of both the average level of X in a given community and the individual deviations within communities from the community-level average. That is, equation (4) contains both the *between-community* and *within-community* effects of X in the same model, with those two independent variables (by construction) orthogonal to one another. We may thus partition the impact of any independent variable in a multilevel framework in terms of its possible between and within effects, and then assess the statistical significance of each of the effects separately.

The algebraic manipulation that produced equation (4) also provides a ready test of the equality of the within and between effects of any independent variable via a comparison of β_1 and β^*_1. To the extent that these coefficients differ, this indicates that the effect of a given X on Y among individuals within communities differs significantly from the effect of the average value of X between communities. If the effects are not statistically distinguishable, this would indicate that equation (1), with only one coefficient linking the variable to the outcome, would be sufficient, or, in other words, that within-community and between-community variation in X have identical impacts on the dependent variable, support for violent extremism. Whenever this is not the case, the expanded model of equations (3) and (4) provides a more complete explanation of the multilevel impacts of a given independent variable.

Figure 2 displays in diagram form the multilevel baseline model predicting support for violent extremism from both the within (individual-level) and between (community or zone-level) components of exposure to violence, along with the series of socio-demographic control variables noted above: age, sex, educational attainment, household wealth, employment, and group memberships. The top portion of the figure illustrates the within effect—that is, the effect of individual-level deviations from a given variable's community-level means on support for

violent extremism. The bottom half of the figure shows the community-level intercept as a circled latent variable, predicted from the community-level means on exposure to violence and all of the control variables, as well as a random error term ζ. The between portion of the model also includes the effects of dummy variables for Niger and Burkina Faso, or the average difference in the level of support for violent extremism in those countries compared with the baseline country Chad, over and above the effects that country-level differences on the other community-level variables may have had.

[Figure 2 here]

Results

Individual and Community Level Effects of Exposure to Violence

The maximum likelihood results from the model associated with Figure 2, estimated using the Stata 14.1 Generalized Structural Equation Modeling (GSEM) module, are shown in Table 2.

[Table 2 here]

The results show strong support for our primary hypotheses regarding the direct effect of exposure to violence on support for violent extremism. Indeed, the effects of the *exposure to violence* variable are statistically significant at both the within (individual) and between (community) levels, and a post-estimation test shows that the two effects differ significantly in magnitude. First, at the between-community level, individuals residing in communities with higher average levels of perceived violence show significantly higher values on the *extremism* index than individuals residing in zones with lower average levels of perceived violence. Substantively, the .60 between-level regression coefficient indicates that a one-unit increase in

average community-level violence is associated with an average *three*-standard deviation change in support for violent extremism. In fully standardized terms, the effect is still large, with a standard deviation change in community-level violence being associated with a .72-standard deviation change in the average extremism score in the community. The between model with control variables has strong predictive power, with an R-squared of .595, and the effects of several between-level variables aside from exposure to violence are also statistically significant: communities with lower levels of average educational attainment and higher levels of unemployment show the highest average levels of support for violent extremism, and communities in Niger show higher levels of average extremism than do communities in Burkina Faso and Chad.

Exposure to violence also has a significant, though weaker, effect at the within level, as individuals whose perceptions of violence are higher than their community-level average exhibit higher levels of support for violent extremism, controlling for a series of individual-level socio-demographic attributes. A one-unit change in individual-level exposure to violence is associated with a .267, or a .52-standard deviation, change in support for violent extremism. In fully standardized terms, this constitutes a .33-standard deviation increase in support for violent extremism for every one-standard deviation increase in individual-level exposure to violence. Though weaker, the violence measure is one of only two variables at the within level to have a significant impact on support for violent extremism, indicating its relative importance in the model. The within model R-squared of .17 is also weaker than its between level counterpart, reflecting the relative difficulty of predicting extremism among specific individuals compared to community-level contexts. Interestingly, at the individual level, support for violent extremism is significantly higher among individuals with *more* group memberships, which supports the notion

that extremism may be linked to individuals in denser social networks as opposed to those more socially isolated. The effect of education at the within level approaches statistical significance ($p<.11$); taken together with its effect at the between level, this provides suggestive evidence that violent extremism is higher among more highly educated individuals in less educated zones.

