Colonial Missions and the Long-Term Transformation of Social Ties: Evidence from the Belgian Congo

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Abstract

This paper examines the long-term impact of colonial Christian missions on social structures, stemming from missionaries' efforts to replace indigenous practices with Christian doctrine. Combining newly digitized archival records on mission locations in the Belgian Congo with contemporary surveys, social network data, and a job referral experiment with 975 respondents in the Democratic Republic of the Congo, I find that individuals from historically mission-exposed areas exhibit less favoritism toward family and coethnics. They have fewer family and coethnic ties in their networks and are less likely to refer them for jobs. These effects coincide with an erosion of communal values and a shift in identity from family and ethnicity to religion. To address the potential endogeneity of mission placement, I construct counterfactual mission locations using two complementary strategies: first, by examining missions that were initially established but later abandoned, and second, by simulating locations that were suitable for missions but ultimately not selected. Comparing these counterfactuals with historically active missions provides causal evidence that missions persistently reshaped social structures. Finally, additional historical data suggest that religious personnel and missionary education were key mechanisms. These findings highlight the enduring influence of colonial institutions on social cohesion in postcolonial societies.

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1 Introduction

A large body of research has established the long-term impact of colonialism on economic development (Acemoglu et al., 2001, 2002; Banerjee and Iyer, 2005; Huillery, 2009; Heldring and Robinson, 2018), particularly through mechanisms such as resource extraction and labor coercion (Dell, 2010; Dell and Olken, 2019; Lowes and Montero, 2021; Dupas et al., 2023; Chiovelli et al., 2024). Beyond economic exploitation, colonialism sought to transform local societies by imposing European models of social organization and cultural norms (Dirks, 1992). While the economic consequences of colonial rule have been extensively studied, its broader social and cultural impact remains less well understood. This paper aims to address this gap by examining how colonial institutions, particularly Christian missions, systematically reshaped social and cultural norms in the Belgian Congo.

Missionaries played a central role in these transformations through their sustained contact with local populations (Nunn, 2010, 2014; Cagé and Rueda, 2016; Valencia Caicedo, 2019). In the Belgian Congo, their role was institutionalized within the *trinité coloniale* ("colonial trinity"), a framework that structured colonial governance: the state enforced labor coercion, private companies managed resource extraction, and Christian missions were tasked with the transformation of indigenous social and cultural norms (referred to in colonial discourse as its "civilizing mission"). Similarly, across much of Africa, missionaries encouraged converts to renounce indigenous religious, social, and cultural practices, portraying them as incompatible with Christian teachings. This process created generational divides, weakening family and ethnic ties and undermining traditional sources of authority, such as clan elders and customary chiefs. These transformations were reinforced by mission settlements and schools, which physically and socially distanced converts from their families and communities, immersing them in new social environments that prioritized European-influenced norms and practices.

Historians and anthropologists have documented how missions reshaped local social structures, weakening ties to family and coethnics and eroding the political legitimacy of customary chiefs (Beidleman, 1982; Vansina, 1990; Comaroff and Comaroff, 1991; Falola, 2005; Gray and Sannah, 2012). These dynamics are also prominently depicted in African literature, which reflects the cultural and social transformations brought about by missions (Beti, 1957; Achebe, 1958, 1960; wa Thiong'o, 1965). However, these accounts have largely remained qualitative, offering limited empirical evidence. Furthermore, it remains unclear whether the social transformations initiated by missions persisted beyond the colonial period. This paper addresses these gaps by systematically examining the long-term effects of Christian missions on social structures in the Belgian Congo.

To study this question, I use historical data on mission locations in the Belgian Congo and original survey data from 975 participants in Kananga, a city in the Kasaï region of the Democratic Republic of the Congo. Using an epidemiological approach (Fernandez, 2011; Alesina et al., 2013; Lowes et al., 2017; Lowes and Montero, 2021; Nunn and Giuliano, 2021; Lowes, 2022, 2023), I estimate the effect of the proximity of respondents' village of origin to the nearest mission. Under the assumption that missionaries had limited knowledge of local conditions and primarily selected locations based on a limited number of geographic and historical factors – largely independent of preexisting social structures and controlled for in the analysis – these effects can be interpreted causally. This interpretation aligns with historical accounts of mission placement in the Kasaï and beyond. To further strengthen this causal interpretation, I later draw on comparisons with counterfactuals, including abandoned and simulated missions.

I find that respondents from villages historically closer to missions exhibit weaker adherence to traditional social structures. They report lower family and coethnic bias, as captured by differences in trust, closeness, and perception between family and non-family members, as well as between coethnics and non-coethnics. Social network data further indicate that mission proximity restructured respondents' networks, reducing the prominence of familial and coethnic ties. These shifts have economic consequences: in a job referral experiment, individuals from villages near missions were less likely to recommend family members or coethnics. Moreover, mission proximity is associated with weaker belief in ancestor spirits, likely eroding the political legitimacy of customary chiefs who derive authority from them.

I conduct a series of robustness checks to validate these findings. First, I confirm consistency using mission locations from earlier time periods. I then test alternative functional forms, including raw distance, proximity bins, and binned scatter plots. To account for broader colonial influence, I control for Belgian colonial army outposts and colonial economic sites, confirming that the results are not solely driven by colonial governance or economic exploitation. Additionally, I include fixed effects for ethnicity, mission denomination, and missionary order to rule out the possibility that the results are driven by specific ethnic groups or particular mission types. To address concerns about spatial trends and autocorrelation, I apply spatial basis regressions and large-cluster inference, confirming that spatial dependence does not bias the estimates. Finally, I examine the role of selective migration. Using a migration survey, I show that economic, educational, and family-related factors drive relocation, with religious motives playing a negligible role. Moreover, proximity to missions does not predict migration determinants, further mitigating concerns about selection bias.

To extend the analysis and assess external validity, I turn to Afrobarometer data. The

analysis reveals similar patterns across other African countries, where individuals in areas historically closer to missions exhibit weaker family and coethnic bias. Additionally, Afrobarometer data shows that proximity to missions is associated with lower trust in customary chiefs, reinforcing the broader political implications of social structure changes.

I next explore whether the weakening of family and ethnic ties reflects a shift in respondents' values – from family- and ethnicity- centered values to more universal ones – or a reorientation of their identity toward religion. I first show that the decline in family and ethnic ties near missions is liked to a shift in moral values. Using the Moral Foundations Questionnaire, which distinguishes between communal moral values (i.e., loyalty, authority) versus universal ones (i.e., fairness, care), I find that exposure to missions is associated with a decline in the importance of communal values, without a corresponding increase in universal values. While missionaries aimed to replace family- and ethnicity-based morality with universal principles, they ultimately eroded communal values without fostering universal ones.

Given that proximity to missions eroded family ties, ethnic ties, and communal values without fostering universal moral values, I explore whether missions merely reoriented individuals' identities from family and ethnicity to religion. I find that proximity to missions is associated with greater bias toward fellow church members and other Christians over non-Christians. Together, these findings suggest that missions reshaped not only individuals' social ties but also their moral values and identities.

Despite historical evidence suggesting that missionaries had limited knowledge of local conditions, along with extensive controls for the geographic and historical determinants of mission locations and multiple robustness checks, concerns about the endogeneity of mission location remain. To address these concerns, I employ two counterfactual approaches. First, I examine missions that were initially established but later abandoned, providing a natural comparison to those that remained historically active. Second, I simulate mission-suitable locations that were never selected, generating a larger set of plausible yet unrealized sites. By comparing the effects of proximity to historically active missions with those of proximity to counterfactual locations, I aim to isolate the causal impact of missions on family and ethnic ties, moral values, and identity.

The first approach follows Valencia Caicedo (2019) and focuses on abandoned missions. Using historical records, I identify and georeference 14 abandoned missions in the Kasaï region as a counterfactual for historically active missions. These sites were initially selected for missionary activity but were later abandoned. I begin by validating their suitability as a counterfactual, showing that abandoned and historically active missions do not differ systematically in geographic and historical characteristics. I find no significant effects of proximity

to abandoned missions on family and coethnic ties, suggesting that the observed impacts of historically active missions resulted from missionary engagement rather than location alone. Examining the reasons for abandonment, I rule out negative selection of abandoned missions as a confounding factor. Finally, comparing historically active and abandoned missions, I confirm that missionary presence causally weakened kinship and ethnic ties, eroded communal values, and reinforced Christian identity.

To strengthen the analysis and improve statistical power, I supplement the abandoned mission strategy with a simulation approach inspired by Dell and Olken (2019), which generates a larger set of plausible but unrealized counterfactual mission sites. Using a high-resolution grid of the Kasaï region, I construct an index of mission suitability based on key location determinants: agricultural productivity, historical population density, transportation access, and disease environment. I then generate 1,000 counterfactual sites that were highly suitable for missions but never selected. Balance tests confirm that historically active and simulated missions do not differ systematically in geographic and historical characteristics. I then compare the estimated effects of proximity to historically active missions with the distribution of estimated effects across simulated locations. Compared to these counterfactual sites, proximity to historically active missions led to a significant reduction in family and coethnic bias and a weakening of kinship and ethnic ties, reinforcing the causal impact of missionary presence on social structures. These findings are robust across alternative constructions of the mission suitability index, varying thresholds for selecting simulated locations, and different estimation strategies, reinforcing the validity of the results.

To better understand these effects, I analyze the role of mission personnel and infrastructure. Drawing on detailed historical data from Catholic mission directories, I assess the impact of exposure to religious figures, educational institutions, and other mission facilities. The results suggest that while the number of priests, brothers, and nuns at a mission had limited impact, missions with more catechists – who were responsible for religious instruction – saw greater reductions in family and coethnic ties. This aligns with missions' broader goal, which promoted loyalty to religious authority over traditional family or ethnic structures. Educational infrastructure – particularly secondary schools and more teachers – was also linked to weaker family and ethnic ties, reinforcing the idea that education played a central role in reshaping social ties. By contrast, other mission infrastructure, such as health facilities and printing presses, had minimal impact. These findings suggest that missions' social impact operated primarily through religious instruction and formal education – two central pillars of their efforts to transform indigenous societies.

This paper contributes to four strands of literature. First, it provides some of the first

quantitative estimates of the impact of colonialism on social ties. While past research has primarily focused on the long-term effects of colonialism on development (Acemoglu et al., 2001, 2002; Banerjee and Iyer, 2005; Huillery, 2009; Heldring and Robinson, 2018), particularly through mechanisms like resource extraction and the associated labor force coercion (Dell, 2010; Dell and Olken, 2019; Lowes and Montero, 2021; Dupas et al., 2023; Chiovelli et al., 2024), its impact on social structures remains underexplored. Historians have long argued that colonialism disrupted social structures and cultural practices (Dirks, 1992), with missionaries playing a central role in these changes (Beidleman, 1982; Vansina, 1990; Comaroff and Comaroff, 1991; Falola, 2005; Gray and Sannah, 2012). Building on these insights, I provide quantitative evidence that Christian missions fundamentally altered social structures.

Second, the paper contributes to the literature on the long-term effects of Christian missions. Across countries, Woodberry (2012) finds that Protestant missions had a positive effect on democracy. In Africa, Nunn (2010) shows that missions increased religiosity, while Nunn (2014), Gallego and Woodberry (2010), and Donat-Bouillud et al. (2025) document their positive effects on educational attainment. Similarly, Cagé and Rueda (2016) highlight their impact on education, with consequences for newspaper readership and political participation. In Latin America, Waldinger (2017) finds that missions improved educational outcomes in Mexico, while Valencia Caicedo (2019) shows that Jesuit missions in present-day Argentina, Brazil, and Paraguay had lasting effects on schooling, ultimately leading to higher incomes through specialization and technology adoption. This paper extends the literature by showing that missions influenced not only education and income but also social structures – weakening ties to family and coethnics while strengthening religious affiliation.[1]

Third, the paper contributes to the literature on the effect of religion. Anthropologists, psychologists, and economists have long studied the relationship between religion and prosociality, finding that moralizing religions are positively associated with interpersonal trust (Norenzayan and Shariff, 2008; Atran and Henrich, 2010; Norenzayan, 2013; Norenzayan et al., 2014; Purzycki et al., 2016; Xygalatas et al., 2018; Valencia Caicedo et al., 2023), while traditional religions tend to have the opposite effect (Le Rossignol et al., 2024). I extend this literature by showing that the impact of religion on prosociality can be group-specific: reducing prosociality toward family members and coethnics while increasing prosociality to-

[1] The most closely related studies are Valencia Caicedo and Voth (2023), who find a positive relationship between proximity to missions and prosociality among the Guaranis in modern-day Paraguay and Argentina, and Okoye (2021), who finds a negative correlation between missions and prosociality in Nigeria. The analysis expands the scope of these studies by examining outcomes beyond interpersonal trust and by identifying counterfactuals for mission locations, establishing their causal effects.

ward fellow church members and other Christians.[2] The closest study is Schulz et al. (2019), which shows that the dismantling of extended kin-based institutions was crucial to the spread of Catholicism in Europe and that this transformation explains a significant share of cross-country and cross-cultural variation in psychological attributes.

Fourth, by showing that missions weakened the significance of family and ethnic identity while reinforcing religious identity, this paper contributes to the literature on the determinants of identity. The most influential framework in this literature is the contact hypothesis (Allport, 1954), which posits that interpersonal interactions between groups shape social identities, and recent studies have tested it in various contexts (e.g., Mousa, 2020; Lowe, 2021, 2024; Ghosh, 2025). Beyond intergroup contact, other work has emphasized the role of civil conflicts and interstate wars (Voors et al., 2012; Gehring and Dehdari, 2022; Gehring, 2022), the media (Blouin and Mukand, 2019), shared experiences (Clingingsmith et al., 2018; Depetris-Chauvin et al., 2020), and rituals (Ghosh et al., 2025) in shaping identity. This paper adds to this literature by demonstrating the long-term role of religion and religious institutions in identity formation.[3]

The remainder of the paper is organized as follows. Section 2 provides historical context. Section 3 describes the data. Section 4 outlines the empirical strategy used to examine the relationship between exposure to colonial Christian missions, bias, and ties to family members and coethnics. Section 5 presents the results. Section 6 estimates the causal effect of exposure to missions by comparing their impact with that of counterfactual mission locations. Section 7 explores the role played by mission infrastructures and personnel in explaining the effects. Section 8 concludes.

2 Historical Background

2.1 Christian Missions and the Transformation of Social Structures

Historians and anthropologists have long recognized the profound impact of missions on the social fabric of African societies (e.g., Beidleman, 1982; Vansina, 1990; Comaroff and Comaroff, 1991; Falola, 2005; Gray and Sannah, 2012). A central aspect of this transformation was missionaries' perception of indigenous religious, social, and cultural practices – such

[2] By showing that the effects on prosocial behavior toward family members and coethnics extend to changes in social networks and job referrals, this paper also contributes to the literature on the influence of religion on economic behavior and outcomes (Barro and McCleary, 2003, 2006, 2019; Benjamin et al., 2016; Bryan et al., 2021).

[3] The closest study is Clingingsmith et al. (2018), which shows that religious experiences, such as participating in the Hajj, induce a shift from localized beliefs and practices toward global Islamic practices. In contrast, this paper shows the long-term effects of enduring religious institutions.

as ancestor and spirit worship, divination, witchcraft, polygamy, female genital cutting, and others – as incompatible with Christian doctrine and obstacles to conversions. While some missionaries accommodated certain practices, many actively sought to suppress them, at time even working with colonial authorities to outlaw them.[4] This suppression fostered divisions between converts and their kin, weakening family and ethnic ties. The social and cultural fractures caused by missionary activity are vividly depicted in African literature, where novelists illustrate how conversions disrupted families and communities (Beti, 1957; Achebe, 1958, 1960; wa Thiong'o, 1965). Chinua Achebe's *Things Fall Apart* provides one of the most well-known illustrations, depicting how the arrival of Christian missionaries fractured Igbo society and divided families and clans. In one passage, an elder laments:

> "But he says that our customs are bad; and our own brothers who have taken up his religion also say that our customs are bad (...) He came quietly and peaceably with his religion (...) Now he has won our brothers, and our clan can no longer act like one. He has put a knife on the things that held us together and we have fallen apart." (Achebe, 1958)

These divisions were reinforced by the erosion of customary authority, which was often replaced by the authority of religious leaders and instructors. *Things Fall Apart* illustrates how missionaries undermined the position of Igbo leaders while also offering an alternative social order centered around the church. Across colonial Africa, missionaries often urged converts to reject the leadership of chiefs in favor of priests and religious instructors. In the Belgian Congo, missionaries sought to erode the authority of customary chiefs by elevating priests as moral and social leaders (Maxwell, 2019, 2022). A similar pattern emerged in Nigeria, where one of the District Officer reported: "the chief and elders complain bitterly that all the small boys and young men are turning Christian, and that directly they do this, they scorn the orders alike of their parents and of the chief. The teacher becomes their leader and protector. They cast off all obedience, duty, reverence, respect, responsibility to their own people, and threaten them with the teacher" (Barnes, 1995). By weakening the political and moral authority of chiefs and elders, missions contributed to the broader dismantling of precolonial social structures.

In addition to weakening family and ethnic ties through changes in social hierarchy, missions promoted moral values that transcended kinship and ethnic identity. Missionaries intentionally aimed to replace communal values tied to family or ethnic loyalty with Christian

[4] Vansina (1990) documents instances of missionaries collaborating with government agents to outlaw divination, healing rituals, and ritual dances honoring ancestors.

morality, which applied universally to all converts. In the Congo, for example, they emphasized the idea of a "Christian brotherhood" in which moral obligations extended beyond one's immediate family or ethnic group, fostering trust and cooperation among all believers (Maxwell, 2019, 2022). Similar patterns emerged across West Africa, where Protestant missions preached against clan-based favoritism and sought to replace it with ethical principles based on individual faith and universal justice (Sanneh, 1983). By encouraging moral responsibility beyond kin and ethnic ties, these efforts may have gradually shifted the foundation of social trust, lessening the centrality of family and ethnicity.

Missions also weakened family and ethnic ties through physical separation. Converts were required to leave their villages and relocate to the mission to receive religious instruction, education, or vocational training. Missions often functioned as self-contained communities where new ways of life were introduced, in stark contrast to traditional norms. In the Belgian Congo, the Scheutist fathers established boarding schools where, "far removed from the traditional cultural influences of their homes, new converts would more easily give up all or most of their traditions. (...) All this led to the alienation of converts from their families and their societies" (Pawlikovà-Vilhanovà, 2007). They also established *fermes chapelles* ("*farm chapels*") where children attended catechism classes and agricultural training and which had the same goal: "The farm-chapel complex aimed to cut children off from (...) traditions with the aim of surrounding them with pristine Catholic culture" (Loffman, 2019).

In addition to voluntary relocation, physical separation was sometimes enforced through coercion. In the case of the *fermes chapelles*, the Chairman of the American Baptist Foreign Mission society's Commission to the Congo Mission noted: " Married men were sometimes (...) separated from their wives and forbidden henceforth to see them; many others (...) were seized and held even in cases where their parents demanded their return" (Ferguson, 1911). Similarly, in Senegal and Sudan, the *écoles des otages* ("*schools of hostages*") were educational institutions designed to sever children's ties to their traditional customs, languages, and way of life. The term "hostages" referred to the critical role of separation from families and communities, which was integral to the program's goal of cultural erasure (Bouche, 1966).

2.2 Missionary Expansion in Kasaï, Belgian Congo

Building on these historical dynamics, the following empirical analysis examines the long-term impact of exposure to Christian missions in the Kasaï region of the Congo on social structures. Catholic missions were predominantly established and operated by the Congregation of the Immaculate Heart of Mary (Scheut Fathers), who arrived in the region in 1888 and established their first mission 20 kilometers from Luluabourg (present-day Kananga) in

1891.[5] Protestant missionaries, spearheaded by the American Presbyterian Congo Mission, began their work in the Kasaï in 1891, establishing their first mission in Luebo.

Both Catholic and Protestant missions grew significantly over time. By 1893, just a few years after its establishment, the first Catholic mission had 1,000 Christians and 600 postulants (Dieu, 1946), growing to 25,861 Christians, 3,540 catechumens, and 3,018 postulants by 1935 (Corman, 1935). The number of missions also increased, with 68 missions (43 Catholic and 25 Protestant) in the Kasaï by 1951 (Mantnieks, 1951).[6] Missionary expansion, supported by the colonial government through land grants and financial backing for mission schools as part of the *trinité coloniale*, focused on achieving broad geographic coverage. Most missions were established in remote communities outside of colonial control. In fact, by 1951, all but one ethnic group in Kasaï had at least one mission, with several ethnic groups hosting more than one mission (Table A1).

In addition to religious conversion, missions developed extensive networks of schools and medical facilities. By 1935, 56% of missions had a primary school, 17% a secondary school, 30% operated a dispensary, and 19% had a hospital (Table A30).

3 Data

3.1 Mission Location and Investments

The empirical analysis relies on archival data documenting the location of Catholic and Protestant missions in the Belgian Congo. The primary source is the 1951 *Atlas Classique* (Mantnieks, 1951), an official publication from the Brussels *Institut Cartographique*, which maps all Catholic and Protestant missions as of 1951 (Figure A17).[7]

To assess robustness, I complement this with earlier historical sources. For Catholic missions, I use the 1924 and 1935 editions of the *Annuaire des Missions Catholiques au Congo Belge*, a directory of Catholic missions in the Belgian Congo (Corman, 1924, 1935).[8] For Protestant mission, no systematic directory exists for the Congo, so I instead use the 1924

[5] With the exception of the Jesuit mission in Kilembe and the missions of Lubunda and Malela, which were established by the Congregation of the Holy Spirit, all Catholic missions in Kasaï were operated by the Scheut Fathers.

[6] The higher number of Catholic missions reflects the Belgian administration's preference, as Catholic missions were seen as more aligned with colonial objectives, while Protestant missions, often more independent, occasionally opposed practices like forced labor (Maxwell, 2022).

[7] Figure A1 presents a georeferenced and digitized version of the map for the Kasaï region.

[8] Mission directories are considered the most accurate records of mission stations (Jedwab et al., 2022), but, to my knowledge, no equivalent exists for Protestant missions in the Congo. As a result, I rely on them for robustness rather than as the primary data.

Ethnographic Survey of Africa Showing the Tribes and Languages (Roome, 1924).[9]

In addition to mission locations, the 1924 and 1935 editions of the *Annuaire des Missions Catholiques au Congo Belge* (Corman, 1924, 1935) provide data on religious and educational personnel, school infrastructure, and health facilities at mission stations. These information are used in Section 7 to assess the role of mission personnel and infrastructure in explaining the effects of missions.

To address concerns of endogeneity in mission location, Section 6.1 compares exposure to historically active missions with exposure to missions that were founded but later abandoned. As detailed in Section B.3, I identify the locations of abandoned missions using multiple historical sources, including Catholic mission directories (Corman, 1924, 1935), colonial administrators' accounts (Heyse, 1948), and historical studies (Dieu, 1946; De Meeus and Steenberghen, 1947; Martens, 1980; Benedetto and Vass, 1997; McKey, 1989). I then use historical maps to retrieve their coordinates.[10] This comparison allows me to assess the impact of mission exposure while controlling for potential biases in mission location.

3.2 Geographic and Historical Determinants of Mission Location

Catholic and Protestant missionaries typically established missions in areas that were geographically favorable. To mitigate potential bias stemming from the endogenous selection of mission sites, the empirical analysis controls for key geographic and historical factors identified by geographers (Johnson, 1967) and economists (Jedwab et al., 2022) as influential in mission site selection. The construction of these controls is described in detail in Section C.

Geographic determinants of mission location include distance to the coast, distance to the nearest river, and several measures of agricultural suitability, such as terrain elevation and ruggedness,[11] precipitation, temperature, length of the growing period, cassava suitability, maize suitability, and rice suitability.[12]

Historical determinants include the intensity of the slave trade (Nunn and Wantchekon, 2011), distance to initial explorer routes (Century Company, 1911), distance to the nearest

[9] Roome (1924) provides a continent-wide map of both Protestant and Catholic missions, but we focus only on Protestant missions due to critiques of the dataset's tendency to overrepresent larger mission stations (Jedwab et al., 2022). Section 5.3 extends the analysis beyond the Kasaï, leveraging Roome (1924) and Johnson (1967) to assess whether the empirical findings generalize to the African continent.

[10] See Figure A24 for a georeferenced and digitized map of abandoned missions in the Kasaï region.

[11] Terrain elevation and ruggedness are calculated using the second version of the Global Digital Elevation Model (GDEM) released by the Ministry of Economy, Trade and Industry (METI) of Japan and the United States National Aeronautics and Space Administration (NASA)

[12] Precipitation, temperature, length of the growing season, and cassava, maize, and rice suitability are from the third version of the Global Agro-Ecological Zones (GAEZ) data developed by the Food and Agriculture Organization (FAO).

city in 1800 (Chandler, 1987), estimated population density in 1800 (Goldewijk et al., 2011), distance to Kananga (the first colonial outpost in the Kasaï), and distance to colonial railroads (Wack, 1905). I also control for the historical disease environment faced by missionaries using contemporaneous measures of potential malaria transmission (Kiszewski et al., 2004)[13] and tsetse fly suitability (Alsan, 2015).[14]

This comprehensive set of controls ensures that the analysis accounts for both geographic and historical factors that might have influenced the establishment of missions.

3.3 Outcomes: Survey and Job Referral Experiment

To study the effect of exposure to Christian missions on social ties, I conducted surveys and implemented a job referral experiment in Kananga, DRC. Kananga is the capital of the Kasaï-Central province, located in the heart of the Kasaï region. Historically, the city has been primarily composed of migrants from the surrounding areas. Nearly all individuals in the sample identify their "village of origin" outside of Kananga.[15]

The data were collected between June and September 2019. In the absence of a census for the DRC, I constructed a sampling frame for Kananga using Google satellite imagery. The city was divided into 363 neighborhoods, and I estimated the number of households in each neighborhood using data collected in 2018 (Balan et al., 2022). A two-stage clustered sampling approach was employed. First, 225 neighborhoods were chosen with probability proportional to their estimated population. Then, in each selected neighborhood, enumerators conducted a short screening survey with 15 respondents.[16]

Of the screened respondents, 1,019 were selected to participate in a longer survey.[17] The survey had two main objectives. First, it recorded the location of each respondent's village of

[13] Malaria spreads when a mosquito becomes infected with the disease after biting an infected person, and the infected mosquito then bites a non-infected person. I rely on the malaria ecology index from Kiszewski et al. (2004), which depicts the resiliency of malaria perpetuation.

[14] The tsetse fly transmits a parasite harmful to humans and lethal to livestock and has been shown to hurt economic outcomes (Alsan, 2015). I rely on the tsetse fly suitability index from Alsan (2015), which is the standardized value of the steady-state tsetse population.

[15] A "village of origin" refers to the village where an individual's family and ancestors come from. The concept is widely understood in the region, and all respondents in the study were able to name their village of origin.

[16] The total number of screening surveys ended up being 3,372 due to several factors: too many respondents were surveyed in 15 neighborhoods, too few in 5 neighborhoods, and one neighborhood could not provide enough adult respondents.

[17] Screened respondents were selected for the longer survey if their village of origin was in one of the five provinces of the Kasaï region (Kasaï Central, Kasaï, Kasaï Oriental, Sankuru or Lomami) and their self-reported ethnicity matched one of the main ethnic groups in their province of origin. These groups include Luluwa, Luntu, Bindi and Kete in Kasaï-Central; Luluwa, Kete, Kuba, Lele in Kasaï; and Luba, Tetela, Songe in Kasaï-Oriental, Sankuru, and Lomami.

origin.[18] Second, it measured self-reported attitudes toward family members and coethnics, social ties to family and coethnics using a social network questionnaire, and likelihood of referring family and coethnics for a job from a referral experiment. To capture whether the changes instead stemmed from shifts in values, the survey included the Moral Foundations Questionnaire (Graham et al., 2009), which measures respondent's moral foundations. To assess whether any changes in respondents' attitudes and social ties were driven by changes in identity, the survey also measured attitudes and social ties toward fellow church members, other Christians, and non-Christians. Appendix Section D provides a thorough description of the sampling procedure and data collection process.

4 Empirical Specification

I begin by examining the relationship between respondents' attitudes toward and social ties with family members and coethnics and the proximity of their village of origin to the nearest mission using the following OLS regression:

$$y_{ij} = \alpha + \beta \ Proximity \ to \ Mission_j + X_i^{'}\gamma + Z_j^{'}\delta + \epsilon_{ij} \tag{1}$$

where y_{ij} represents the outcome of interest for respondent i with village of origin j. $Proximity\ to\ Mission_j$ measures the proximity of village j to the nearest mission in log kilometers, computed as: $Proximity\ to\ Mission_j = -log(Distance\ to\ Nearest\ Mission_j)$. I show robustness to other specifications in Section 5.3. X_i is a vector of individual-level covariates such as gender, age, and age squared, while Z_j is the vector containing village of origin-level measures of geographic and historical factors influencing mission location described in section 3.2. I present estimates from Equation (1), clustering standard errors at the village of origin level, but I also present results using large cluster standard error correction (Bester et al., 2011; Ibragimov and Muller, 2010)

[18] Villages of origin are identified by matching the GPS coordinates recorded by enumerators – based on survey responses about the village name, territory, and the names of nearby villages – to a reference map of known villages. This reference map is constructed by aggregating data from multiple sources and clustering village names using string distance and geographic distance. The matching process begins by identifying all reference villages within a 15km radius of the recorded GPS coordinates and selecting the closest string match. If no match is found within this radius, the radius is expanded, and if still unsuccessful, potential matches are sought within the respondent's reported territory. Matches with significant string distances are manually reviewed. Each match is assigned a confidence score based on string similarity, geographic distance, and whether the match is in the same territory. For high-confidence matches, the GPS data is updated using the reference map. For low-confidence matches, the original survey GPS data is retained.

to account for spatial autocorrelation in Section 5.3.[19]

The coefficient β captures the effect of a 1% increase in the proximity of the respondent's village of origin to the nearest mission, controlling for historical and geographical factors influencing mission location. A causal interpretation of β relies on the assumption that missionaries chose mission locations based primarily on a subset of the geographic and historical factors included in Z_j. This is consistent with historical accounts suggesting that missionaries had limited knowledge of local conditions and selected mission locations based on a narrow set of geographic characteristics in the Kasaï (Dieu, 1946; Martens, 1980) and in other contexts (Wantchekon et al., 2010).[20] Therefore, the empirical specification in Equation (1) is a reasonable starting point for our analysis.

However, the extent of missionaries' knowledge and the potential endogeneity of mission locations might have been underestimated in the literature, as noted by Jedwab et al. (2022).[21] While I control for various geographical and historical factors that influenced mission location, unobserved factors may still be at play. One concern is that missionaries could have intentionally chosen areas with weaker preexisting family and ethnic ties, which could introduce bias in our estimates. To address this, Section 6 uses two strategies: first, comparing historically active missions to missions that were initially established but later abandoned (Section 6.1); and second, comparing historically active missions to counterfactual sites that would have been similarly suitable for missions but were not selected (Section 6.2).

By comparing individuals in Kananga whose ancestors lived near missions to those whose ancestors lived farther away, I follow an epidemiological approach (Fernandez, 2011) that isolates the effect of missions on deeply held values from broader institutional and economic environment (e.g., Alesina et al., 2013; Lowes et al., 2017; Lowes and Montero, 2021; Nunn and Giuliano, 2021; Lowes, 2022, 2023). As a validation of this approach, I examine whether proximity of respondents' village of origin to missions is associated with stronger Christian beliefs by analyzing respondents' faith in the Christian God, their recollections of their parents' and grandparents' faith, and their frequency of prayer and worship.[22] The survey questions are detailed in Section D. The results, presented in Panel A of Table A2, show that proximity to missions correlates with stronger Christian beliefs, both in respondent's own

[19] When spatial dependence is high, large cluster methods like Bester et al. (2011) or Ibragimov and Muller (2010) are known to outperform the standard errors proposed by Conley (1999), which are commonly used in the persistence literature (Conley and Kelly, 2025).

[20] Wantchekon et al. (2010) demonstrates that school locations in colonial Benin were selected with minimal information, leading to quasi-random variation in educational access.

[21] Jedwab et al. (2022) argues that missionary expansion was not random but instead followed patterns favoring healthier, more accessible, and wealthier areas before spreading to less developed regions.

[22] Figure A3 displays respondents' religious denominations.

faith (Column 3) and in their recollection of their parents' beliefs (Column 2), though effects on grandparents' beliefs (Column 1) are weaker and noisier, likely due to recall challenges. Additionally, proximity to missions is linked to more frequent prayer and worship (Columns 4–5), lending support to the epidemiological approach. A remaining key concern with the epidemiological approach is selective migration: migrants to Kananga may differ in values from those who remained in their ancestral villages. I address this in Section 5.3.

5 Main Results

5.1 Family and Coethnic Bias

I begin by examining how the proximity of a respondent's village of origin to missions affects their bias toward family members and coethnics. To measure both biases, I construct an index based on three survey questions assessing (1) trust, (2) perceived closeness, and (3) overall perception of different groups. Trust is measured by asking respondents whether they trust a given group "completely, somewhat, not very much, or not at all?" Closeness is assessed on a five-point scale from "very close" to "very distant." Overall perception is measured on a five-point scale from "very positive" to "very negative." I aggregate these responses into an index and define bias toward family members and coethnics as the difference in index scores for family members versus non-family members and for coethnics versus non-coethnics.[23] Table 1 presents the results. Columns 1 and 4 confirm that respondents exhibit positive bias toward family members and coethnics.[24] However, proximity to missions is significantly negatively associated with both types of bias. A one standard deviation increase in proximity to missions (16 km) corresponds to an 8% reduction in family bias and a 16% reduction in coethnic bias.

Columns 2–3 and 5–6 decompose this effect into two components: (i) less favorable attitudes toward family members and coethnics and (ii) more favorable attitudes toward non-family members and non-coethnics. The findings suggest that the reduction in bias toward family and coethnics is driven by both less favorable attitudes toward family members (Column 2) and coethnics (Column 5) and more favorable attitudes toward non-family members (Column 3) and non-coethnics (Column 6). Tables A3–A5 show that the results hold across

[23] Bias toward coethnics is measured as the difference in the index for coethnics versus non-coethnics. In contrast, estimating bias toward family members requires an indirect approach in the data. Specifically, attitudes toward family members are calculated as the average of attitudes toward nuclear and extended family members. Attitudes toward non-family members are computed as the average of attitudes toward non-coethnics and strangers. Coethnics are excluded from the non-family member category because respondents may interpret coethnics as including extended family members, which could confound the measure.

[24] On average, respondents score 1.19 points higher on the index for family versus non-family and 0.60 points higher for coethnics versus non-coethnics, suggesting stronger bias toward family than coethnics.

individual measures of trust, closeness, and perception.

5.2 Family and Ethnic Ties

I then examine how the proximity of respondents' village of origin to missions influences the composition of their social networks using two measures: (1) a network survey capturing the proportion of social ties consisting of family members and coethnics, and (2) a lab-in-the-field experiment analyzing referral patterns. Network surveys, which predict various economic behaviors (Fafchamps and Lund, 2003; Bandiera and Rasul, 2006; Feigenberg et al., 2013), are less susceptible to social desirability bias than self-reported attitudes. The lab-in-the-field experiment complements this approach by directly assessing how these networks influence economic decisions.

Measure #1: Social Network Survey. To measure respondents' social ties, I elicit social connections through survey questions adapted from Banerjee et al. (2024) and tailored to Kananga. These questions, detailed in Section D, ask respondents to name individuals in Kananga they would approach, or who would approach them, in various situations. Five questions focus on financial relationships: (1) borrowing charcoal or palm oil for cooking, (2) borrowing coffee, sugar, or milk for visitors, (3) borrowing CF1,000-CF5,000 (0.5-2.5 times the average daily income in Kananga) for an urgent and essential payment, (4) borrowing US$50 to start or expand a business, and (5) seeking financial advice (e.g., borrowing, investing, participating in a ROSCA). Three additional questions capture informal relationships: (6) seeking advice on choosing a school or university for children, (7) seeking advice on housing decisions (renting, buying, or constructing), and (8) seeking advice on medical care. Finally, social relationships are measured by asking respondents to (9) name individuals who would visit or send their children to their house (e.g., to listen to the radio, watch television, or for children to play or do their homework), or who would receive the respondent or their children for similar activities.

At the end of the network module, respondents reported whether each named individual was a family member or a coethnic. I use this information to compute the proportion of the respondent's social ties composed of family members and the proportion composed of coethnics, pooling all named individuals across the survey questions. I then examine how respondents' network composition relates to the proximity of their village of origin to the nearest mission.

Table 2 shows that family and coethnics account for 29% and 66% of social ties, respectively, confirming a strong bias toward family members and coethnics. However, proximity to colonial missions is negatively associated with these measures: respondents from villages

closer to missions report a lower proportion of family members and coethnics in their networks (Table 2, Columns 1–2). This relationship is statistically significant for coethnics (Column 2) and slightly below conventional significance thresholds for family members (Column 1). Nevertheless, the effects are economically meaningful: a one standard deviation increase in proximity to missions corresponds to a 9% reduction in the fraction of family members and a 5% reduction in the fraction of coethnics in respondents' networks.[25]

One possibility is that exposure to missions may have mechanically reduced the proportion of family members and coethnics in respondents' networks by increasing their overall network size. For instance, respondents might have more non-familial ties, including church members and other Christians, as I discuss in Section 5.4. However, Table A7 shows that the results are robust to controlling for the respondent's total number of social ties (Columns 1–2) and that the total number of social ties is unrelated to proximity to missions (Column 3).

Measure #2: Job Referral Experiment. To further validate these findings and explore their economic implications, I conduct a lab-in-the-field job referral experiment, examining how proximity to colonial missions influences real-world economic decision-making. Respondents were asked to act as referees, recommending up to three adults to participate in a survey and perform the same cognitive tasks as in Beaman and Magruder (2012).[26] The exact wording of the referral experiment is reported in Section D. To incentivize accurate referrals, respondents were informed that some of the recommendations would be randomly selected to participate, with a reward of 2,500 Congolese Francs (1.25 times the daily income in Kananga). A 10% sampling rate, determined by budget constraints, was used to select referrals. Respondents provided contact details for their referrals and indicated whether each was a family members or coethnics.[27] I use this information to calculate the proportion of referrals who are family members or coethnics.

The findings in Table 2 are consistent with the network survey findings: a substantial proportion of referrals were family members (48%) and coethnics (64%). Moreover, proximity to missions significantly predicts referral patterns: respondents from villages closer to

[25] Consistent with the referral experiment results discussed below, these effects are more pronounced for financial relationships than for informal or social relationships (Table A6).

[26] The cognitive tasks, described in Beaman and Magruder (2012), involved designing four distinct "quilts" by arranging colored swatches according to a set of logical rules. For details, see the Appendix of Beaman and Magruder (2012).

