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RESEARCH ARTICLE

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Ethnoracial patterns of violence in Guatemala: An empirical examination of the relationship between Mayan-majority municipalities and homicide rates in Guatemala

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Abstract

The current study empirically tests the relationship between homicide rates and the population of indigenous Mayans at the municipal level in Guatemala. Using data from the most recent Guatemalan Census (2018) and independently aggregated national police data on homicides, we also propose models of possible pathways for the relationship between the ethnoracial composition of municipal population and homicide rates. Due to consistent non-normal distribution of demographic data in Guatemala, we used a maximum likelihood estimation of linear regression models and nonparametric bootstrapping method to test the theoretical relationships. The results showed a strong negative relationship between Mayan majority municipalities and homicide rates, mediated by living in municipality of birth. Findings suggest that attachment to place in Mayan majority municipalities in Guatemala is a strong protective factor for exposure to homicide, even in areas of high out-migration.

KEYWORDS
Guatemala, homicide, indigenous people, protective factors

1 | INTRODUCTION

The promise of social, political, and economic reconstruction in the postcivil conflict era of the three northernmost countries of Central America (El Salvador, Guatemala, Honduras) has yet to materialize in the face of continued social exclusion, economic inequality, and increased levels of interpersonal violence and delinquency. Homicide rates in the three

countries have routinely been among the highest in the world since the early 2000s. Moreover, the major cities of the region—San Salvador, San Pedro Sula, Tegucigalpa, and Guatemala City—often rank in the top ten of global metropolitan homicide rates.

Despite macro-level similarities and sociohistorical congruence across the three countries, closer examination of the phenomenon of violent crime, and specifically homicide rates, underscores theoretical and practical differences. In Guatemala, the largest of the three countries with a large population that identifies as indigenous (41.7% according to 2018 census), death by homicide was largely an urban phenomenon concentrated among more socially, culturally, politically, and economically powerful nonindigenous communities ("ladino" in the Guatemalan context). In fact, unlike many countries around the world, in Guatemala, exposure to violence increased in relatively wealthier and more educated regions (Dinesen et al., 2013).

There is minimal academic or policy-making attention paid to the unequal distribution of homicides in Guatemala, despite the important practical, and theoretical implications of such patterned phenomenon. To address this lacuna, we will build upon a rich body of descriptive studies to empirically test the observation that majority Mayan municipalities reported lower homicide rates and to identify pathways that potentially explain this relationship. Our findings were drawn from data selected from the 2018 National Census conducted by the National Institute of Statistics (INE) in Guatemala and official homicide statistics compiled by Dialogos, a Guatemalan think-thank. To theoretically situate our findings, we will first highlight the historical context of violence in postwar Guatemala.

2 | BACKGROUND

2.1 | Guatemalan context

Guatemala is a cultural and racially diverse country where an estimated 41.7% of the population self-identify as Mayan in the 2018 Census and 24 non-European languages are spoken (Bell, 2017). Unlike other Mesoamerican countries, Guatemala does not have a socially constructed category of *mestizo*—a national ethnoracial identity of mixed Spanish and indigenous (and sometimes African descendent) heritage (Hale, 2002). Instead, Guatemalans generally utilize the categories of *ladino* and indigenous. Ladinos are Guatemalan born (rather than Spanish born) mixed-race individuals who have chosen to set aside signifiers of indigenous identity (such as language and indigenous dress). Because most indigenous peoples[3] in Guatemala are of Mayan descent, we focus on Mayan communities in this study.

The ladino/indigenous divide has shaped Guatemalan political, economic, and social systems since the Spanish colonization of indigenous territories in the 16th century and especially since independence from Spain in the early 19th century and the liberal reforms of the late 19th century (Casaus-Arzu, 2009). In 2019, approximately 56% of Guatemala's population lived below the poverty line and 27% of the population lived below the extreme poverty line. Among the indigenous, the rates are 79% and 40%, respectively (CIA, n.d.). Guatemala also has high level of chronic malnutrition (4th in the world in 2018, UNICEF, 2018) and extremely inadequate public sector investment (Mendoza et al., 2020; Mundos, 2017).