Mediation Models

The results thus far underscore the importance of exposure to communal violence as a predictor of support for violent extremism at both the individual (within) and community (between) levels: individuals residing in more violent places are more likely, *ceteris paribus*, to express support for violent religious extremism than are individuals residing in less violent places, and individuals who perceive greater levels of violence within their community are also more likely than those who perceive lower levels of violence to express support for the tenets of violent extremism.

But what are the mechanisms responsible for this effect? Why do contextual violence and perceptions of violence at the individual level affect support for religious extremism? The argument we constructed from the theoretical literatures suggests first that there is a direct effect owing to the stimulation of aggressive, deviant preferences and a desire for non-conventional, black-or-white answers. We also outlined four possible indirect mediators described in the literatures on exposure to violence and on violent extremism: a loss of social and institutional trust, exclusionary attitudes toward out-group members, grievances, and politicized religiosity. Of course, these mechanisms are not mutually exclusive, as one or more may contribute to an explanation for the relationship between violence and support for extremism. It may also be that the mediators' effects are insignificant or weak in magnitude, in which case the effect from

violence to extremism will consist only of the direct effect or may be explained via unobserved mediators not considered or measured in this study.

We illustrate a test of the mediation hypotheses via a structural equation model represented in diagram form in Figure 3. In this model, exposure to violence (labeled X in the diagram), along with the control variables at each level, first causes the within and between components of a given mediator (labeled M). All of these variables, including the mediator, then predict support for violent extremism (Y), with the between components of the independent variables predicting the random community-level intercept and the within components predicting the individual score relative to the community-level mean.

[Figure 3 here]

The mediation analysis produces several important results. First, of primary interest is whether exposure to violence (X) has a significant impact on the mediators (M), and whether these effects operate at the between or within levels (or both, or neither). It is of equal importance to determine whether the mediators (M) then significantly affect support for violent extremism (Y), and whether these effects operate at the between or within levels, as well. We can then calculate the size and statistical significance of the *indirect* effect from X to Y through each mediator M by multiplying the estimated effect of X on M by the estimated effect of M on Y.[5] Finally, the magnitude of the *direct* effect of X on Y in the mediation model provides an estimate of what the mediation process can and cannot explain of the initial relationship between X and Y. For example, if the effect of X on Y in the mediation model declines significantly

[5] Statistical testing of the significance of the indirect effect requires different procedures from ordinary methods, given that the sampling distribution of a product term in not necessarily normally distributed. Standard errors of the product term can be calculated according to the formulas given in MacKinnon (2008, chapter 3); Mplus (v7) includes this calculation in its MODEL INDIRECT module.

from what was observed in Table 2, this would indicate that the mediation process accounts for a great deal of the observed X-Y relationship, since the effect of X on Y would be comprised mainly of the *indirect* effect or product term from the two regression coefficients X → M and M → Y. To the extent that an estimated effect of X → Y remains at or near its original magnitude after controlling for the mediators, this would indicate that the relationship is comprised mainly of the *direct* effect, with the mediators and associated indirect effects being less relevant in terms of accounting for the X-Y relationship.

In Table 3, we present the results of the mediation models, estimated one at a time, for six potential mediator variables, grouped by the four general theoretical categories discussed above: *trust*, *out-group biases*, *grievances*, and *politicized religiosity*. Across the columns, we present the effect of exposure to violence (X) on the mediator (M); the effect of the mediator on support for violent extremism (Y); the size and significance of the indirect effect, based on the product of columns (1) and (2); and finally the size and significance of the *direct* effect from X to Y that remains after controlling for the given mediation process. Below the coefficients are the estimated standard errors, and then the explained variation in the mediator (within and between) and the explained variation in support for violent extremism (within and between) once the mediator is included as an independent variable. All control variables outlined above are included in these analyses, though we omit them from Table 3 for ease of presentation.

[Table 3 here]

The results indicate that only three of the six variables—*social trust*, *perceived ethnic and religious divisions*, and *exclusionary attitudes*—show significant mediation effects in the predicted direction. Increases in both the within and between components of exposure to violence are significantly associated with decreased social trust, and decreases in both the within

and between components of social trust in turn lead to increases in support for violent extremism. Multiplying these coefficients together yields the within and between indirect effects linking exposure to violence and support for extremism, with the effect at the within level being statistically significant. This same pattern is exhibited for the two variables in the *out-group biases* category of mediators: *perceived ethnic and religious divisions* and *exclusionary attitudes*. For both of these variables, the violence-to-mediator and the mediator-to-extremism effects are significant (at the within level only for perceived divisions), which then produces a significant within-level indirect effect of perceived divisions and significant within *and* between indirect effects for exclusionary attitudes. Exposure to violence, then, is associated with undermined social trust as well as increased perceptions of ethnic/religious divisions and exclusionary attitudes, with these factors in turn heightening support for violent extremism. These findings provide partial support for the mediation processes specified in the "exposure to violence" literature, and confirm the deleterious effects of violence on a variable—support for violent extremism—previously untested in that literature.