[27] A potential concern is social desirability bias, which could lead respondents to underreport family or coethnic ties among their referrals. To address this, I independently verified the responses by asking the same questions to the selected referrals, with responses matching in approximately 95% of the time. Additionally, there is no reason to expect the bias to systematically correlate with the proximity of respondents' villages of origin to colonial missions.

missions were less likely to recommend family members and coethnics for the survey and cognitive tasks (Columns 3–4). The effects are both statistically significant and economically meaningful: a one standard deviation increase in proximity to missions is associated with a 12% reduction in the fraction of family members referred and a 7% reduction in the fraction of coethnics referred.[28] Taken together, these findings demonstrate that colonial missions are associated with a reconfiguration of respondents' social networks, with significant economic implications, as evidenced by job referral patterns.

Ancestor Spirits and Traditional Authority. Beyond direct ties to family members and coethnics, exposure to missions is also associated with significantly reduced beliefs in ancestor spirits and less frequent prayers and rituals directed at them (Table A2, Panel B). This shift is particularly important given the role of beliefs in ancestor spirits in the political legitimacy of customary chiefs, who derive their authority from their connection to ancestral spirits. By diminishing these beliefs, missions likely weakened the spiritual foundation of traditional leadership, influencing both social structures and the broader political order.

5.3 Robustness Checks and External Validity

I conduct a series of robustness checks, leveraging alternative data sources, empirical specifications, and additional controls to assess the validity of the findings.

Alternative Mission Data. A concern is whether the results depend on the historical source or the specific year in which mission stations are recorded. Table A8 shows that the main findings remain robust when using mission location in 1924 (Panel A) or 1935 (Panel B). For Catholic missions, I use directories published in 1924 and 1935 (Corman, 1924, 1935), corresponding to Panels A and B, respectively. For Protestant missions, I rely on the 1924 data by Roome (1924) in both panels.[29]

Alternative Specifications. To verify robustness to different empirical specifications, I conduct several tests. First, Table A9 confirms that the results are consistent when using raw proximity (in kilometers) to the nearest mission rather than its logarithmic transformation. Second, I estimate models using proximity bins ($\leq$ 5 km, 5-10 km, etc.), with distances over 35 km serving as the omitted category. The effects are concentrated within the first two proximity bins, suggesting localized effects that are unlikely to be driven by reallocation from

[28] As with the social network survey, one potential concern is that the number of referrals could be endogenous to proximity to missions. However, Table A7 confirms that the results remain robust to controlling for the number of individuals referred (Columns 4–5), and that the number of referrals is unrelated to proximity to colonial missions (Column 6).

[29] Figure A4 illustrates the distribution of distance between respondents' villages of origin and the nearest mission in 1924 (Panel A) and 1935 (Panel B).

distant villages. Third, Figure A5 presents nonparametric estimates via binned scatter plots, reinforcing the robustness of the results.

Colonial Controls. Given missions' integration into the *trinité coloniale* ("colonial trinity") system in the Belgian Congo (Loffman, 2019), a key concern is whether weaker ethnic and family ties reflect broader colonial exposure rather than missionary influence.[30] Several factors suggest this is unlikely. First, while the colonial state had a strong presence in Luluabourg (present-day Kananga) and Ilebo, missions expanded beyond these administrative centers (Table A1) and the effects primarily capture variation in areas with limited presence of the colonial government. Second, to disentangle missionary from colonial effects, all specifications control for distance to Kananga, the main colonial center. Third, Table A12 includes additional colonial influence controls from the Atlas Général du Congo (1954), such as distance to the nearest *Force Publique* station and school,[31] as well as proxies for colonial economic exploitation – such as indicators for colonial mining and agricultural concessions, distance to the nearest palm oil factory, rubber plantation, and railroad. While these controls help mitigate concerns about confounding colonial influences, they could also be "bad controls" if endogenous to mission presence (Angrist and Pischke, 2009) and the results should be interpreted with caution. Nonetheless, results remain robust across specifications, suggesting colonial influence is unlikely to be the primary driver of the observed effects.

Denomination, Missionary Order, and Ethnicity Fixed Effects. The impact of missions on family and ethnic ties may vary depending on the denomination or the specific missionary order involved. To examine this, I use the data from Mantnieks (1951) to classify missions as Catholic or Protestant.[32] Table A14 confirms that the main results hold when including denomination fixed-effects. Additionally, I account for variation across missionary orders using information from (Corman, 1924, 1935). Table A15 shows that the results remain robust when including fixed effects for missionary orders.[33]

Finally, a potential concern is that the results might be driven by specific ethnic groups.

[30] While missionaries were integrated into the *trinité coloniale* in the Belgian Congo, their relationship with colonial authorities varied elsewhere. In Kenya, the government sought to preserve indigenous practices to control the population, while missionaries opposed them (Muchiri Githige, 1982). In Nigeria, colonial authorities favored Islam as the dominant religious and political structure, which missionaries resisted (Barnes, 1995).

[31] The *Force Publique*, the Belgian colonial army in the Congo, was responsible for enforcing colonial rule, suppressing resistance, and overseeing forced labor (Hochschild, 1999).

[32] In the Kasaï region, 75% of mission stations closest to respondents' village of origin were Catholic, 19% were protestant, and 6% included both Catholic and Protestant stations.

[33] Missionary order is highly concentrated: for 98% of respondents, the closest mission was founded by the Congregation of the Immaculate Heart of Mary; for 1%, it was founded by Jesuits; and for the remaining 1%, by the Congregation of the Holy Spirit.

This is unlikely given that missions were present across all ethnic territories (Table A1). Nonetheless, Table A13 reports the main results with ethnicity fixed-effects. The results remain robust, confirming that the findings are not driven by any particular ethnic groups.

Spatial Trends and Autocorrelation. Given the spatial nature of the data, there is potential for bias from spatial trends and autocorrelation. To address spatial dependence, I employ the approach of Conley and Kelly (2025), incorporating a low-dimensional spatial basis into Equation (1) and applying large cluster spatial inference methods (Bester et al., 2011; Ibragimov and Muller, 2010).[34] These methods are more reliable in high spatial dependence settings than Conley (1999) standard errors widely used in the persistence literature. Table A11 confirms that the main results remain robust after accounting for spatial trends and autocorrelation.

Selective Migration. The epidemiological approach includes individuals who no longer reside in the villages exposed to colonial missions. These individuals may have migrated from their village of origin or may be descendants of earlier migrants. A potential limitation is that migrants may constitute a selected sample and may not be representative of their village of origin. To address this concern, I pursue three strategies.

First, following Fernandez (2008), I restrict the sample to second-generation immigrants born in Kananga and who did not actively select into migration themselves (Table A16), confirming the robustness of the results.

Second, I leverage a migration survey conducted in 2023 with 1,274 respondents to examine the determinants of migration from rural villages to Kananga (Table A17). Details on the sampling strategy and survey questions are provided in Section D. Migration was primarily motivated by economic, educational, or family-related opportunities. Of the 627 respondents who migrated as adults, 35% cited educational or economic opportunities, while 37% cited marriage or family reasons. Only a small proportion (less than 1%) cited religion. For respondents born in Kananga, I asked about the migration motivations of their parents, with similar findings: mothers were more likely to migrate for family-related purposes, and fathers for economic and educational reasons. To assess if migration is related to proximity to mission stations, I estimate Equation (1) using migration determinants as the outcomes (Table A18). I find no significant differences in migration determinants based on proximity to missions. Migration is thus primarily driven by economic and educational factors, with little evidence of selection based on proximity to missions.

[34] Bester et al. (2011) use a standard cluster covariance estimator with a small number of large clusters chosen via k-medoids classification, as recommended by Cao et al. (2024). Ibragimov and Muller (2010) involves estimating a study's model within each set of clusters, again chosen via k-medoids.

Third, using Afrobarometer data, I find that proximity to missions remains associated with lower family and coethnic trust bias even among individuals currently residing in villages with varying historical exposure to missions (Figure 1).

Overall, the results suggest that selective migration is unlikely to drive the findings, supporting the validity of the epidemiological approach.

External Validity. To assess the external validity of the findings, I analyze Afrobarometer survey data from rounds 3, 4, 5, and 9 (2005, 2008, 2015, and 2023), as described in Section E. These nationally representative surveys measure trust in different groups, allowing me to construct two key measures: family trust bias (trust in family members vs. non-family members) and coethnic trust bias (trust in coethnics vs. non-coethnics).[35]

Figure A28 confirms that both biases are positive across African countries, consistent with the patterns observed in the Kasaï sample. However, trust biases in Kasaï are notably higher than the continent average: family trust bias is 1,02 (Table A3, Column 1) and coethnic trust bias is 0.49 (Table A3, Column 4), both of which fall in the top quintile across the continent, as illustrated in Figure A28, Panels A and B.

To examine whether the relationship between mission exposure and trust biases generalizes beyond the Kasaï, I use historical data on the location of Catholic and Protestant missions across Africa from Roome (1924).[36] Figure 1 presents binned scatterplots illustrating the relationship between family trust bias (Panel A) or coethnic trust bias (Panel B) and the distance between respondents' village and the nearest mission station. The analysis controls for an extensive set of covariates, including individual characteristics (gender, age, age squared), village-level geographic and historical determinants of mission location, and country fixed effects to ensure that variation comes from within-country differences. I report the corresponding OLS regression coefficients alongside each scatterplot, clustering standard errors at the village level to account for spatial correlation among respondents in the same village.

The results indicate a strong and consistent relationship: across Africa, proximity to missions is associated with significantly lower levels of both family and coethnic trust bias, aligning with the patterns observed in Kasaï. This suggests that the link between colonial missions and weaker family and ethnic trust biases is not unique to the DRC but holds more broadly across the continent, reinforcing the external validity of the findings.

[35] Family trust bias is defined as trust in relatives minus trust in non-relatives, where non-relatives includes non-coethnics, other nationals, other known people, and people of other religions. Coethnic trust bias is calculated as trust in coethnics minus trust in non-coethnics.

[36] Roome (1924)'s dataset has been criticized for potentially overrepresenting large European-run mission stations (Jedwab et al., 2022). To address this concern, I also present results using the more comprehensive Johnson (1967) data proposed by Hedde-von Westernhagen and Becker (2022) in Figure A6.

Beyond trust biases, the Afrobarometer data allows me to examine the impact of mission exposure on trust in traditional leaders (Figure A28, Panel C).[37] The results show that individuals living closer to historically active missions report significantly lower trust in traditional leaders, confirming that missions influenced not only social structures but also the broader political landscape.

5.4 Change in Values or Change in Identity?

There are two potential explanations for the results. First, missions may have triggered a shift in values, weakening family- and ethnicity-centered moral frameworks while promoting universal values. Second, they may have shifted individuals' identities from being family- or ethnicity-based to religious. I now turn to exploring which of these explanations best accounts for the observed patterns.

Change in Values. One potential explanation for the results is that missions may have discouraging family- and ethnicity-centered moral frameworks while attempting to promote more universal principles. As outlined in Section 2, missionaries explicitly preached against clan- and family-based favoritism, advocating instead for moral principles rooted in universal justice. However, whether this led to the adoption of universal values or simply to the erosion of communal values remains unclear.

To examine this empirically, I draw on the Moral Foundation Theory (MFT), a framework developed by cultural psychologists Haidt and Craig (2004); Haidt and Graham (2007); Graham et al. (2009); Haidt (2012) based on the empirical observation that individuals vary in the moral values they prioritize. MFT classifies moral concerns into several "foundations":[38]

1. *Care/harm*: underlies the virtues of caring for the weak and attempting to keep others from harm.
2. *Fairness/reciprocity*: underlies the virtues of equality, justice, rights, and autonomy.
3. *In-group/loyalty*: underlies the virtues of loyalty to the "in-group" (e.g., family, ethnicity) and the moral relevance of betrayal.
4. *Authority/respect*: underlies the virtues of deference to authority, respect for traditions, and societal order.

Crucially, *care/harm* and *fairness/reciprocity* correspond to *universal* moral values, that apply consistently across contexts and independently of group membership. In contrast, *in-*

[37] The Afrobarometer sample includes rural areas where traditional leaders remain influential, unlike in urban areas like Kananga.

[38] For simplicity I omit *Purity/sanctity*, which measures the importance of ideas related to purity and disgust.

group/loyalty and *authority/respect* reflect *communal* values, tied to specific social groups.[39]

To operationalize these moral foundations empirically and test whether mission exposure reduced the emphasis on communal values – here, values tied to loyalty and respect for family and coethnics – while promoting universal ones, I use the Moral Foundation Questionnaire (MFQ), a 24-item survey described in Section D designed to measure the five moral foundations (Graham et al., 2009). To my knowledge, this is the first study to implement the MFQ in a low-income setting, providing novel insights into the role of religious institutions in shaping moral frameworks.

In addition to documenting the importance of each moral foundation, I construct an index measuring the relative importance of universal versus communal values, following Enke (2019, 2020). This index aggregates MFQ responses related to universal values and subtracts those related to communal values. While prior studies have validated this index, I conduct two additional tests for further validation in this context. First, I assess internal consistency by comparing results across the two parts of the MFQ, finding similar patterns (see Tables A19 and A20).[40] Second, I show that the relative importance of universal values correlates positively with other measures that reflect concern for the welfare of all individuals, such as trust, closeness, and overall perceptions of strangers and foreigners (Table A21).

In Kananga, respondents assign the highest moral value to fairness (mean: 4.10, Column 3 of Table 3), followed by in-group (mean: 4.08, Column 4), authority (mean: 4.06, Column 5), and care (mean: 3.89, Column 2). Overall, communal values are rated higher than universal values in moral judgments, as reflected in the negative average relative importance of universal values (mean: -0.16, Column 1). This pattern aligns with research suggesting that communal values are more prominent in lower-income contexts, where social structures often emphasize group cohesion (Graham et al., 2011).

Using Equation (1), I then show that proximity to missions is associated with changes in the moral frameworks respondents use to evaluate social relations. Specifically, proximity to missions is associated with a greater importance of universal moral values relative to communal ones (Table 3, Column 1). However, this shift is entirely driven by a decline in the importance of communal values (Table 3, Columns 4–5), with no corresponding increase in universal values (Table 3, Columns 2–3). These results suggest that, while missionaries sought to replace family- and ethnic-centered morality with universal principles, their pri-

[39]The distinction between universal and communal values is widely accepted in contemporary psychology, despite ongoing debates about dividing morality into exactly five foundations (Napier and Luguri, 2013; Hoffmann et al., 2014; Smith et al., 2014).

[40]The effects are more pronounced for Part 1, which may reflect the fact that enumerators reported Part 1 as less abstract and more easily understood by respondents with lower levels of education.

mary impact was the erosion of communal values rather than the adoption of universal ones.

Change in Identity. Since proximity to missions eroded family ties, ethnic ties, and communal values without expanding social networks or fostering universal moral values, a key question arises: did missions merely reorient individuals' identity from family and ethnicity to religion?

To examine this possibility, I analyze measures of religious identity using the same bias and ties metrics introduced in Sections 5.1 and 5.2, now applied to church members and other Christians. Table 4 presents results on attitudes and bias toward these groups. Bias toward church members is measured as the difference in attitudes between church members and non-Christians (Column 1) or other Christians (Column 2), while bias toward Christians is measured relative to non-Christians (Column 3). The findings suggest that mission exposure is associated with stronger religious identity as captured by greater religious bias in two of the three measures. Decomposing the effects (Columns 4–6), the increase in bias appears primarily driven by more favorable attitudes toward church members (Column 4) and other Christians (Column 5) rather than more negative attitudes toward non-Christians (Column 6). Overall, these results provide suggestive evidence that missions may have contributed to the emergence of a religion-based identity, potentially replacing previous dimensions of identity centered on family and ethnicity.

However, this shift in identity does not appear to be reflected in changes in social networks. While I did not ask questions about whether respondents' ties are Christians, I find no evidence of an increase in the proportion of respondents' social ties that are composed of church members (Columns 7–8). This suggests that while missions may have fostered a stronger religious identity, they might not have fully replaced family- and ethnicity-based networks with religious ones, and their influence on social networks might reflect broader connections.

Taken together, these findings suggest that missions reshaped both social structures and individual worldviews, altering moral frameworks and shifting the foundations of identity.

6 Comparison with Counterfactual Mission Locations

Despite historical evidence suggesting that missionaries had limited knowledge of local conditions, along with extensive controls for the geographic and historical determinants of mission locations introduced in Section 3.2 and multiple checks of internal and external validity described in Section 5.3, the results may still be biased if Christian missions were established in better locations, beyond observable characteristics. In particular, if missionaries

intentionally selected areas with weaker preexisting family and ethnic ties, this could bias our estimates.

To address this potential endogeneity, this section employs two approaches aimed at identifying counterfactual mission locations. First, I examine missions that were initially founded but subsequently abandoned (Section 6.1). Second, I simulate locations that were suitable for missions but ultimately not selected (Section 6.2). By comparing the effect of proximity to these counterfactual locations with the effect of proximity to historical missions, I aim to isolate the causal impact of missions on family and ethnic ties, religious identity, and moral values. Both approaches indicate that historical missions led to a reduction in family and coethnic ties, explained by the adoption of a religious identity and a shift from communal to universal moral values.

6.1 Abandoned Missions

The first set of counterfactual mission locations comes from missions that were initially established but later abandoned, following the approach outlined by Valencia Caicedo (2019). Abandoned missions in the Kasaï region were identified through a comprehensive review of historical sources, including Catholic mission directories (Corman, 1924, 1935), colonial administrative records Heyse (1948), and historical scholarship Dieu (1946); De Meeus and Steenberghen (1947); Martens (1980); Benedetto and Vass (1997); McKey (1989). In addition, some abandoned missions were identified by comparing historical maps of mission locations over time, in particular Mantnieks (1951), Corman (1924, 1935), and (Roome, 1924). These sources allowed me to identify and georeference 14 abandoned missions, whose precise locations were mapped using both historical and contemporary maps. Although I have information for only a few abandoned missions, the time between their establishment and abandonment – 1, 2, 7, 9 and 34 years – suggests that most did not have enough time to reach the same level of personnel and infrastructure as historically active missions. This makes them a potential counterfactual – locations that were positively selected for missions but did not receive the full mission treatment. A detailed list of these abandoned missions and their locations is provided in Appendix B.3 (Table A32), alongside a map of their geographic distribution in the Kasaï region (Figure A24).

Before comparing the outcomes associated with historically active missions and abandoned missions, I assess whether abandoned missions constitute a valid counterfactual. A key concern is that historically active missions may have been established in more favorable locations, whereas abandoned missions might have been placed in less advantageous areas, potentially leading to their abandonment. To evaluate this, Table 5 compares the geo-

graphic and historical characteristics of the two sets of missions. Independent t-tests across 12 geographic and 6 historical characteristics reveal no significant differences, except for the intensity of the slave trade, which is higher in areas where historically active missions were located. This pattern suggests abandoned missions were not systematically placed in worse locations, strengthening their credibility as a counterfactual.

Next, I examine the relationship between proximity to abandoned missions and family or coethnic bias and ties using an OLS regression similar to Equation (1):

$$y_{ij} = \alpha + \beta \ Proximity \ to \ Abandoned \, Mission_j + X_i^{'}\gamma + Z_j^{'}\delta + \epsilon_{ij} \tag{2}$$

where $Proximity\,to\,Abandoned\,Mission_j$ represents the proximity of respondent i's village of origin j to the nearest abandoned mission, measured in log kilometers ($Proximity\ to\ Abandoned\ Mission_j = -log(Distance\ to\ Nearest\ Abandoned\ Mission_j)$). X_i and Z_j denote the individual- and village of origin-level controls from Equation (1), and standard errors are clustered at the village of origin level.

Table 6 presents the results for the key outcomes described in Sections 5.1 and 5.2. The findings reveal no consistent relationship between proximity to abandoned missions and family or coethnic bias (Columns 1 and 3). Likewise, proximity has no significant effect on the percentage of family and coethnic ties in respondents' social networks (Columns 5 and 7) or the fraction of family and coethnic referrals (Columns 9 and 11). These results suggest that the long-term effects of missions are not merely a function of their geographic location but rather stem from the activities conducted at these missions.

One potential concern is that the null effects may mask heterogeneity based on the reasons for mission abandonment. For instance, missions abandoned in less favorable areas may have had little to no association with family or ethnic bias and ties, while those in more favorable locations might exhibit a correlation. To investigate this possibility, I collected data on the determinants of mission abandonment. Among the 14 abandoned missions, three (21%) were abandoned due to the withdrawal of funding or land grants by the missionary order, three (21%) due to local hostility, and two (14%) following the early death of a priest. The reasons for abandonment remain undocumented for the remaining six missions. Table A22 presents the effects of proximity to abandoned missions, disaggregated by the reason for abandonment. The results do not reveal significant heterogeneity in the effects based on the reason for mission abandonment (Columns 1, 3, 5, 7, 9, and 11).[41] These findings suggest that

[41]Exceptions include significant coefficients for proximity to missions abandoned due to hostility when the

the absence of effects is not due to heterogeneity in the reasons for abandonment, alleviating concerns that the lack of impact of abandoned missions stems from their location in negatively selected areas.

To isolate the causal impact of historically active missions, I compare their effects to those of the counterfactual abandoned missions using an OLS regression that includes both proximity measures:

$$y_{ij} = \alpha + \beta\ Proximity\ to\ Mission_j + \gamma\ Proximity\ to\ Abandoned\ Mission_j + X_i^{'}\delta + Z_j^{'}\epsilon + \zeta_{ij} \tag{3}$$

The results show that proximity to historically active missions is statistically significant, while proximity to abandoned missions is not (Table 6, Columns 2, 4, 6, 8, 10, and 12). This pattern holds even when the effects of proximity to abandoned missions are disaggregated by the reasons for abandonment (Table A22, Columns 2, 4, 6, 8, 10, and 12).

The table also reports the difference in the proximity coefficients for historically active and abandoned missions, helping to identify the causal effects of proximity to missions. The intuition behind this comparison is that by subtracting the mean effect of proximity to abandoned missions, I account for unobserved factors that could influence mission placement, thereby isolating the impact of proximity to historically active missions. The negative coefficients suggest that proximity to historically active missions reduced family and coethnic bias and decreased the percentage of family and coethnic ties and referrals. In terms of magnitude, I find that a one standard deviation increase in proximity – equivalent to 16 kilometers – to historically active missions, relative to the same increase in proximity to abandoned missions, leads to a 9%–17% reduction in family or coethnic bias, a 4–9% decrease in family and coethnic network ties, and a 5–12% decrease in family and coethnic referrals.

To assess the statistical significance of these differences, I report p-values from F-tests for the equality of proximity coefficients. Among the four coefficients for which proximity to historically active missions is significant, two exhibit statistically significant differences at the 10% level, and one is borderline significant. The limited significance is likely due to low statistical power, given the small number of abandoned missions. This constraint motivates the subsequent approach, which compares the locations of historically active missions with simulated mission locations.

I also use this approach to assess whether shifts in values and identity explain the erosion

outcome is the percentage of family referrals, and for proximity to missions abandoned due to the withdrawal of funding or land grants by the missionary order or early death of priest when the outcome is the percentage of coethnic referrals.

of attitudes toward and ties with family and coethnics (Section 5.4). The results confirm that, relative to abandoned missions, historically active missions significantly eroded communal moral values (Table A23) and shifted individuals' identities toward religion (Table A24).

6.2 Simulated Missions

Our second approach to identifying counterfactual mission locations is inspired by Dell and Olken (2019) and involves simulating counterfactual mission locations that would have been similarly suitable for Christian missions but were not ultimately chosen.

To achieve this, I construct a dataset based on a 10-kilometer by 10-kilometer grid of the Kasaï region. For each grid cell, I calculate the values of the historical and geographic factors influencing mission locations outlined in Section 3.2. These values are calculated either as the mean within the grid cell or as the distance from the grid cell's centroid to the feature. Additionally, I calculate the proximity of each grid cell's centroid to the nearest Christian mission, defined as $Proximity\ to\ Mission_j = -log(Distance\ to\ Nearest\ Mission)$, using mission data from Mantnieks (1951) described in Section 3.1.

Table A35 presents the results of grid cell-level OLS regressions, where proximity to missions is regressed on geographic and historical characteristics.[42] I use the regression results to construct the mission suitability of a grid cell as an index derived from the eight characteristics most predictive of mission proximity: maize suitability, rice suitability, cassava suitability, precipitation, estimated population density in 1800, distance to Kananga, distance to colonial railroads, and tsetse fly suitability. Each characteristic is normalized to range between 0 and 1. Characteristics positively and significantly associated with proximity to historical missions (cassava, maize, and rice suitability; precipitation; and population density in 1800) are included in the index with a positive weight. In contrast, I reverse the normalized values of characteristics negatively and significantly associated with proximity to missions (distance to Kananga, distance to colonial railroads, and tsetse fly suitability) so that higher values correspond to lower mission suitability. The resulting mission suitability index ranges between 0 and 8 and is visualized in Figure A29.

To analyze the spatial influence of missions, I construct buffers around each Catholic and Protestant mission recorded in Mantnieks (1951). To ensure that simulated counterfactual missions are not influenced by proximity to actual missions, I restrict all simulated missions to be located at least 5 kilometers away from the nearest recorded mission in straight-line

[42] The large cluster spatial inference methods proposed by Conley and Kelly (2025) are the most suitable for addressing spatial autocorrelation when spatial dependence levels are high, but they do not apply to multivatiate regression models. Instead, I use the standard errors proposed by Conley (1999), which are widely used in the persistence literature.

distance. The outer radius of each buffer is set at 30 km, reflecting the maximum sphere of influence for a mission station as argued by contemporaries. This choice reflects practical constraints at the time: missionaries traveled on foot to preach in nearby villages, while converts and children walked to the nearest station for religious services, healthcare, or schooling (Martens, 1980; Dieu, 1946). Figure A30 illustrates the buffer for all mission stations in the Kasaï recorded in Mantnieks (1951). I overlay these buffers with the mission suitability raster to generate mission suitability buffers, depicted in Figure A31.

For the simulations, I select grid cells within each mission buffer that rank above a specified percentile of the mission suitability index. Following the approach of Dell and Olken (2019), the main specification focuses on grid cells above the 95^{th} percentile of mission suitability within each buffer. Panel A of Figure A32 displays a map of the suitable grid cells for each mission station. For each mission, I randomly sample 10,000 points from suitable grid cells. I then simulate 1,000 draws of counterfactual mission locations, with each draw assigning one counterfactual location per mission and maintaining a minimum 5 km separation between locations.

I estimate the effect of missions on the key outcomes described in Sections 5.1 and 5.2 using an approach analogous to Equation 3, comparing the effect of proximity to historically active missions with that of proximity to simulated missions across the 1,000 draws. Four out of the six measures of family and ethnic ties exhibit significant differences, indicating that proximity to historically active missions significantly reduced family and ethnic bias, weakening family and coethnic ties (Figure A16).

The large number of simulated missions allows us to estimate a more demanding specification following Dell and Olken (2019)

$$y_{ij} = \alpha + \sum_{k=1}^{35} \beta_k \cdot dmission_j^k + X_i^{'}\gamma + Z_j^{'}\delta + \sum_{l=1}^{n} mission_j^l + \epsilon_{ij} \tag{4}$$

I estimate this specification separately for historically active missions and for the 1,000 counterfactual mission locations. y_{ij} represents the outcome of interest for individual i with village of origin j, and $dmission_j^k$ are indicators for whether the village of origin j is located within specific distance bands from the nearest mission (or counterfactual mission): 0-5 km, 5-10 km, ..., 30-35 km. The omitted category is a distance of more than 35 km, which applies to about 18% of the observations in the sample. X_i and Z_j include the same individual- and village of origin-level controls as in Equations (1)-(3). The $mission_j^l$ terms denote nearest mission fixed effects, ensuring that villages are compared to others near the same historically

active or counterfactual mission, accounting for unobserved mission-specific factors.

The estimated effect of being distance i from a mission is given by the difference between the coefficients β_k for historically active missions and the average of the 1,000 corresponding β_k coefficients for counterfactual missions. Subtracting the mean of the counterfactual coefficients helps isolate the effect of missions by removing the influence of unobserved factors correlated with proximity to locations suitable for missions. I compute a p-value by determining where the $dmission_j^k$ coefficients fall within the absolute value distribution of the 1,000 counterfactual $dmission_j^k$ coefficients. A small p-value suggests that the observed patterns near historically active missions are unlikely to have emerged in the absence of missions.

I begin by assessing balance in geographic and historical characteristics. If the simulated locations are plausible, the geographic and historical characteristics should vary with proximity to simulated missions in a manner similar to historically active missions. To assess balance, I compare the $dmission_j^k$ coefficient for proximity to historically active missions and counterfactual missions, plotting their differences. Significance of each difference is indicated as follows: blue crosses mark coefficients above the 95^{th} percentile of the counterfactual distribution, solid blue dots indicate those above the 90^{th} percentile, and hollow white dots denote those below the 90^{th} percentile. Figure A7 examines geographic characteristics, focusing on elevation, ruggedness, precipitation, temperature, length of the growing period, cassava suitability, maize suitability, and rice suitability. The results show that proximity to historically active missions and counterfactual missions is associated with similar patterns in geographic characteristics, suggesting that the counterfactual locations provide a valid comparison group.[43] Similarly, historical characteristics do not systematically differ between villages near historically active missions and those near counterfactual missions (Figure A8).[44]

Next, I assess whether exposure to missions shaped family and coethnic bias and ties. Figure 2 presents the results for the key outcomes described in Sections 5.1 and 5.2. Specifically, Panel A1 reports survey-based indicators of family bias, while Panel A2 focuses on coethnic bias. Panel B1 shows the percentage of family members in respondents' network

[43] The exceptions are elevation and temperature: villages within 5 km of historically active missions are at lower elevations and experience higher temperatures than those within 5 km of simulated missions. However, these differences are unlikely to drive the main results, as the coefficients are small. Additionally, I control for these variables in the main specifications to mitigate potential bias

[44] Some coefficients are significant for the intensity of the slave trade, distance to explorer routes, distance to the nearest city in 1800, and tsetse fly suitability. However, these variables are unlikely to systematically bias the results. The coefficients are small and exhibit no systematic pattern: villages near historically active missions tend to be less affected by the slave trade, closer to explorer routes, farther from cities in 1800, and have higher tsetse suitability. All these variables are controlled for in the main specifications.

survey, and Panel B2 does the same for coethnics. Finally, Panels C1 and C2 display results for the fraction of family members and coethnics, respectively, whom respondents referred for a job in the referral experiment. Each panel plots the $dmission^k$ coefficients for proximity to historically active missions, subtracting the means of the counterfactual distribution. Statistical significance is again denoted as follows: blue crosses for coefficients above the 95^{th} percentile, blue solid dots for those above the 90^{th} percentile, and hollow white dots for those below the 90^{th} percentile.

The analysis shows that individuals whose village of origin is within 5 or 10 kilometers of a historically active mission exhibit significantly lower levels of family and coethnic bias relative to the effects of being within 5 or 10 kilometers of counterfactual missions (Panel A). Likewise, individuals whose village of origin is close to a historically active mission have a significantly smaller percentage of family members and coethnics in their social networks (Panel B) and recommend a smaller fraction of them in the job referral experiment (Panel C) than those whose village is within the same distance of simulated missions. The effects are strongest and most significant within a few kilometers of the mission, consistent with the distance-bin specification in Section 5.3 and Table A10. This pattern suggests that the impacts of proximity to missions are highly localized and unlikely to result from a reallocation of people and activities from nearby areas, which would otherwise generate effects in more distant villages.

As with abandoned missions, I apply this approach to investigate whether shifts in values and identity mediate the effects of missions on attitudes and ties to family and coethnics (Section 5.4). Compared to simulated missions, proximity to historically active missions is associated with a decline in communal moral values (Figure A9, Panel A), no change in universal moral values (Panel B), and a shift in identity toward religion (Figure A10), though this last outcome is not statistically significant at conventional levels.

I conduct a series of robustness checks to ensure the reliability of the results. First, I re-estimate the results using an alternative definition of mission suitability, based on the predicted values from an OLS regression of proximity to missions on all geographic and historical characteristics (Figure A11). Second, I assess robustness to the minimum distance between simulated missions by imposing a 10 kilometers threshold instead of the original 5 kilometers (Figure A12). Third, I examine the sensitivity to the mission suitability threshold by considering grid cells above the 90^{th} percentile of mission suitability within each buffer, rather than the 95^{th} percentile (Panel B of Figure A32 and Figure A13). Fourth, I explore the effect of varying the distance bins used in estimating $dmission_j^k$, finding that results become more precise when using 10-kilometer bins (Figure A14) but noisier with 2.5-kilometer

bins (Figure A15). Finally, as discussed above, I replace the distance bins with log-proximity to historically active and simulated missions, subtracting the coefficients on log-proximity to simulated missions from the coefficient on log-proximity to historically active missions (Figure A16). Overall, none of these robustness checks qualitatively alter the main findings.

Overall, these findings suggest that the relationship between proximity to missions and family and coethnic ties, religious identity and moral values documented in Section 5 is not merely a result of the initial placement of missions (as reflected in the locations of abandoned and simulated missions) but is instead driven by the sustained missionary activities carried out at the missions. In the next section, I explore the specific effects of these activities in more detail.

7 The Role of Mission Personnel and Infrastructures

I now investigate the role played by mission personnel and infrastructure in explaining these effects. Specifically, I examine whether the impact of missions operated through exposure to religious personnel (priests, brothers, nuns, catechists), access to education (proximity to primary or secondary schools, number of teachers), or the presence of other mission infrastructure such as health facilities.

To study this question I rely on detailed data on mission personnel and infrastructures from comprehensive directories of Catholic missions published in 1924 and 1935 (Corman, 1924, 1935). These data, described in detail in section B, provide information on the number of religious personnel (priests, brothers, nuns, catechists), teaching personnel (teachers, instructors), and converts (Christians, catechumens, postulants) at each mission, as well as the education infrastructures (primary schools, secondary schools), health facilities (dispensaries, hospitals), and printing presses, present at each mission. Table A30 presents descriptive statistics on mission personnel (Panels A–C) and infrastructures (Panels D–E). Figures A21–A23 illustrate the distribution of religious personnel (Figure A21), teaching personnel (Figure A23), and converts (Figure A22) across mission stations.

To examine the role of mission personnel and infrastructures, I estimate heterogeneous effects of proximity to missions in Equation (1) based on mission attributes. I use mission characteristics in 1935 from Corman (1935) and compute proximity to the nearest mission in Corman (1935).[45] These results should be interpreted with caution, as the characteristics of missions may be influenced by other factors than the geographic and historical features of

[45] I rely on data from 1935 rather than 1924 because it is closer in time to the primary mission dataset from 1951 Mantnieks (1951). Table A25 confirms that our main results hold when using proximity to the nearest mission in 1935 using Corman (1935).

respondents' village of origin which I control for in the empirical specification.

I first investigate heterogeneity by exposure to religious figures, estimating the effects of proximity to missions with varying number of priests, brothers, and nuns (Table 7, Panel A), as well as the number of catechists responsible for teaching religious principles (Panel B). While I find no heterogeneous effects based on the number of priests, brothers and nuns, missions with more catechists tend to show stronger reductions in family and coethnic bias (Columns 1–2). However, these differences do not translate into significant effects on social ties, as measured through the network survey or the referral experiment (Columns 3–6). These results align with the idea, introduced in Section 2, that conversions and emphasis of loyalty to religious authority played an important role in weakening traditional family and ethnic structures.

Next, I examine heterogeneity by education infrastructure and personnel. Panel A of Table 8 explores variation based on the presence of a primary school, defined as a mission that operated an *école primaire*, *école ménagère*, *école centrale*, or *école rurale* in Corman (1935). Panel B examines heterogeneity by the presence of a secondary school, defined as mission with an *école normale*, *école professionelle*, or *école officielle* in Corman (1935). The presence of schools – particularly secondary schools – is associated with less family and coethnic bias (Columns 1–2) and lower percentage of coethnics in social networks (Column 4) or the referral experiment (Column 6). Moreover, missions with more teachers and instructors also show weaker family and ethnic bias (Panel C).[46] These results support the idea, introduced in Section 2, that education played a central role in missionaries' effort to shape social and cultural norms.

One concern is that these effects are simply driven by mission size, with larger missions having a greater impact and being more likely to have schools, religious personnel, and educational staff. However, I find no evidence of heterogeneity based on the number of Christians at the mission (Table A28, Panel A). Another concern is that missions with more religious and educational personnel and infrastructure may also have had other types of infrastructure that could have driven these effects. However, I find little evidence of heterogeneous effects by the presence of health facilities such as dispensaries and hospitals (Table A27) or printing

[46]Missions may also have influenced attitudes toward family and coethnics by fostering interethnic contact, aligning with the contact hypothesis (Allport, 1954; Lowe, 2024). To test this, I use data on ethnic groups at mission stations from Corman (1935) (Table A31). I define contact as zero if only the respondent's ethnic group was present and one if others were present, and also measure the number of groups. Panel A of Table A29 examines contact as a binary variable (presence or absence of other ethnic groups), while Panel B considers the number of groups, offering a more nuanced view of interethnic contact. The results suggest that greater interethnic contact at missions may have reduced family and coethnic bias but did not alter family and coethnic ties.

presses (Table A26), which were the primary mission infrastructure beyond schools.

In conclusion, these results suggest that missions weakened family and ethnic ties primarily through religious instruction and formal education, two central elements of their broader aim to reshape indigenous societies.

8 Conclusion

This paper provides new evidence on the long-term social and cultural effects of colonial Chrsitian missions, showing that their presence systematically disrupted social structures. By combining historical mission location data with contemporary survey conducted with 975 participants in the city of Kananga in the Democratic Republic of the Congo, I demonstrate that individuals whose villages of origin are closer to missions exhibit weaker kin and ethnic favoritism. Their social networks contain fewer family members and coethnics, highlighting how missions reshaped local social structures in ways that persist today. Proximity to missions is also associated with a reduction in traditional beliefs in ancestor spirits, likely undermining the political legitimacy of customary chiefs who derive their authority from these beliefs.

Robustness checks confirm the reliability of these findings across alternative mission data sources, empirical specifications, and the inclusion of colonial controls, mission denomination and order fixed effects, and ethnicity fixed effects. I also show that the results are unlikely to be driven by spatial trends, spatial autocorrelation, or selective migration. Moreover, the findings hold across different regions: analysis of Afrobarometer data shows that individuals from areas historically closer to missions exhibit similar patterns of reduced trust bias toward family and coethnics, as well as lower trust in customary chiefs across Africa. This suggests that the observed effects extend beyong the study region.

I also provide evidence that these social changes are driven by changes in both moral values and identity. Individuals from villages historically closer to missions place less emphasis on communal moral values centered on family and coethnics, yet this is not accompanied by a corresponding increase in universal values. Since proximity to missions weakened family and ethnic ties without expanding social network or promoting universal moral values, I examine whether the effects are explained by a shift in identity from family and ethnicity to religion, finding some suggestive evidence. Overall, the results suggest that missions actively reshaped both values and identities.