The political and social instability that intensified after a US-sponsored coup overthrew a democratically elected government grew into a violent civil in 1960 that endured for 36 years. During the war, more than 200,000 Guatemalans died and another 45,000 disappeared (Nolin, 2018). Approximately 93% of killings, disappearances, and other atrocities were committed by the army and its paramilitary security forces (Rothenberg & Comisión para el Esclarecimiento Histórico (Guatemala) [CEH], 2012). In addition to the dislocation and terror provoked by massacres and devastation of over 600 villages by the army during this time, an estimated 500,000 to 1.5 million persons were internally displaced or sought refuge abroad, mostly in Southern Mexico.

[3]A total of 95.63% of all respondents who identify as indigenous in 2018 census identifies as Mayan (author calculation).

2.2 | Violence in postwar Guatemala

While the immediate postconflict period was relatively peaceful, beginning in 2002, homicide rates and other forms of communal violence soared in Guatemala City, the mostly Ladino Eastern Highlands, and the northern former tropical rainforests of the Peten (Brenneman, 2012). Despite media narratives to the contrary (Nuñéz, 2017), poor, rural, and indigenous communities have been substantially safer (when measured by total homicide rates) than relatively wealthier, urban, and ladino communities (Dinesen et al., 2013; see Table 1).

Communal violence in postwar Guatemala is a complex, multidimensional phenomenon that carries forward legacies of state violence and racialized exclusion into an era of weak state capacity and economic dislocation due to neoliberal privatization and austerity (Richani, 2010). The physical violence and brutality of state actors during the Civil War transitioned into a situation of high levels of structural and physical violence, especially against women and youth (Menjivar, 2011, pp. 12–13). Increased homicide rates in urban and Ladino municipalities and high rates of youth suicide in areas where the most violence occurred during the war are part of the same afterlife of state-sponsored violence (Gómez-Barrios, 2009; Ruiz, 2015).

2.3 | Violence in Guatemala: "Community" and its role in violence prevention

We were intrigued by why observational data indicated that Mayan Guatemala was less violent than urban and rural Ladino Guatemala (when measured by homicide rate) in spite of their prolonged history of trauma and dislocation.

Social disorganization theory has been a dominant explanation for violence in criminology, urban studies, and sociology (Sampson & Groves, 1989). Moreover, studies on violence, especially in the urban US context, generally focused on protective factors that included collective efficacy, social control, trust, and shared social capital to explain why neighbors with similar economic and demographic characteristics reported different levels of violence (Collins et al., 2017).

Of particular relevance to our study was collective efficacy, the willingness of community members to "intervene on behalf of the common good" (Sampson et al., 1997, p. 918). Collective efficacy implied trust, shared values and norms, and group agency in the community that promoted a safe and secure physical environment (Morenoff et al., 2001). Residents in high collective efficacy contexts, for example, intervened to prevent antisocial behaviors, monitored the safety of children and youth, and controlled unwanted movement of outsiders through their community (Moore & Recker, 2013; Wickes & Hipp, 2018). Underlying these collective regulatory practices was "bonding social capital" (Aldrich, 2012)—the strong relationships between those with similar racial, ethnic, or cultural backgrounds. Importantly for this study, social cohesion derived from shared racial or ethnic identity was arguably protective against community violence (Collins

TABLE 1 Homicide rates and Mayan population in selected Guatemalan municipalities

Municipality	Population	% Urban	% Mayan	Homicide rate
Totonicapán	103,952	100.00	97.00	0.96
Sololá	88,612	100.00	95.00	3.39
Cobán	212,421	99.82	85.00	10.83
Chiquimula	111,505	100.00	1.00	39.46
Jalapa	159,840	100.00	1.00	43.79
Jutiapa	145,880	100.00	1.00	34.28

et al., 2017; Yuan & McNeeley, 2017). Current explanations for the unequal distribution of homicides in Guatemala privileged a narrative that racial-ethnic, cultural, and economic homogeneity, and/or communal practices accounted for low violence in select regions (Gauster et al., 2019)—further implying that dimensions of collective efficacy were protective factors.