Yet, even the significant indirect effects for trust and the two out-group bias variables are very small in substantive magnitude, and they pale in comparison to the direct effect that remains between exposure to violence and support for violent extremism in all models in Table 2. The largest indirect effect, the between effect from violence to exclusionary attitudes, still represents only 20 percent of the total effect from violence to extremism, while the two indirect effects at the within level comprise less than 10 percent of their respective total effects. To this extent, the mediators—even when statistically significant in their impact—account for a relatively small portion of the total effect between violence and extremism at both the within and between levels. The dominant effect between those two variables is a *direct* one (or indirect via unobserved,

unmeasured, or as yet unknown mediating factors). We see even weaker support for mediation processes through the *grievances* and *politicized religiosity* mechanisms, as there are no significant indirect effects operating through either of the three mediating variables we included.

Robustness Checks

To push further on the mediation analysis, we test the relative importance of the three significant trust and out-group exclusion mediators in a full parallel mediation model, where the three (within and between) indirect effects of exposure to violence are estimated simultaneously, i.e., controlling for one another (see Muthén *et al*. 2016, chapter 2). The results, shown in the appendix, confirm that the indirect effects, especially at the within level, indeed represent relatively small shares of the total causal effect of exposure to violence on support for extremism.

We also undertake a number of robustness checks related to the construction of the dependent variable, to ensure that the findings are not sensitive to alternative model specifications of support for violent extremism. Detailed results for all robustness checks are available in the appendix. In total, we re-estimate the baseline model illustrated in Figure 2 using five different specifications of the dependent variable. First, we run a multiple-indicators model including all three items measuring support for violent extremism. Second, we estimate a model with the dependent variable consisting of only two items (component (a), if violence is effective, and component (b), if violence against civilians in the name of one's religion can be justified) rather than a 3-item composite index. Finally, we run three single-indicator models, one for each item measuring support for violent extremism. The strong and positive effect of exposure to violence on support for violent extremism remains in all model specifications, thus increasing our confidence in the validity of the findings.

Conclusion

Contextual factors in one's neighborhood or village can have an important impact on support for violent religious extremism; in this study, we focused on one such contextual factor, exposure to communal violence. Drawing on studies from psychology, we argued that exposure to violence directly increases support for violent extremism by deteriorating support for social norms of non-violence and by creating the desire to externalize one's experience with violence in non-conventional, black-or-white ideologies that justify such behavior and that quell fear and uncertainty. We also explored the possibility that exposure to communal violence increases support for terrorism indirectly, through four mediators prominent in the literatures on exposure to violence (loss of trust and intensification of out-group biases) and countering violent extremism (intensification of grievances and politicized religiosity).

The multilevel structural equation models that we employed allowed for the simultaneous estimation of individual and community effects on data from over 7,500 individuals in Burkina Faso, Niger, and Chad, a portion of the African Sahel increasingly central to combatting violent religious extremism. The results indicate that exposure to violence has a positive, direct effect on support for terrorism at both the individual and the community levels, and that one's environment matters critically: the community effect is approximately two and a half times the individual-level effect in both unstandardized and standardized terms, reinforcing the strong association between community-level perceptions of violence and average levels of support for religious extremism. We also find a number of other noteworthy outcomes. Membership in groups increases support for violent extremism, which suggests that extremists might use existing social networks and structures to spread their message and, ultimately, find new recruits. Unemployment is associated with greater support for terrorism. And education seems to have a

positive effect on support for terrorism at the individual level but a negative effect at the community level, providing suggestive evidence that support for violent extremism is higher among more *highly* educated individuals in *less* educated communities.