To address concerns about nonrandom mission placement, I implement two counterfactual strategies. First, I analyze the effect of proximity to missions that were initially founded but

later abandoned. Second, I simulate 1,000 counterfactual missions sites that were equally suitable for missions but never selected. Comparing the effects of proximity to historically active missions with these counterfactuals helps better isolate the causal impact of missions on family and ethnic ties, identity, and moral values. In both cases, the results show that proximity to historically active missions causally reduced family and coethnic bias, weakened kinship and ethnic ties, diminished communal values, and reinforced religious identity.

Lastly, I examine which mission characteristics had the strongest effects. Missions with more religious personnel, greater educational staffing, and better educational infrastructure show a stronger relationship between proximity to missions and weakened family and ethnic ties. This highlights the central role of religious instruction and formal education – two core elements of the missions' broader objective – in driving these cultural transformations.

These findings suggest that colonial institutions continue to shape the social structures of formerly colonized countries. A promising avenue for future research is to explore how other cultural traits were influenced by colonial institutions. For example, did colonial and missionary influence contribute to the promotion of nuclear families and monogamy, thereby restricting women's roles in economic and political life? These questions open exciting new directions for research, providing further insights into the enduring impact of colonialism on contemporary societies.

Table 1: Proximity to Missions and Family and Coethnic Bias

	Attitude: Family vs. Non-Family			Attitude: Coethnics vs. Non-Coethnics		
	Family Bias	Family	Non-Family	Ethnic Bias	Coethnics	Non-Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.089**	-0.026	0.063*	-0.092**	-0.038*	0.053*
	(0.038)	(0.019)	(0.033)	(0.028)	(0.020)	(0.031)
Observations	975	975	975	975	975	975
Mean Outcome	1.19	3.89	2.70	0.60	3.41	2.81
Mean Distance	21.39	21.39	21.39	21.39	21.39	21.39
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

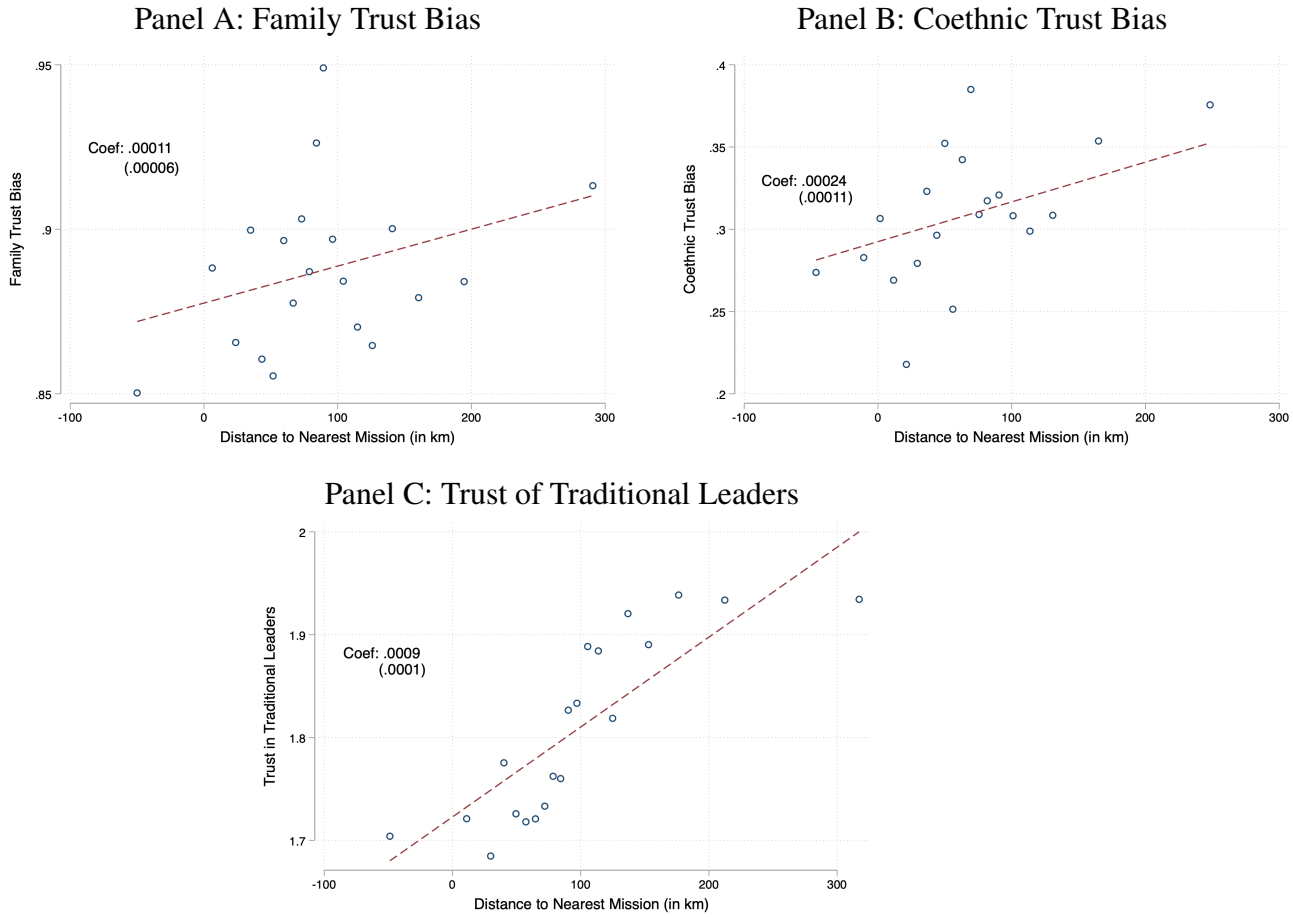
Notes: This table shows the relationship between the proximity of an individual's village of origin to a mission and their family (columns 1-3) / coethnic bias (columns 4-6). Proximity to an individual's village of origin is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable measures an individual's 'attitude' towards those within their family. In column 3, the explanatory variable measures an individual's 'attitude' towards those outside their family. In column 4, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. In column 5, the explanatory variable measures an individual's 'attitude' towards those within their ethnic group. In column 6, the explanatory variable measures an individual's 'attitude' towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels.

Table 2: Proximity to Missions and Family and Ethnic Ties

	Network Survey		Job Referral Experiment	
	Percent Family	Percent Coethnics	Percent Family	Percent Coethnics
	(1)	(2)	(3)	(4)
Proximity to Mission	-0.014	-0.036**	-0.042**	-0.025*
	(0.010)	(0.014)	(0.017)	(0.014)
Observations	975	975	975	975
Mean Outcome	0.29	0.66	0.48	0.64
Mean Distance	21.39	21.39	21.39	21.39
Geographic Controls	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to a mission and their family / coethnic social ties. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In columns 1 and 2, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 1) or tribe (column 2). In columns 3 and 4, the explanatory variable measures the proportion of those belonging to the same family (column 3) or tribe (column 4), named by the respondent when asked to refer up to three individuals in the job referral experiment. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels.

Figure 1: Afrobarometer Data – Distance to Missions, Family Trust Bias, Coethnic Trust Bias, and Trust of Traditional Leaders



Notes: This figure shows the relationship between family trust bias (Panel A), coethnic trust bias (Panel B), trust of traditional leaders (Panel C) and the distance of the respondent's village to the nearest mission (in kilometers). All figures report binned scatter plots that control for individual-level covariates (gender, age, age squared), village-level geographic and historical determinants of mission location described in Section 3.2 (except distance to Kananga), and country fixed effects. In all Figures, the x-axis measures the distance of the respondent's village recorded in the Afrobarometer to the nearest mission (in kilometers) located in Roome (1924). In Panel A, the y-axis is family trust bias measured as the difference between how much respondents report trusting their relatives, asked in rounds 3–5 and 9 of the Afrobarometer, and how much they report trusting people who are not their relatives, defined as the average of several measures of trust: trust in non-coethnics asked in round 3; trust in other nationals asked in rounds 4 and 9; trust in other known people asked in rounds 4, 5, and 9; and trust in people from other religions asked in round 9. The number of observations corresponding to this Panel is 150,122 but the analysis is restricted to the 139,566 observations for which we can construct village-level controls. In Panel B, the y-axis is coethnic trust bias calculated as the difference between how much respondents report trusting people from their own ethnic group and people from other ethnic groups reported in round 3 of the Afrobarometer. The number of observations corresponding to this Panel is 22,607 but the analysis is restricted to the 22,253 observations for which we can construct village-level controls. In Panel C, the y-axis represents individuals' trust in traditional leaders, as reported in rounds 4 and 9 of the Afrobarometer. The number of observations corresponding to this Panel is 64,664 and the analysis is restricted to the 63,718 observations with village-level controls.

Table 3: Proximity to Missions and Universal and Communal Moral Values

	Universal Rel. to Communal	Universal Values		Communal Values	
		Care	Fairness	In-Group	Authority
	(1)	(2)	(3)	(4)	(5)
Proximity to Mission	0.089**	-0.028	0.015	-0.053**	-0.050**
	(0.033)	(0.028)	(0.016)	(0.021)	(0.022)
Observations	975	975	975	975	975
Mean Outcome	-0.16	3.89	4.10	4.08	4.06
Geographic Controls	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to a mission and their universal and communal moral values. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is the difference between an individual's universal (columns 2-3) and communal values (columns 4-5). Columns 2-5 are each measured as a mean of 6 questions from the Moral Foundation Questionnaire described in Section D, measured on a scale of 0 = not at all relevant to 5 = extremely relevant for questions 1-3 and 0 = strongly disagree to 5 = strongly agree for questions 4-6. In column 2, the explanatory variable is the mean of an individual's responses to the six harm/care-related questions. In column 3, the explanatory variable is the mean of an individual's responses to the six fairness/reciprocity-related questions. In column 4, the explanatory variable is the mean of an individual's responses to the six ingroup/loyalty-related questions. In column 5, the explanatory variable is the mean of an individual's responses to the six authority/respect-related questions. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels.

Table 4: Proximity to Missions and Religious Identity

	Attitude						Network Survey	Job Referral Experiment
	Bias							
	Church vs Non-Christians	Church vs Other Christians	Christians vs Non-Christians	Church	Christian	Non-Christian	Percent Church	Percent Church
	(1)	(3)	(3)	(4)	(5)	(6)	(7)	(8)
Proximity to Mission	0.076**	0.025	0.054*	0.036*	0.011	-0.042	0.002	0.005
	(0.039)	(0.021)	(0.032)	(0.020)	(0.020)	(0.034)	(0.012)	(0.013)
Observations	971	971	975	971	975	975	975	975
Mean Outcome	1.82	.61	1.21	4.05	3.44	2.23	.37	.37
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to a mission and their Church and Christian bias. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their church versus towards those who are not Christians. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their church versus towards those who are Christians. In column 3, the explanatory variable is calculated as the difference between an individual's 'attitude' towards Christians versus towards those who are not Christians. In column 4, the explanatory variable is calculated as an individual's attiude towards those who are from the same church as them. In column 5, the explanatory variable is calculated as an individual's attitude towards Christian people in Kananga. In column 6, the explanatory variable is calculated as an individual's attitude towards non-Christians in Kananga. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In column 7, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their church. In column 8, the explanatory variable measures the percent of those belonging to the same church, named by an individual when asked to refer people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels.

Table 5: Counterfactuals – Characteristics of historically active vs. Abandoned Missions

	Actual Missions			Abandoned Missions			Difference		
	Obs.	Mean	SD	Obs.	Mean	SD	Obs.	Coef.	T-Stat
Panel A. Geographic Determinants									
Elevation	39	184.38	22.54	14	187.62	22.65	53	3.24	(0.46)
Ruggedness	39	37.60	28.40	14	29.54	24.59	53	-8.05	(-1.01)
Temperature	39	24.15	0.73	14	24.07	0.80	53	-0.08	(-0.32)
Precipitation	39	1560.41	109.15	14	1554.35	36.68	53	-6.06	(-0.30)
Length of Growing Period	39	301.62	19.50	14	300.57	13.06	53	-1.05	(-0.23)
Cassava Suitability	39	2535.26	401.56	14	2543.49	236.86	53	8.23	(0.09)
Maize Suitability	39	914.67	145.87	14	962.21	65.13	53	47.55	(1.63)
Rice Suitability	39	897.71	66.29	14	909.92	70.65	53	12.21	(0.56)
Malaria Ecology Index	39	14.04	2.79	14	13.95	3.01	53	-0.10	(-0.10)
TseTse Suitability	39	1.33	0.01	14	1.32	0.02	53	-0.01	(-0.99)
Distance to Nearest River	38	101.71	73.45	14	102.98	71.86	53	1.27	(0.06)
Distance to the Coast	38	1008.92	99.32	14	1033.62	81.45	53	24.70	(0.91)
Panel B. Historical Determinants									
Distance to Closest City in 1800	39	1991.92	120.94	14	2004.95	112.72	54	13.03	(0.36)
Population Density in 1800	39	7.97	5.16	14	7.23	3.21	53	-0.74	(-0.62)
Contact with Explorer Routes	39	0.15	0.37	14	0.14	0.36	53	-0.01	(-0.10)
Slave Trade Intensity	39	26.73	68.50	14	4.21	15.77	53	-22.51*	(-1.92)
Distance to the Railroad in 1905	39	731.37	99.82	14	760.50	90.33	53	29.13	(1.01)
Distance to Kananga	39	138.62	78.93	14	119.10	55.37	53	-19.51	(-1.00)

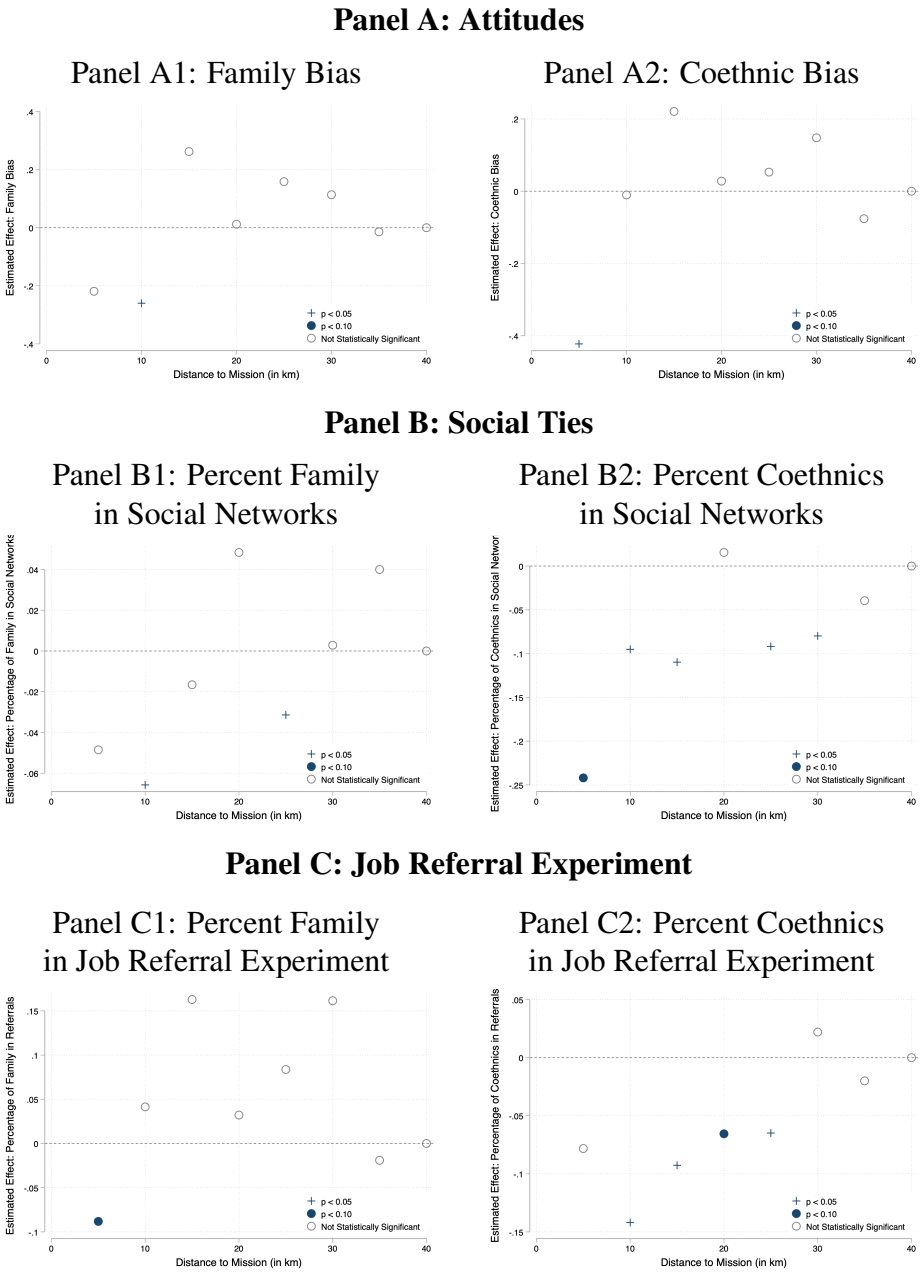
Notes: This table shows the difference in means between historically active and abandoned missions, for a set of geographic (Panel A) and historical (Panel B) characteristics. Columns 1-3 report the means and standard deviations for the historically active missions, columns 4-6 report the means and standard deviation for abandoned missions. Columns 7-9 report the difference in means between historically active and abandoned missions and the t-statistic for the differences in their means.

Table 6: Counterfactuals – Effects of Proximity to Historically Active vs. Abandoned Missions

	Attitudes				Network Survey				Job Referral Experiment			
	Family Bias		Coethnic Bias		Percent Family		Percent Coethnics		Percent Family		Percent Coethnics	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Proximity to		-0.087**		-0.093**		-0.005		-0.046**		-0.034**		-0.020
Actual Mission		(0.044)		(0.030)		(0.011)		(0.016)		(0.017)		(0.014)
Proximity to	-0.005	-0.015	-0.050	-0.060	0.005	0.004	-0.004	-0.009	0.015	0.011	-0.015	-0.018
Abandoned Mission	(0.042)	(0.039)	(0.045)	(0.043)	(0.013)	(0.013)	(0.018)	(0.016)	(0.019)	(0.021)	(0.016)	(0.016)
Observations	835	835	835	835	835	835	835	835	835	835	835	835
Mean Outcome	1.18	1.18	0.60	0.60	0.29	0.29	0.70	0.70	0.48	0.48	0.67	0.67
coef: Actual - Abandoned		-0.072		-0.034		-0.009		-0.036		-0.045		-0.002
p-val: Actual = Abandoned		0.186		0.529		0.568		0.075		0.071		0.919
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest historically active mission and abandoned mission and their attitudes, social network, and job referrals. Columns 1, 2, 5, 7, 9, and 11 investigate the separate effect of proximity to abandoned missions, while columns 2, 4, 6, 8, 10, and 12 consider proximity to historically active and abandoned missions in the same regression. Proximity of an individual's village of origin to the nearest historically active/abandoned mission is measured in log kilometers i.e., $-\log$(Distance to Nearest historically active/Abandoned Mission). In columns 1 and 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In columns 3 and 4, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 5, 6, 7, and 8, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (columns 5 and 6) or tribe (columns 7 and 8). In columns 9, 10, 11, and 12, the explanatory variable measures the proportion of those belonging to the same family (columns 9 and 10) or tribe (columns 11 and 12), named by the respondent when asked to refer up to three individuals in the job referral experiment. In columns 2, 4, 6, 8, 10, and 12, the difference between the coefficient for proximity to historically active mission and proximity to abandoned mission is reported, alongside the p-value of a test for equality of the coefficients for proximity to historically active mission and proximity to abandoned mission. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels.

Figure 2: Counterfactuals – Effects of Proximity to Historically Active vs. Simulated Missions



Notes: This figure shows the estimated effect of the distance of the village of origin to a historically active mission relative to a simulated mission on family/coethnic bias (Panel A), percent family/coethnics in social networks (Panel B), and percent family/coethnics named in the job referral experiment (Panel C). Simulated locations are generated using the 95th percentile of the mission suitability index in each buffer. Villages are categorized in distance bins reflecting their proximity to the nearest historically active or counterfactual mission in 5km intervals, indicated by the x-axis. The omitted category is villages over 35km away from the nearest historically active or counterfactual mission. In all panels, the y-axis is the difference between the effect of the distance of the village of origin to a historically active mission and the mean of the effect of the distance of the village of origin to the 1,000 draws of the simulated missions on the explanatory variable. In Panel A, the explanatory variables are family bias (A1) and coethnic bias (A2), which measure an individual's 'attitude' towards those within their family/ethnic group versus those outside their family/ethnic group, calculated as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In Panel B, the explanatory variables are the percent of those named by an individual in response to the series of network-related questions described in Section D, belonging to their family (B1) or tribe (B2). In Panel C, the explanatory variables are the proportion of those belonging to the same family (C1) or tribe (C2), named by the respondent in the job referral experiment. All panels control for age, age squared, gender, and geographic and historical controls at the village of origin level and include historically active mission fixed effects. Coefficients marked with a "+" are statistically significant at the 5% level and coefficients marked with a ● are statistically significant at the 10% level.

Table 7: Heterogeneity – Religious Personnel at the mission

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Number of priests, brothers, and nuns						
Proximity to Mission	0.000	-0.002	0.001	-0.000	-0.001	0.000
× Nb of Religious Figures	(0.005)	(0.004)	(0.001)	(0.002)	(0.002)	(0.002)
Proximity to Mission	-0.121*	-0.038	-0.036**	-0.047	-0.017	-0.027
	(0.064)	(0.064)	(0.016)	(0.032)	(0.032)	(0.024)
Nb of Religious Figures	0.004	-0.005	0.002	0.002	-0.004	0.003
	(0.016)	(0.014)	(0.004)	(0.006)	(0.006)	(0.006)
Mean Het	16	16	16	16	16	16
Panel B: Number of catechists						
Proximity to Mission	-0.001**	-0.001**	-0.000	-0.000	-0.000	-0.000
× Nb of Catechists	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Proximity to Mission	0.049	0.055	-0.024	-0.054*	-0.015	-0.010
	(0.088)	(0.074)	(0.017)	(0.031)	(0.029)	(0.027)
Nb of Catechists	-0.003**	-0.002**	-0.000	0.000	-0.000	-0.000
	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Mean Het	223	223	223	223	223	223
Observations	973	973	973	973	973	973
Mean Outcome	1.20	0.60	0.29	0.66	0.48	0.65
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission as recorded in Corman (1935) and their attitudes, social network and people named in the job referral experiment, with heterogeneity analysis for the number of priests, brothers, and nuns at the mission (Panel A) and the number of catechists at the mission (Panel B). Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log(\text{Distance to Nearest Mission}_{1935(Corman)})$. Nb of Religious Figures is the number of priests, brothers, and nuns at the mission nearest to their village of origin and Nb of Catechists is the number of catechists at the mission nearest to their village of origin, both recorded in Corman (1935). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels.

Table 8: Heterogeneity – Education at the Mission

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Primary School at Mission						
Proximity to Mission	-0.137	-0.050	-0.027	-0.035	-0.021	-0.065*
x Primary School	(0.089)	(0.074)	(0.019)	(0.036)	(0.032)	(0.034)
Proximity to Mission	-0.053	-0.047	-0.013	-0.040	-0.019	0.006
	(0.068)	(0.057)	(0.013)	(0.028)	(0.024)	(0.020)
Primary School	-0.502	-0.231	-0.130*	-0.185	-0.116	-0.271**
	(0.324)	(0.265)	(0.066)	(0.128)	(0.113)	(0.121)
Mean Het	0.627	0.627	0.627	0.627	0.627	0.627
Panel B: Secondary School at Mission						
Proximity to Mission	-0.312**	-0.210**	-0.020	-0.076*	-0.041	-0.087*
x Secondary School	(0.119)	(0.095)	(0.024)	(0.043)	(0.036)	(0.046)
Proximity to Mission	-0.061	-0.030	-0.022**	-0.042**	-0.020	-0.009
	(0.049)	(0.043)	(0.011)	(0.020)	(0.019)	(0.015)
Secondary School	-1.119**	-0.775**	-0.086	-0.259*	-0.179	-0.300*
	(0.419)	(0.346)	(0.082)	(0.150)	(0.125)	(0.162)
Mean Het	0.242	0.242	0.242	0.242	0.242	0.242
Panel C: Number of Teachers and Instructors						
Proximity to Mission	-0.001**	-0.001**	-0.000	-0.000	0.000	-0.000
x Nb of Teachers and Instructors	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Proximity to Mission	0.084	0.087	-0.027	-0.052*	-0.037	-0.017
	(0.081)	(0.062)	(0.021)	(0.031)	(0.026)	(0.032)
Nb Teachers	-0.003**	-0.002**	0.000	0.000	0.000	0.000
	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)
Mean Het	232	232	232	232	232	232
Observations	975	975	975	975	975	975
Mean Outcome	1.20	0.60	0.29	0.66	0.48	0.65
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission as recorded in Corman (1935) and their attitudes, social network and people named in the job referral experiment, with heterogeneity analysis for there being a primary school at the nearest mission (Panel A), there being a secondary school at the mission (Panel B), and the number of teachers at the mission (Panel C). Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log(\text{Distance to Nearest Mission}_{1935(Corman)})$. Primary (secondary) school is a dummy indicating whether mission nearest to their village of origin has a primary (secondary) school and Nb of Teachers and Instructors is the number of teachers and instructors in the mission nearest to their village of origin as recorded in Corman (1935). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels.

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Supplementary Data and Appendix
For Online Publication

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A Additional Tables and Figures

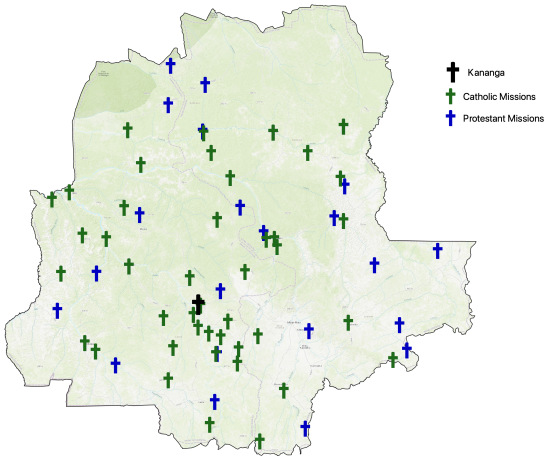
Table A1: Number of Missions by Ethnic Group

Ethnic Groups	Catholic Missions 1924	Protestant Missions 1924	Total 1924	Catholic Missions 1951	Protestant Missions 1951	Total 1951
Luluwa	6	2	8	13	1	14
Luba	4	10	14	16	17	33
Tetela	5	1	6	9	4	13
Songe	5	2	7	8	7	15
Kuba	2	3	5	3	4	7
Lele	0	0	0	4	0	4
Chokwe	1	4	5	4	4	8
Mbagani	1	0	1	5	3	8
Pende	1	0	1	3	3	6
Songomeno	0	0	0	3	1	4
Kutshu	0	0	0	2	1	3
Mbole	1	0	1	2	1	3
kela	0	0	0	0	1	1
Lunda	0	1	1	1	1	2

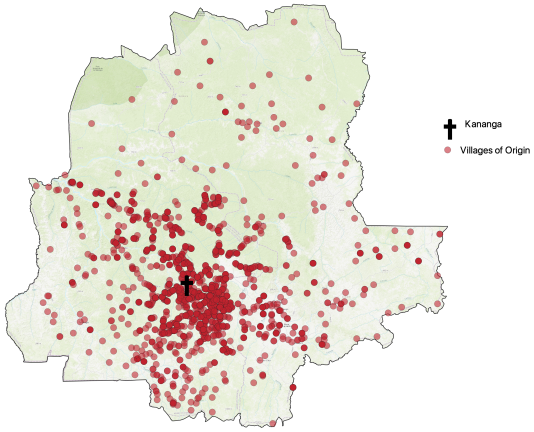
Notes: This table presents a summary of the number of Catholic and Protestant Missions by ethnic group, recorded in **?**.

Figure A1: Location of Missions and Respondents' Villages of Origin

Panel A: Missions

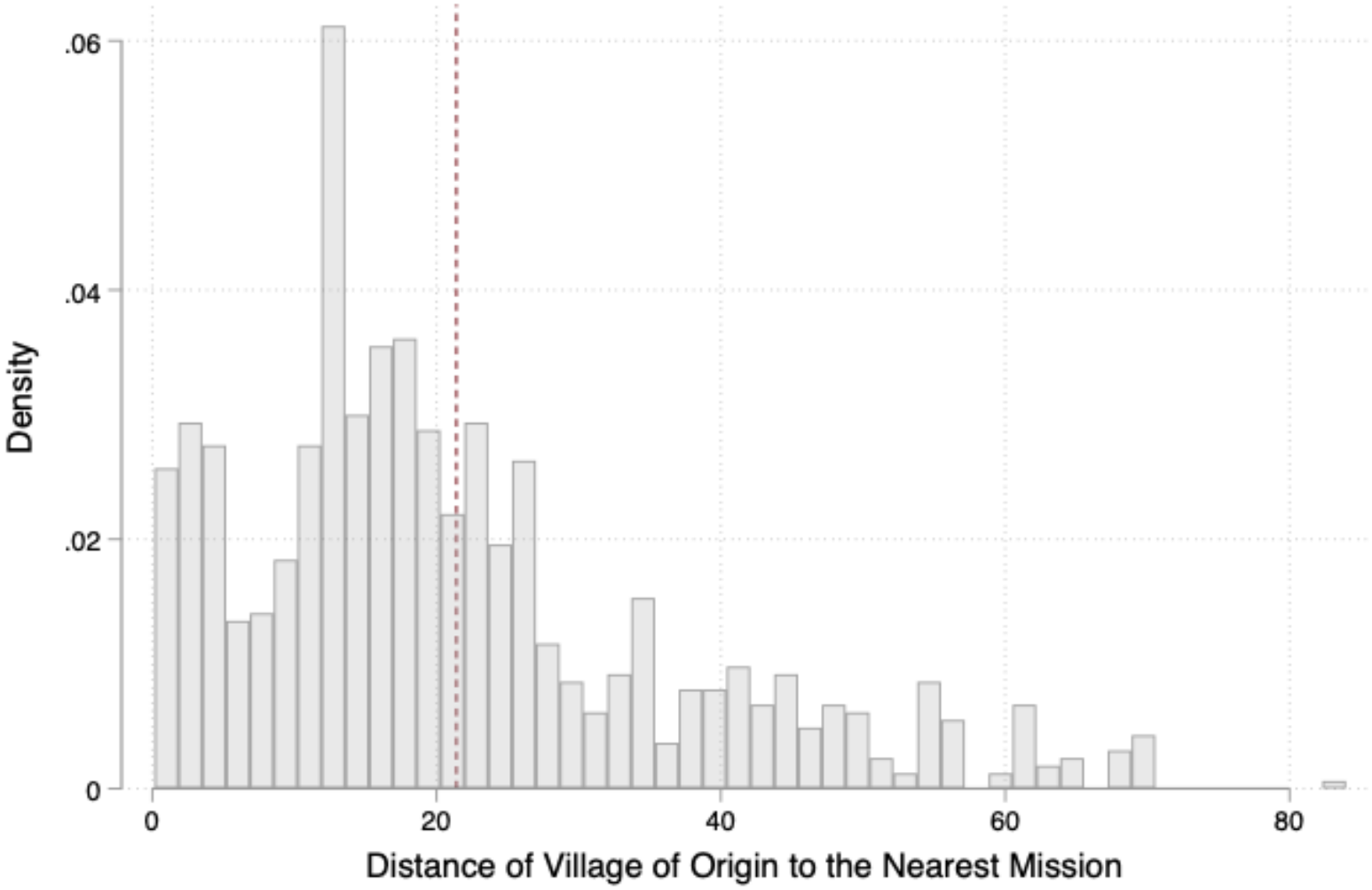


Panel B: Respondent's Village of Origin



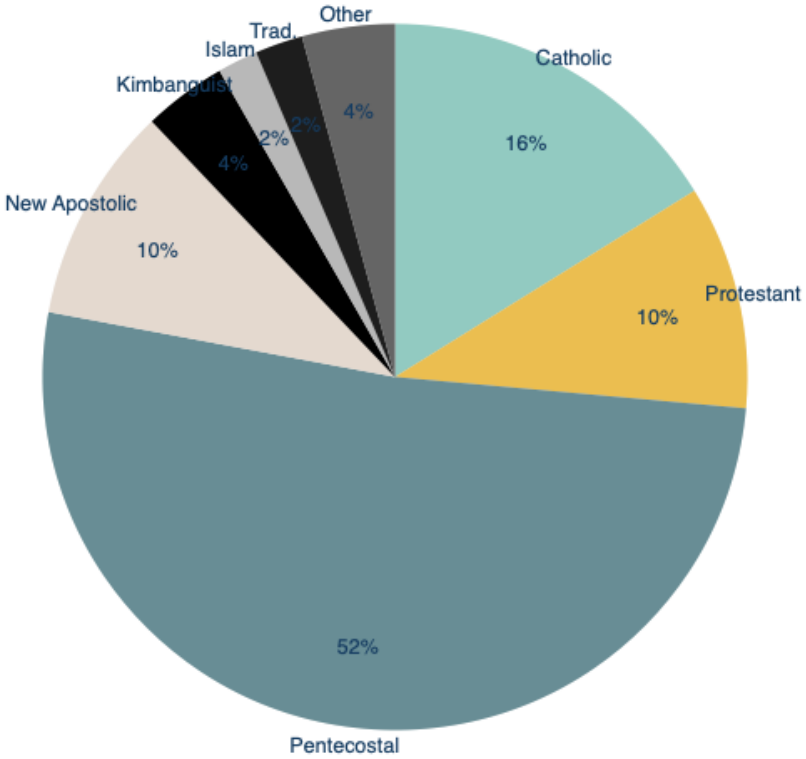
Notes: This figure reports the location of Christian missions and respondents' village of origin in the Kasai region. Panel A reports the location of Catholic and protestant missions in the Kasai Region obtained from georeferencing and digitizing the *Congo Belge Belgisch Kongo* map printed as part of the 1951 *Atlas Classique* (Mantnieks, 1951). Panel B shows the location of the village of origin of survey respondents in the Kasai region.

Figure A2: Distribution of Distance to the Nearest Mission



Notes:. This figure shows the distribution of the distances of the village of origin to the nearest mission (in kilometers).

Figure A3: Religious Denomination of the Respondents in the Sample



Notes: This figure shows the religious denominations of the 1,019 respondents to the outcome survey conducted in Kananga in 2019.

Table A2: Proximity to Missions and Religious Beliefs

	Strength of Beliefs			Prayer	Worship
	Grandparents	Parents	Respondent	Freq.	Freq.
	(1)	(2)	(3)	(4)	(5)
Panel A: Christian God					
Proximity to Mission	0.025	0.063*	0.071*	0.057**	0.032*
	(0.042)	(0.037)	(0.040)	(0.027)	(0.017)
Mean (0–4 Likert Scale)	2.95	3.38	3.65	3.83	3.74
Panel B: Ancestor Spirits					
Proximity to Mission	-0.057	-0.043*	-0.044*	-0.042*	-0.047**
	(0.040)	(0.025)	(0.025)	(0.026)	(0.020)
Mean (0–4 Likert Scale)	0.65	0.32	0.16	0.16	0.14
Observations	975	975	975	975	975
Geographic Controls	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to a mission and the strength of the individual's, their parents, and grandparents' beliefs. Proximity to an individual's village of origin is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In columns 1-3, the explanatory variable is a categorical variable measured on the Likert scale (0-4) indicating the strength of the grandparents' (column 1), parents' (column 2) and individual's (column 3) beliefs the Christian God (Panel A) and Ancestor Spirits (Panel B) and where 0 = with no strength at all, 1 = With a little bit of strength, 2 = With strength, 3 = With a lot of strength, 4 = With all my heart. In column 4, the explanatory variable is a categorical variable measured on the Likert scale indicating the frequency of prayer to the Christian God (Panel A) and Ancestor Spirits (Panel B) where 0 = never, 1 = very rarely, 2 = a few times per year, 3 = a few times per month, 4 = a few times per week. In column 5, the explanatory variable is a categorical variable measured on the Likert scale indicating how often a rite devoted to the Christian God (Panel A) and Ancestor Spirits (Panel B) is attended where 0 = never, 1 = very rarely, 2 = a few times per year, 3 = a few times per month, 4 = a few times per week. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.4.

Table A3: Proximity to Missions and Trust in Family and Coethnics

	Trust: Family vs. Non-Family			Trust: Coethnics vs. Non-Coethnics		
	Family Bias	Family	Non-Family	Ethnic Bias	Coethnics	Non-Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.098**	-0.015	0.084**	-0.096**	-0.008	0.088**
	(0.037)	(0.021)	(0.031)	(0.030)	(0.021)	(0.029)
Observations	975	975	975	975	975	975
Mean Outcome	1.02	3.23	2.21	0.49	2.85	2.36
Mean Distance	21.39	21.39	21.39	21.39	21.39	21.39
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to a mission and their family (columns 1-3) / coethnic trust (columns 4-6). Proximity to an individual's village of origin is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is calculated as the difference between an individual's 'trust' towards those within their family versus towards those outside their family. In column 2, the explanatory variable measures an individual's 'trust' towards those within their family. In column 3, the explanatory variable measures an individual's 'trust' towards those outside their family. In column 4, the explanatory variable is calculated as the difference between an individual's 'trust' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. In column 5, the explanatory variable measures an individual's 'trust' towards those within their ethnic group. In column 6, the explanatory variable measures an individual's 'trust' towards those outside their ethnic group. An individual's 'trust' is measured on a scale of 0-4 using the individual's responses to questions measuring trust in their family (columns 1-3) and tribe (4-6): "Could you tell me for each whether you trust people from this group completely, somewhat, not very much, or not at all?". All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.3.

Table A4: Proximity to Missions and Closeness to Family and Coethnics

	Closeness: Family vs. Non-Family			Closeness: Coethnics vs. Non-Coethnics		
	Family Bias	Family	Non-Family	Ethnic Bias	Coethnics	Non-Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.086	-0.046**	0.040	-0.078**	-0.053*	0.025
	(0.053)	(0.022)	(0.049)	(0.039)	(0.031)	(0.051)
Observations	975	975	975	975	975	975
Mean Outcome	1.51	4.18	2.67	0.69	3.43	2.75
Mean Distance	21.39	21.39	21.39	21.39	21.39	21.39
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to a mission and their family (columns 1-3) / coethnic closeness (columns 4-6). Proximity to an individual's village of origin is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is calculated as the difference between an individual's 'closeness' towards those within their family versus towards those outside their family. In column 2, the explanatory variable measures an individual's 'closeness' towards those within their family. In column 3, the explanatory variable measures an individual's 'closeness' towards those outside their family. In column 4, the explanatory variable is calculated as the difference between an individual's 'closeness' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. In column 5, the explanatory variable measures an individual's 'closeness' towards those within their ethnic group. In column 6, the explanatory variable measures an individual's 'closeness' towards those outside their ethnic group. An individual's 'closeness' is measured based on the individual's responses to questions measuring closeness: "Using the figures provided, which set of (the five) figures (increasing in closeness) best represents how close you feel to your nuclear family in the city of Kananga?". All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels..