As we note above, violence in postwar Guatemala is a complex, multidimensional phenomenon that cannot be simply captured in examination of homicide rates. In particular, scholars have convincingly asserted that violence against women has to be understood in the context of impunity due to both "the structure and application of [formal] criminal and civil laws" (Menjivar & Walsh, 2016, p. 31), and broader social and communal patterns of governance and control (Menjivar, 2011). Importantly for our study, scholars identify informal mechanisms of social control that promote conformity and police women's bodies and behavior as factors in increasing violence against women (Menjivar, 2008). We focused this study on homicide rates as one aspect of violence because of the analytical leverage the differential homicide rates observed in Guatemala can give us into this complex phenomenon.

Most of the research on youth and gang violence in Guatemala promulgated the notion that collective efficacy mitigated community violence and the lack of factors associated with collective efficacy facilitated violence. As a result of the civil war that fundamentally shifted the role of youth in Guatemalan society from the vanguard of a modern technocratic future to agitators who threatened civility and the common good, youth have increasingly been demoralized and questioned about their place in broader society (Levenson, 2013). Increasingly disconnected from their communities, youth exposed to violence and involved in gangs in Guatemala City have been more inclined to engage in antisocial behavior which further locate them in the periphery of society (Camus, 2011; Dinesen et al., 2013; Winton, 2005).

Social disorganization and collective efficacy explanations for violence are rooted in the oldest debates in urban sociology in the United States, namely that urbanization and rapid shifts of populations from urban to rural areas were the driving forces for social dislocation that were responsible for a host of urban ills, including violence (Tönnies, 1887; Wirth, 1938). High rates of rural-urban migration both during and after the war years and out-migration from majority Mayan municipalities to southern Mexico and the United States would seem to be analogous to the great displacements these theorists observed. We are not claiming an easy historical congruency between Guatemala in 2020 and Western Europe in the Victorian Age (Thornton, 2001), this reading of the literature encouraged us to look for variables in the Census that might be proxies for dislocation, such as residence of birth and out-migration.

This study is the first to quantitatively model the pathways that explain the complex relationship between Mayan populations and homicide rates—which to date have largely been descriptive. A clearer understanding of these relationship carry broader theoretical and practical implications for protecting individuals and families from exposure to violence, especially in societies like Guatemala, which has a long and traumatic history of state sponsored violence, structural racism, and exclusionary politics and economics. As such, we hypothesize the following based on a secondary analysis of the 2018 Census conducted by the National Institute of Statistics (INE) in Guatemala:

> **H1:** Municipalities with higher Mayan residency (herein referred to as Mayan majority) report fewer homicides than municipalities with fewer Mayan residents regardless of residents' ages (moderator).

> **H2:** The relationship between Mayan majority and lower homicides is mediated by a higher percentage of native-born residents (those currently living at municipality of birth herein referred to native-born; mediator1)

and

> **H3:** less percentage of residents who have migrated out of the country in the past year (herein referred to migration; mediator2).

3 | METHODOLOGY

3.1 | Data sources

The 2018 Census in Guatemala was conducted simultaneously in all 340 Guatemalan municipalities between July 23 and August 16, 2018. Results were published in September 2019, and the census data was publically accessible via an online portal managed by the INE. According to the INE, an estimated 20,000 people participated in the census, including census takers, supervisors, and coordinators at the municipal, departmental, and regional level (www.ine.gob.gt). Data from the 2018 Census was merged with municipal homicide numbers compiled by *Diálogos*, an independent project organized by a group of Guatemalan academics and researchers aimed to inform and facilitate spaces for public policy debate (https://www.dialogos.org.gt/).[4] The homicide data gathered by Diálogos originated from information published by the National Civil Police (PNC).

3.2 | Sample description

The 2018 Census included a total of 14,901,286 people, 51.5% of which were women and 48.5% men. For the first time in Guatemalan history, the census reported that the majority of respondents (53.8%) resided in urban areas. Importantly for the purposes of this study, 41.7% of the population self-identified as Mayan, a government-defined ethnoracial category that comprised 22 indigenous groups.

We used SPSS 24 (IBM Corp, 2016) to transform the response items to create the following municipal-level variables: population (total, female, male, percentage male, and percentage female), mean and median age, percentage of the population identified as Maya, and percentage of the population that migrated in the last 5 years. Additionally, we created a new variable—percentage of native-municipality-born residents—based on the municipality of birth and municipality of residence item response data. These variables were then merged with the following municipal-level homicide information provided by *Diálogos*: total homicide rate was calculated per 100,000 habitants. All homicide rates taken from Diálogos were created using the municipal population numbers reported by the 2018 Census (https://www.dialogos.org.gt/observatorio-de-violencia).