As for the indirect effects, the mediators derived from the literature on exposure to violence perform largely as expected: exposure to violence undermines social trust and increases out-group bias, and these factors in turn heighten support for violent extremism. Yet, even the statistically significant indirect effects are relatively small in substantive magnitude, and they pale in comparison to the direct effect that remains between exposure to violence and support for violent extremism. We find even weaker support for the mediators coming from the countering violent extremism literature. To be sure, higher levels of violence are, in some cases, associated with increased dissatisfaction with services and with politicized religiosity. But in only a few instances are those variables—along with the indirect mediators from the exposure to violence literature—themselves predictive of support for violent extremism. Instead, we conclude that the bulk of the communal violence–religious extremism relationship derives from the direct impact of exposure to violence, independent of these potential mediators.

The findings have two key implications. First, they illustrate the importance of contextual factors in explaining individual-level support for violent extremism. In that sense, the study contributes to an emerging body of research that looks beyond the individual level to examine the determinants of support for terrorism more contextually (e.g. Chayes 2015; Hirsch-Hoefler et al. 2014). The multilevel structural equation models allowed us to examine those distinct levels in ways that previous studies have not. Second, the study brings together the important literatures on exposure to violence and combatting violent extremism. From a theoretical standpoint, doing so creates opportunities for scholars to reinterpret some of the key findings in

those previously discrete literatures. From a policy perspective, actors interested in countering violent extremism may want to focus attention on forms on violence other than those related to terrorism. Our findings suggest that interventions directed at reducing "ordinary community violence" may have multiplier-effects that reduce support for religious terrorism.

Scholars might pursue several avenues of research that follow from this study. Future work could examine how other contextual factors might affect support for religious extremism, using multilevel models similar to those employed here. Researchers might also explore how other mediators unobserved in this study might indirectly affect the relationship between exposure to violence and support for religious extremism. Finally, given the importance of the question of violent extremism not just in the Sahel but elsewhere, we hope scholars will build on this study to examine the impact of environmental factors like exposure to communal violence on support for terrorism globally.

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Table 1. **Descriptive Statistics**

Variable	Range	Mean	Total Variance	Between Zone Variance	ICC
Violent extremism	1-3	1.431	.299	.041	.130
Exposure to violence	1-3	1.423	.464	.053	.105
Male	0-1	.513	.250	.022	.080
Age	15-65	33.527	183.789	9.104	.040
Education	1-10	2.733	3.514	.685	.188
Unemployment	0-1	.057	.054	.003	.039
Household items	0-12	2.445	3.361	.935	.273
Group memberships	0-9	1.231	2.059	.249	.113
Soical trust	1-3	2.372	.722	.071	.090
Divisions	1-3	1.434	.347	.042	.113
Exclusionary attitudes	1-3	1.653	.367	.061	.164
Life satisfaction	0-10	4.374	4.014	.587	.134
War with Islam	1-3	1.687	.744	.135	.175
Support for Sharia law	1-3	2.255	.592	.165	.281

Table 2. Baseline Model

	Variable Name	Coefficient
Within effects	Exposure to violence	.266***
		(.020)
	Male	-.002
		(.015)
	Age	.000
		(.001)
	Education	.007
		(.005)
	Unemployment	.021
		(.027)
	Household items	-.005
		(.005)
	Group memberships	.020***
		(.007)
	Constant	1.074***
		(.367)
Between effects	Exposure to violence	.606***
		(.074)
	Male	-.124
		(.119)
	Age	-.009
		(.008)
	Education	-.100**
		(.041)
	Unemployment	.860***
		(.323)
	Household items	.012
		(.031)
	Group memberships	-.022
		(.032)
	Niger dummy	.142***
		(.041)
	Burkina dummy	.090*
		(.046)
Model statistics	Within R2	.169
	Between R2	.595
	Number of observations	6,947
	Number of clusters	83

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Table 3. Mediation Models

Mechanism/ Mediator		Effect of Violence on Mediator	Effect of Mediator on VE	Indirect Effect of Violence on VE	Direct Effect of Violence on VE
Mechanism #1: Trust					
Social trust	Within	**-.105*** **	**-.027** **	**.003** **	**.264*** **
		(.024)	**(.011)**	**(.001)**	**(.020)**
	R^2	.018	.126		
	Between	**-.454*** **	.112	-.051	**.656*** **
		(.114)	(.083)	(.037)	**(.081)**
	R^2	.405	.614		
Mechanism #2: Out-group biases					
Perceived religious and ethnic divisions	Within	**.164*** **	**.072*** **	**.012*** **	**.255*** **
		(.019)	**(.019)**	**(.004)**	**(.019)**
	R^2	.046	.130		
	Between	**.286*** **	-.088	-.025	**.632*** **
		(.095)	(.101)	(.027)	**(.076)**
	R^2	.316	.606		
Exclusionary attitudes	Within	**.051* **	**.068*** **	.003	**.305*** **
		(.027)	**(.023)**	(.002)	**(.029)**
	R^2	.014	.174		
	Between	**.338*** **	**.315** **	**.106*** **	**.644*** **
		(.111)	**(.139)**	**(.038)**	**(.103)**
	R^2	.732	.870		