Table A5: Proximity to Missions and Views of Family and Coethnics

	Views (+/-): Family vs. Non-Family			Views (+/-): Coethnics vs. Non-Coethnics		
	Family Bias	Family	Non-Family	Ethnic Bias	Coethnics	Non-Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.081**	-0.017	0.064**	-0.101**	-0.054**	0.047
	(0.036)	(0.020)	(0.030)	(0.036)	(0.024)	(0.030)
Observations	975	975	975	975	975	975
Mean Outcome	1.05	4.27	3.23	0.62	3.93	3.31
Mean Distance	21.39	21.39	21.39	21.39	21.39	21.39
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to a mission and their views of their family (columns 1-3) / coethnics (columns 4-6). Proximity to an individual's village of origin is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is calculated as the difference between an individual's 'views' towards those within their family versus towards those outside their family. In column 2, the explanatory variable measures an individual's 'views' towards those within their family. In column 3, the explanatory variable measures an individual's 'views' towards those outside their family. In column 4, the explanatory variable is calculated as the difference between an individual's 'views' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. In column 5, the explanatory variable measures an individual's 'views' towards those within their ethnic group. In column 6, the explanatory variable measures an individual's 'views' towards those outside their ethnic group. An individual's 'views' are measured based on a question measuring their positive/negative view towards group: "In which of the following ways do you view (group) in Kananga: very positively, somewhat positively, neutral, somewhat negatively or very negatively?: on a scale of 1-5". All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels.

Table A6: Proximity to Missions and Family and Ethnic Social Ties: Financial, Informal, and Social Ties

	Financial Ties		Informal Ties		Social Ties	
	Percent Family	Percent Coethnics	Percent Family	Percent Coethnics	Percent Family	Percent Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.010	-0.035**	-0.003	-0.014	-0.018	-0.015
	(0.010)	(0.014)	(0.014)	(0.016)	(0.015)	(0.018)
Observations	975	975	975	975	975	975
Mean Outcome	0.25	0.63	0.31	0.57	0.21	0.48
Mean Distance	21.39	21.39	21.39	21.39	21.39	21.39
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to a mission and their family / coethnic financial, informal, and social ties. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). The explanatory variable is the percent belonging to their family (in columns 1, 3, and 5) or tribe (in columns 2, 4, and 6) of those named by an individual in response to a series of network-related questions. In columns 1–2, five network-related questions addressing financial ties ask the respondent the name of ten people they would go to/who would come to them in Kananga to 1) borrow charcoal or palm oil for cooking, if theirs is depleted; 2) borrow 1,000-5,000 FC for an essential payment in case they're falling short; 3) borrow $50 to start or expand their business; 4) borrow coffee, milk, or sugar to serve visitors in case they did not have any; 5) receive advice on financial matters. In columns 3–4, three network-related questions, addressing informal ties, ask the respondent the name of ten people they would go to/who would come to them in Kananga in the event that: 1) They need advice on which school/college to put their children in; 2) They need advice on moving houses in Kananga or undertaking construction on an existing property; 3) They need advice in case someone in their family falls sick. In columns 5–6, one network-related question, addressing social ties, asks the respondent the name of ten people they would go to/who could come to them in Kananga in the event that they want to send their children to their house (or vice versa) to play, do homework, listen to the radio, or watch television. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.2.

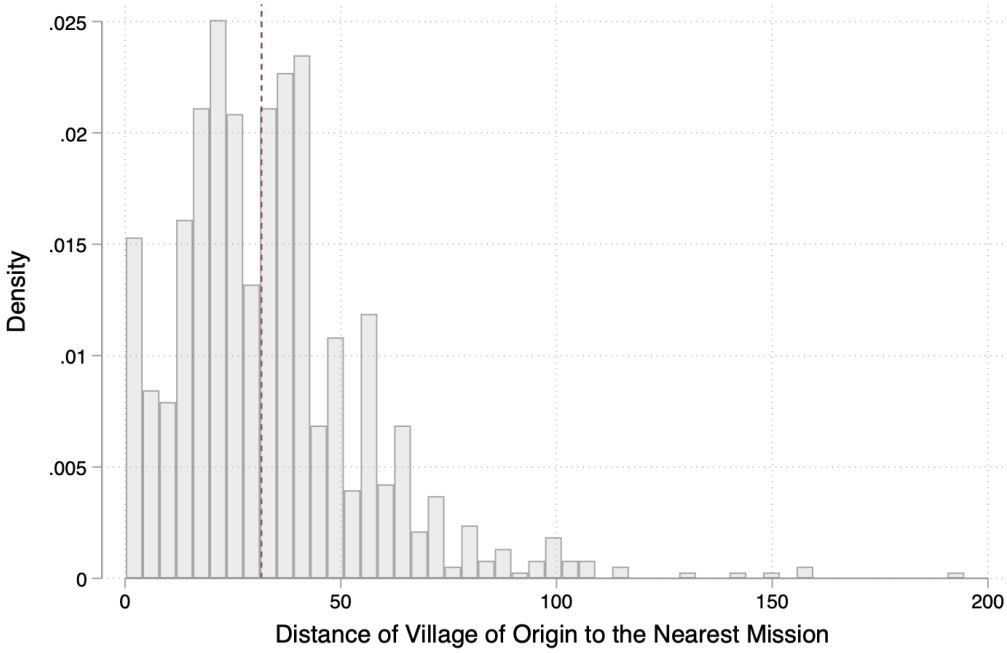
Table A7: Proximity to Missions and Referral of Family Members and Coethnics - Controlling for Number of Ties and Referrals

	Network Survey			Job Referral Experiment		
	Percent Family	Percent Coethnics	Nb of Ties	Percent Family	Percent Coethnics	Nb of Ties
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.014	-0.035**	-0.117	-0.043**	-0.026**	0.003
	(0.010)	(0.014)	(0.191)	(0.015)	(0.013)	(0.034)
Observations	975	975	975	975	975	975
Mean Outcome	0.29	0.66	8.03	0.48	0.64	2.06
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

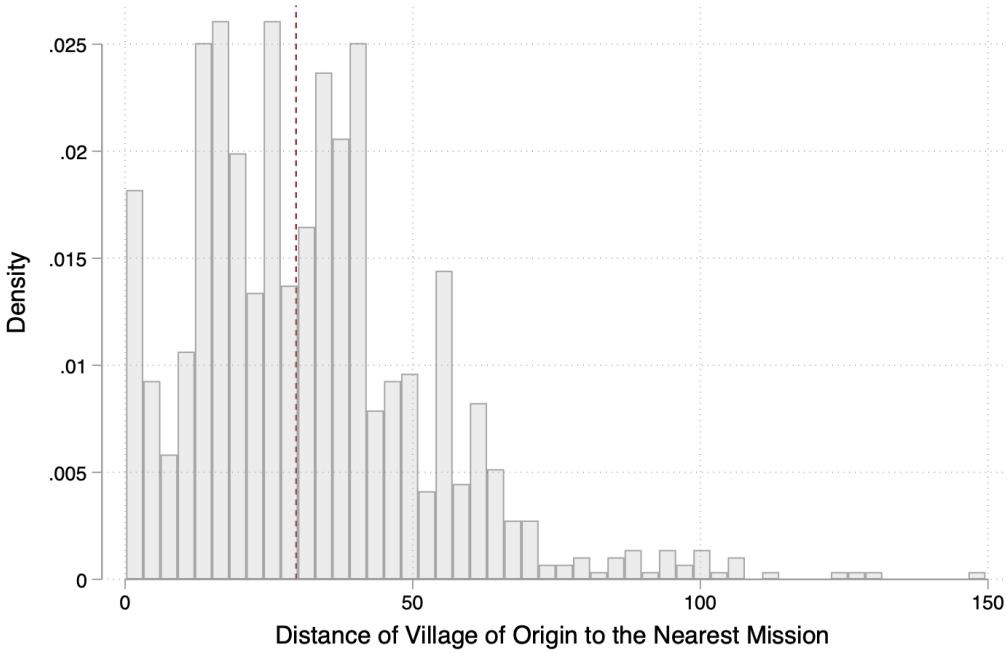
Notes: This table shows the relationship between the proximity of an individual's village of origin and their responses to a series of network-related questions and a question asking them to refer others for the same survey they were participating in. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In columns 1-2, the explanatory variable is the percent belonging to their family (in column 1) or tribe (in column 2) of those named by an individual in response to the series of nine network-related questions described in Section D. In column 3, the explanatory variable is the total number of responses the respondent provides to the series of network-related questions. In columns 4-5, the explanatory variable is the percent belonging to their family (in column 4) or tribe (in column 5) of those named by an individual when asked to refer 3 people for the same survey they were participating in. In column 6, the explanatory variable is the number of people named when asked to refer 3 people for the same survey they were participating in. Columns 1-2 include controls for the total number of responses the individual provides to the series of network-related questions. Columns 4-5 include controls for the number of people the individual names when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parentheses and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.2.

Figure A4: Distance to the Nearest Mission in 1924 and 1935

Panel A: Mission Location in 1924



Panel B: Mission Location in 1935



Notes: This figure shows the distribution of the distances of the village of origin to the nearest mission in 1924 (Panel A) and 1935 (Panel B). I rely on Corman (1924) and Corman (1935) for Catholic mission stations and on Roome (1924) for Protestant mission stations.

Table A8: Proximity to Missions and Attitudes, Social Network Ties and Referrals – Using Proximity to Missions in 1924 and 1935

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	%Family	%Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Mission Location in 1924						
Proximity to Mission	-0.132***	-0.097**	-0.028**	-0.041**	-0.033*	-0.017
	(0.038)	(0.034)	(0.010)	(0.017)	(0.017)	(0.015)
Mean Distance	31.62	31.62	31.62	31.62	31.62	31.62
Panel B: Mission Location in 1935						
Proximity to Mission	-0.114**	-0.087**	-0.028**	-0.048**	-0.035**	-0.018
	(0.041)	(0.035)	(0.010)	(0.016)	(0.017)	(0.015)
Mean Distance	29.72	29.72	29.72	29.72	29.72	29.72
Observations	975	975	975	975	975	975
Mean Outcome	1.19	0.60	0.29	0.66	0.48	0.64
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission as recorded in 1924 (Panel A) and 1935 (Panel B), and their attitudes, social network and moral values. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log(\text{Distance to Nearest Mission}_{1924/1935})$, which I compute using Corman (1924) and Corman (1935) for Catholic missions and Roome (1924) for Protestant missions. In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.3.

Table A9: Proximity to Missions and Attitudes, Social Network Ties and Referrals – Using Proximity instead of Log Proximity

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.006**	-0.006**	-0.002**	-0.002**	-0.004***	-0.003**
	(0.002)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)
Observations	975	975	975	975	975	975
Mean Outcome	1.19	0.60	0.29	0.66	0.48	0.64
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission, and their attitudes, social network and moral values. Proximity of an individual's village of origin to the nearest mission is measured in kilometers i.e., $-(DistancetoNearestMission)$. In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.3.

Table A10: Proximity to Missions and Attitudes, Social Network Ties and Referrals – Using Proximity Bins

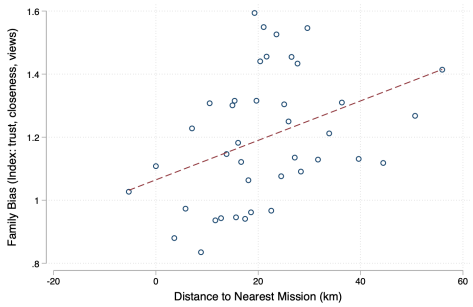
	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
$\leq$ 5 km from Mission	-0.331**	-0.384***	-0.074*	-0.113**	-0.200***	-0.076
	(0.136)	(0.111)	(0.039)	(0.056)	(0.055)	(0.058)
5-10 km from Mission	-0.419**	-0.230*	-0.083*	-0.143**	-0.118*	-0.185**
	(0.138)	(0.139)	(0.042)	(0.064)	(0.067)	(0.067)
10-15 km from Mission	0.112	0.044	-0.062	-0.033	-0.091*	-0.064
	(0.113)	(0.100)	(0.038)	(0.049)	(0.051)	(0.053)
15-20 km from Mission	-0.026	-0.109	-0.023	0.028	-0.116**	-0.026
	(0.104)	(0.100)	(0.036)	(0.051)	(0.050)	(0.055)
20-25 km from Mission	0.041	-0.070	-0.058	-0.067	-0.055	-0.061
	(0.115)	(0.108)	(0.043)	(0.057)	(0.060)	(0.062)
25-30 km from Mission	0.060	-0.055	-0.031	-0.060	-0.014	-0.057
	(0.116)	(0.109)	(0.046)	(0.062)	(0.066)	(0.064)
30-35 km from Mission	-0.102	-0.090	0.040	-0.017	-0.057	-0.044
	(0.149)	(0.136)	(0.054)	(0.077)	(0.071)	(0.085)
Observations	975	975	975	975	975	975
Mean Outcome	1.2	.6	.29	.66	.48	.64
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission when sorted into 5 kilometers proximity bins, and their attitudes, social network and moral values. The omitted group is villages over 35km away from the nearest mission. In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 6.2.

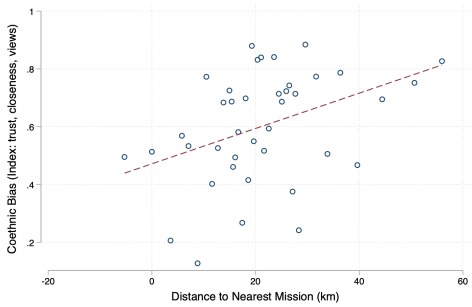
Figure A5: Distance to Missions and Attitudes, Social Network Ties and Referral – Binned Scatterplots

Panel A: Attitudes

A1: Family Bias

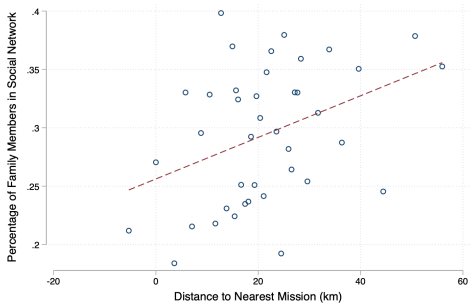


A2: Coethnic Bias

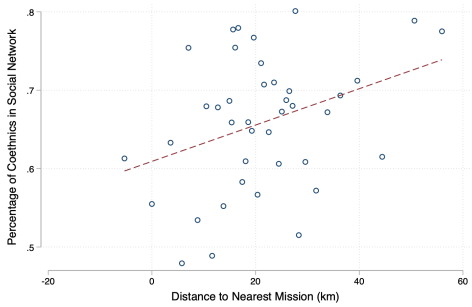


Panel B: Social Ties

B1: % Family in Social Networks

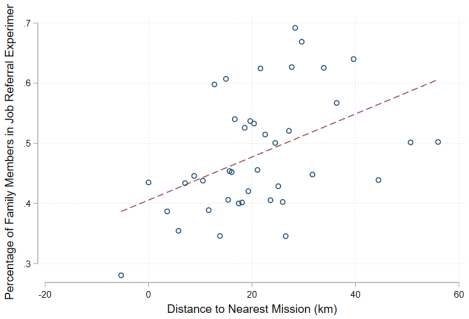


B2: % Coethnics in Social Networks

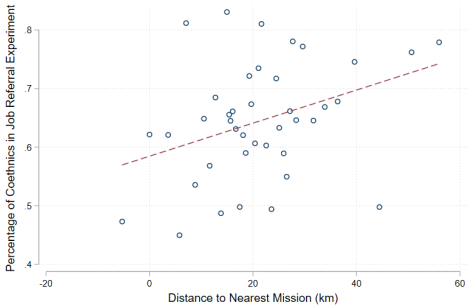


Panel C: Job Referral Experiment

C1: % Family in Job Referral Experiment



C2: % Coethnics in Job Referral Experiment



Notes: In Panel A, the y-axis is calculated as the difference between an individual's 'attitude' towards those within their family (A1) and ethnic group (A2) versus towards those outside these groups. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In Panel B, the y-axis is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (Panel B1) or tribe (Panel B2). In Panel C, the explanatory variable measures the proportion of those belonging to the same family (Panel C1) or tribe (Panel C2), named by the respondent when asked to refer up to three individuals in the job referral experiment. All panels include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.3.

Table A11: Proximity to Missions and Attitudes, Social Network Ties and Referrals – Spatial Basis Regressions and Large Cluster Standard Error Correction (Conley and Kelly, 2025)

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.093*	-0.089**	-0.014	-0.038**	-0.040*	-0.027
	(0.043)	(0.03)	(0.014)	(0.011)	(0.013)	(0.013)
	{0.035}	{0.031}	{0.011}	{0.013}	{0.015}	{0.015}
Observations	975	975	975	975	975	975
Mean Outcome	1.20	0.60	0.29	0.66	0.48	0.64
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Tensor Dimension	10	3	3	10	9	10
PCs of Tensor	1	1	1	7	1	4

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest actual mission and their attitudes, social network and moral values, while accounting for spatial correlation by including spatial bases in the regressions as recommended in Conley and Kelly (2024). Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. We use the R package "spatInfer" to estimate the parameters for and perform each spatial basis regression. We use the first principal components of a tensor of linear b-splines as the spatial basis. Bester-Conley-Hansen (BCH) standard errors are reported in () and Ibragimov-Müller (IM) standard errors are reported in {}. Family Bias uses 1 principal component of a 10x10 linear b-spline basis, with 9 (BCH) or 3 (IM) k-medoids clusters. Coethnic Bias uses 1 principal component of a 3x3 linear b-spline basis, with 5 (BCH and IM) k-medoids clusters. % Family in Social Network uses 1 principal component of a 3x3 linear b-spline basis, with 9 (BCH) or 5 (IM) k-medoids clusters. % Coethnics in Social Network uses 7 principal components of a 10x10 linear b-spline basis, with 6 (BCH) or 7 (IM) k-medoids clusters. % Family in Job Referral Experiment uses 1 principal component of a 9x9 linear b-spline basis, with 3 (BCH) or 7 (IM) k-medoids clusters. % Coethnics in Job Referral Experiment uses 4 principal components of a 10x10 linear b-spline basis, with 3 (BCH) or 4 (IM) k-medoids clusters. ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.3.

Table A12: Proximity to Missions and Attitudes, Social Network and Moral Values – Colonial Controls

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.098**	-0.089**	-0.012	-0.032**	-0.038**	-0.019
	(0.037)	(0.029)	(0.010)	(0.015)	(0.016)	(0.014)
Observations	975	975	975	975	975	975
Mean Outcome	1.19	0.60	0.29	0.66	0.48	0.64
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Colonial Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission, and their attitudes, social network and moral values. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin levels. It also controls for colonial influence including distance to the nearest *Force Publique* station and school, as well as proxies for colonial economic exploitation such as indicators for colonial mining and agricultural concessions, and distance to the nearest palm oil factory and rubber plantation. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.3.

Table A13: Proximity to Missions and Attitudes, Social Network and Moral Values – Ethnicity Fixed Effects

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.094**	-0.086**	-0.018*	-0.043**	-0.045**	-0.031**
	(0.038)	(0.028)	(0.010)	(0.013)	(0.017)	(0.014)
Observations	975	975	975	975	975	975
Mean Outcome	1.19	0.60	0.29	0.66	0.48	0.64
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Ethnicity FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission, and their attitudes, social network and moral values. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level and ethnicity fixed effects. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.3.

Table A14: Proximity to Missions and Attitudes, Social Network Ties and Referrals – Mission Denomination Fixed Effects

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.092**	-0.091**	-0.017	-0.039**	-0.041**	-0.025*
	(0.040)	(0.029)	(0.010)	(0.014)	(0.017)	(0.014)
Observations	975	975	975	975	975	975
Mean Outcome	1.19	0.60	0.29	0.66	0.48	0.64
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Mission Denomination FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission, and their attitudes, social network and moral values. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level and fixed effects for the denomination of the mission station (Catholic, Protestant, both present). Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.3.

Table A15: Proximity to Missions and Attitudes, Social Network Ties and Referrals – Missionary Order Fixed Effects

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	%Family	%Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Mission Location in 1924						
Proximity to Mission	-0.133***	-0.099**	-0.030**	-0.044**	-0.032*	-0.018
	(0.038)	(0.035)	(0.010)	(0.016)	(0.017)	(0.014)
Mean Distance	31.62	31.62	31.62	31.62	31.62	31.62
Panel B: Mission Location in 1935						
Proximity to Mission	-0.117**	-0.090**	-0.030**	-0.053***	-0.036**	-0.022
	(0.042)	(0.036)	(0.010)	(0.016)	(0.017)	(0.014)
Mean Distance	29.72	29.72	29.72	29.72	29.72	29.72
Observations	975	975	975	975	975	975
Mean Outcome	1.19	0.60	0.29	0.66	0.48	0.64
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes
Missionary Order FE	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission as recorded in 1924 (Panel A) and 1935 (Panel B), and their attitudes, social network and moral values. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log(\text{Distance to Nearest Mission}_{1924/1935})$, which I compute using Corman (1924) and Corman (1935) for Catholic missions and Roome (1924) for Protestant missions. In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level and fixed effects for the missionary order of Catholic missions (Congregation of the Immaculate Heart of Mary, Jesuits, Congregation of the Holy Spirit). Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.3.

Table A16: Proximity to Missions and Attitudes, Social Network Ties and Referrals – Individuals Born in Kananga

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.089**	-0.093**	-0.014	-0.033**	-0.045**	-0.023*
	(0.038)	(0.029)	(0.010)	(0.014)	(0.017)	(0.014)
Observations	946	946	946	946	946	946
Mean Outcome	1.22	0.61	0.29	0.66	0.49	0.65
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission, and their attitudes, social network and moral values for the subset of individuals born and raised in Kananga. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.3.

Table A17: Determinants of Migration from Villages to Kananga

Reason for migration	Respondents	Respondent's Mother	Respondent's Father
To find economic opportunities	15.470%	11.066%	55.311%
To find better educational opportunities	19.777%	4.508%	15.018%
Disagreements with family	4.147%	2.869%	4.396%
Disagreements with other villagers	3.509%	1.639%	2.930%
Outcast from village	2.233%	0%	1.465%
For marriage	17.703%	57.787%	0.733%
To be with family	19.458%	13.934%	8.059%
Because of religion or church	0.957%	0%	1.832%
Because of the Kamuina Nsapu conflict	11.005%	0%	0%
Death, illness, divorce in family	1.595%	2.459%	2.198%
Disease/inadequate healthcare in village	1.276%	0%	0.366%
Other	2.233%	2.459%	2.564%
Refused to answer	0.159%	0.410%	0.733%
Does not want to say	0.478%	2.869%	4.396%
Observations	627	244	273

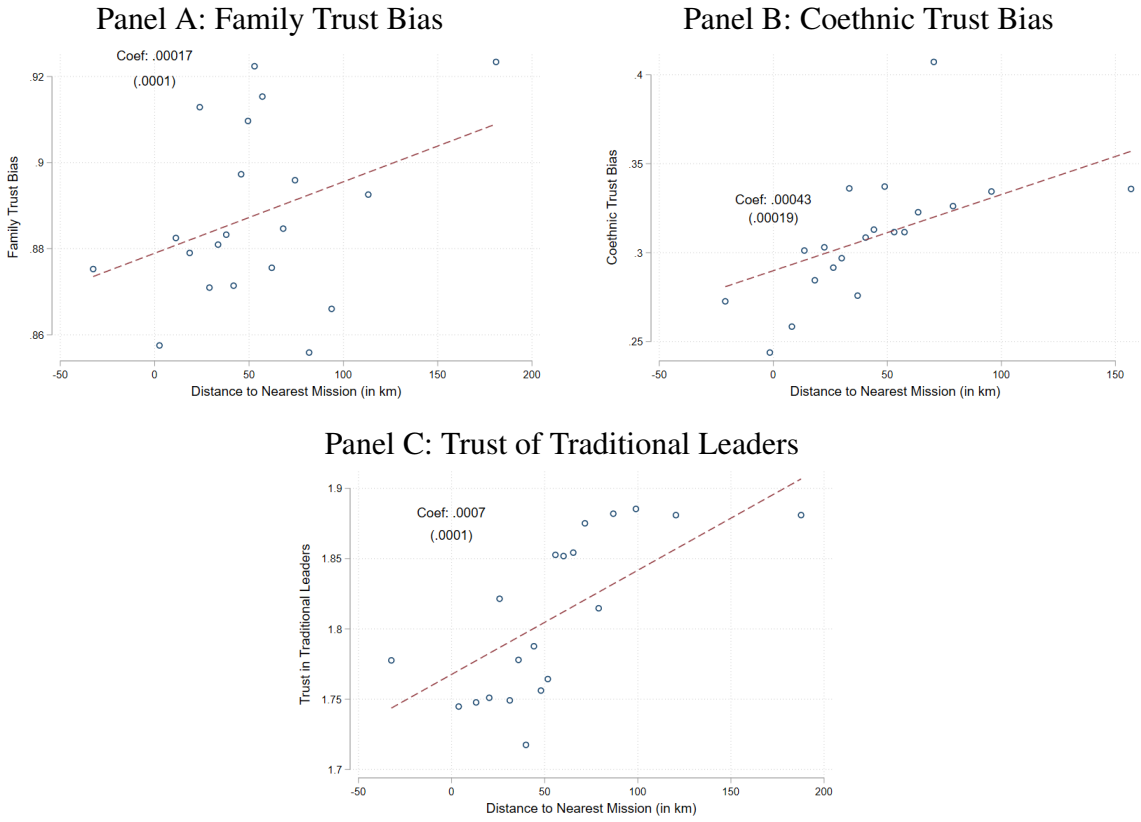
Notes: This table shows the reasons respondents stated for their own, their mother's and their father's migration from their village of origin to Kananga. We discuss these reasons for migration in Section 5.3.

Table A18: Exposure to Missions and Determinants of Migration

	To find economic opportunities	To find better educational opportunities	Disagreements with family	Disagreements with other villagers	Outcast from village	For marriage	To be with family	Because of religion or church	Because of the Kamuina Nsapu conflict	Death, illness, divorce in family	Disease/inadequate healthcare in village
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Panel A: Without Geographic and Historical Controls											
Proximity to Mission	-0.001	-0.011	0.004	-0.001	-0.002	-0.008	0.011	-0.000	0.007	0.004*	0.000
	(0.007)	(0.008)	(0.004)	(0.004)	(0.003)	(0.007)	(0.008)	(0.002)	(0.006)	(0.003)	(0.002)
Observations	639	639	639	639	639	639	639	639	639	639	639
R-squared	0.020	0.107	0.010	0.008	0.007	0.139	0.008	0.001	0.013	0.006	0.008
Mean	0.147	0.191	0.038	0.034	0.022	0.169	0.189	0.009	0.106	0.016	0.013
Geographic Controls	No	No	No	No	No	No	No	No	No	No	No
Historical Controls	No	No	No	No	No	No	No	No	No	No	No
Panel B: With Geographic and Historical Controls											
Proximity to Mission	0.000	-0.010	0.005	-0.003	-0.003	-0.008	0.012	0.000	0.003	0.005*	0.001
	(0.008)	(0.008)	(0.004)	(0.004)	(0.003)	(0.008)	(0.009)	(0.002)	(0.007)	(0.003)	(0.002)
Observations	639	639	639	639	639	639	639	639	639	639	639
R-squared	0.071	0.132	0.031	0.025	0.021	0.199	0.034	0.027	0.036	0.029	0.015
Mean	0.147	0.191	0.038	0.034	0.022	0.169	0.189	0.009	0.106	0.016	0.013
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission and the determinants of their migration to Kananga from their village of origin. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level and ethnicity fixed effects. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.3.

Figure A6: Afrobarometer Data – Distance to Johnson (1967) Missions, Family Trust Bias, Coethnic Trust Bias, and Trust of Traditional Leaders



Notes: This figure shows the relationship between family trust bias (Panel A), coethnic trust bias (Panel B), trust of traditional leaders (Panel C) and the distance of the respondent's village to the nearest mission (in kilometers). All figures report binned scatter plots that control for individual-level covariates (gender, age, age squared), village-level geographic and historical determinants of mission location described in Section 3.2 (except distance to Kananga), and country fixed effects. In all Figures, the x-axis measures the distance of the respondent's village recorded in the Afrobarometer to the nearest mission (in kilometers) located in Johnson (1967). In Panel A, the y-axis is family trust bias measured as the difference between how much respondents report trusting their relatives, asked in rounds 3–5 and 9 of the Afrobarometer, and how much they report trusting people who are not their relatives, defined as the average of several measures of trust: trust in non-coethnics asked in round 3; trust in other nationals asked in rounds 4 and 9; trust in other known people asked in rounds 4, 5, and 9; and trust in people from other religions asked in round 9. The number of observations corresponding to this Panel is 150,122 but the analysis is restricted to the 139,566 observations for which we can construct village-level controls. In Panel B, the y-axis is coethnic trust bias calculated as the difference between how much respondents report trusting people from their own ethnic group and people from other ethnic groups reported in round 3 of the Afrobarometer. The number of observations corresponding to this Panel is 22,607 but the analysis is restricted to the 22,253 observations for which we can construct village-level controls. In Panel C, the y-axis represents individuals' trust in traditional leaders, as reported in rounds 4 and 9 of the Afrobarometer. The number of observations corresponding to this Panel is 64,664 and the analysis is restricted to the 63,718 observations with village-level controls.

Table A19: Moral Foundation Questionnaire – Part I

	Universal Rel. to Communal	Universal Values		Communal Values	
		Harm/Care	Fairness	In-Group	Authority
	(1)	(2)	(3)	(4)	(5)
Proximity to Mission	0.109**	-0.043	0.022	-0.073**	-0.058**
	(0.041)	(0.040)	(0.022)	(0.029)	(0.029)
Observations	975	975	975	975	975
Mean Outcome	-0.16	3.89	4.10	4.08	4.06
Geographic Controls	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to a mission and their universal and communal moral values based on part 1 of the Moral Foundation Questionnaire in the survey. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is the difference between an individual's universal (columns 2-3) and communal values (columns 4-5). Columns 2-5 are each measured as a mean of 3 questions from part 1 of the Moral Foundation Questionnaire described in Section D, measured on a scale of 0 = not at all relevant to 5 = extremely relevant for questions 1-3 and 0 = strongly disagree to 5 = strongly agree for questions 4-6. In column 2, the explanatory variable is the mean of an individual's responses to the three harm/care-related questions. In column 3, the explanatory variable is the mean of an individual's responses to the three fairness/reciprocity-related questions. In column 4, the explanatory variable is the mean of an individual's responses to the three ingroup/loyalty-related questions. In column 5, the explanatory variable is the mean of an individual's responses to the three authority/respect-related questions. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.4.

Table A20: Moral Foundation Questionnaire – Part II

	Universal Rel. to Communal	Universal Values		Communal Values	
		Harm/Care	Fairness	In-Group	Authority
	(1)	(2)	(3)	(4)	(5)
Proximity to Mission	0.069	-0.014	0.007	-0.033*	-0.042*
	(0.043)	(0.028)	(0.021)	(0.019)	(0.022)
Observations	975	975	975	975	975
Mean Outcome	-0.16	3.89	4.10	4.08	4.06
Geographic Controls	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to a mission and their universal and communal moral values based on part 2 of the Moral Foundation Questionnaire in they survey. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission). In column 1, the explanatory variable is the difference between an individual's universal (columns 2-3) and communal values (columns 4-5). Columns 2-5 are each measured as a mean of 3 questions from part 2 of the Moral Foundation Questionnaire described in Section D, measured on a scale of 0 = not at all relevant to 5 = extremely relevant for questions 1-3 and 0 = strongly disagree to 5 = strongly agree for questions 4-6. In column 2, the explanatory variable is the mean of an individual's responses to the three harm/care-related questions. In column 3, the explanatory variable is the mean of an individual's responses to the three fairness/reciprocity-related questions. In column 4, the explanatory variable is the mean of an individual's responses to the three ingroup/loyalty-related questions. In column 5, the explanatory variable is the mean of an individual's responses to the three authority/respect-related questions. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.4.

Table A21: Pairwise Correlation Coefficients between Universal Morality, Attitudes towards Strangers, and Attitudes towards Foreigners

	Universal Morality	Trust in Strangers	Closeness to Strangers	Positive View of Strangers	Trust in Foreigners	Closeness to Foreigners	Positive View of Foreigners
Universal Morality	1.000						
Trust in Strangers	0.127***	1.000					
	(0.032)						
Closeness to Strangers	0.049	0.596***	1.000				
	(0.032)	(0.026)					
Positive View of Strangers	0.226***	0.873***	0.568***	1.000			
	(0.031)	(0.025)	(0.026)				
Trust in Foreigners	0.163***	0.587***	0.442***	0.500***	1.000		
	(0.032)	(0.026)	(0.029)	(0.028)			
Closeness to Foreigners	0.069**	0.481***	0.625***	0.432***	0.680***	1.000	
	(0.032)	(0.028)	(0.025)	(0.029)	(0.023)		
Positive View of Foreigners	0.201***	0.513***	0.441***	0.617***	0.686***	0.630***	1.000
	(0.031)	(0.028)	(0.029)	(0.025)	(0.023)	(0.025)	
Observations	975	975	975	975	975	975	975

Notes: This table presents pairwise correlation coefficients between individuals' universal morality, their attitudes towards strangers, and their attitudes towards foreigners. 'Universal Morality' is defined as the difference between an individual's universal (harm/care and fairness) and communal values (in-group and authority). 'Trust in Strangers/Foreigners' is measured by the individual's response to the question "Could you tell me for each whether you trust people from this group completely, somewhat, not very much, or not at all?: on a scale of 0-4". 'Closeness to Strangers/Foreigners' is measured by the individual's response to the question "Using the figures provided, which set of (the five) figures (increasing in closeness) best represents how close you feel to this group?". 'Positive View of Strangers/Foreigners' is measured by the individual's response to the question "In which of the following ways do you view this group in Kananga: very positively, somewhat positively, neutral, somewhat negatively or very negatively?: on a scale of 1-5". Standard errors are presented in parentheses. We discuss these results in Section 5.4.

Table A22: Heterogeneity by Reasons for Abandonment

	Attitudes				Network Survey				Job Referral Experiment			
	Family Bias		Coethnic Bias		Percent Family		Percent Coethnics		Percent Family		Percent Coethnics	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Proximity to Actual		-0.098**		-0.098**		-0.007		-0.049**		-0.035*		-0.022
Mission		(0.044)		(0.031)		(0.011)		(0.016)		(0.018)		(0.015)
Proximity to Abandoned	-0.011	-0.017	-0.041	-0.047	0.007	0.006	-0.029	-0.032*	-0.006	-0.008	-0.050**	-0.051**
Mission (land Grant)	(0.048)	(0.046)	(0.047)	(0.045)	(0.015)	(0.015)	(0.020)	(0.019)	(0.020)	(0.021)	(0.018)	(0.018)
Proximity to Abandoned	-0.035	-0.057	-0.041	-0.063	0.006	0.004	-0.015	-0.026	0.010	0.002	-0.031*	-0.036**
Mission (Disease)	(0.047)	(0.045)	(0.050)	(0.049)	(0.015)	(0.015)	(0.020)	(0.019)	(0.022)	(0.023)	(0.017)	(0.017)
Proximity to Abandoned	-0.007	-0.012	-0.027	-0.032	0.002	0.002	0.006	0.004	0.037*	0.035*	0.009	0.008
Mission (Hostility)	(0.050)	(0.047)	(0.048)	(0.046)	(0.015)	(0.015)	(0.022)	(0.021)	(0.020)	(0.021)	(0.020)	(0.020)
Proximity to Abandoned	-0.020	-0.041	-0.029	-0.051	-0.011	-0.012	-0.012	-0.023	0.032	0.024	-0.007	-0.012
Mission (Unknown)	(0.057)	(0.055)	(0.054)	(0.052)	(0.017)	(0.017)	(0.024)	(0.023)	(0.023)	(0.024)	(0.021)	(0.021)
Observations	835	835	835	835	835	835	835	835	835	835	835	835
Mean Outcome	1.18	1.18	0.60	0.60	0.29	0.29	0.70	0.70	0.48	0.48	0.67	0.67
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between proximity of an individual's village of origin to the nearest actual mission and abandoned mission and their attitudes, social network, and job referrals, with heterogeneity analysis for reason of abandonment of mission. Columns 1, 2, 5, 7, 9, and 11 investigate the separate effect of proximity to abandoned missions, while columns 2, 4, 6, 8, 10, and 12 consider proximity to historically active and abandoned missions in the same regression. Proximity of an individual's village of origin to the nearest historically active/abandoned mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Actual/Abandoned Mission). In columns 1 and 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In columns 3 and 4, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 5, 6, 7, and 8, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (columns 5 and 6) or tribe (columns 7 and 8). In columns 9, 10, 11, and 12, the explanatory variable measures the proportion of those belonging to the same family (columns 9 and 10) or tribe (columns 11 and 12), named by the respondent when asked to refer up to three individuals in the job referral experiment. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 6.1.