3.3 | Data analysis

First, we conducted a data screening procedure to investigate distributions of the variables in hypotheses: native-municipality-born residents (native birth) recent migration (migration) percentage of Mayan residents (Mayan majority), age, and total homicide rate (total homicide). Due to the multimodal distribution, Mayan was coded as a binary variable (0 = percentages < 0.5; 1 = percentages > .05). As skewness (skewness > 1) was detected, we conducted log transformations on the positively skewed variables, and power transformation on the negatively skewed variables.

Second, we examined simple correlations between variables of interests followed by conducting one simple linear regression model using maximum likelihood (ML) with robust standard error (MLR) estimation to identify the total effect between Mayan and total homicide using the lavaan package in RStudio environment (Rosseel, 2012). Let i be ith individual, and the initial regression models can be expressed as

$$y_i^{\text{TotalHomicide}} = \beta_0^{\text{TotalHomicide}} + \beta_1^{\text{TotalHomicide}} \text{Mayan}_i + \epsilon_i^{\text{TotalHomicide}}, \quad (1)$$

[4]Dialogos is nonprofit think tank that compiles and reconciles official government data sources. It is supported by the United States Institute of Peace, Open Society Foundations, and the National Endowment for Democracy.

where β_0 is the intercept for the expected mean of total homicides when the predictor Mayan is 0, β_1 are coefficients that govern the strength of total effect between Mayan and total homicides. Residual errors ϵ_i is assumed to follow a normal distribution with a mean of 0 and a residual variance of $\sigma^2_{\epsilon_i}$.

Third, we included two mediators (native birth and migration) and a moderator (age) to the models. Equations (2) and (3) illustrated the path analysis when native birth was a mediator and age was a moderator.

$$y_i^{\text{Birth}} = \beta_0^{\text{Birth}} + \beta_1^{\text{Birth}}\text{Mayan}_i + \epsilon_i^{\text{Birth}}. \tag{2}$$

$$y_i^{\text{TotalHomicide}} = \beta_0^{\text{TotalHomicide}} + \beta_1^{\text{TotalHomicide}}\text{Mayan}_i + \beta_2^{\text{TotalHomicide}}\text{Birth}_i + \beta_3^{\text{TotalHomicide}}\text{Mayan}_i \times \text{Age}_i + \epsilon_i^{\text{TotalHomicide}}. \tag{3}$$

Equations (4) and (5) displayed path analysis when recent migration was a mediator and age was a moderator.

$$y_i^{\text{Recent}} = \beta_0^{\text{Recent}} + \beta_1^{\text{Recent}}\text{Mayan}_i + \epsilon_i^{\text{Recent}}, \tag{4}$$

$$y_i^{\text{TotalHomicide}} = \beta_0^{\text{TotalHomicide}} + \beta_1^{\text{TotalHomicide}}\text{Mayan}_i + \beta_2^{\text{TotalHomicide}}\text{Recent}_i + \beta_3^{\text{TotalHomicide}}\text{Mayan}_i \times \text{Age}_i + \epsilon_i^{\text{TotalHomicide}}, \tag{5}$$

where β_1s indicate simple main effects of Mayan on homicides, $\beta_2 s$ are simple main effects of native birth on homicides, $\beta_3 s$ are interaction effects of age on the relationship between the Mayan and total homicide. We analyzed a total of two moderation and mediation analyses using the lavaan package in the RStudio environment (Rosseel, 2012; RStudio Team, 2020). Standardized results were reported.

According to Baron and Kenny's (1986) mediation method, we calculated the indirect effect between Mayan and total homicide through birth as $\beta_1^{\text{Birth}}\beta_2^{\text{TotalHomicide}}$ and the total effect as $\beta_1^{\text{Birth}}\beta_2^{\text{TotalHomicide}} + \beta_1^{\text{TotalHomicide}}$. A nonparametric bootstrapping procedure was recommended to adjust for the standard error and confidence interval of parameter estimates, as the indirect effect was positively skewed (Qin et al., 2019; Shrout & Bolger, 2002). We conducted 100 bootstrapping resamples under ML estimation with six mediation models[5] (Preacher et al., 2007).