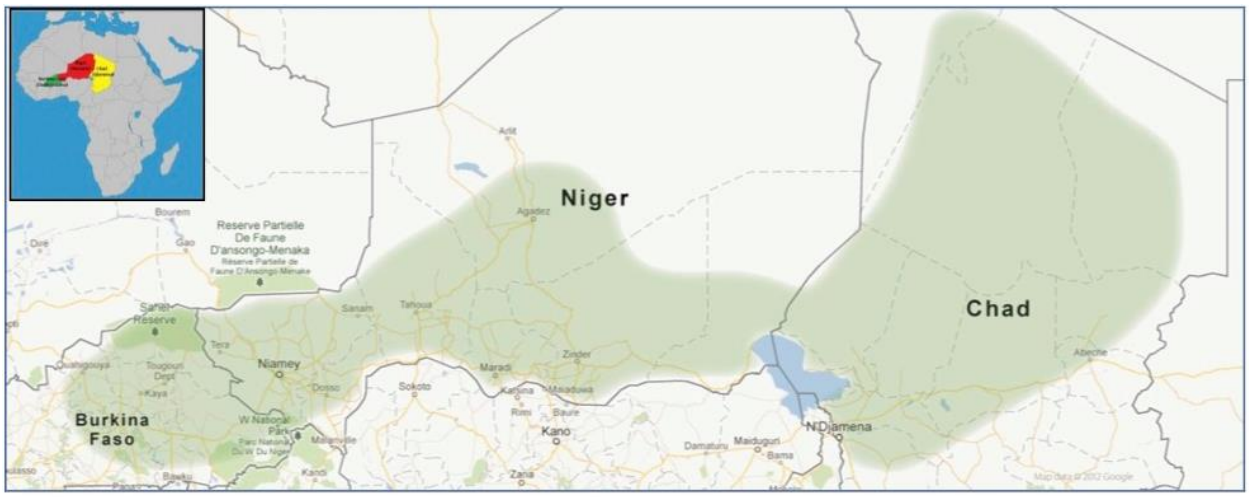
Note: * p < 0.10; ** p < 0.05; *** p < 0.01

Table 3. Mediation Models (Continued)

Mechanism/ Mediator		Effect of Violence on Mediator	Effect of Mediator on VE	Indirect Effect of Violence on VE	Direct Effect of Violence on VE
Mechanism #3: Grievances					
Life satisfaction	Within	-.007	-.004	.000	**.266*** **
		(.053)	(.005)	(.000)	**(.020)**
	R^2	.043	.124		
	Between	.134	-.016	-.002	**.608*** **
		(.361)	(.023)	(.006)	**(.072)**
	R^2	.319	.600		
Mechanism #4: Politicized religiosity					
Perception that the U.S. is at war with Islam	Within	-.028	**.042****	-.001	**.268*** **
		(.029)	**(.019)**	(.001)	**(.020)**
	R^2	.005	.128		
	Between	.179	**.232****	.032	**.565*** **
		(.182)	**(.103)**	(.028)	**(.079)**
	R^2	.781	.647		
Support for Sharia law	Within	*-.058**	**.038****	-.002	**.311*** **
		(.034)	**(.019)**	(.002)	**(.029)**
	R^2	.007	.171		
	Between	**.836*** **	**.138***	.110	**.640*** **
		(.239)	**(.080)**	(.072)	**(.143)**
	R^2	.756	.847		

Note: * p < 0.10; ** p < 0.05; *** p < 0.01

Figure 1. Map of the Data Collection Area



Note: Provided by the study's data collection partner, International Relief and Development.