Table A23: Proximity to Actual vs Abandoned Missions and Universal and Communal Moral Values

	Universal Rel. to Communal	Universal Values		Communal Values	
		Care	Fairness	In-Group	Authority
	(1)	(2)	(3)	(4)	(5)
Proximity to Actual Mission	0.092**	-0.018	0.027*	-0.044*	-0.038
	(0.036)	(0.029)	(0.016)	(0.023)	(0.024)
Proximity to Abandoned Mission	0.004	0.056	0.039	0.042	0.049
	(0.037)	(0.040)	(0.025)	(0.036)	(0.031)
Observations	835	835	835	835	835
Mean Outcome	-0.17	3.91	4.10	4.10	4.08
Coef: Actual - Abandoned	0.088	-0.074	-0.013	-0.087	-0.087
p-val: Actual = Abandoned	0.095	0.121	0.655	0.035	0.017
Geographic Controls	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes

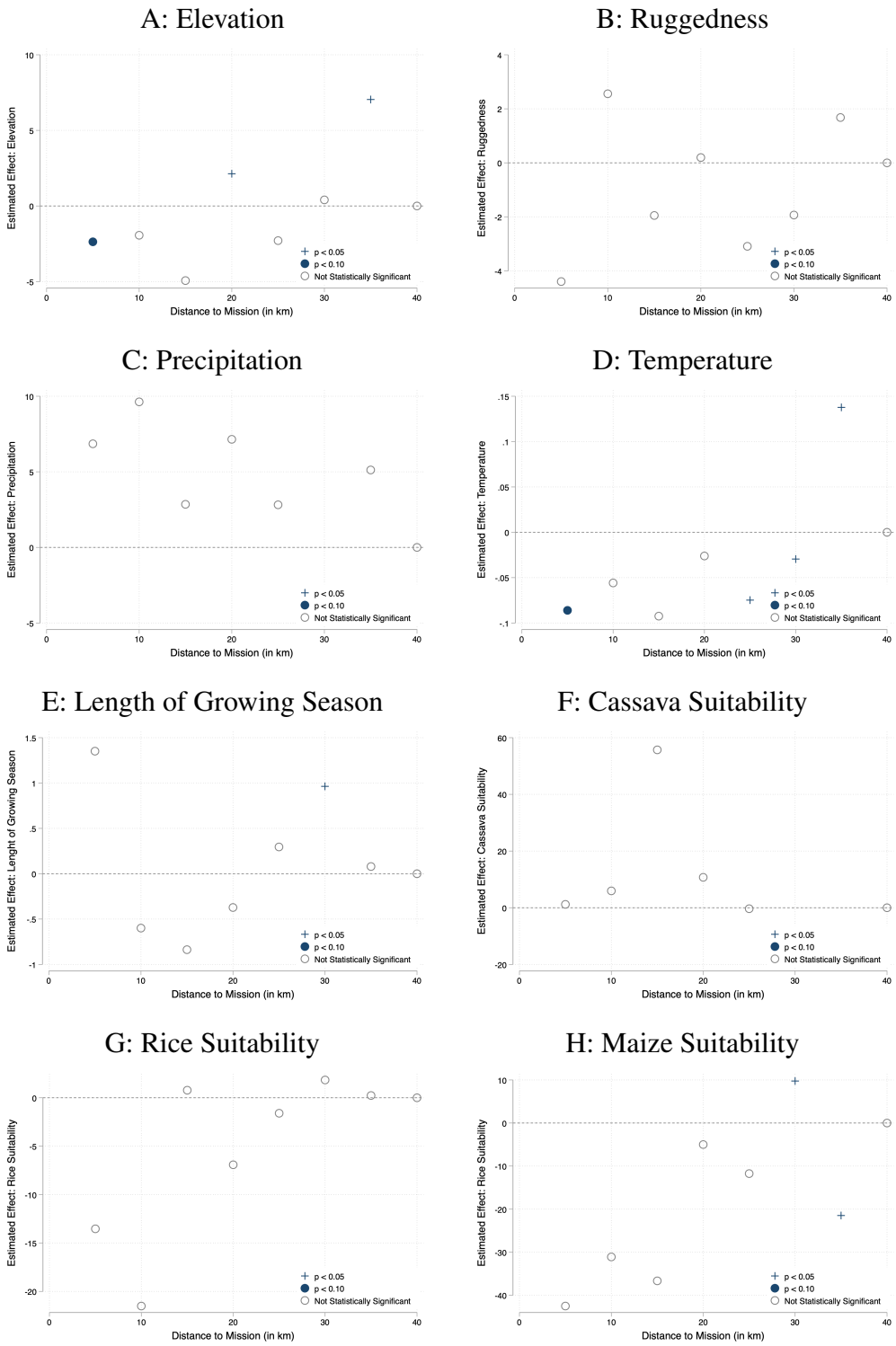
Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest historically active or abandoned mission and their universal and communal moral values. Proximity of an individual's village of origin to the nearest historically active/abandoned mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Historically Active/Abandoned Mission). In column 1, the explanatory variable is the difference between an individual's universal (columns 2-3) and communal values (columns 4-5). Columns 2-5 are each measured as a mean of 6 questions from the Moral Foundations Questionnaire described in Section D, measured on a scale of 0 = not at all relevant to 5 = extremely relevant for questions 1-3 and 0 = strongly disagree to 5 = strongly agree for questions 4-6. In column 2, the explanatory variable is the mean of an individual's responses to the six harm/care-related questions. In column 3, the explanatory variable is the mean of an individual's responses to the six fairness/reciprocity-related questions. In column 4, the explanatory variable is the mean of an individual's responses to the six ingroup/loyalty-related questions. In column 5, the explanatory variable is the mean of an individual's responses to two sets of three authority/respect-related questions. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.4.

Table A24: Proximity to Actual vs Abandoned Missions and Religious Identity

	Attitude						Network Survey	Job Referral Experiment
	Bias							
	Church vs Non-Christians	Church vs Other Christians	Christians vs Non-Christians	Church	Christian	Non-Christian	Percent Church	Percent Church
	(1)	(3)	(3)	(4)	(5)	(6)	(7)	(8)
Proximity to Actual Mission	0.093**	0.031	0.062*	0.043**	0.012	-0.050	-0.003	-0.004
	(0.041)	(0.021)	(0.035)	(0.021)	(0.021)	(0.038)	(0.012)	(0.015)
Proximity to Abandoned Mission	-0.029	-0.011	-0.026	0.017	0.026	0.051	0.008	0.015
	(0.043)	(0.031)	(0.040)	(0.024)	(0.033)	(0.038)	(0.014)	(0.016)
Observations	832	832	835	832	835	835	835	835
Mean Outcome	1.82	1.21	1.2	4.06	3.45	2.25	.37	.4
Coef: Actual - Abandoned	0.122	0.042	0.088	0.026	-0.014	-0.102	-0.011	-0.019
p-val: Actual = Abandoned	0.020	0.266	0.083	0.374	0.735	0.042	0.545	0.381
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

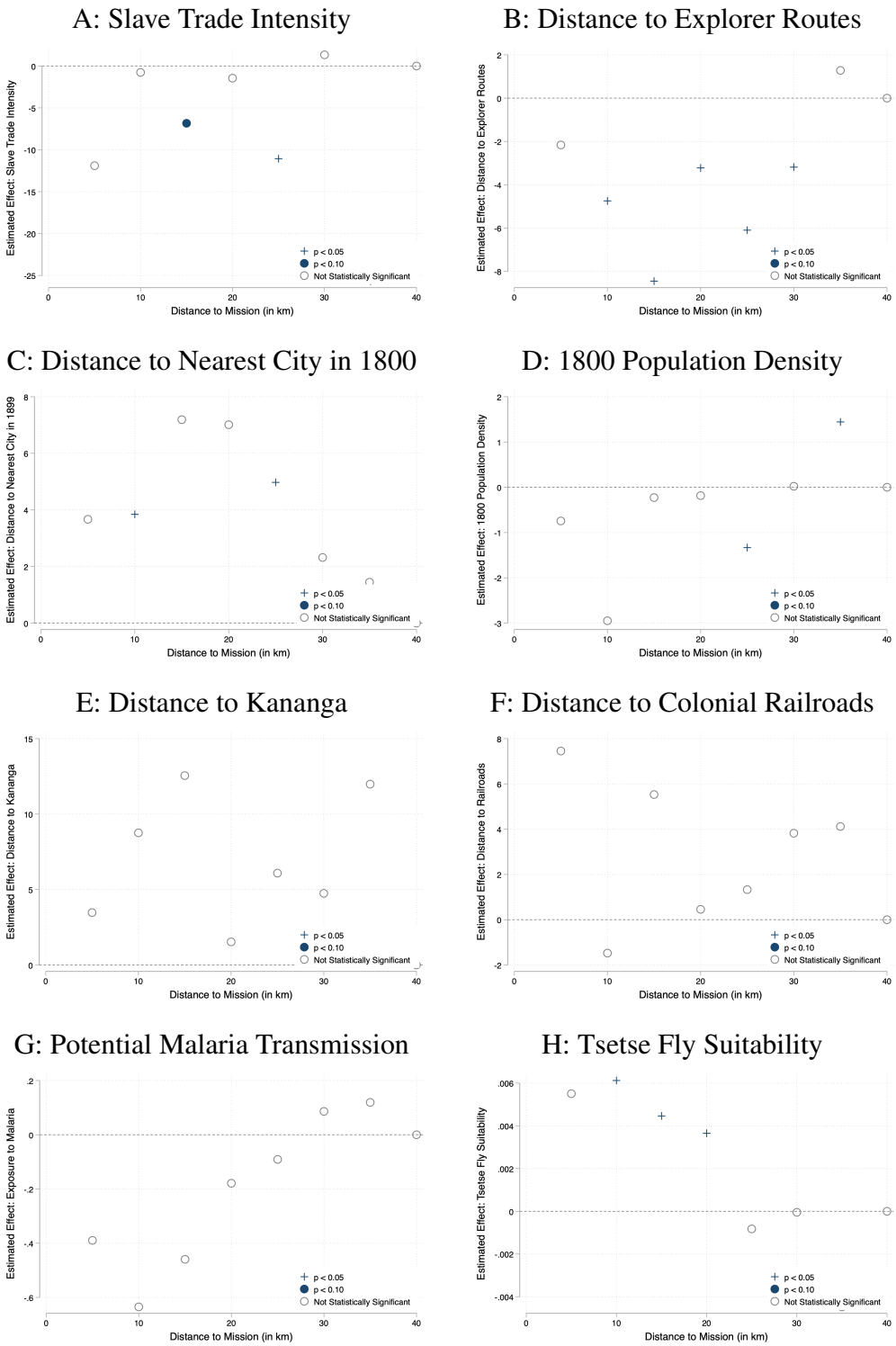
Notes: This table shows the relationship between the proximity of an individual's village of origin to a historically active or abandoned mission and their Church and Christian bias. Proximity of an individual's village of origin to the nearest historically active/abandoned mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Historically Active/Abandoned Mission). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their church versus towards those who are not Christians. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their church versus towards those who are Christians. In column 3, the explanatory variable is calculated as the difference between an individual's 'attitude' towards Christians versus towards those who are not Christians. In column 4, the explanatory variable is calculated as an individual's attiude towards those who are from the same church as them. In column 5, the explanatory variable is calculated as an individual's attitude towards Christian people in Kananga. in column 6, the explanatory variable is calculated as an individual's attitude towards non-Christians in Kananga. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In column 7, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their church. In column 8, the explanatory variable measures the percent of those belonging to the same church, named by an individual when asked to refer people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 5.4.

Figure A7: Effects of Proximity to Actual vs. Simulated Missions – Geographic Variables



Notes: This figure shows the estimated effect of the distance of the village of origin to an actual mission versus a simulated mission on elevation (Panel A), ruggedness (Panel B), precipitation (Panel C), temperature (Panel D), length of the growing season (Panel E), cassava suitability (Panel F), rice suitability (Panel G), and maize suitability (Panel H). All geographic variables are constructed as described in Appendix C. The x-axis indicates the distance bin (in kilometers) for which the coefficient is reported. Villages are categorized in distance bins reflecting their proximity to the nearest actual or counterfactual mission in 5km intervals. The omitted category is villages over 35km away from the nearest actual or counterfactual mission. All panels include actual mission fixed effects. Coefficients marked with a "+" are statistically significant at the 5% level and coefficients marked with a ● are statistically significant at the 10% level. We discuss these results in Section 6.2.

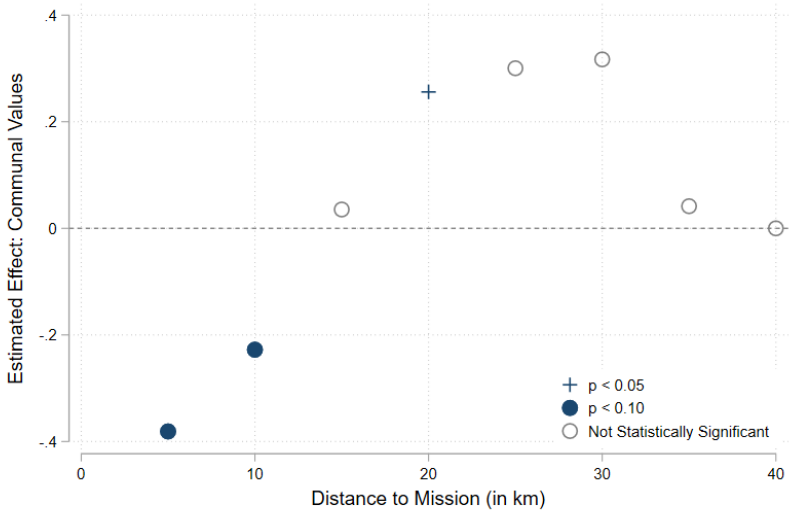
Figure A8: Effects of Proximity to Actual vs. Simulated Missions – Historical Variables



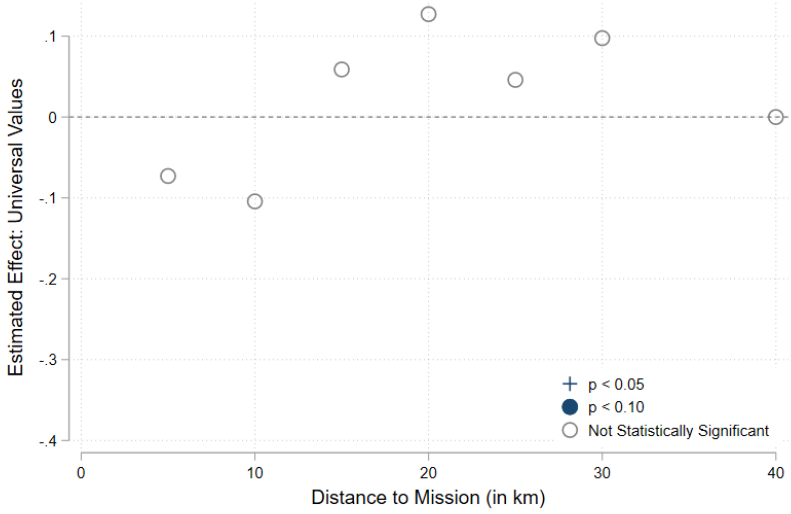
Notes: This figure shows the estimated effect of the distance of the village of origin to an actual mission versus a simulated mission on slave trade intensity (Panel A), distance to explorer routes (Panel B), distance to the nearest city in 1800 (Panel C), population density in 1800 (Panel D), distance to Kananga (Panel E), distance to colonial railroads (Panel F), potential malaria transmission (Panel G), and tsetse fly suitability (Panel H). All historical variables are constructed as described in Appendix C. The x-axis indicates the distance bin (in kilometers) for which the coefficient is reported. Villages are categorized in distance bins reflecting their proximity to the nearest actual or counterfactual mission in 5km intervals. The omitted category is villages over 35km away from the nearest actual or counterfactual mission. All panels include actual mission fixed effects. Coefficients marked with a "+" are statistically significant at the 5% level and coefficients marked with a ● are statistically significant at the 10% level. We discuss these results in Section 6.2.

Figure A9: Effect of Proximity to Actual vs. Simulated Missions – Moral Values

Panel A: Communal Values

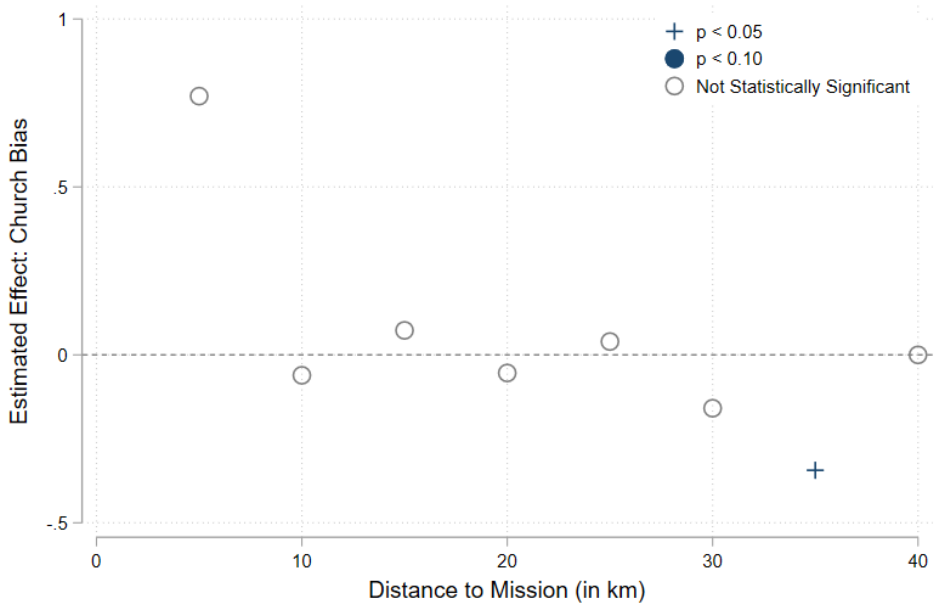


Panel B: Universal Values



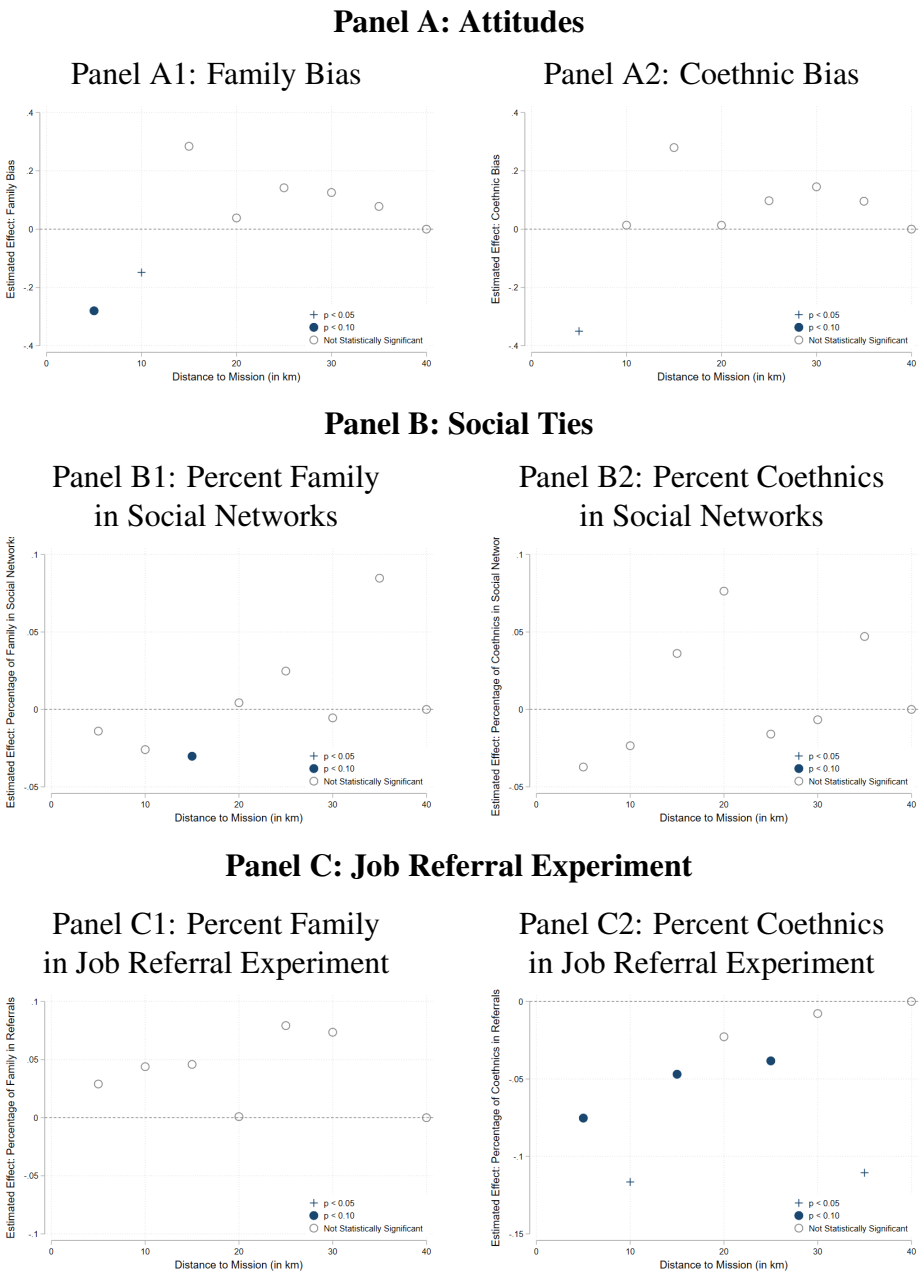
Notes: This figure shows the estimated effect of the distance of the village of origin to an actual mission versus a simulated mission on universal values (Panel A) and communal values (Panel B) based on part 1 of the Moral Foundation Questionnaire described in Section D. Universal values are measured as the mean of an individual's responses to the three harm/care-related questions. Communal values are measured as the mean of an individual's responses to the three fairness/reciprocity-related questions. The x-axis indicates the distance bin (in kilometers) for which the coefficient is reported. Villages are categorized in distance bins reflecting their proximity to the nearest actual or counterfactual mission in 5km intervals. The omitted category is villages over 35km away from the nearest actual or counterfactual mission. The y-axis is the difference between the effect of the distance of the village of origin to an actual mission and the mean of the effect of the distance of the village of origin to the 1,000 draws of the simulated missions on church bias. The figure controls for age, age squared, gender, and geographic and historical controls at the village of origin level and includes historically active mission fixed effects. Coefficients marked with a "+" are statistically significant at the 5% level and coefficients marked with a ● are statistically significant at the 10% level. We discuss these results in Section 6.2.

Figure A10: Effect of Proximity to Actual vs. Simulated Missions – Bias: Church vs Non-Christians



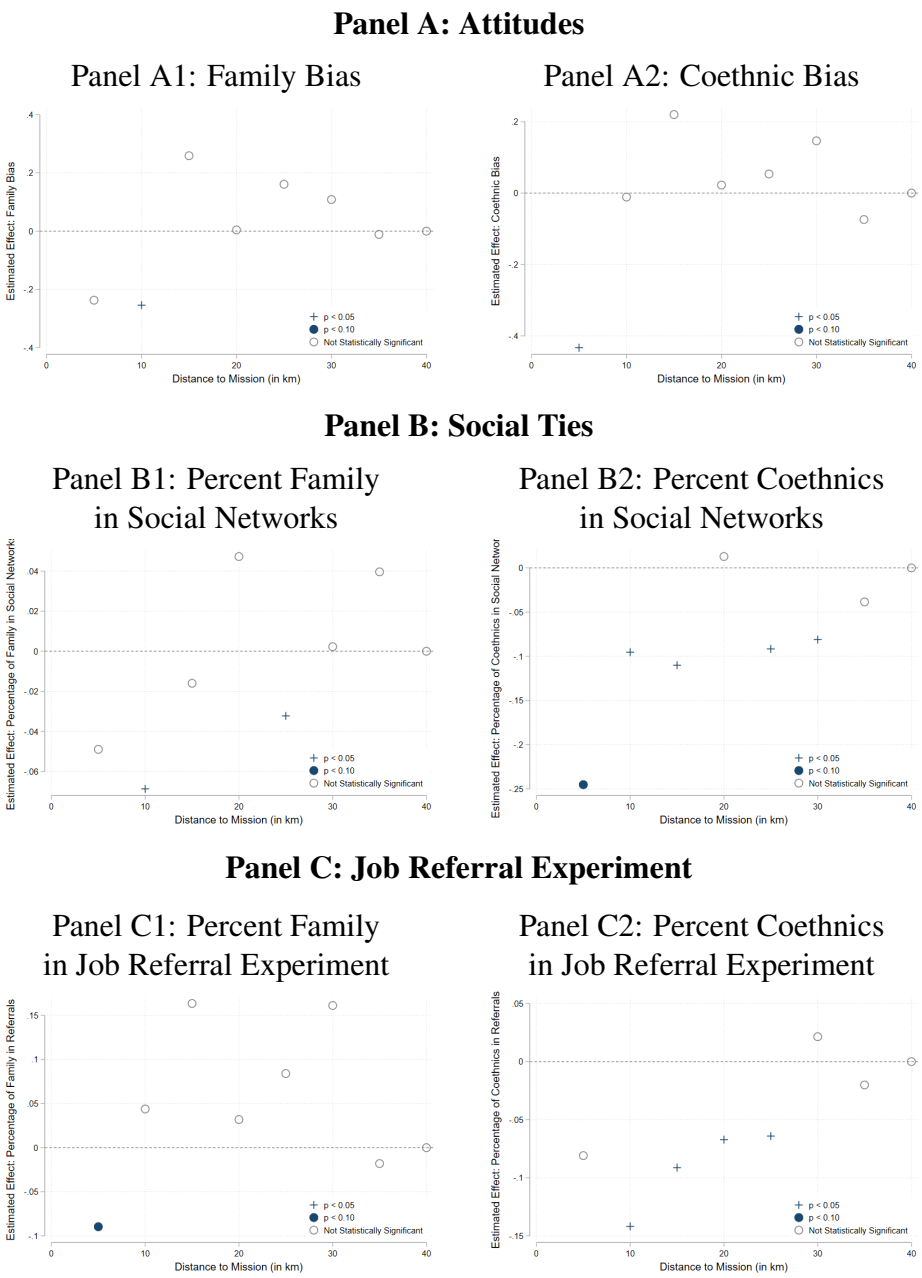
Notes: This figure shows the estimated effect of the distance of the village of origin to an actual mission versus a simulated mission on church bias with 5 kilometer bins. Church bias is defined as the difference between an individualâs 'attitude' towards those within their church versus towards those who are not Christians. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. The x-axis indicates the distance bin (in kilometers) for which the coefficient is reported. Villages are categorized in distance bins reflecting their proximity to the nearest actual or counterfactual mission in 5km intervals. The omitted category is villages over 35km away from the nearest actual or counterfactual mission. The y-axis is the difference between the effect of the distance of the village of origin to an actual mission and the mean of the effect of the distance of the village of origin to the 1,000 draws of the simulated missions on church bias. The figure controls for age, age squared, gender, and geographic and historical controls at the village of origin level and includes historically active mission fixed effects. Coefficients marked with a "+" are statistically significant at the 5% level and coefficients marked with a ● are statistically significant at the 10% level. We discuss these results in Section 6.2.

Figure A11: Effects of Proximity to Historically Active vs. Simulated Missions – Predicted Proximity to Mission from OLS Regression



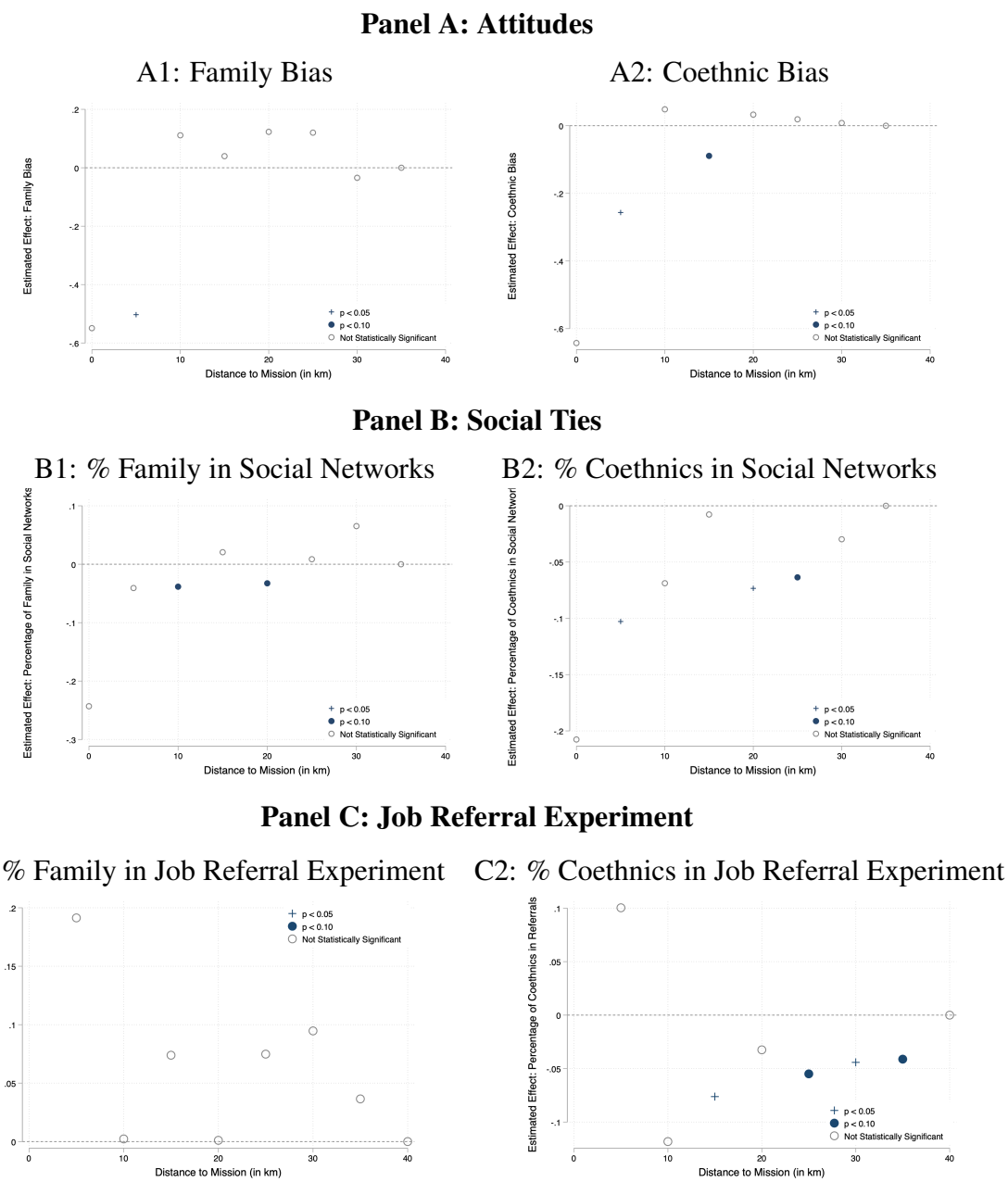
Notes: This figure shows the estimated effect of the distance of the village of origin to a historically active mission relative to a simulated mission on family/coethnic bias (Panel A), percent family/coethnics in social networks (Panel B), and percent family/coethnics named in the job referral experiment (Panel C). Simulated locations are generated using the 95th percentile of the mission suitability index in each buffer, which is defined using the predicted values from an OLS regression of proximity to missions on geographic and historical characteristics. Villages are categorized in distance bins reflecting their proximity to the nearest historically active or counterfactual mission in 5km intervals, indicated by the x-axis. The omitted category is villages over 35km away from the nearest mission. In all panels, the y-axis is the difference between the effect of the distance of the village of origin to a historically active mission and the mean of the effect of the distance of the village of origin to the 1,000 draws of the simulated missions on the explanatory variable. In Panel A, the explanatory variables are family bias (A1) and coethnic bias (A2), which measure an individual's 'attitude' towards those within versus those outside their family/ethnic group, calculated as the mean of their responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In Panel B, the explanatory variables are the percent of those named by an individual in response to the series of network-related questions described in Section D, belonging to their family (B1) or tribe (B2). In Panel C, the explanatory variables are the proportion of those belonging to the same family (C1) or tribe (C2) named by the respondent in the job referral experiment. All panels control for age, age squared, gender, and geographic and historical controls at the village of origin level and include historically active mission fixed effects. Coefficients marked with a "+" are statistically significant at the 5% level and coefficients marked with a ● are statistically significant at the 10% level. We discuss these results in Section 6.2.

Figure A12: Effects of Proximity to Historically Active vs. Simulated Missions – 10km Minimum Distance between Simulated Missions



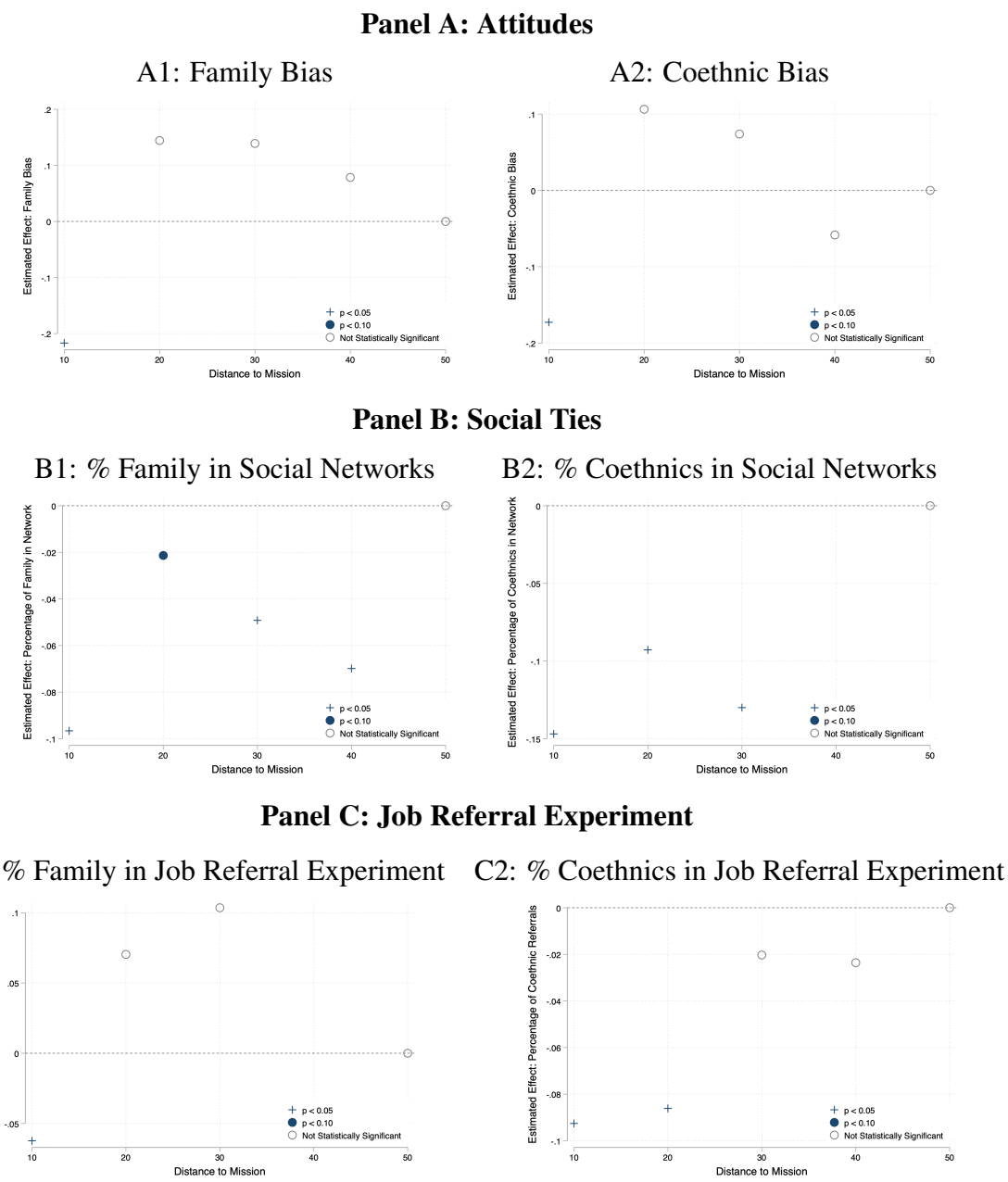
Notes: This figure shows the estimated effect of the distance of the village of origin to a historically active mission relative to a simulated mission on family/coethnic bias (Panel A), percent family/coethnics in social networks (Panel B), and percent family/coethnics named in the job referral experiment (Panel C). Simulated locations are generated using the 95th percentile of the mission suitability index in each buffer, and we impose a minimum distance of at least 10km between simulated locations. Villages are categorized in distance bins reflecting their proximity to the nearest historically active or counterfactual mission in 5km intervals, indicated by the x-axis. The omitted category is villages over 35km away from the nearest mission. In all panels, the y-axis is the difference between the effect of the distance of the village of origin to a historically active mission and the mean of the effect of the distance of the village of origin to the 1,000 draws of the simulated missions on the explanatory variable. In Panel A, the explanatory variables are family bias (A1) and coethnic bias (A2), which measure an individual's 'attitude' towards those within their family/ethnic group versus those outside their family/ethnic group, calculated as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In Panel B, the explanatory variables are the percent of those named by an individual in response to the series of network-related questions described in Section D, belonging to their family (B1) or tribe (B2). In Panel C, the explanatory variables are the proportion of those belonging to the same family (C1) or tribe (C2), named by the respondent in the job referral experiment. All panels control for age, age squared, gender, and geographic and historical controls at the village of origin level and include historically active mission fixed effects. Coefficients marked with a "+" are statistically significant at the 5% level and coefficients marked with a ● are statistically significant at the 10% level. We discuss these results in Section 6.2.

Figure A13: Effects of Proximity to Actual vs. Simulated Missions – 90th Percentile of Mission Suitability



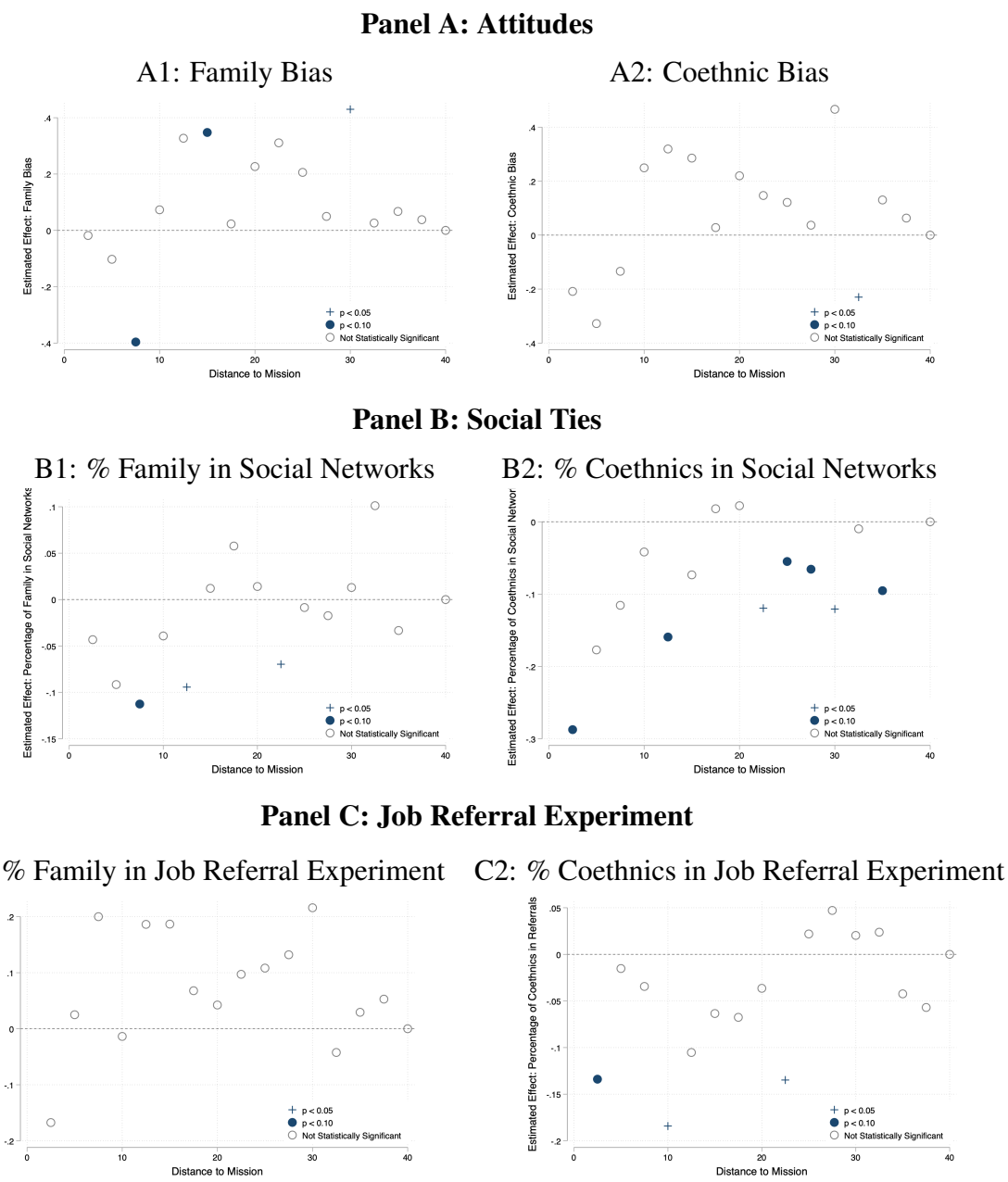
Notes: This figure shows the estimated effect of the distance of the village of origin to an actual mission relative to a simulated mission on family/coethnic bias (Panel A), percent family/coethnics in social networks (Panel B), and percent family/coethnics named in the job referral experiment (Panel C). Simulated locations are generated using the 90th percentile of mission suitability in each buffer. Villages are categorized in distance bins reflecting their proximity to the nearest historically active or counterfactual mission in 5km intervals, indicated by the x-axis. The omitted category is villages over 35km away from the nearest historically active or counterfactual mission. In all panels, the y-axis is the difference between the effect of the distance of the village of origin to a historically active mission and the mean of the effect of the distance of the village of origin to the 1,000 draws of the simulated missions on the explanatory variable. In Panel A, the explanatory variables are family bias (A1) and coethnic bias (A2), which measure an individual's 'attitude' towards those within their family/ethnic group versus those outside their family/ethnic group, calculated as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In Panel B, the explanatory variables are the percent of those named by an individual in response to the series of network-related questions described in Section D, belonging to their family (B1) or tribe (B2). In Panel C, the explanatory variables are the proportion of those belonging to the same family (C1) or tribe (C2), named by the respondent in the job referral experiment. All panels control for age, age squared, gender, and geographic and historical controls at the village of origin level and include historically active mission fixed effects. Coefficients marked with a "+" are statistically significant at the 5% level and coefficients marked with a ● are statistically significant at the 10% level. We discuss these results in Section 6.2.