4 | RESULTS

4.1 | Descriptive statistics and bivariate correlations

Mean, median, and standard deviation are presented in Table 2 with the distribution of variables after data transformation shown in Figure 1. We calculated correlations to determine the strengths of associations between variables in our hypotheses (Table 3).

4.2 | Moderation and mediation models

The initial linear regression models in Equation (1) indicated a significant negative relationship between Mayan majority and total homicide ($\beta_1^{\text{TotalHomicide}} = -0.507, p < .001$) with standardized estimates presented. Mayan majority explained 25.7% of variance in total homicide. Also, the association between Mayan majority and

[5]We compared four estimation methods in the mediation analysis: ordinal least square, ML with bootstrapping, Bayesian, and semiparametric Bayesian. ML with bootstrapping and Bayesian estimation achieved close parameter estimates. Considering that Bayesian and semiparametric Bayesian estimations had significant impact on computational resources, we chose ML with the bootstrapping procedure for the study. Also, the bootstrapping method applied in the mediation/moderation models has been approved as an effective method to correct the bias of parameter estimates on standard error and confidence interval due to the non-normally distributed density found in the product indicator approach (the approach to come up with the interaction and indirect effect). Although the bias of estimates is unlikely to be eliminated, we are confident that the techniques we used in the data manipulation and data analysis warranted the robustness of the parameter estimates.

homicides did not significantly change as age increased, $p > .05$. Overall, compared to municipalities with fewer Mayan residents, we found that those with a Mayan majority reported fewer homicides regardless of residents' ages which supported hypothesis 1.

Next, we ran two path analyses to determine if the relationship between Mayan majority and total homicides was moderated by resident age and independently mediated by native-birth (path 1) and migration (path 2). Standardized parameter estimates were reported in Table 3. We found that native-birth significantly mediated the relationship between Mayan majority and total homicide (indirect effect = −0.019, $p < .01$). Native birth, age, and the interaction between Mayan majority and age explained an additional 15% of variance in homicide, above and beyond Mayan majority as a single predictor. Specifically, an increase in Mayan majority was associated with a 0.8 *SD* (*SE* = 0.02, $p < .001$) increase in native birth, which in turn was associated with a 0.23 (SE = 0.05, $p < .001$) standard deviation decrease in total homicide. A 95% bias-corrected and accelerated (BCa) bootstrapped confidence interval (−0.33, −0.1) therefore supported hypothesis 2.

We also found that migration significantly mediated the relationship between Mayan majority and total homicide (indirect effect = −0.14, $R^2_{\text{change}} = 0.2, p < 0.05$). An increased Mayan majority was significantly associated with 0.94 *SD* (*SE* = 0.2, $p < .001$) increase in migration which in turn was significantly associated with 0.14 (*SE* = 0.05, $p < .05$) standard deviation decrease in homicide. A 95% BCa confidence interval (−0.16, −0.01) did not support hypothesis 3.

5 | DISCUSSION

Our analysis of data from the 2018 Census in Guatemala confirmed lower homicide rates in majority Mayan municipalities despite high rates of out migration and regardless of residents' age. The extent to which residing at one's place of birth potentially explained lower homicide rates in these regions broadened our current understanding and application of community violence prevention in Guatemala. Prior studies largely based in North America have well established that longevity of residence and living where one was raised contributed to neighborhood stability and mitigated social disorder (Boggess & Hipp, 2010; Sampson et al., 1997) It is plausible to interpret from our analysis that a critical proportion of residents in majority Mayan municipalities were connected to their communities since birth and invested in the well-being of *their* place and reified social networks that mitigated threats of violence. Building upon well-referenced theories of social cohesion (Collins et al., 2017; Yuan & McNeeley, 2017), our findings suggested that once established, resident's native connection to place in Mayan majority municipalities did not diminish even when they were not in physical residence. It was fair to presume that regardless of previous mobility, "place identity" engendered solidarity and an indelible sense of belonging, stability, and shared values in one's home (Cuba & Hummon, 1993). Moreover, a communal sense of being "completely rooted in the soil [residents] occupy" fostered territorial belonging that extended beyond social networks (Pollini, 2014, p. 498). In other words, the formation of place identity—as measured by residence at place of birth in Mayan majority regions—was sustained by "affiliations with the natural, built, social, and spatial environment" (Cuba & Hummon, 1993, p. 567). Contrary to dominant narratives in Guatemala (Levenson, 2013), age was not a relevant factor in understanding the relationship between majority Mayan municipalities and social disorder.