Figure 2. Diagram of the Baseline Model

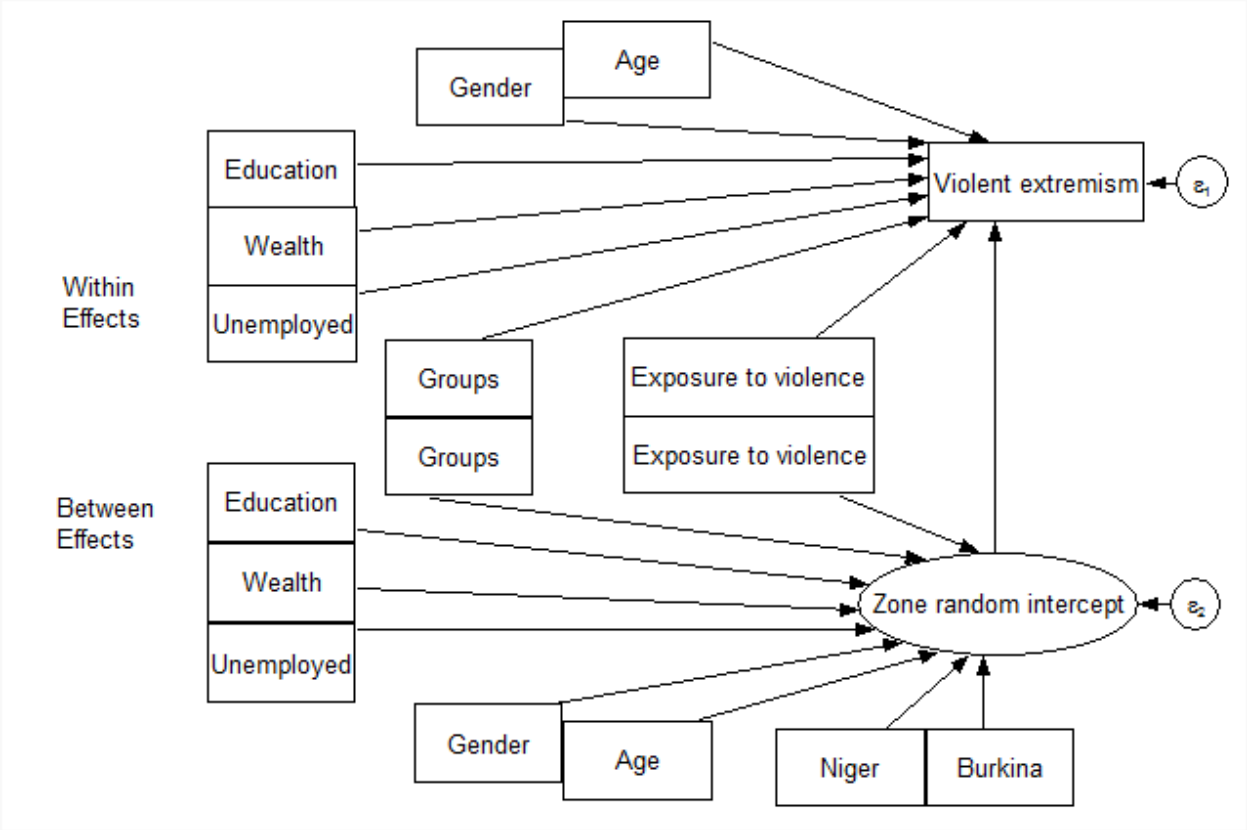
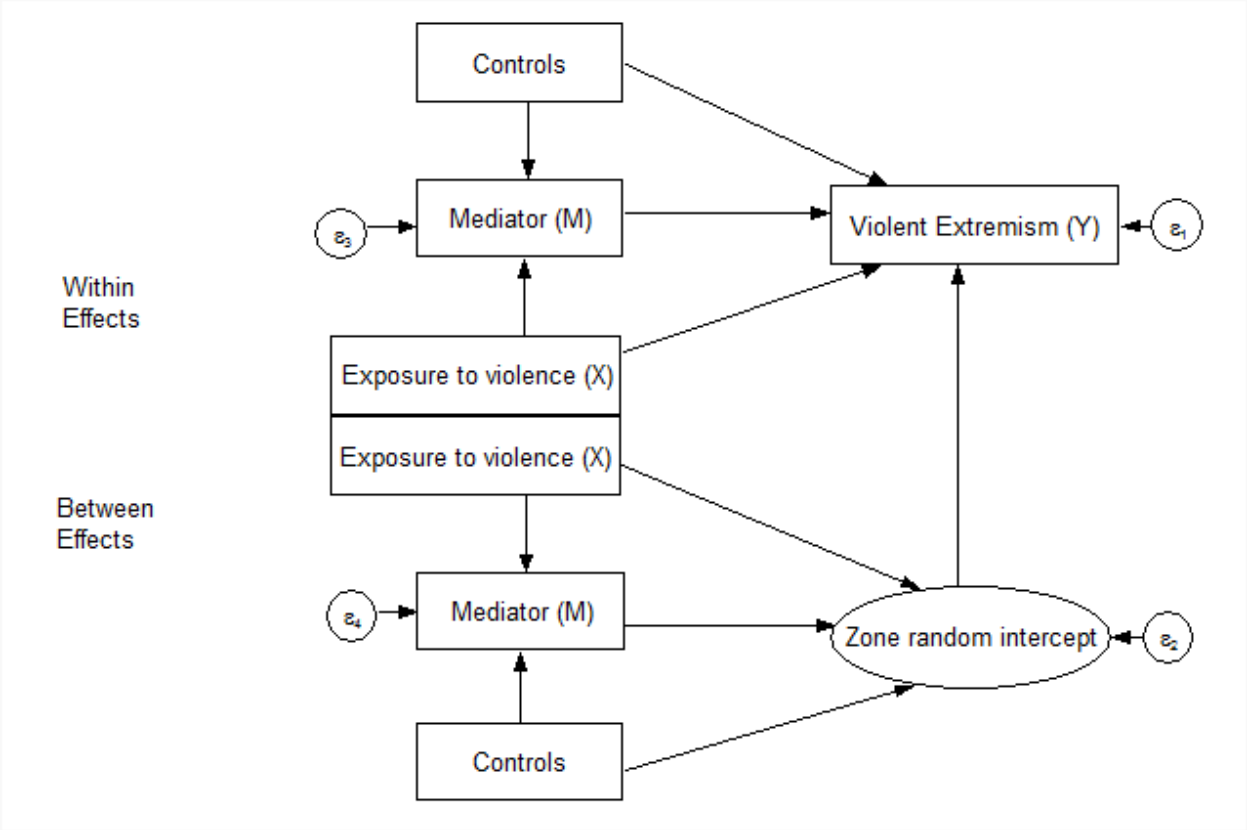