Figure A14: Effects of Proximity to Actual vs. Simulated Missions – 10 Kilometers Distance Bins)



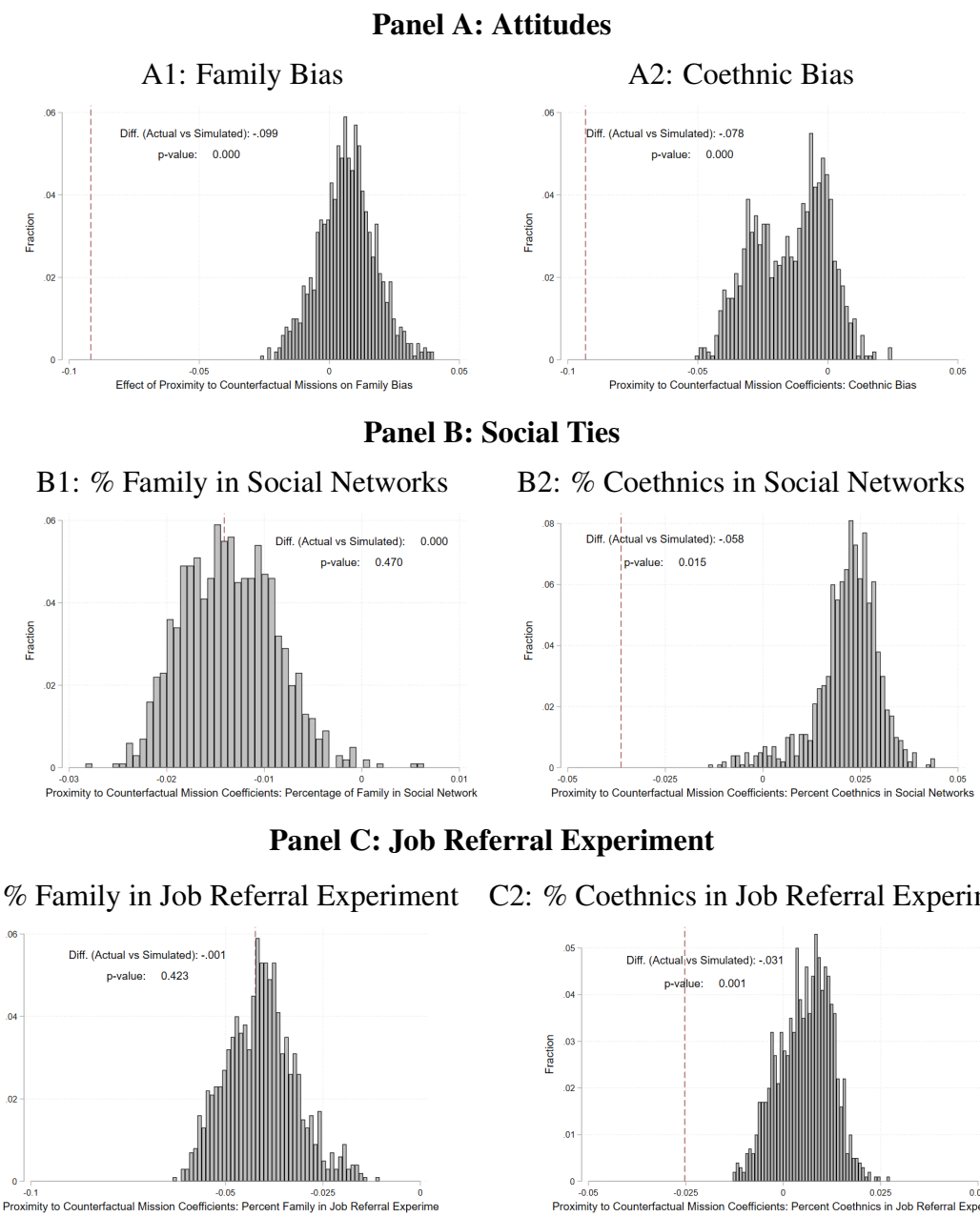
Notes: This figure shows the estimated effect of the distance of the village of origin to an actual mission versus a simulated mission on family/coethnic bias (Panel A), percent family/coethnics in social networks (Panel B), and percent family/coethnics named in the job referral experiment (Panel C) with 10 kilometer bins. Villages are categorized in distance bins reflecting their proximity to the nearest historically active or counterfactual mission in 10km intervals, indicated by the x-axis. The omitted category is villages over 35km away from the nearest historically active or counterfactual mission. In all panels, the y-axis is the difference between the effect of the distance of the village of origin to a historically active mission and the mean of the effect of the distance of the village of origin to the 1,000 draws of the simulated missions on the explanatory variable. In Panel A, the explanatory variables are family bias (A1) and coethnic bias (A2), which measure an individual's 'attitude' towards those within their family/ethnic group versus those outside their family/ethnic group, calculated as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In Panel B, the explanatory variables are the percent of those named by an individual in response to the series of network-related questions described in Section D, belonging to their family (B1) or tribe (B2). In Panel C, the explanatory variables are the proportion of those belonging to the same family (C1) or tribe (C2), named by the respondent in the job referral experiment. All panels control for age, age squared, gender, and geographic and historical controls at the village of origin level and include historically active mission fixed effects. Coefficients marked with a "+" are statistically significant at the 5% level and coefficients marked with a ● are statistically significant at the 10% level. We discuss these results in Section 6.2.

Figure A15: Effects of Proximity to Actual vs. Simulated Missions – 2.5 Kilometers Distance Bins)



Notes: This figure shows the estimated effect of the distance of the village of origin to an actual mission versus a simulated mission on family/coethnic bias (Panel A), percent family/coethnics in social networks (Panel B), and percent family/coethnics named in the job referral experiment (Panel C) with 2.5 kilometer bins. Villages are categorized in distance bins reflecting their proximity to the nearest historically active or counterfactual mission in 2.5km intervals, indicated by the x-axis. The omitted category is villages over 35km away from the nearest historically active or counterfactual mission. In all panels, the y-axis is the difference between the effect of the distance of the village of origin to a historically active mission and the mean of the effect of the distance of the village of origin to the 1,000 draws of the simulated missions on the explanatory variable. In Panel A, the explanatory variables are family bias (A1) and coethnic bias (A2), which measure an individual's 'attitude' towards those within their family/ethnic group versus those outside their family/ethnic group, calculated as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In Panel B, the explanatory variables are the percent of those named by an individual in response to the series of network-related questions described in Section D, belonging to their family (B1) or tribe (B2). In Panel C, the explanatory variables are the proportion of those belonging to the same family (C1) or tribe (C2), named by the respondent in the job referral experiment. All panels control for age, age squared, gender, and geographic and historical controls at the village of origin level and include historically active mission fixed effects. Coefficients marked with a "+" are statistically significant at the 5% level and coefficients marked with a ● are statistically significant at the 10% level. We discuss these results in Section 6.2.

Figure A16: Distribution of Coefficients on Log Proximity to Historically Active vs. Simulated Missions



Notes: These figures show the distribution of the effects of proximity to counterfactual missions on family/coethnic bias (Panel A), percent family/coethnics in social networks (Panel B) and percent family/coethnics named in the job referral experiment (Panel C). Each figure plots the distribution of the coefficients from regressing the explanatory variable on the proximity of the nearest counterfactual mission to the individual's village of origin, in each of the 1000 draws of the simulation. In Panel A, the explanatory variables are family bias (A1) and coethnic bias (A2). Family/coethnic bias is calculated as the difference between an individual's 'attitude' towards those within their family/ethnic group versus towards those outside their family/ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In Panel B, the explanatory variables are the percent of those named by an individual in response to the series of network-related questions described in Section D, belonging to their family (B1) or tribe (B2). In Panel C, the explanatory variables are the proportion of those belonging to the same family (C1) or tribe (C2), named by the respondent when asked to refer up to three individuals in the job referral experiment. All regressions include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level. We discuss these results in Section 6.2.

Table A25: Effects of Exposure to Missions in 1935 from Corman (1935)

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.120**	-0.070*	-0.026**	-0.056**	-0.029	-0.025*
	(0.044)	(0.038)	(0.009)	(0.017)	(0.018)	(0.015)
Observations	975	975	975	975	975	975
Mean Outcome	1.19	0.60	0.29	0.66	0.48	0.64
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission as recorded in Corman (1935), and their attitudes, social network and moral values. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission$_{1935(Corman)}$). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 7.

Table A26: Heterogeneity – Printing Press at the Mission

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Proximity to Mission	-0.285*	-0.137	-0.021	-0.058	0.006	-0.027
× Printing Press	(0.166)	(0.130)	(0.029)	(0.053)	(0.043)	(0.059)
Proximity to Mission	-0.087*	-0.054	-0.023**	-0.049**	-0.030	-0.022
	(0.045)	(0.039)	(0.010)	(0.019)	(0.019)	(0.015)
Printing Press	-1.059*	-0.498	-0.085	-0.190	-0.047	-0.113
	(0.565)	(0.448)	(0.095)	(0.188)	(0.142)	(0.203)
Observations	975	975	975	975	975	975
Mean Outcome	1.20	0.60	0.30	0.66	0.48	0.65
Mean Het	0.19	0.19	0.19	0.19	0.19	0.19
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission as recorded in Corman (1935) and their attitudes, social network and people named in the job referral experiment, with heterogeneity analysis for there being a printing press at the nearest mission. Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log$(Distance to Nearest Mission$_{1935(Corman)}$). Printing Press is a dummy indicating whether mission nearest to their village of origin has a printing press (as recorded in Corman (1935)). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 7.

Table A27: Heterogeneity – Dispensary or Hospital at the Mission

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Dispensary at Mission						
Proximity to Mission	-0.070	-0.080	-0.001	0.038	0.007	0.033
x Dispenary at Mission	(0.084)	(0.068)	(0.020)	(0.031)	(0.033)	(0.030)
Proximity to Mission	-0.091	-0.037	-0.025**	-0.071***	-0.032	-0.038*
	(0.057)	(0.049)	(0.012)	(0.020)	(0.024)	(0.020)
Dispensary	-0.269	-0.252	0.011	0.192*	0.023	0.145
	(0.289)	(0.230)	(0.068)	(0.109)	(0.110)	(0.103)
Mean Het	0.441	0.441	0.441	0.441	0.441	0.441
Panel B: Hospital at Mission						
Proximity to Mission	-0.081	-0.072	0.005	0.041	0.007	0.033
x Hospital at Mission	(0.086)	(0.070)	(0.020)	(0.032)	(0.033)	(0.031)
Proximity to Mission	-0.086	-0.040	-0.028**	-0.072***	-0.032	-0.038*
	(0.058)	(0.049)	(0.012)	(0.020)	(0.024)	(0.020)
Hospital	-0.246	-0.208	0.022	0.205*	0.010	0.149
	(0.295)	(0.234)	(0.069)	(0.110)	(0.110)	(0.105)
Mean Het	0.418	0.418	0.418	0.418	0.418	0.418
Observations	975	975	975	975	975	975
Mean Outcome	1.199	0.602	0.294	0.659	0.482	0.645
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission as recorded in Corman (1935) and their attitudes, social network and people named in the job referral experiment, with heterogeneity analysis for there being a dispensary at the nearest mission (Panel A) and there being a hospital at the nearest mission (Panel B). Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log(\text{Distance to Nearest Mission}_{1935(Corman)})$. Dispensary (Hospital) is a dummy indicating whether the mission nearest to their village of origin has a dispensary (hospital) (as recorded in Corman (1935)). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 7.

Table A28: Heterogeneity – Number of Christians, Catechumens, or Postulants at the Mission

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Number of Christians						
Proximity to Mission	-0.000	-0.000	-0.000	-0.000	-0.000	-0.000
x Nb of Christians	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Proximity to Mission	-0.035	-0.017	-0.022	-0.053**	-0.026	-0.023
	(0.075)	(0.062)	(0.015)	(0.026)	(0.031)	(0.024)
Nb of Christians	-0.000*	-0.000	-0.000	0.000	-0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mean Het	17003	17003	17003	17003	17003	17003
Panel B: Number of Catechumens						
Proximity to Mission	-0.000**	-0.000**	0.000	0.000	0.000	0.000
x Nb of Catechumens	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Proximity to Mission	0.007	0.096	-0.056**	-0.089**	-0.054*	-0.053*
	(0.081)	(0.071)	(0.022)	(0.033)	(0.031)	(0.031)
Nb of Catechumens	-0.000	-0.000**	0.000*	0.000*	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mean Het	3528	3528	3528	3528	3528	3528
Panel C: Number of Postulants						
Proximity to Mission	-0.000**	-0.000***	0.000	0.000	0.000	-0.000
x Nb of Postulants	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Proximity to Mission	0.070	0.126**	-0.028	-0.074**	-0.054**	-0.016
	(0.072)	(0.053)	(0.020)	(0.029)	(0.026)	(0.028)
Nb of Postulants	-0.000**	-0.000***	0.000	0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Mean Het	4239	4239	4239	4239	4239	4239
Observations	975	975	975	975	975	975
Mean Outcome	1.20	0.60	0.29	0.66	0.48	0.65
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission as recorded in Corman (1935) and their attitudes, social network and people named in the job referral experiment, with heterogeneity analysis for the number of Christians at the nearest mission (Panel A), the number of Catechumens at the nearest mission (Panel B), and the number of Postulants at the nearest mission (Panel C). Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log(\text{Distance to Nearest Mission}_{1935(Corman)})$. Number of Christians is calculated as the number of Christians in the mission nearest to their village of origin (as recorded in Corman (1935)). In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 7.

Table A29: Heterogeneity – Contact with other Ethnic Groups at the Mission

	Attitudes		Social Network		Job Referral Experiment	
	Family Bias	Coethnic Bias	% Family	% Coethnics	% Family	% Coethnics
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Contact with Other Ethnic Groups						
Proximity to Mission	-0.190*	-0.118	0.027	0.089	-0.005	0.021
x Contact	(0.105)	(0.089)	(0.033)	(0.055)	(0.051)	(0.039)
Proximity to Mission	0.052	0.035	-0.046	-0.154**	-0.021	-0.049
	(0.092)	(0.080)	(0.031)	(0.051)	(0.047)	(0.034)
Contact	-0.362	-0.558**	0.051	0.097	-0.050	-0.106
	(0.294)	(0.274)	(0.097)	(0.173)	(0.160)	(0.113)
Mean Het	0.891	0.891	0.891	0.891	0.891	0.891
Panel B: Number of Ethnic Groups in Contact with						
Proximity to Mission	-0.094**	-0.077**	-0.003	-0.010	0.013	-0.003
x Nb of Ethnic Groups	(0.045)	(0.038)	(0.015)	(0.023)	(0.023)	(0.021)
Proximity to Mission	-0.003	0.026	-0.019	-0.062*	-0.041	-0.026
	(0.067)	(0.064)	(0.019)	(0.037)	(0.034)	(0.026)
Nb of Ethnic Groups	-0.329**	-0.345**	-0.021	-0.032	0.012	-0.016
	(0.165)	(0.135)	(0.050)	(0.082)	(0.075)	(0.071)
Mean Het	1.307	1.307	1.307	1.307	1.307	1.307
Observations	622	622	622	622	622	622
Mean Outcome	1.18	0.61	0.28	0.69	0.47	0.67
Geographic Controls	Yes	Yes	Yes	Yes	Yes	Yes
Historical Controls	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table shows the relationship between the proximity of an individual's village of origin to the nearest mission as recorded in Corman (1935) and their attitudes, social network and moral values, with heterogeneity analysis for contact with other ethnic groups (Panel A) and the number of other ethnic groups in contact with (Panel B). Proximity of an individual's village of origin to the nearest mission is measured in log kilometers i.e., $-\log(\text{Distance to Nearest Mission}_{1935(Corman)})$. Contact with other ethnic groups is a dummy which takes the value 1 if an individual belongs to an ethnic group found in the mission nearest to their village of origin, and there exists more than one ethnic group in the same mission (as recorded in Corman (1935)) and 0 otherwise. In column 1, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their family versus towards those outside their family. In column 2, the explanatory variable is calculated as the difference between an individual's 'attitude' towards those within their ethnic group (tribe) versus towards those outside their ethnic group. An individual's 'attitude' is measured as the mean of the individual's responses to questions measuring trust, closeness, and a positive/negative view towards groups as described in Section D. In columns 3 and 4, the explanatory variable is the percent of those named by an individual in response to the series of nine network-related questions described in Section D, belonging to their family (column 3) or tribe (column 4). In columns 5-6, the explanatory variable is the percent belonging to their family (in column 5) or tribe (in column 6) of those named by an individual when asked to refer 3 people for the same survey they were participating in. All columns include controls for age, age squared, and gender along with geographic and historical controls at the village of origin level. Standard errors clustered at the village of origin level and are presented in parenthesis and ***, **, and * indicate significance at the 1, 5, and 10 percent levels.

B Data on Mission Location and Characteristics

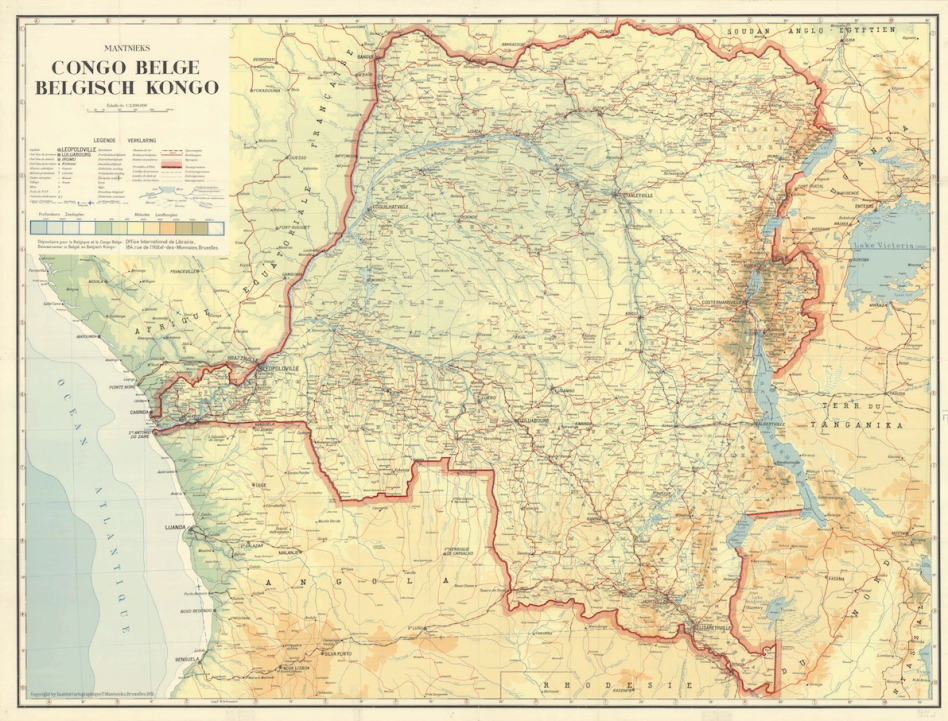
B.1 Mission Location

Our analysis relies on archival data documenting the locations of Catholic and Protestant missions in the Belgian Congo. The primary source is the 1951 *Atlas Classique* (Mantnieks, 1951), an official publication from the Brussels *Institut Cartographique*, which includes a map marking all Catholic and Protestant missions as of 1951. The original map is reproduced in Figure A17, while Figure A1 presents a digitized and georeferenced version, restricted to our study area in the Kasaï region.

A potential concern is that our results might be sensitive to the historical source used to locate mission stations or to the specific year this source documents. To address this, I also digitized and georeferenced maps of Catholic mission stations from two editions of the *Annuaire des Missions Catholiques au Congo Belge*, published in 1924 and 1935 (Corman, 1924, 1935). Figure A20 provides an example, showing the Catholic missions in the Haut-Kasai region, reproduced from Corman (1935). For Protestant missions, I rely on their locations as recorded in the 1924 map *Ethnographic Survey of Africa: Showing the Tribes and Languages; also the Stations of Missionary Societies* (Roome, 1924), georeferenced and digitized by Nunn (2010, 2014). Figure A18 presents a visual representation of the original map by Roome (1924), alongside the digitized mission locations from Nunn (2014).

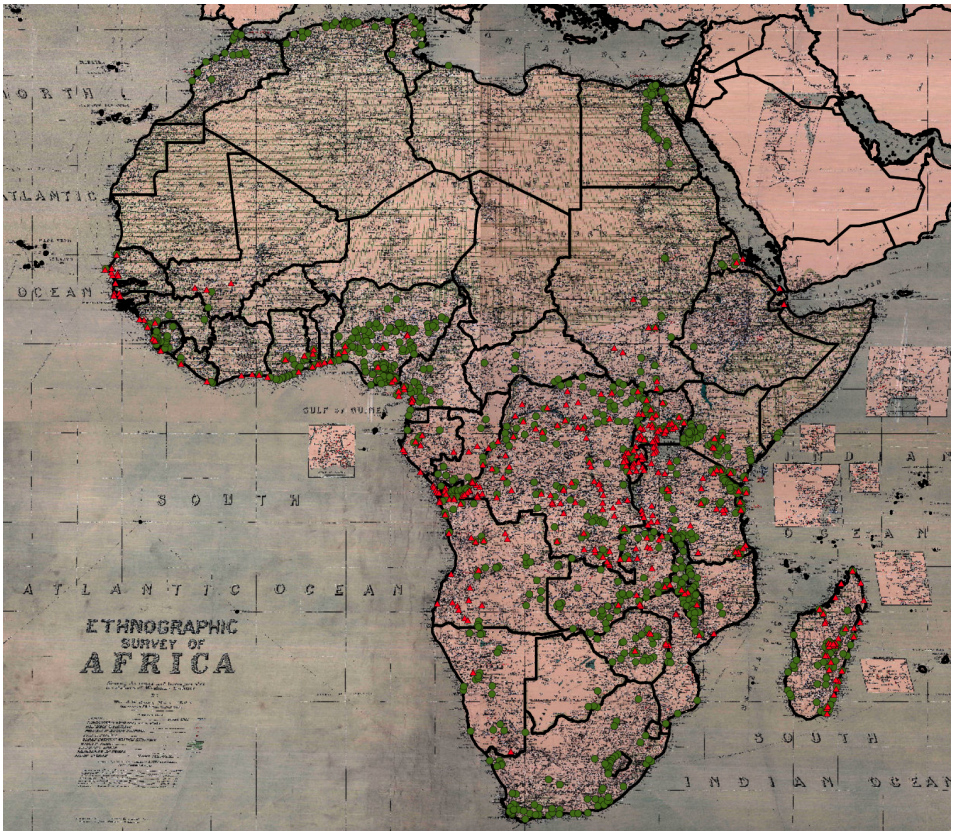
Section 5.3 extends the analysis to examine whether the observed patterns persist beyond the Democratic Republic of the Congo. Specifically, I explore the relationship between historical exposure to Christian missions and family or coethnic trust bias and trust in traditional leaders across Africa. This analysis relies on the locations of Catholic and Protestant missions, drawn from the (Roome, 1924) map described above.

Figure A17: Map of Catholic and Protestant Missions from Mantnieks (1951)



Notes: This figure shows the location of Catholic and Protestant missions in the Belgian Congo. The map, entitled *Congo Belge Belgisch Kongo*, was printed as part of the 1951 *Atlas Classique* (Mantnieks, 1951). I georeferenced the map and digitized the location of all Catholic and Protestant missions on it. Panel A of Figure A1 reports the digitized version with the location of all the Catholic and Protestant missions in the Kasai region. This map is discussed in Section 3.1.

Figure A18: Map of Catholic and Protestant Missions from Roome (1924)



Notes: This figure shows the location of Catholic and Protestant missions on the African continent. The map, entitled *Ethnographic Survey of Africa: Showing the Tribes and Languages; also the Stations of Missionary Societies* was printed in 1924 (Roome, 1924). I use the georeferenced and digitized version of the map containing the location of all Catholic and Protestant missions provided and analyzed by (Nunn, 2010, 2014). The Figure reported here corresponds to Figure 1 in (Nunn, 2014) with the Catholic missions displayed as red triangles and the Protestant missions as green circles.

B.2 Mission Characteristics

The primary source of information for mission personnel, converts, and infrastructures I use in Section 7, are two comprehensive and authoritative directories of Catholic missions published in 1924 and 1935 (Corman, 1924, 1935). These directories are unfortunately restricted to Catholic missions but have the advantage of offering an abundance of detailed information about each mission station in the Belgian Congo. An example of the information provided in Corman (1935) for the mission of Ndekesha near Kananga is provided in Figure A19.

For most missions, the directories provide information on: (i) the mission's name, (ii) its year of establishment, (iii) the ethnicity targeted for evangelization, (iv) the number of

Christians, (v) the number of catechumens – individuals receiving instruction in Christianity before baptism or confirmation, (vi) the number of postulants – candidates for the Scheutist order, (vii) the number of catechists responsible for instructing catechumens, (viii) the number of school teachers, (ix) the number of school instructors, (x) the names of priests and brothers, (xi) the names of nuns, and (xii) the infrastructures present at each mission.

This information is typically supplemented with maps, enabling the precise identification of each mission station's geographical location. An example of a map of "Haut Kasai" and its missions, taken from Corman (1935), is reproduced below in Figure A20.

Figure A19: The Catholic mission of Ndekesha described in Corman (1935)

(i) Name of the mission: Ndekesha

(ii) Foundation year: 1917

(iii) Ethnicities: Bene Lulua and Babindi

(iv) Christians: 22,342

(v) Catechumens: 7,007

(vi) postulants: 9,821

(vii) catechists: 329

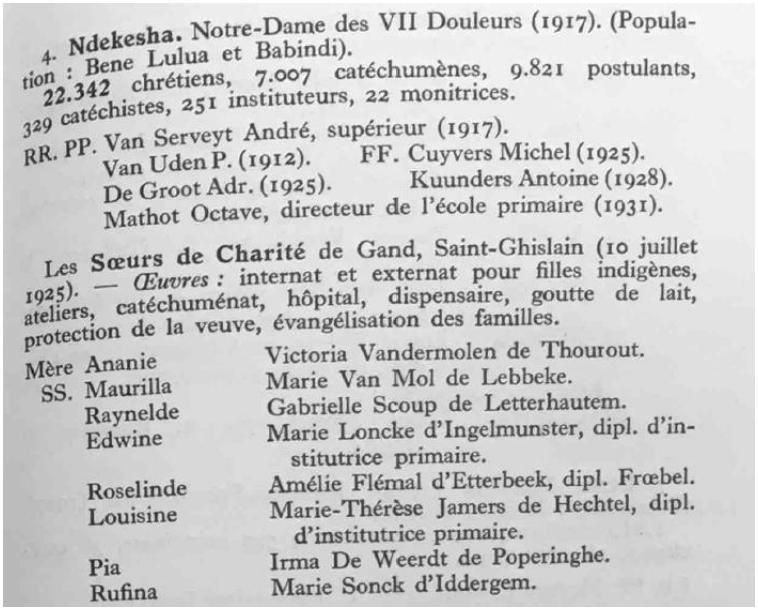
(viii) School teachers: 251

(ix) *School* instructors: 22

(x) Priests and brothers: 6

(xi) Nuns: 8

(xii) Infrastructures: primary school, boarding school for indigenous women, hospital and health center, widows care program, maternal and infant health program, program supporting widows, family evangelization.



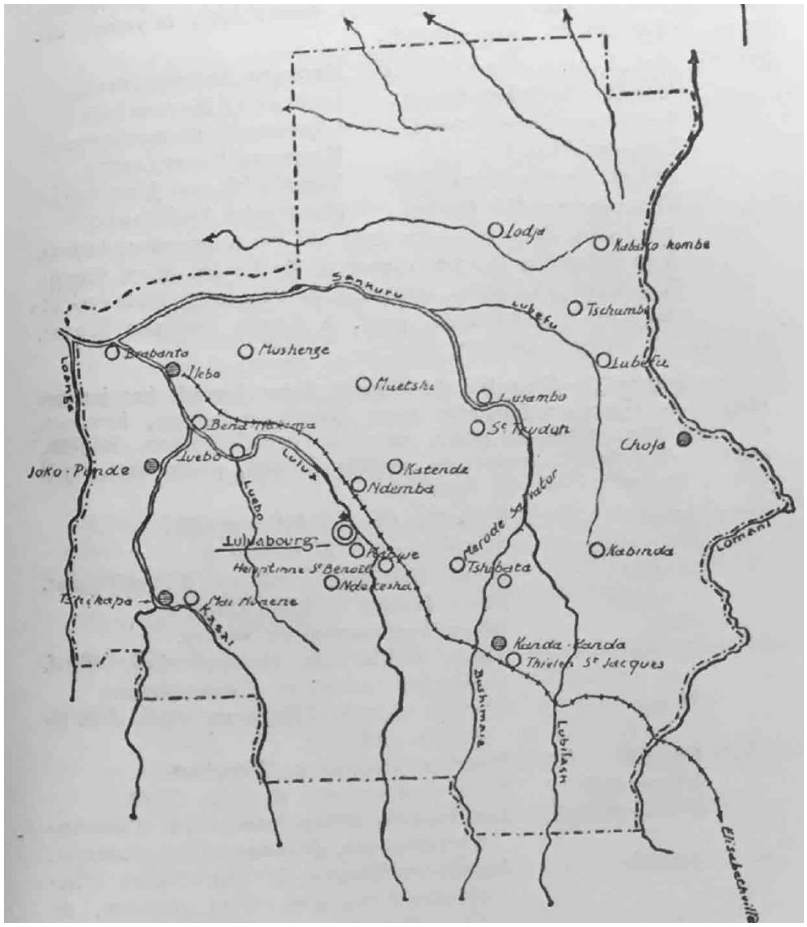
4. **Ndekesha.** Notre-Dame des VII Douleurs (1917). (Population : Bene Lulua et Babindi).
22.342 chrétiens, 7.007 catéchumènes, 9.821 postulants, 329 catéchistes, 251 instituteurs, 22 monitrices.
RR. PP. Van Serveyt André, supérieur (1917).
Van Uden P. (1912). FF. Cuyvers Michel (1925).
De Groot Adr. (1925). Kuunders Antoine (1928).
Mathot Octave, directeur de l'école primaire (1931).

Les **Sœurs de Charité** de Gand, Saint-Ghislain (10 juillet 1925). — *Œuvres :* internat et externat pour filles indigènes, ateliers, catéchuménat, hôpital, dispensaire, goutte de lait, protection de la veuve, évangélisation des familles.

Mère	Ananie	Victoria Vandermolen de Thourout.
SS.	Maurilla	Marie Van Mol de Lebbeke.
	Raynelde	Gabrielle Scoup de Letterhautem.
	Edwine	Marie Loncke d'Ingelmunster, dipl. d'institutrice primaire.
	Roselinde	Amélie Flémal d'Etterbeek, dipl. Frœbel.
	Louisine	Marie-Thérèse Jamers de Hechtel, dipl. d'institutrice primaire.
	Pia	Irma De Weerdt de Poperinghe.
	Rufina	Marie Sonck d'Iddergem.

Notes: This Figure reports an example of the information provided for each mission station in Corman (1935), using the mission of Ndekesha near Kananga as a case study. For this mission, the directory records: (i) the mission's name, (ii) the year the missionary post was established, (iii) the ethnicity targeted for evangelization, (iv) the number of Christians, (v) the number of catechumens, (vi) the number of postulants, (vii) the number of catechists responsible for instructing catechumens in Christian teachings, (viii) the number of school teachers, (ix) the number of *école ménagère* instructors, (x) the names of the priests and brothers, (xi) the names of the nuns, and (xii) the infrastructures present at the mission.

Figure A20: Map of the "Haut-Kasai" and its Catholic missions as featured in Corman (1935)



Notes: Example of a map featuring the location of mission stations in Corman (1935). The map reproduced here is of the *Vicariat Apostolique du Haut-Kasai*.

We use this information to construct a dataset on mission personnel (both religious and instructional), mission converts (Christians, catechumens, postulants), and mission infrastructure. Table A30 presents descriptive statistics on mission personnel and infrastructure in 1924 (Corman, 1924) (column 1) and 1935 (Corman, 1935) (Column 2). Panels A–C summarize information on mission personnel, while Panels D–E focus on mission infrastructure.

Panel A reports the average number of priests, brothers, nuns, and catechists at each mission, with their distribution across missions shown in Figure A21. Panel B presents the average number of Christian converts, catechumens, and postulants, with their distribution shown

in Figure A22. Panel C documents the average number of teachers and instructors, with their distribution displayed in Figure A23.

Mission infrastructures primarily revolved around education and healthcare. Panel D presents the fraction of missions with education-related infrastructure, primary schools (*école primaire*, *école ménagère*, *école centrale*, *école rurale*), secondary schools (*école normale*, *école professionelle*, *école officielle*), and printing presses which were mainly used for textbook production. Panel E reports the fraction of missions equipped with healthcare facilities such as hospitals or dispensaries.

Table A30: Mission Characteristics in the Kasaï Region in 1924 and 1935 (Corman, 1924, 1935)

	1924	1935
	(1)	(2)
Panel A: Religious Personnel		
Priests, Brothers, and Nuns	6	9
Priests and Brothers	5	6
Nuns	5	6
Catechists	214	151
Panel B: Converts		
Christians	7361	7941
Catechumens	1040	2280
Postulants	-	3604
Panel C: Teaching Personnel		
Teachers and Instructors	-	160
Panel D: Education		
Primary School	0.29	0.56
Secondary School	0.17	0.17
Printing Press	0.04	0.03
Panel E: Health		
Dispensary	0.21	0.30
Hospitals	0.17	0.19
Number of missions	29	39

Notes: This Table reports the number of personnel and converts and the infrastructures present at missions in the Kasaï Region according to Corman (1924) (Column 1) and Corman (1935) (Column 2). Panel A reports missionary investments in education, including the fraction of missions with primary schools (*école primaire*, *école ménagère*, *école centrale*, *école rurale*), secondary schools (*école normale*, *école professionelle*, *école officielle*), and printing press. Panel B reports missionary investments in health, specifically the fraction of missions with a dispensary or a hospital. Panel C presents the average number of religious personnel, including priests, brothers, nuns, and catechists. Panel D shows the average number of teaching personnel, including teachers (*instituteurs*) and instructors (*moniteurs*), Panel E reports the average number of Christian converts, catechumens, and postulants affiliated with the mission. These data are discussed in Section 2.

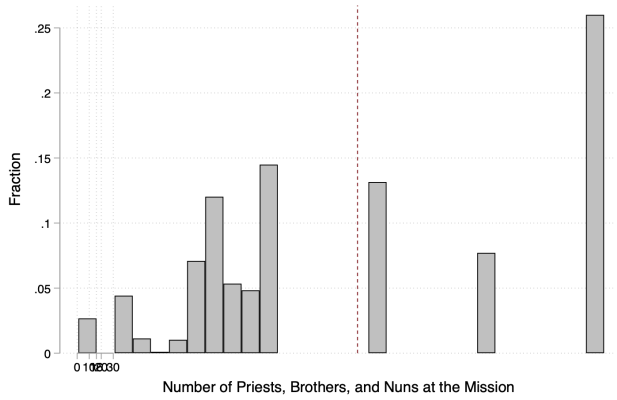
Table A31: Ethnic Groups at Mission Stations (Corman, 1935)

Mission	Ethnic Groups
Luluabourg	Bena-Lulua, Baluba
Merode-Salvator	Baluba, Bakete
Hemptinne-Saint-Benoit	Bena-Lulua, Baluba, Bakete
Tielen-Saint-Jacques	Bena-Kanyoka, Baluba, Bakete
Bena Makima	Bakuba, Bakete
Lusambo	Mixed
Mushenge	Bakuba, Bakete
Ndemba	Bena-Lulua
Luebo-Gilly	Bena Lulua, Bakete, Biombo
Tshumbe Sainte Marie	Batetela
Kabinda	Basonge, Baluba
Katende	Bena-Nkoshi
Lodja	Ahamba, Wankutshu
Ndekesha	Bena-Lulua, Babindi
Lubefu	Batetela, Basonge
Mayi Munene	Batshioko, Bapende, Bena Lulua, Baluba
Brabanta	Bashilele, Batshioko
Kabwe	Bena-Lulua, Baluba
Muteshi	Babindi
Katako-Kombe	Ahamba, Akela, Amboli

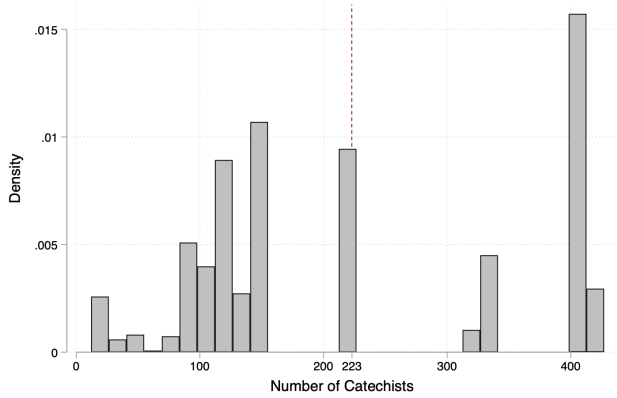
Notes: This Table reports the ethnic groups present at missions station as reported in Corman (1935). These data are discussed in Section 7.