TABLE 2 Descriptive statistics of continuous variables after data transformation

	Native birth (%)	Recent migration (%)	Total homicide	Age
Mean	0.57	0.95	0.95	26
Median	0.58	0.96	1.12	26
SD	0.25	0.04	0.64	2

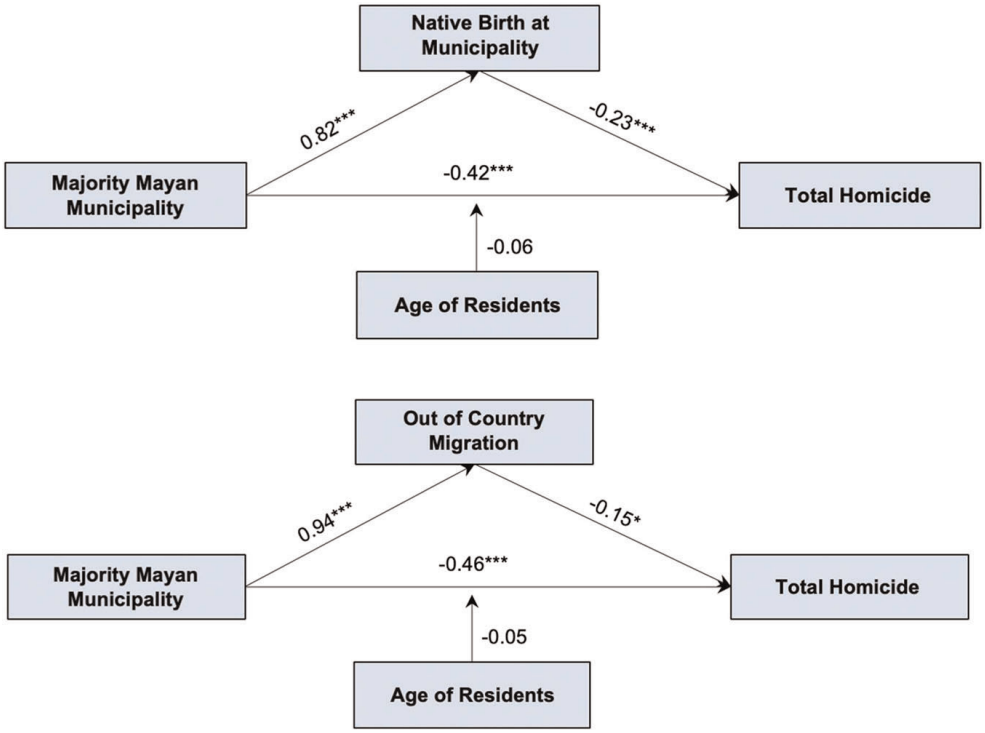

FIGURE 1 Model 1. Native birth at municipality mediates relationship between majority Mayan population and homicide—not moderated by age of residents (2018 Census conducted by the National Institute of Statistics (INE) in Guatemala) Model 2. Out of country migration mediates relationship between majority Mayan population and homicide—not moderated by age of residents (2018 Census conducted by the National Institute of Statistics (INE) in Guatemala). Standardized coefficients reported. *$p < .05$; **$p < .01$; ***$p < .001$

A robust literature problematized the simple pathway between "place identity," residential stability, homogeneity, and protective factors for community members (Marion Young, 1990; Smith, 2005; Waldinger, 1995). Our analysis and our examination of relevant literatures seemed to indicate that for Mayan majority municipalities in Guatemala, these factors were in fact protective for residents, at least as it related to homicide rates. While our data did not allow us to draw definitive conclusions about why place identity was protective in this case, our earlier discussion of collective efficacy and our understanding of the Guatemalan context allowed us to speculate on the social, psychosocial, and cultural mechanisms that drive this relationship.