Figure 3. Diagram of the Mediation Models



Appendix

Summary of Data Collection

Country of Data Collection	Time Period	Zones	No. of Respondents
Chad	March-April 2013	15	1,200
Niger	March-April 2013	20	1,609
Burkina Faso	September 2013	13	1,041
Chad	Sept.-Oct. 2013	15	1,655
Niger	November 2013	10	1,101
Burkina Faso	Sept.-Oct. 2013	10	1,114
Total			7,720

Note: Data was collected by two partners, IRD and EAS, to facilitate administration. Given the replication of survey questions and the close proximity in time, we treat the data as one cross-section.

Measurements for Key Variables

	Concept	Question Wording	Coding
Dependent variable	Violent extremism	When do you think that violence is an effective method to solve problems: often, sometimes, or never?	1 = never 2 = sometimes 3 = often
		Do you personally feel that using arms and violence against civilians in defense of one's can be often justified, sometimes justified, or never justified	1 = never 2 = sometimes 3 = often
		Please tell me whether you agree or disagree with the following statement: Violence in the name of Islam can be justified.	1 = disagree 2 = neither 3 = agree
Main independent variable	Exposure to violence	In your opinion, how often is this commune/neighborhood affected by violence: often, sometimes, or never?	1 = never 2 = sometimes 3 = often
Controls	Male	Sex of respondent (determined by interviewer)	0 = female 1 = male
	Age	How old are you?	continuous variable
	Education	What is the highest level of school that you have completed?	1 = illiterate/none 2 = no formal schooling 3 = primary incomplete 4 = primary complete 5 = secondary incomplete 6 = secondary complete 7 = University/Poly incomplete 8 = University/Poly complete 9 = Post University incomplete 10 = Post University complete
	Unemployment	Are you currently employed or unemployed?	0 = employed 1 = unemployed
		If you are not working, what is your status?	1 = student 2 = pensioner/invalid 3 = housewife/maternity 4 = looking for work 5 = other, specify