Figure A21: Religious Personnel

Panel A: Number of Priests, Brothers, and Nuns



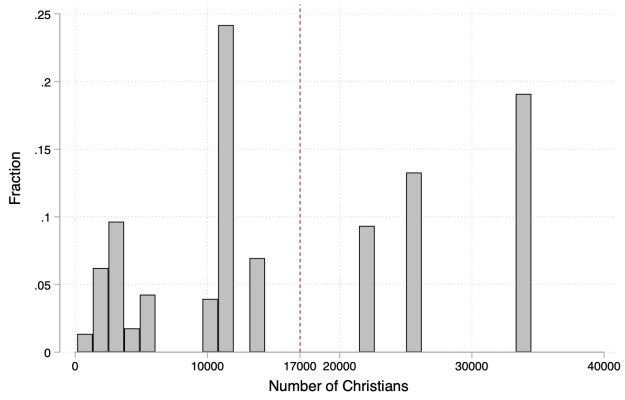
Panel B: Number of Catechists



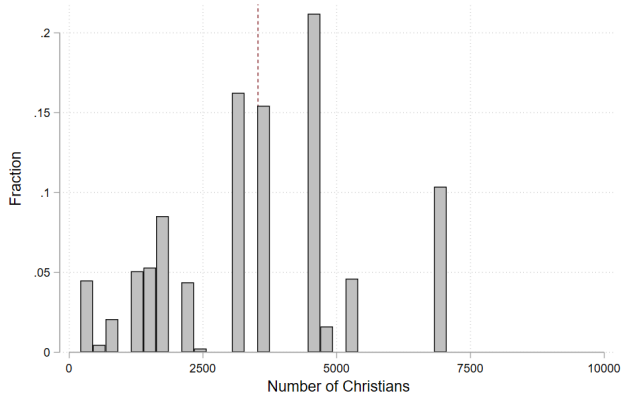
Notes: These figures show the distribution of the number of mission religious personnel in residence at the mission station closest to the respondent's village of origin using data from Corman (1935). Panel A shows the distribution of the number of priests, brothers, and nuns. Panel B shows the distribution of the number of catechists. These data are discussed in Section 7.

Figure A22: Mission Converts

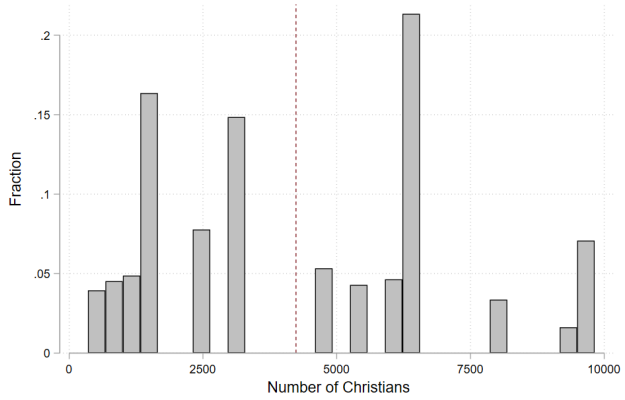
Panel A: Number of Christians



Panel B: Number of Catechumens

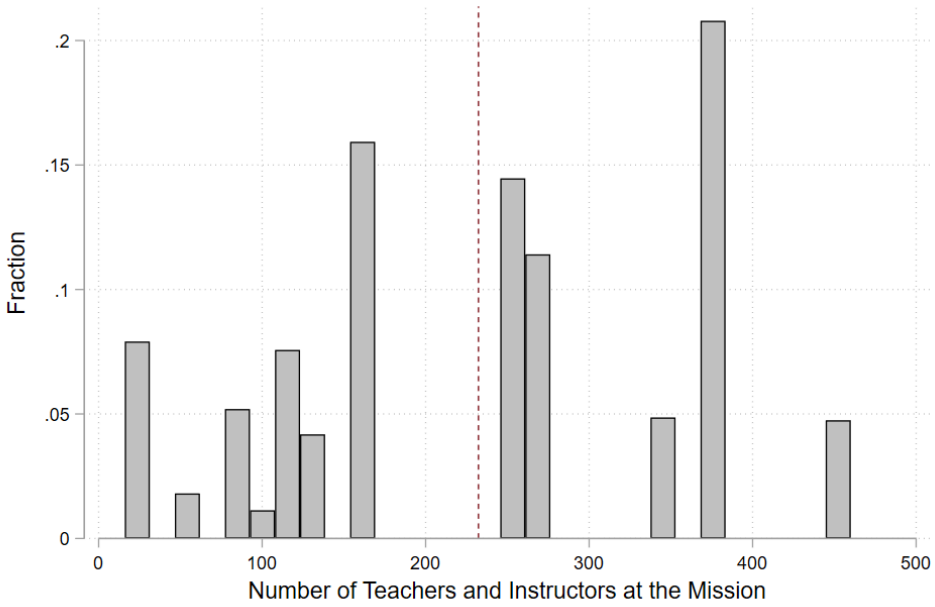


Panel C: Number of Postulants



Notes: These figures show the distribution of the number of Christian converts and catechumens at the mission station closest to the respondent's village of origin using data from Corman (1935). Panel A shows the distribution of Christian converts. Panel B shows the distribution of the number of catechumens. Panel C reports the distribution of the number of postulants. These data are discussed in Section 7.

Figure A23: Mission Teaching Personnel



Notes: This figure shows the distribution of the number of teachers and instructors in residence at the mission station closest to the respondent's village of origin using data from Corman (1935). These data are discussed in Section 7.

B.3 Abandoned Missions

Information on missions abandoned shortly after being established was meticulously gathered from various historical sources. These include two editions of the directory of Catholic missions in the Belgian Congo (Corman, 1924, 1935), as well as several accounts detailing the expansion of Christian missions in the region, written by colonial administrators (Heyse, 1948) and historians (Dieu, 1946; De Meeus and Steenberghen, 1947; Martens, 1980; Benedetto and Vass, 1997; McKey, 1989). Table A32 lists the abandoned missions identified in the Kasaï region, along with the sources that mention their abandonment. When available, the table also includes the year of the mission's foundation, the year it was abandoned, and the reasons for its abandonment.

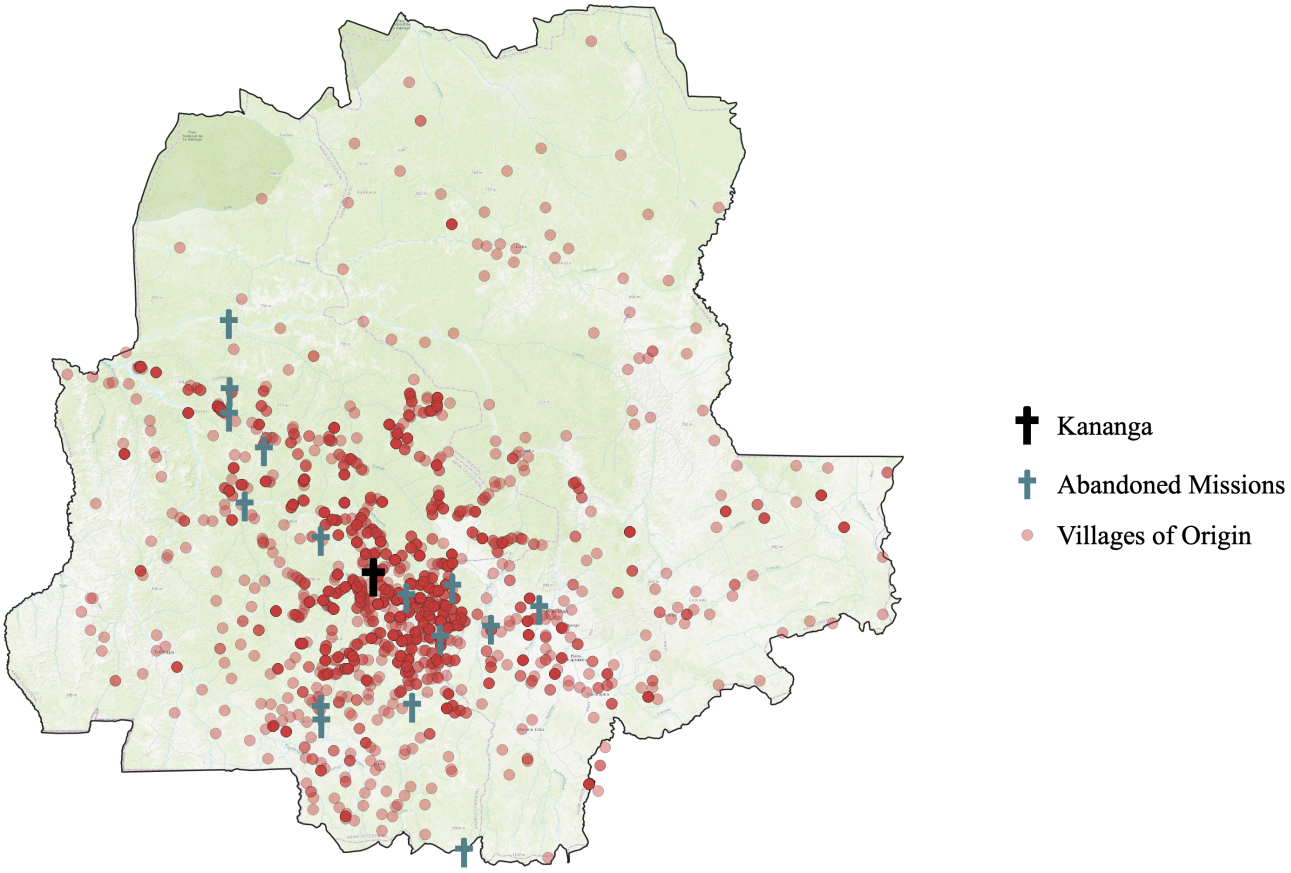
In some cases, this information is completed by maps, which allow me to pinpoint the geographical location of the abandoned mission station. When no maps are provided, I use the name of the abandoned mission and historical maps to determine the abandoned mission's coordinates in the Kasaï region. Figure A24 displays a map of the abandoned missions.

Table A32: Abandoned Missions

Name of the Abandoned Mission	Foundation Date	Abandonment Date	Source	Reason for abandonment
Bakwanga	Unknown	Unknown	McKey (1989)	Unknown
Bena-Makima (Saint-Victorien)	1904	1913	Benedetto (1996), Corman (1924, 1935)	Unknown
Demba-Kakese	Unknown	Unknown	Benedetto (1996), Heyse (1948)	Land Grant
Fwamba	Unknown	Unknown	Dieu (1946)	Disease
Ibanche	1897/1898	1904/1905	Martens (1980), Benedetto (1996)	Destroyed by Kuba Revolt and faced hostility from Luba population on being rebuilt
Kalala Kafumba	1893	1893-1894	Martens (1980)	Destroyed by raids
Kalamba	1912	1946	Dyck and Martin (1955)	Disease
Katubue	Unknown	Unknown	Maps	Unknown
Lodi	Unknown	Unknown	Benedetto (1996), Heyse (1948)	Land Grant
Mboi	1937	Unknown	Maps	Unknown
Mérode Salvator	Unknown	1894-1894	Maps	Unknown
Musese	Unknown	Unknown	Benedetto (1996), Heyse (1948)	Land Grant
Mushenge	1906	1908	Benedetto (1996), Martens (1980)	Hostile towards foreign influence and lack of interest in Christian teachings among indigenous populations
Tshibala	Unknown	Unknown	Maps	Unknown

Notes: This table shows the list of abandoned missions used in the analysis, along with their date of foundation, abandonment and source (if known). These data are discussed in Section 6.1.

Figure A24: Map of Abandoned Missions



Notes: This figure shows the locations of the villages of origin of the outcome survey respondents, abandoned missions (as listed in Table A32), and the city of Kananga where the outcome surveys were conducted. These data are discussed in Section 7.

C Geographic and Historical Data Sources and Variable Definitions

C.1 Geographic Data and Variables

- *Distance to the Coast*: Data on the coastlines of the Democratic Republic of the Congo are obtained from the International Steering Committee for Global Mapping (ISCGM). The ISCGM was terminated in 2016 and hence this data is now available here via Columbia University in the Harvard Geospatial Library. We calculate the distance of our locations of interest to the nearest coastlines in km.

- *Distance to the Nearest River*: Data on the rivers in the DRC was obtained from the Office for the Coordination of Humanitarian Affairs (OCHA) through their database Humanitarian Data Exchange here as part of a larger dataset with data on the transportation network in the DRC. We calculate and report the distance of our locations of interest to the nearest river in km.

- *Elevation*: The elevation data used in this paper comes from the Advanced Spaceborne Thermal Emission and Reflection Radiometer (ASTER) Global Digital Elevation Model Version 3 (GDEM 003), and the ASTER Water Body Dataset (ASTWBD) which was made publicly available by the Ministry of Economy, Trade, and Industry (METI) of Japan and the United States National Aeronautics and Space Administration (NASA) in 2019 (The Ministry of Economy, Trade, and Industry , METI). This version of GDEM provides information in 1-arc second ($\sim$ 30 meter) postings. We calculate mean elevation at the 1 km $\times$ 1 km grid cell level.

- *Ruggedness*: The data on ruggedness used in this paper is based on the measure of terrain ruggedness estimated in Nunn and Puga (2012). Using GTOPO30 (U.S. Geological Survey, 1996), a global elevation data set at 30-arc seconds across the earth's surface constructed by the U.S. Geological Survey's Center for Earth Resources Observation and Science (EROS) and following Riley et al. (1999), they calculate ruggedness as the difference in elevation between a given point at the center of a raster grid cell on the earth's surface and the elevation of the center points of the eight grid cells surrounding it. We calculate mean ruggedness at the 1 km $\times$ 1 km grid cell level.

- *Precipitation*: The precipitation data used in this paper is obtained from Global Agro-Ecological Zones (version 4) (GAEZ v4) and records the average annual precipitation for the period 1961-1990 which calculates this using climate data CRUTS32 (Climate

Research Unit Time Series). CRUTS32 is a high-resolution gridded dataset developed by the University of East Anglia at 0.5° resolution. This data is available in GAEZ v4 at a 10 km resolution at the equator (Food and Agricultural Organization , FAO). We calculate mean elevation at the 1 km × 1 km grid cell level.

- *Temperature*: The temperature data used in this paper is the mean annual temperature in °C for the time period 1961-2000 from GAEZ v4. GAEZ calculates this measure using data from CRUTS at a 0.5° resolution. This data is available in GAEZ v4 at a 10 km resolution at the equator. We calculate the mean temperature at the 1 km × 1 km grid cell level.

- *Length of Growing Period*: The data on the total number of growing period days is obtained from GAEZ v4 and records this measure for the period 1961-1990. GAEZ calculates this measure using data from CRUTS at a 0.5° resolution. This data is available in GAEZ v4 at a 10 km resolution at the equator (Food and Agricultural Organization , FAO). We calculate the mean number of growing period days at the 1 km × 1 km grid cell level.

- *Suitability for growing Cassava, Maize, and Rice*: Data on crop suitability is recorded from GAEZ v4 data on crop suitability index in classes under rain-fed conditions and low input level, based on data derived from CRUTS32. This data is available in GAEZ v4 at a 10 km resolution at the equator (Food and Agricultural Organization , FAO). We calculate mean crop suitability at the 1 km × 1 km grid cell level.

C.2 Historical Data and Variables

- *Slave Exports*: Data on slave exports are obtained from Nunn and Wantchekon (2011) which in turn uses country-level slave export numbers from Nunn (2008). In Nunn and Wantchekon (2011), the authors use the country-level historical data from Nunn (2008), disaggregate this to the ethnic group level, and first match the ethnic identities with the ethnic groups mapped in **?** and then the classification of ethnic groups in the Afrobarometer surveys.

- *Distance to Initial Explorer Routes*: Explorer routes used in this paper are mapped from the Century Company (1911), an Atlas that contains maps of the world along with contemporaneous information on explorer routes, railways, etc. We calculate the distance of our locations of interest to the nearest explorer route in km.

- *Distance to the Nearest City in 1800*: Data on urban centers in 1800 are obtained from Chandler (1987). This source records a census of the major cities across the world between 800 AD and 1850 AD (every 50 years). This paper uses the list of major cities in the world as listed for 1800. In this paper, we calculate the distance of our locations of interest to the nearest city in 1800 in km.

- *Estimated Population Density in 1800*: Data on population density in 1800 AD is taken from Goldewijk et al. (2011) which uses historical population data from a number of sources: McEvedy and Jones (1978), Livi-Bacci (2006), Maddison (2001), Lahmeyer (2004). The resolution of the data is $\sim 85km^2$ at the equator. We calculate the mean temperature at the 1 km $\times$ 1 km grid cell level.

- *Distance to Kananga*: Kananga was the first colonial outpost in the Kasaï region. Data on the location of the city of Kananga was obtained from the Office for the Coordination of Humanitarian Affairs (OCHA) through their database Humanitarian Data Exchange here as part of a larger dataset with the major cities in the DRC. In this paper, we calculate and report the distance of our locations of interest to Kananga in km.

- *Distance to Colonial Railroads*: We use data on colonial railroads from Wack (1905), which provides a map of colonial railroads that have been planned, are in the process of being constructed, or have been constructed. For the purpose of this paper, we only use railroads reported to have completed construction and calculate the distance of our locations of interest to the nearest colonial railroads in km.

- *Tsetse Fly Suitability*: We measure tsetse suitability using the TseTse suitability index (TSI) constructed in Alsan (2015) which as the standardized z-score of the TseTse population. The index is constructed by estimating the steady-state population of the TseTse fly using gridded climate data, insect population growth modeling, and geospatial software. We merge this data set at the subnational level using the administrative code for the DRC and convert it to a raster at the 1 km $\times$ 1 km grid cell level.

- *Malaria Suitability*: Data on Malaria Suitability in this paper are drawn from Kiszewski et al. (2004) who calculate an index of potential malaria transmission stability by determining vectoral capacity using both the properties of the anopheles mosquito and their interaction with climate to produce a map at the 0.5° grid level. In this paper, we calculate potential malaria transmission at the 1 km $\times$ 1 km grid cell level.

C.3 Colonial Controls

All data for colonial controls are obtained from the Atlas Général du Congo (1954).

- *Force Publique Bases*: We use data on large and small Force Publique bases in 1914, 1932, and 1953. We calculate the distance of our locations of interest to the nearest Force Publique base (of any size and in any year) in km.
- *Force Publique Schools*: We use data on Force Publique schools in 1914, 1932, and 1953. We calculate the distance of our locations of interest to the nearest Force Publique school (in any year) in km.
- *Palm Factories*: We use data on the locations of mechanical and manual palm oil mills. We calculate the distance of our locations of interest to the nearest palm oil mill (of either type) in km.
- *Rubber Production*: We use data on the locations at which rubber was produced. We calculate the distance of our locations of interest to the nearest rubber production site in km.
- *Mining*: We use data on the areas of the Kasaï region in which mining concessions were active in 1960. Three companies had mining concessions in the Kasaï region in 1960: 'Consortium des Sociétés Minières du Kasaï, de Luebo et de la Lueta', 'Société Internationale Forestière et Minière du Congo (Forminière)', and 'Société Minière du Bécéka'. We create an indicator for whether our locations of interest are within an area with a mining concession (of any company).
- *Palm Oil*: We use data on the areas of the Kasaï region in which palm oil was produced. We create an indicator for whether our locations of interest are within an area which produced palm oil.

D Field Work

D.1 Sampling Procedure

The survey data was collected in Kananga, the capital of the Kasaï-Central province. The outcome survey was collected between June and August 2019, and the migration survey was collected between August and October 2023. I used Google satellite imagery from June 2015 to develop a sampling frame that I used for both surveys. I divided Kananga into 363 enumeration areas – polygons – whose shape was determined by natural boundaries such as roads and rivers. See Figures A25 and A26 for maps showing the satellite image of Kananga and Kananga divided into sampling polygons.

For both surveys, a fixed number of polygons were randomly selected to be visited by survey enumerators. For the outcome survey, 225 polygons were randomly selected to be visited by the survey enumerators, while 89 polygons were selected for the migration survey. The probability of a polygon being chosen was proportional to its estimated population size. Thus, I use a probability-proportional-to-size (PPS) sampling method, giving more populated polygons a higher probability of being selected. I estimated the population size within each polygon using data on the number of houses collected in 2018 (Balan et al., 2022).

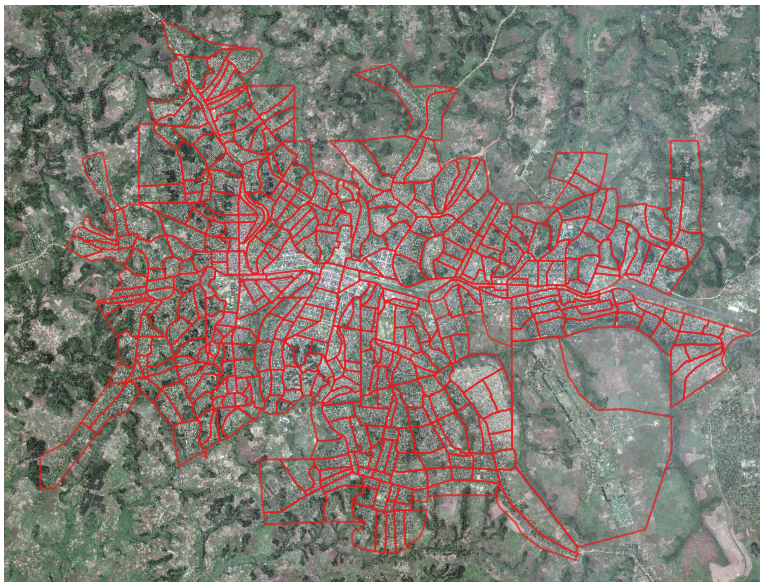
For both surveys, 15 screening surveys were conducted in each polygon. To ensure geographic coverage of the polygon, enumerators followed a skip pattern in each polygon that depended on the number of houses within that polygon. Table A33 and Table A34 report the polygons chosen, their approximate population size, and the skip pattern for each one for the outcome survey conducted in 2019 and the migration survey implemented in 2023.

Figure A25: Satellite Image of Kananga



Notes: Satellite Image of Kananga from June 2015 Google satellite imagery.

Figure A26: Satellite Image of Kananga with Sampling Polygons



Notes: Satellite Image of Kananga from June 2015 Google satellite imagery with boundaries of the enumeration areas – polygons – whose shape was determined by natural boundaries such as roads and rivers.

Table A33: 2019 Outcome Survey Sampling Frame

Polygon ID (1)	Number of Households (2)	Skip Pattern: Visit Every x Households (3)
580	134	8
559	107	6
572	113	7
423	181	11
549	108	6
530	269	17
409	177	11
421	94	5
402	247	15
384	199	12
333	153	9
378	86	5
382	176	11
6103	189	12
680	84	5
702	192	12
311	95	5
326	86	5
307	174	11
654	116	7
677	139	8
649	57	3
126	283	18
120	101	6
302	224	14
107	156	9
648	160	10
645	109	6
587	221	14
608	197	12
661	227	14
633	162	10
638	185	11
543	92	5
469	194	12
535	74	4
679	102	6

Continued on next page

Table A33: 2019 Outcome Survey Sampling Frame (cont.)

Polygon ID (1)	Number of Households (2)	Skip Pattern: Visit Every x Households (3)
6102	189	12
693	159	10
430	135	8
450	99	6
459	136	8
621	197	12
588	97	5
574	120	7
602	58	3
225	157	9
208	161	10
112	213	13
113	186	11
319	272	17
238	178	11
229	106	6
339	153	9
330	137	8
367	180	11
374	82	4
368	136	8
381	170	10
412	230	14
6101	189	12
670	256	16
668	86	5
529	149	9
544	196	12
537	308	20
578	96	5
377	107	6
358	184	11
348	105	6
456	154	9
455	115	7
449	200	12
415	226	14

Continued on next page

Table A33: 2019 Outcome Survey Sampling Frame (cont.)

Polygon ID (1)	Number of Households (2)	Skip Pattern: Visit Every x Households (3)
426	77	4
386	109	6
442	177	11
589	114	7
607	159	10
626	107	6
305	130	8
103	175	11
200	269	17
241	65	3
343	266	17
328	172	10
338	192	12
460	130	8
508	270	17
501	231	14
237	77	4
308	194	12
226	63	3
376	132	8
433	89	5
414	215	13
440	145	9
448	76	4
437	88	5
566	129	8
524	127	7
533	195	12
542	142	8
605	120	7
590	172	10
615	246	15
310	141	8
321	102	6
314	129	8
124	180	11
106	167	10

Continued on next page

Table A33: 2019 Outcome Survey Sampling Frame (cont.)

Polygon ID (1)	Number of Households (2)	Skip Pattern: Visit Every x Households (3)
213	202	12
223	131	8
623	125	7
655	77	4
636	108	6
372	236	15
371	84	5
364	129	8
327	166	10
231	90	5
335	118	7
244	150	9
663	202	12
694	258	16
683	123	7
553	157	9
548	115	7
540	124	7
424	92	5
439	123	7
463	314	20
407	254	16
355	99	6
354	194	12
375	115	7
6091	167	10
703	95	5
6092	167	10
595	235	15
656	196	12
624	94	5
577	134	8
111	236	15
214	258	16
207	235	15
119	93	5
512	190	12

Continued on next page

Table A33: 2019 Outcome Survey Sampling Frame (cont.)

Polygon ID (1)	Number of Households (2)	Skip Pattern: Visit Every x Households (3)
514	63	3
467	98	6
599	161	10
619	150	9
552	79	4
581	114	7
688	162	10
6104	189	12
682	98	6
465	300	19
418	155	9
457	131	8
363	150	9
411	217	13
403	139	8
369	141	8
306	166	10
217	254	16
316	142	8
627	43	2
632	150	9
631	92	5
216	258	16
116	156	9
121	103	6
210	109	6
547	106	6
536	162	10
513	134	8
322	194	12
345	268	17
323	138	8
523	130	8
541	126	7
434	247	15
360	62	3
387	194	12

Continued on next page

Table A33: 2019 Outcome Survey Sampling Frame (cont.)

Polygon ID (1)	Number of Households (2)	Skip Pattern: Visit Every x Households (3)
380	120	7
350	33	1
408	172	10
420	133	8
419	127	7
616	169	10
617	141	8
634	221	14
554	138	8
573	128	8
592	138	8
600	142	8
318	154	9
303	168	10
234	84	5
641	66	3
651	120	7
701	180	11
325	85	5
337	207	13
334	123	7
201	95	5
211	143	9
122	60	3
227	193	12
361	74	4
366	159	10
571	72	4
313	192	12
315	258	16
464	246	15
505	150	9
447	145	9
406	200	12
123	156	9
204	153	9
646	203	13

Continued on next page

Table A33: 2019 Outcome Survey Sampling Frame (cont.)

Polygon ID (1)	Number of Households (2)	Skip Pattern: Visit Every x Households (3)
6093	167	10
669	176	11

Notes: This table presents the sampling frame for the outcome survey conducted in 225 polygons of the city of Kananga between June and August 2019. Column (1) indicates the ID of the sampled polygons. Column (2) reports the total estimated population in each polygon according to Balan et al. (2022). Column (3) reports the "Skip Pattern", which is the number of households the enumerators were instructed to skip after visiting a household in order to complete 15 surveys in each polygon.

Table A34: 2023 Migration Survey Sampling Frame

Polygon ID (1)	Number of Households (2)	Skip Pattern: Visit Every x Households (3)
302	235	15
322	204	13
126	297	19
107	164	10
120	106	6
207	247	15
352	53	3
372	248	16
327	174	11
382	185	11
346	215	13
345	281	18
414	226	14
445	182	11
402	259	16
457	138	8
465	315	20
384	209	13
559	112	6
530	282	18
575	71	4
594	149	9
549	113	7
602	61	3

Continued on next page

Table A34: 2023 Migration Survey Sampling Frame (cont.)

Polygon ID (1)	Number of Households (2)	Skip Pattern: Visit Every x Households (3)
663	212	13
652	112	6
702	202	12
6093	175	11
645	114	7
621	207	13
112	224	14
229	111	6
238	187	11
113	195	12
311	100	6
225	165	10
381	179	11
358	193	12
343	279	18
366	167	10
349	76	4
335	124	7
450	104	6
442	186	11
459	143	9
420	140	8
535	78	4
415	237	15
543	97	5
633	170	10
597	112	6
578	101	6
620	122	7
586	56	3
6101	198	12
700	98	6
692	104	6
661	238	15
651	126	7
675	103	6
309	249	16

Continued on next page

Table A34: 2023 Migration Survey Sampling Frame (cont.)

Polygon ID (1)	Number of Households (2)	Skip Pattern: Visit Every x Households (3)
320	155	9
103	184	11
241	68	4
308	204	13
200	282	18
411	228	14
351	35	1
431	192	12
329	164	10
386	114	7
501	243	15
462	312	20
467	103	6
508	284	18
464	258	16
461	74	4
605	126	7
598	293	19
567	62	3
544	206	13
537	323	21
529	156	9
615	258	16
670	269	17
654	122	7
701	189	12
616	177	11
686	158	10

Notes: This table presents the sampling frame for the migration survey conducted in 89 polygons of the city of Kananga between August and October 2023. Column (1) indicates the ID of the sampled polygons. Column (2) reports the total estimated population in each polygon according to Balan et al. (2022). Column (3) reports the "Skip Pattern", which is the number of households the enumerators were instructed to skip after visiting a household in order to complete 15 surveys in each polygon.

D.2 Data Collection

For each household that was visited, survey team members asked to speak to the head of the household. If the head of the household was not available, the enumerator asked to interview

an adult member of the household, with a preference for older household members.

D.2.1 Screening Survey

The survey was divided into two parts: all respondents visited by survey enumerators received the screening survey. 3,372 screening surveys were conducted in the 225 sampled polygons.[47] Respondents were first asked questions intended to identify the respondent's ethnic group and their territory and village of origin. The screening survey also collected demographic information about the respondent, such as their gender, education, and religion.

D.2.2 Long Survey

Following the completion of the screening survey, 1,019 respondents were selected to be asked additional questions. Selection into this longer survey depended on respondents' answers to the screening questions about their ethnicity and territory of origin. More specifically, respondents were selected for the longer survey if their territory of origin was in one of the five provinces of the Kasaï region (Kasaï-Central, Kasaï, Kasaï-Oriental, Sankuru or Lomami) and their self-reported ethnicity was one of the main four ethnicities in their province of origin. The ethnicities are Luluwa, Luntu, Bindi and Kete in Kasaï-Central; Luluwa, Kete, Kuba, Lele in Kasaï; and Luba, Tetela, Songe in Kasaï-Oriental, Sankuru, and Lomami. The long survey contained variables measuring respondents' religious beliefs, social ties, and moral values. Below, I describe the survey questions and the job referral experiment that are used in the empirical analysis.

Demographics:

- *Age:* How old were you at your last birthday?
- *Gender:* The enumerator is asked to directly select the gender of the person they are interviewing. [Male, Female]
- *Born in Kananga* Have you always lived in Kananga? [No, Yes]

Trust:

- *Trust Nuclear Family:* Now, I'd like to ask you how much you trust people from various groups. Could you tell me whether you trust people from this group completely,

[47] In theory, the total number of surveys conducted should have been 3,375 since 225 polygons were sampled, and 15 surveys should have been conducted per polygon. In practice, too many respondents were surveyed by mistake in fifteen polygons, and the enumerators could not find 15 respondents to survey in six polygons.

somewhat, not very much, or not at all? Your nuclear family in Kananga. [Not at all, Not very much, Somewhat, A lot, Completely]

- *Trust Extended Family:* Now, I'd like to ask you how much you trust people from various groups. Could you tell me whether you trust people from this group completely, somewhat, not very much, or not at all? Your extended family in Kananga. [Not at all, Not very much, Somewhat, A lot, Completely]

- *Trust Coethnics:* Now, I'd like to ask you how much you trust people from various groups. Could you tell me whether you trust people from this group completely, somewhat, not very much, or not at all? People from your tribe. [Not at all, Not very much, Somewhat, A lot, Completely]

- *Trust Non-Coethnics:* Now, I'd like to ask you how much you trust people from various groups. Could you tell me whether you trust people from this group completely, somewhat, not very much, or not at all? People from another tribe. [Not at all, Not very much, Somewhat, A lot, Completely]

- *Trust Christians:* Now, I'd like to ask you how much you trust people from various groups. Could you tell me whether you trust people from this group completely, somewhat, not very much, or not at all? Christian people in Kananga. [Not at all, Not very much, Somewhat, A lot, Completely]

- *Trust Non-Christians:* Now, I'd like to ask you how much you trust people from various groups. Could you tell me whether you trust people from this group completely, somewhat, not very much, or not at all? Non-Christians in Kananga. [Not at all, Not very much, Somewhat, A lot, Completely]

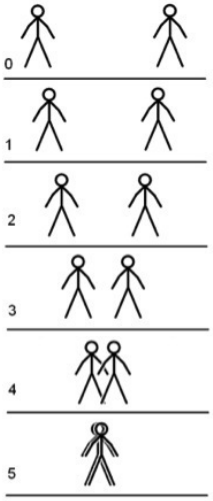
- *Trust Church Members:* Now, I'd like to ask you how much you trust people from various groups. Could you tell me whether you trust people from this group completely, somewhat, not very much, or not at all? People from your church in Kananga. [Not at all, Not very much, Somewhat, A lot, Completely]

- *Trust Strangers:* Now, I'd like to ask you how much you trust people from various groups. Could you tell me whether you trust people from this group completely, somewhat, not very much, or not at all? Strangers you meet in Kananga. [Not at all, Not very much, Somewhat, A lot, Completely]

Closeness:

- *Close to Nuclear Family:* Using the figures provided (Figure A27), which set of figures best represents how close you feel to your nuclear family in Kananga? [0, 1, 2, 3, 4, 5]
- *Close to Extended Family:* Using the figures provided (Figure A27), which set of figures best represents how close you feel to your extended family in Kananga? [0, 1, 2, 3, 4, 5]
- *Close to Coethnics:* Using the figures provided (Figure A27), which set of figures best represents how close you feel to people from your tribe? [0, 1, 2, 3, 4, 5]
- *Close to Non-Coethnics:* Using the figures provided (Figure A27), which set of figures best represents how close you feel to people from another tribe? [0, 1, 2, 3, 4, 5]
- *Close to Christians:* Using the figures provided (Figure A27), which set of figures best represents how close you feel to Christian people in Kananga? [0, 1, 2, 3, 4, 5]
- *Close to Non-Christians:* Using the figures provided (Figure A27), which set of figures best represents how close you feel to non-Christians in Kananga? [0, 1, 2, 3, 4, 5]
- *Close to Church Members:* Using the figures provided (Figure A27), which set of figures best represents how close you feel to people from your church in Kananga? [0, 1, 2, 3, 4, 5]
- *Close to Strangers:* Using the figures provided (Figure A27), which set of figures best represents how close you feel to strangers you meet in Kananga? [0, 1, 2, 3, 4, 5]

Figure A27: Closeness Figures



Notes: Figure used by the enumerators to help respondents answer the questions how close do you feel to... .

Positive/Negative Views:

- *Positive/Negative Views of Nuclear Family:* In which of the following ways do you view your nuclear family in Kananga? [very negatively, somewhat negatively, neutral, somewhat positively, very positively]?
- *Positive/Negative Views of Extended Family:* In which of the following ways do you view your extended family in Kananga? [very negatively, somewhat negatively, neutral, somewhat positively, very positively]?
- *Positive/Negative Views of Coethnics:* In which of the following ways do you view people from your tribe? [very negatively, somewhat negatively, neutral, somewhat positively, very positively]?
- *Positive/Negative Views of Non-Coethnics:* In which of the following ways do you view people from another tribe? [very negatively, somewhat negatively, neutral, somewhat positively, very positively]?
- *Positive/Negative Views of Christians:* In which of the following ways do you view Christian people in Kananga? [very negatively, somewhat negatively, neutral, somewhat positively, very positively]?

- *Positive/Negative Views of Non-Christians:* In which of the following ways do you view non-Christians in Kananga? [very negatively, somewhat negatively, neutral, somewhat positively, very positively]?

- *Positive/Negative Views of Church Members:* In which of the following ways do you view people from your church in Kananga? [very negatively, somewhat negatively, neutral, somewhat positively, very positively]?

- *Positive/Negative Views of Strangers:* In which of the following ways do you view strangers you meet in Kananga? [very negatively, somewhat negatively, neutral, somewhat positively, very positively]?

Religious Beliefs:

- *Beliefs in Ancestor Spirits:* What is the strength of your belief in the existence of other gods and spirits, including ancestor spirits? [With no strength at all, With a little bit of strength, With strength, With a lot of strength, With all my heart]

- *Parents' Beliefs in Ancestor Spirits:* What is the strength of your parents' belief in the existence of other gods and spirits, including ancestor spirits? [With no strength at all, With a little bit of strength, With strength, With a lot of strength, With all my heart]

- *Grandparents' Beliefs in Ancestor Spirits:* What is the strength of your grandparents' belief in the existence of other gods and spirits, including ancestor spirits? [With no strength at all, With a little bit of strength, With strength, With a lot of strength, With all my heart]

- *Belief in Christian God:* What is the strength of your beliefs in the existence of the Christian God? [With no strength at all, With a little bit of strength, With strength, With a lot of strength, With all my heart]

- *Parents' Beliefs in Christian God:* What is the strength of your parents' belief in the existence of the Christian God? [With no strength at all, With a little bit of strength, With strength, With a lot of strength, With all my heart]

- *Grandparents' Beliefs in Christian God:* What is the strength of your grandparents' belief in the existence of the Christian God? [With no strength at all, With a little bit of strength, With strength, With a lot of strength, With all my heart]

Social Ties: I am now going to describe several situations. For each situation that I describe, I will ask you who you would go to in Kananga in this situation and who would come to you in Kananga in the same situation.