Lower homicide rates in Mayan majority municipalities could be accounted for by *alcaldes indigenias* (indigenous authorities or nonstate appointed mayors) and their roles in social control through judicial activities

TABLE 3 Correlations of study variables

	Native birth	Recent migration	Total homicide	Mayan majority	Age
Birth	1				
Recent migration	0.85***	1			
Total homicide	−0.41***	−0.34***	1		
Mayan	0.50***	0.47***	0.51***	1	
Age	−0.32***	−0.42***	0.30***	−0.52***	1

*$p < .05$.
**$p < .01$.
***$p < .001$.

and local conflict resolution. Their methods of conflict resolution, community policing, and judicial dispute resolution likely contributed to equitable, nonviolent, and culturally appropriate results (Batz, 2017; Sieder, 2011). By asserting the legitimacy of *derecho Maya* (Mayan law) and practicing communal forms of customary law, agency among residents were further legitimatized which fortified social participation in the local community (Sieder, 2011). It was notable that not all majority Mayan municipalities had the same level of formal, recognized indigenous authorities which calls for studies that focus more on how such organizations promote social control and reduce local violence.

Taken together, the salience of native connection to place coupled with local governance that strengthened indigenous autonomy carry notable implications for programs aimed to reduce violence in Mayan communities. Existing programs that secured recognition of Mayan autonomy and rights while vitalizing social participation (across generations) and place identification have been promising initiatives, making the connection between place identification and collective efficacy. The *Asociación Ajkemab' Rech K'aslemal*, for example, works with indigenous authorities among K'iche' and Ixil Mayan communities to be more inclusive of women and youth in local governance. Similarly, *Chemol T'xumbal*, a collective of indigenous Ixil youth in northern Guatemala, fosters dialogue between Ixil elders and youth about land use, ancestral agricultural practices, and migration. Their aim has been to assuage parental distrust of their children's use of inherited land—suspicious that their sons will mortgage their land to fund migration (Batz, 2017; Stoll, 2012). Lastly, the American Friends Service Committee works in communities beset with poverty and violence to develop art-based "mini-peace platforms" that bring youth together to increase their participation in community leadership and governance.

Several limitations to our study warrant careful consideration. First, as we have noted, our focus on reported homicides was not inclusive of other forms of violence endemic in Mayan communities such as domestic and intimate-partner violence, abductions, or sexual assault (Menjivar, 2011). That being said, homicide is arguably a comparable phenomenon across cultural and national contexts that allows for a broader understanding of community violence. Second, as noted in our methodology, as the data used for examining mediation and moderation effects are rarely normally distributed in Guatemala, reflecting persistent political, social, and economic inequalities in Guatemala. This created concerns over the robustness of parameter estimates in linear regression models presenting us with the formidable challenge of developing more complex models that explained potential pathway. Results from our nonparametric bootstrapping procedure, which adjusted for standard errors and confidence intervals of parameter estimates, accounted for these limitations and offered preliminary empirical support for low homicide incidence in Mayan communities. Third, we recognize that the lack of trust coupled with the limited reach in state institutions conceivably resulted in substantial underreporting of homicides. However, the persistence of lower homicide in Mayan communities over time and across different geographies and ethnic communities provide reasonable assurance of the validity of data points we analyzed and interpreted. Lastly, our findings did not adequately capture the depth of community residents experiences of place and community cohesion. This lack of "thick description" limited our understanding of the wide range and quality of one's identification with place. A bottom-up approach to highlighting participants' perspectives on contact is imperative to capture the nuances of ordinary human contact and how it shapes interpersonal outcomes. Notwithstanding these methodological constraints, we presented empirical support for lower homicide rates in majority Mayan municipalities and that residence at one's place of birth potentially explained lower homicide rates in these regions. Our findings build upon descriptive studies on violence in Guatemala, opening the possibility that place identity and indigenous autonomy reduced antisocial behavior and conflicts that escalate to homicidal violence. Further research is needed with novel sources of mixed quantitative and qualitative data to better understand this complex phenomenon and its implication for promoting protective factors that mitigate violence in Mayan communities.

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