	Household items	Do you have a fridge or freezer in your household?	0 = no 1 = yes
		Do you have a computer or iPad in your household?	0 = no 1 = yes
		Do you have a video or DVD player in your household?	0 = no 1 = yes
		Do you have a satellite dish in your household?	0 = no 1 = yes
		Do you have a television in your household?	0 = no 1 = yes
		Do you have a radio in your household?	0 = no 1 = yes
		Do you have a telephone (land) in your household?	0 = no 1 = yes
		Do you have a telephone (mobile) in your household?	0 = no 1 = yes
		Do you have air conditioning in your household?	0 = no 1 = yes
		Do you have a washing machine in your household?	0 = no 1 = yes
		Do you have a car in your household?	0 = no 1 = yes
		Do you have a gas or electric cooker in your household?	0 = no 1 = yes
	Group memberships	What groups or associations are you currently a member of? A religious group that meets outside of prayer times	0 = no 1 = yes
		What groups or associations are you currently a member of? A trade union or farmers association	0 = no 1 = yes
		What groups or associations are you currently a member of? A group that fishes or hunts together	0 = no 1 = yes
		What groups or associations are you currently a member of? A professional or business association	0 = no 1 = yes
		What groups or associations are you currently a member of? A group that attends to the sanitation and cleanliness of your neighborhood	0 = no 1 = yes

		What groups or associations are you currently a member of? A group that protects your neighborhood	0 = no 1 = yes
		What groups or associations are you currently a member of? A listening and discussion group	0 = no 1 = yes
		What groups or associations are you currently a member of? A group or association of young people	0 = no 1 = yes
		What groups or associations are you currently a member of? Other, specify	0 = no 1 = yes
Mechanism #1: Trust	Social trust	Please tell me if you agree or disagree with the following statement: Most people are willing to help if you ask for help.	1 = disagree 2 = neither 3 = agree
Mechanism #2: Out-group biases	Perceived ethnic and religious divisions	To what extent do you feel that ethnic differences tend to divide people in your village/neighborhood?	1 = not at all 2 = somewhat 3 = a lot
		To what extent do you feel that religious differences tend to divide people in your village/neighborhood?	1 = not at all 2 = somewhat 3 = a lot
	Exclusionary attitudes	Do you agree or disagree with the following statement: I tell my children (or I will tell my future children) they should only marry people from the same ethnic group as theirs.	1 = disagree 2 = neither 3 = agree
		How much do you think people from other tribes or ethnic groups should participate when important decisions are made in your community?	1 = a lot 2 = somewhat 3 = not at all
Mechanism #3: Grievances	Life satisfaction	Let us suppose the top of the ladder is the best possible life for you; and the bottom, the worst possible life for you. On which step of the	0-10

		ladder do you personally stand at the present time?	
Mechanism #4: Politicized Religiosity	Perception that the U.S. is at war with Islam	Please tell me whether you agree or disagree with the following statement: The United States is at war against Islam, not terrorism	1 = disagree 2 = neither 3 = agree
	Support for Sharia law	Do you agree or disagree that we should be governed by Sharia Law?	1 = disagree 2 = neither 3 = agree
		If Sharia law were implemented in your country, how would you prefer to see it imposed?	1 = I do not support the implementation of Sharia law in my country 2 = moderate observance of the law, so that there is room for modern advancement 3 = strict observance of the law precisely as it is written in the Qur'an

Robustness Checks

Parallel Mediation Model

	Mediator	Specific Indirect Effects from Violence to VE	Total Indirect Effect from Violence to VE	Direct Effect of Violence on VE
	Social trust	.000 (.002)		
Within Level	Perceived religious and ethnic divisions	**.010** (.005)**	**.013*** (.005)**	**.295*** (.029)**
	Exclusionary attitudes	.003 (.002)		
	Social trust	.011 (.018)		
Between Level	Perceived religious and ethnic divisions	.014 (.044)	**.137** (.065)**	**.613*** (.086)**
	Exclusionary attitudes	**.112*** (.032)**		

Note: * p < 0.10; ** p < 0.05; *** p < 0.01

Re-estimation of Support for Violent Extremism

Model Specification/ Dependent Variable	Within Coefficient for Exposure to Violence	Between Coefficient for Exposure to Violence
3-item composite index	.266***	.606***
(baseline model)	(.020)	(.074)
Multiple indicators model	.361***	.680***
	(.029)	(.091)
2-item composite index	.371***	.743***
(items a and b only)	(.028)	(.064)
Single indicator model	.367***	.735***
(item a only)	(.028)	(.074)
Single indicator model	.378***	.784***
(item b only)	(.031)	(.064)
Single indicator model	.052*	.313**
(item c only)	(.029)	(.135)

Note: * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$