- If you ran out of charcoal or palm oil while cooking and didn't have any readily available at home, name the people in Kananga you would go to for borrowing these items and those who would come to you in a similar situation.
- If you needed 1,000-5,000 Congolese Francs for an urgent and essential payment, name the people in Kananga you would approach to borrow this amount and those who would come to you in a similar situation.
- If you needed to borrow $50 to start or expand your business, name the people in Kananga you would go turn to borrow this money and those who would come to you in a similar situation.
- If you had visitors and needed coffee, sugar, or milk to make coffee but all the shops were closed, name the people in Kananga you could borrow these items from and those who would come to you in a similar situation.
- If you need advice on financial matters (e.g., borrowing money, investing, or participating in a ROSCA), name the people in Kananga you would consult and those who would come to you for such advice.
- If you need advice on which school or university to enroll your children in, name the people in Kananga you would approach and those who would come to you for similar advice.
- If you needed to move to another property in Kananga (renting or buying) or undertake construction on an existing property, name the people in Kananga you would seek advice from and those who would approach you for advice in a similar situation.
- If your child or another member of your family fell ill, name the people in Kananga you would seek out for medical advice and those who would come to you for the same.
- Name the people in Kananga who would not hesitate to send their children to your house (e.g., to play, do homework, listen to the radio, or watch television) and those to whom you would not hesitate to send your children for similar reasons?

For each individual named by the respondent, the enumerator asked five follow-up questions at the end of the survey module:

1. Is this person from your nuclear family? [no, yes]
2. Is this person someone from your extended family? [no, yes]
3. Is this person from your ethnicity? [no, yes]
4. What's this person's religion? [Catholic, Protestant, Pentecostal/Born Again, Islam, Hinduism, Judaism, Mormonism, Jehovah's Witness, Traditional Religion, Kimbangu, Neo-Apostolic, Branam, No religion]
5. Is this person from your church? [no, yes]

Moral Values:

I use survey questions from the 30-item Moral Foundation Questionnaire (Haidt, 2012).

- *Part 1* - When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking?
    1. Whether or not someone suffered emotionally [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
    2. Whether or not some people were treated differently than others [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
    3. Whether or not someone's action showed love for his or her country [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
    4. Whether or not someone showed a lack of respect for authority [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
    5. Whether or not someone violated standards of purity and decency [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
    6. Whether or not someone spoke Tshiluba well [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
    7. Whether or not some someone cared for someone weak or vulnerable [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]

8. Whether or not someone acted unfairly [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
9. Whether or not someone did something to betray his or her group [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
10. Whether or not someone conformed to the traditions of society [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
11. Whether or not someone did something disgusting [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
12. Whether or not someone was cruel [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
13. Whether or not someone was denied his or her rights [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
14. Whether or not someone showed a lack of loyalty [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
15. Whether or not an action caused chaos or disorder [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]
16. Whether or not someone acted in a way that God would approve of [not very relevant, slightly relevant, somewhat relevant, very relevant, extremely relevant]

- *Part 2* - Please read the following sentences and indicate your agreement or disagreement:

1. Compassion for those who are suffering is the most crucial virtue [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
2. When the government makes laws, the number one principle should be that everyone is treated fairly [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
3. I am proud of my country's history [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]]
4. Respect for authority is something all children need to learn [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]

5. People should not do things that are disgusting, even if no one is harmed [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
6. It is better to do good than to do bad [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
7. One of the worst things a person could do is hurt a defenseless animal [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
8. Justice is the most important requirement for a society [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
9. People should be loyal to their family members, even when they have done something wrong [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
10. Men and women each have different roles to play in society [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
11. I would call some acts wrong on the grounds that they are unnatural [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
12. It can never be right to kill a human being [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
13. I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
14. It is more important to be a team player than to express oneself [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
15. If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]
16. Chastity is an important and valuable virtue [strongly disagree, moderately disagree, slightly disagree, slightly agree, moderately agree, strongly agree]

Moral Foundations:

The Moral Foundations Questionnaire measures to what extent individuals endorse each of the five moral foundations proposed by Haidt and Craig (2004): Care/harm, fairness/reciprocity, in-group/loyalty, authority/respect, and purity/sanctity.

1. *Care/harm:* Measures the extent to which people care for the weak and attempt to keep others from harm. I measure the importance of this moral foundation as the average of respondents' responses to questions 1,7, and 12 of both Part 1 and 2 of the Moral Foundations Questionnaire.

2. *Fairness/reciprocity :* Measures the importance of ideas relating to equality, justice, rights, and autonomy. I measure the importance of this moral foundation as the average of respondents' responses to questions 2,8, and 13 of both Part 1 and 2 of the Moral Foundations Questionnaire.

3. *In-group/loyalty:* Measures people's emphasis on being loyal to the ingroup (family, ethnicity, country) and the moral relevance of betrayal. I measure the importance of this moral foundation as the average of respondents' responses to questions 3,9, and 14 of both Part 1 and 2 of the Moral Foundations Questionnaire.

4. *Authority/respect:* Measures the importance of respect for authority, tradition, and societal order. I measure the importance of this moral foundation as the average of respondents' responses to questions 4,10, and 15 of both Part 1 and 2 of the Moral Foundations Questionnaire.

5. *Purity/sanctity:* Measures the importance of ideas related to purity, disgust, and traditional religious attitudes. I measure the importance of this moral foundation as the average of respondents' responses to questions 5,11, and 16 of both Part 1 and 2 of the Moral Foundations Questionnaire.

D.2.3 Job Referral Experiment

Respondents selected for the longer survey were also selected for a job referral experiment, asking them to act as referees, recommending up to three adults who would be willing to participate in a survey and perform brief tasks emphasizing cognitive skills. To incentivize accurate responses, respondents were informed that some of the referrals would be randomly selected to participate in exchange for 2.500 Congolese Francs (approximately 1.25 times the daily wage in Kananga at the time of the study). The exact wording of the referral experiment

prompt used by the enumerators was, "Now, I would like to ask you if you could recommend up to 3 adult persons (18 years old and older) that you know and who, according to you, would be good at answering survey questions and completing several short but intellectually demanding tasks. We will randomly select some of these individuals to complete the survey and perform these tasks in the next few weeks. These individuals will receive money (2500 FC) for their participation." For each person mentioned by the respondent, the enumerator asked five follow-up questions:

1. What is this person's phone number?
2. Is this person from your nuclear family? [no, yes]
3. Is this person someone from your extended family? [no, yes]
4. Is this person from your ethnicity? [no, yes]
5. Is this person Christian? [no, yes]
6. Is this person from your church? [no, yes]

D.3 Migration Survey

The protocol of the 2023 migration survey was similar in that the enumerators asked to speak to the head of the household, and if the head of the household was not available, they asked to interview an adult household member. The survey was conducted with 1,274 respondents in 89 sampled polygons.[48] Respondents were asked demographic questions about their gender, education, employment status, ethnicity, and religion. They were also asked to identify their territory and village of origin. The survey questions used in this study are described below and related to the respondents' and their parents' migration histories described below.

1. *Migration:* Did you migrate from a different village or town? [No, Yes]
2. *Determinants of Migration:* Why did you decide to leave your village of birth? [To find better economic opportunities (jobs etc.), To find better educational opportunities for myself, Disagreement with family members, Disagreements with other villagers, Accused of witchcraft, Outcast from village, For marriage, To be with family, Because of my religion or church, Because of the Kamuina Nsapu conflict, another reason]

[48] In theory, the total number of surveys should have been 1,335 since 89 polygons were sampled, and 15 surveys should have been conducted per polygon. In fifteen polygons, less than 15 surveys were conducted either because the enumerators could not find 15 respondents to survey or because the target number of observations had already been reached.

3. *Father Migration:* Did your father migrate from a different village or town? [No, Yes]

4. *Determinants of Father Migration:* Why did your father decide to leave your village of birth? [To find better economic opportunities (jobs etc.), To find better educational opportunities for myself, Disagreement with family members, Disagreements with other villagers, Accused of witchcraft, Outcast from village, For marriage, To be with family, Because of my religion or church, Because of the Kamuina Nsapu conflict, another reason]

5. *Mother Migration:* Did your mother migrate from a different village or town? [No, Yes]

6. *Determinants of Mother Migration:* Why did your mother decide to leave her village of birth? [To find better economic opportunities (jobs etc.), To find better educational opportunities for myself, Disagreement with family members, Disagreements with other villagers, Accused of witchcraft, Outcast from village, For marriage, To be with family, Because of my religion or church, Because of the Kamuina Nsapu conflict, another reason]

E Afrobarometer Surveys

I use data from rounds 3, 4, 5, and 9 of the Afrobarometer surveys, conducted in 2005, 2008, 2015, and 2023, respectively.[49] Afrobarometer surveys are a series of nationally representative, face-to-face surveys conducted by partner organizations in African countries with oversight from the Afrobarometer research network. These surveys are conducted every two to three years, sampling 1,200–2,400 adult citizens per country. The sampling design ensures that every adult citizen has an equal chance of selection, with respondents distributed across administrative divisions and rural/urban areas in proportion to their share in the national population. The surveys gather data on governance, democracy, civil society, and living standards. Detailed information on the surveys, variables, and sampling methods is available on the Afrobarometer website (https://www.afrobarometer.org/), along with the full set of questionnaires (https://www.afrobarometer.org/surveys-and-methods/questionnaire/).

I analyze respondents' trust levels using the following survey questions, which assess trust in various groups:

[49] Afrobarometer rounds 6, 7, 8, and 10 did not include the trust questions used in this analysis.

1. *Trust Relatives:* "How much do you trust each of the following types of people: Your relatives?" [Not at all, Just a little, I trust them somewhat, I trust them a lot]. This question appears in rounds 3, 4, 5, and 9 as Q84A, Q84A, Q88A, and Q86B, respectively.

2. *Trust People from Your Ethnic Group:* "How much do you trust each of the following types of people: People from your own ethnic group?" [Not at all, Just a little, I trust them somewhat, I trust them a lot]. This question is only asked in round 3, where it is recorded as Q84C.

3. *Trust People from Other Ethnic Groups:* "How much do you trust each of the following types of people: [Ghanaian/Kenyan/etc.] from other ethnic groups?" [Not at all, Just a little, I trust them somewhat, I trust them a lot]. This question is only included in round 3 as Q84D.

4. *Trust Other Ghanaians/Kenyans/etc.:* "How much do you trust each of the following types of people: Other Ghanaians/Kenyans/etc.?" [Not at all, Just a little, I trust them somewhat, I trust them a lot]. This question appears in rounds 4 and 9 as Q84C and Q86A, respectively.

5. *Trust Other Known People:* "How much do you trust each of the following types of people: Other people you know?" [Not at all, Just a little, I trust them somewhat, I trust them a lot]. This question appears in rounds 4, 5, and 9 as Q84B, Q88C and Q86D, respectively.

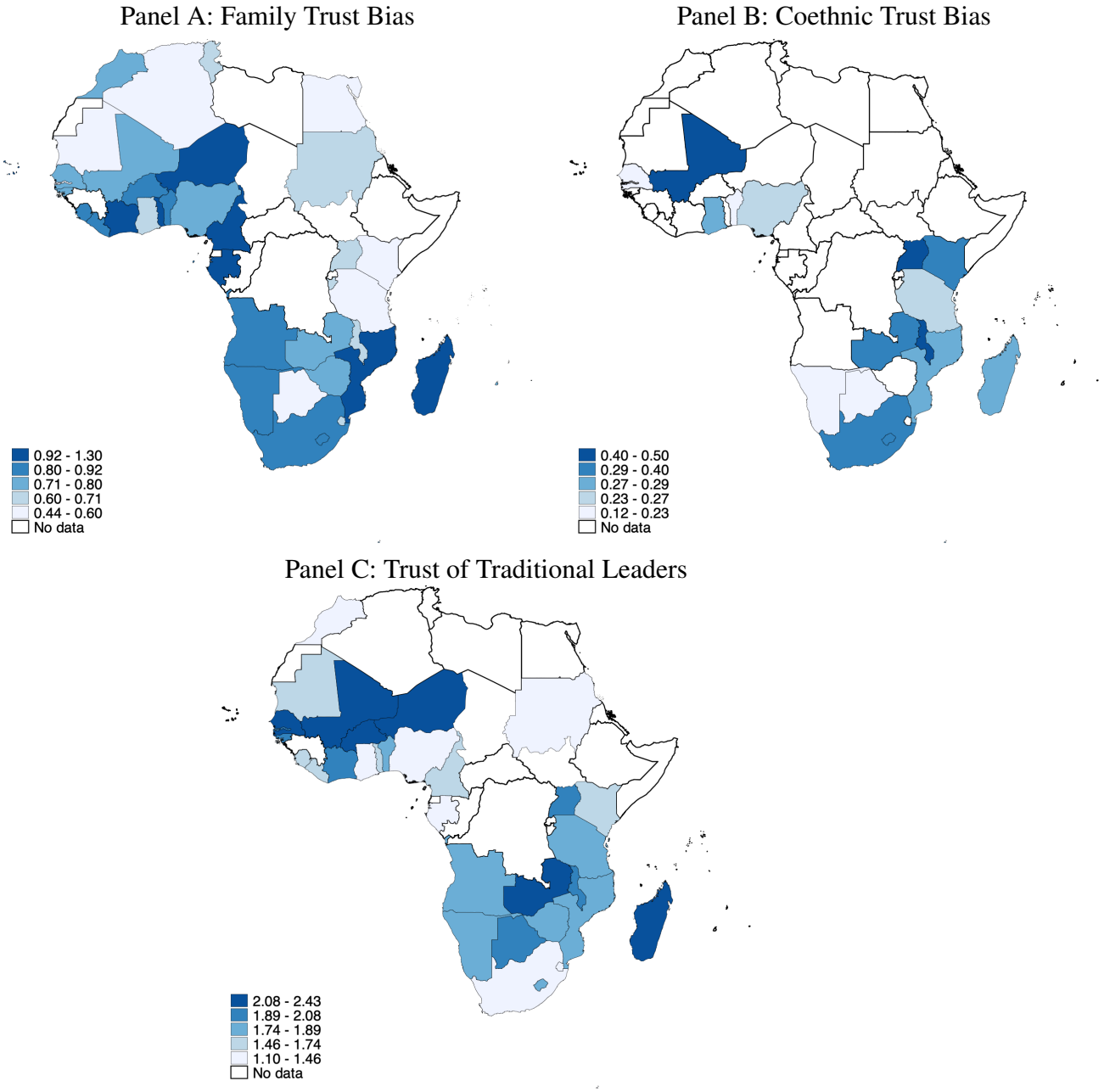
6. *Trust People from Other Religions:* "How much do you trust each of the following types of people: People from other religions?" [Not at all, Just a little, I trust them somewhat, I trust them a lot]. This question is asked only in round 9 as Q86E.

Responses to these questions are used to define two measures: *coethnic trust bias* and *family trust bias*. A respondent's *coethnic trust bias* is calculated as the difference in trust toward coethnics and non-coethnics. *Family trust bias* is calculated as trust in relatives minus trust in non-relatives, where trust in non-relatives is defined as the average of trust in neighbors, non-coethnics, other nationals, other known people, and people from other religions. Figure A28 reports the average family trust bias (Panel A) and coethnic trust bias (Panel B) by country in rounds 3–5, and 9 of the Afrobarometer data.

I also measure respondents' trust in their local leaders using the survey question: "How much do you trust each of the following: Traditional Leaders?" [Not at all, Just a little, I

trust them somewhat, I trust them a lot]. This question appears in rounds 4 and 9 as Q91i and Q37j, respectively.

Figure A28: Afrobarometer Data – Family Trust Bias, Coethnic Trust Bias, and Trust of Traditional Leaders by Country



Notes: This figure records family trust bias (Panel A), coethnic trust bias (Panel B), and trust of traditional leaders (Panel C) by country in rounds 3–5 and 9 of the Afrobarometer Data. Family trust bias is measured as the difference between how much respondents report trusting their relatives, asked in rounds 3–5 and 9 of the Afrobarometer, and how much they report trusting people who are not their relatives, defined as the average of several measures of trust: trust in neighbors asked in rounds 3, 5, and 9; trust in non-coethnics asked in round 3; trust in other nationals asked in rounds 4 and 9; trust in other known people asked in rounds 4, 5, and 9; and trust in people from other religions asked in round 9. The number of observations corresponding to Panel A is 150,904. Coethnic trust bias is calculated as the difference between how much respondents report trusting people from their own ethnic group and people from other ethnic groups reported in round 3 of the Afrobarometer. The number of observations corresponding to Panel B is 22,607. Trust of traditional leaders is reported in rounds 4 and 9 and the number of observations corresponding to Panel C is 65,376. We discuss these results in Section 5.3.

F Simulations

This section describes how I construct counterfactual locations for missions in the Kasaï region of the DRC. The approach I describe below is inspired by the methodology introduced and detailed in Dell and Olken (2019).

F.1 Determinants of Mission Location

The first step is to identify the geographical and historical determinants of mission location to construct an index of "mission suitability" that I use to predict counterfactual mission location. For this purpose, I first construct a 10 kilometer by 10 kilometer grid cell dataset of the Kasaï region containing the proximity of each grid cell to the nearest historical Catholic or Protestant mission in Mantnieks (1951) and historical and geographic characteristics argued to have influenced mission site selection.

Specifically, for each grid cell, I compute the average value of the historical and geographic determinants of mission locations described in Section 3 and Appendix C. Historical determinants include the intensity of the slave trade (Nunn and Wantchekon, 2011), distance to initial explorer routes (Century Company, 1911), distance to the nearest city in 1800 (Chandler, 1987), estimated population density in 1800 (Goldewijk et al., 2011), distance to Kananga, and distance to colonial railroads (Wack, 1905). Geographic determinants include malaria suitability (Kiszewski et al., 2004), tsetse fly suitability (Alsan, 2015), distance to the coast, distance to the nearest river, and several measures of agricultural suitability, such as terrain elevation and ruggedness (The Ministry of Economy, Trade, and Industry , METI), precipitation, temperature, length of the growing season, cassava suitability, maize suitability, and rice suitability (Food and Agricultural Organization , FAO).[50]

For each grid cell, I also construct the proximity of the grid centroid to the nearest Catholic or Protestant mission in Mantnieks (1951) in log kilometers computed as $Proximity\,to\,Mission_j = -log(Distance\,to\,Nearest\,Mission)$ using the list of Protestant and Catholic Missions recorded in Mantnieks (1951).

Table A35 reports the results of OLS regressions of the proximity of the grid centroid to the nearest mission in log kilometers and the historical and geographic determinants of mission locations. Column 1 reports robust standard errors, while Columns 2-9 presents results using Conley standard errors (Conley, 1999) that account for spatial auto-correlation with multiple cut-off windows in 25 km increments (from 25km in Column 2 to 200 km in

[50] Geographic and historical data rasters are of varied resolutions – ranging from 10 by 10 kilometer grid cells to 100 by 100 km grid cells. For each raster, I compute the average raster value in each grid cell of the 10 kilometer by 10 kilometer grid cell dataset of the Kasaï region that I created.

Column 9).

Table A35: Mission characteristics

	Proximity to mission								
	(Robust SE)	(Conley SE 25km)	(Conley SE 50km)	(Conley SE 75km)	(Conley SE 100km)	(Conley SE 125km)	(Conley SE 150km)	(Conley SE 175km)	(Conley SE 200km)
Cassava	0.000**	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000*
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Maize	0.001***	0.001	0.001	0.001	0.001	0.001*	0.001**	0.001**	0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Rice	0.001***	0.001**	0.001*	0.001*	0.001*	0.001*	0.001*	0.001*	0.001
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)
Growing Days	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003	0.003
	(0.002)	(0.006)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Precipitation	0.001***	0.001*	0.001	0.001	0.001	0.001	0.001*	0.001**	0.001***
	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)
Elevation	0.003***	0.003*	0.003*	0.003	0.003	0.003	0.003	0.003	0.003
	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Temperature	-0.159***	-0.159	-0.159	-0.159	-0.159	-0.159	-0.159	-0.159	-0.159
	(0.047)	(0.140)	(0.184)	(0.202)	(0.206)	(0.208)	(0.198)	(0.198)	(0.197)
Ruggedness	-0.002***	-0.002*	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002
	(0.001)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Proximity to Coast	-0.352	-0.352	-0.352	-0.352	-0.352	-0.352	-0.352	-0.352	-0.352
	(0.222)	(0.705)	(0.871)	(0.822)	(0.672)	(0.370)	(0.270)	(0.461)	(0.668)
Proximity to Rivers	0.060***	0.060	0.060	0.060	0.060	0.060	0.060	0.060	0.060
	(0.016)	(0.046)	(0.059)	(0.063)	(0.067)	(0.076)	(0.083)	(0.087)	(0.093)
Population Density (1800)	0.061***	0.061***	0.061***	0.061***	0.061***	0.061***	0.061**	0.061***	0.061***
	(0.006)	(0.013)	(0.015)	(0.016)	(0.018)	(0.018)	(0.019)	(0.017)	(0.015)
Proximity to 1800 cities	-0.207	-0.207	-0.207	-0.207	-0.207	-0.207	-0.207	-0.207	-0.207
	(0.543)	(1.757)	(2.217)	(2.326)	(2.266)	(2.025)	(1.773)	(1.955)	(2.343)
Malaria	0.032***	0.032	0.032	0.032	0.032	0.032	0.032	0.032	0.032
	(0.008)	(0.024)	(0.030)	(0.032)	(0.031)	(0.031)	(0.034)	(0.037)	(0.036)
Tsetse Suitability	-2.147**	-2.147	-2.147	-2.147	-2.147	-2.147*	-2.147	-2.147	-2.147
	(0.878)	(2.719)	(3.161)	(2.656)	(2.145)	(1.230)	(.)	(1.704)	(2.523)
Proximity to Railways (Wack)	1.290***	1.290**	1.290	1.290	1.290	1.290**	1.290**	1.290**	1.290*
	(0.196)	(0.647)	(0.813)	(0.853)	(0.795)	(0.650)	(0.603)	(0.612)	(0.660)
Proximity to Explorer Routes	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002
	(0.016)	(0.047)	(0.054)	(0.055)	(0.051)	(0.050)	(0.060)	(0.067)	(0.071)
Slave Exports	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Proximity to Kananga	0.368***	0.368***	0.368**	0.368**	0.368**	0.368**	0.368**	0.368**	0.368***
	(0.038)	(0.112)	(0.130)	(0.138)	(0.146)	(0.138)	(0.128)	(0.121)	(0.110)
Constant	4.460	4.460	4.460	4.460	4.460	4.460	4.460	4.460	4.460
	(5.928)	(18.499)	(22.773)	(22.947)	(21.846)	(18.570)	(13.351)	(13.862)	(17.446)
Observations	3445	3445	3445	3445	3445	3445	3445	3445	3445
R^2	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313
Mean	-3.52	-3.52	-3.52	-3.52	-3.52	-3.52	-3.52	-3.52	-3.52

Notes: This table shows the result of OLS regressions of the proximity to the centroids of the 10 by 10 kilometers grid constructed across the Kasaï to mission locations and a set of historical and geographic characteristics of the region. The first column reports robust standard errors. Columns 2-9 report Conley standard errors (Conley, 1999) accounting for spatial auto-correlation at cut-offs with 25 km increments in each consecutive column. ***, **, and * indicate significance at the 1, 5, and 10 percent levels. We discuss these results in Section 6.2.

F.2 Mission Suitability

Mission suitability of a given grid cell is then defined as an index composed of the eight historical and geographic characteristics most predictive of proximity to missions across the specifications reported in Table A35: maize suitability, rice suitability, cassava suitability, precipitation, estimated population density in 1800, distance to Kananga, distance to colonial railroads, and tsetse fly suitability.

I first calculate the mean of each characteristic for each grid cell and convert these into a raster. The grid cell-level mean values for each characteristic are then normalized to end up in

a range of 0 to 1. In Table A35, Cassava, Maize, Rice, Precipitation, and Population Density are positively associated with proximity to historical missions, so I use their raw normalized values. By contrast, distance to Kananga, distance to colonial railroads, and Tsetse suitability are negatively associated with proximity to historical missions, so I use their reversed normalized value (1 - normalized value). These characteristics are then combined into a single mission suitability RasterStack, which takes a value between 0 and 8 and is reported in Figure A29.

F.3 Simulation Procedure

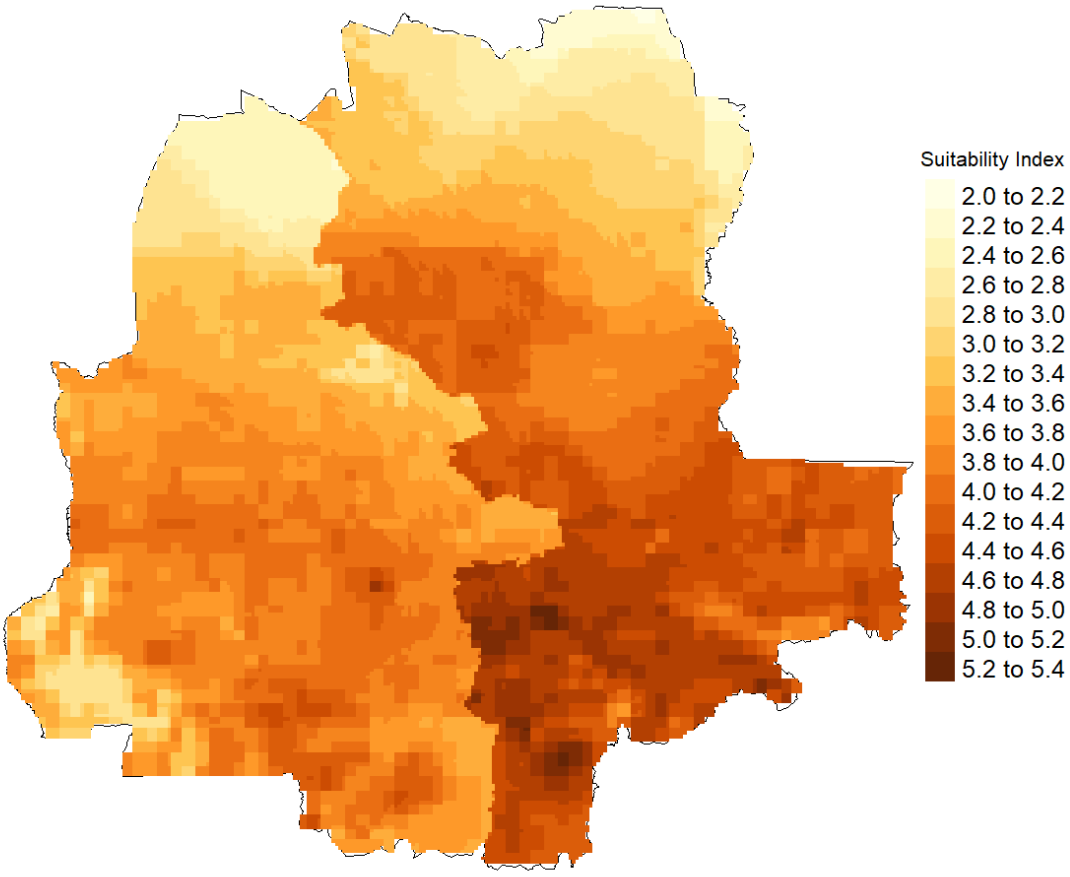
I then construct buffers around each Catholic and Protestant Missions recorded in Mantnieks (1951). To avoid contamination from the effect of being very close to an actual mission, I follow Dell and Olken (2019)'s approach and require all counterfactual missions to be at least 5 kilometers away from the nearest actual mission in a straight line distance.[51] The outer radius of each buffer is set at a distance of 30 km from the mission. The choice of 30km is based on what contemporaries have argued was the maximum sphere of evangelization for a mission station, given that missionaries had to walk to nearby villages to preach and converts had to walk to the nearest station for religious, educational, or health services (Dieu, 1946). Figure A30 shows the buffer for all the Kasaï region mission stations in Mantnieks (1951). These buffers are then intersected with the mission suitability RasterStack to create mission suitability buffers shown in Figure A31.

For the simulation, I again follow Dell and Olken (2019) and only retain the subset of grid cells within each mission buffer above a certain percentile of mission suitability. Our main specification is the most conservative and only considers grid cells that are above the 95^{th} percentile of mission suitability in each buffer (Figure A29, Panel A), but I also present results that consider all grid cells above the 90^{th} percentile of mission suitability in each buffer (Figure A29, Panel B). For each mission, a sample of 10,000 points is randomly generated among suitable grid cells.

I then simulate 1,000 draws of counterfactual mission locations (one for each mission in each draw), with each counterfactual mission location in a draw being at a minimum distance of 5 kilometers from every other counterfactual mission location in a draw. I also present results imposing a 10 kilometers minimum distance (Figure A12). Each village of origin is matched to its nearest mission and counterfactual mission in each of the 1,000 draws.

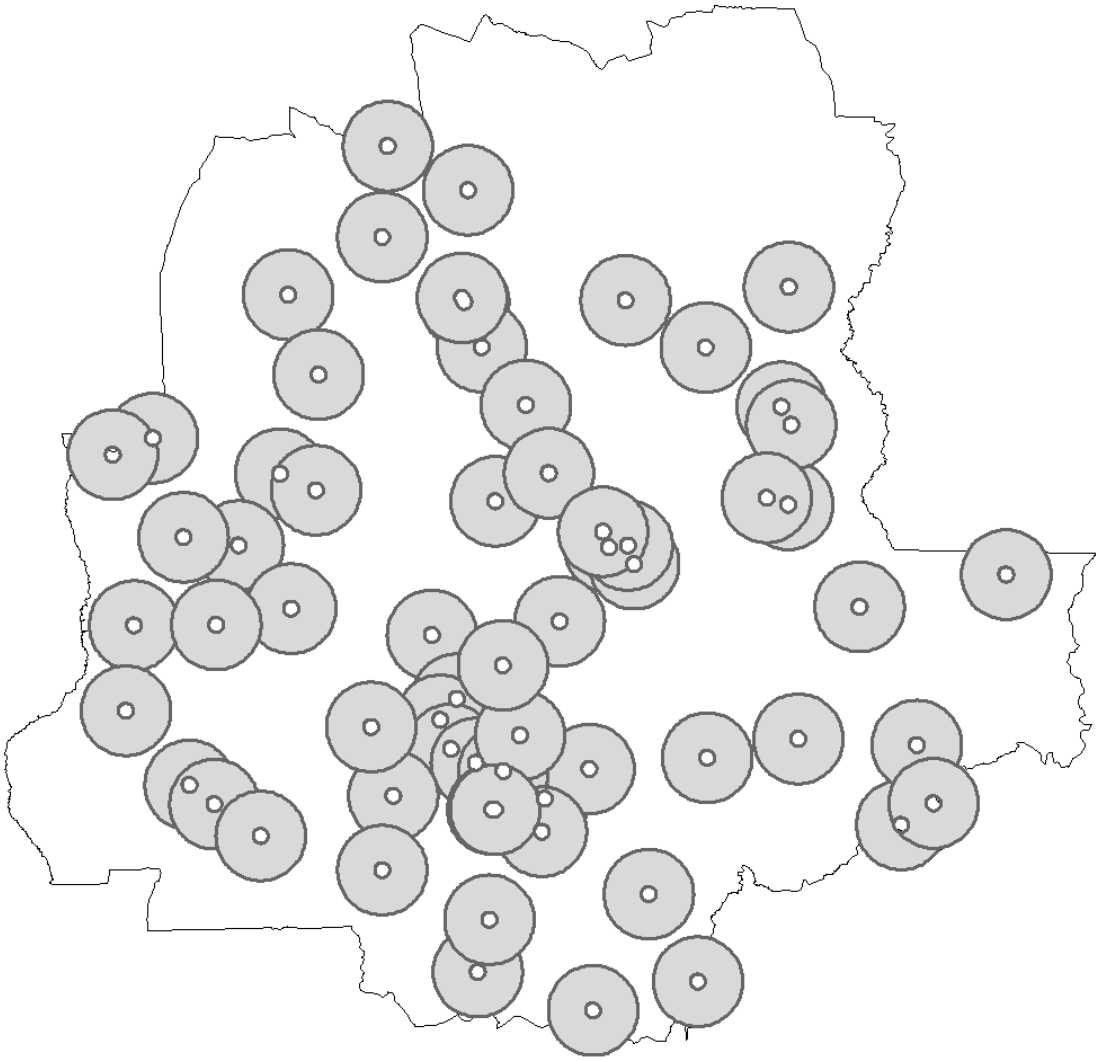
[51] Intuitively, if counterfactuals are placed too close to the actual missions – relative to the rate at which the effects decline – the real effects will contaminate the counterfactual means. This will tend to bias the estimates downwards, making them too conservative.

Figure A29: Suitability Index Raster



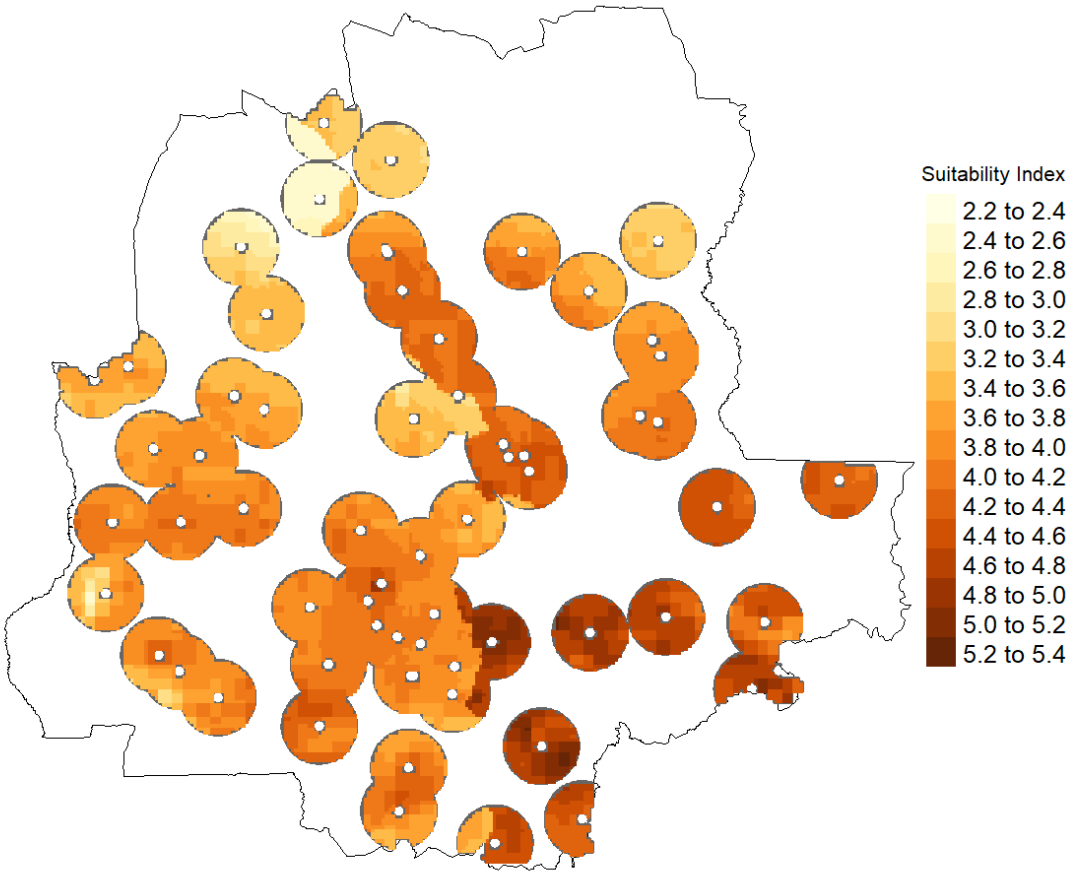
Notes: This figure shows the suitability index raster, which consists of the summed-up normalized values of each of the geographic and historical characteristics considered. This raster is discussed in Section 6.2.

Figure A30: Buffers around Missions



Notes: This figure shows the buffers constructed around missions with a 5 km inner radius and a 30 km outer radius. These buffers are discussed in Section 6.2.

Figure A31: Buffers intersected with suitability stack

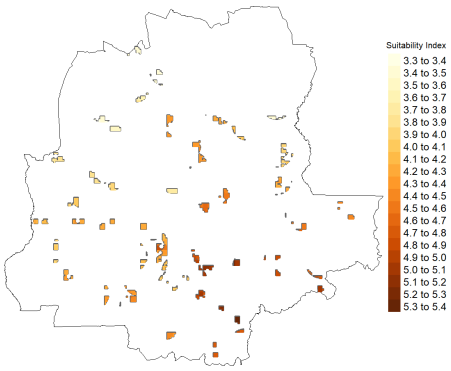


Notes: This figure shows the buffers constructed around missions intersected with the suitability RasterStack. This figure is discussed in Section 6.2.

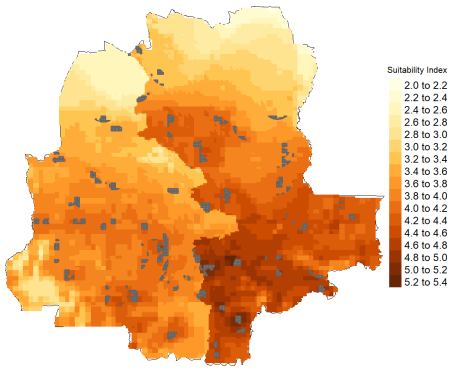
Figure A32: Suitable Grid Cells for Counterfactual Missions

Panel A: 95^{th} **percentile**

A1: Suitable Grid Cells with Suitability Raster cropped

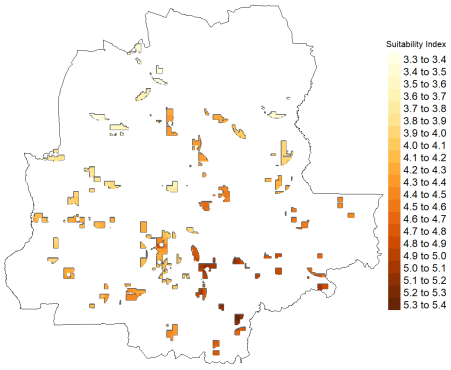


A2: Suitable Grid Cells with Suitability Raster in background

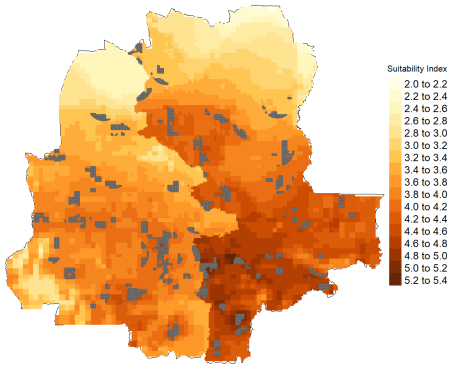


Panel B: 90^{th} **percentile**

B1: Suitable Grid Cells with Suitability Raster cropped



B2: Suitable Grid Cells with Suitability Raster in background



Notes: These figures show the placebo grid cells in each buffer deemed suitable at the 95^{th} (Panel A) and 90^{th} (Panel B) percentile level with the suitability raster cropped to the suitable grid cells (Panel A1 and B1) and the suitability raster in the background with the grid cells outlined (Panel A2 and B2). These figures are discussed in Section 6.2.

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