

# Does Exposure to Other Ethnic Regions Promote National Integration?

Evidence from Nigeria

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**WORLD BANK GROUP**

Development Economics  
Development Research Group  
October 2018

## Abstract

This paper examines how temporary migration to a different ethnic region affects national integration. It uses original survey data from individuals who were randomly exposed to different ethnic regions of Nigeria during their mandatory national service, the largest program of its kind in Africa. Comparing participants who served in a state where they are the ethnic majority to those who served in a state where they are not indicates two concurrent effects. First, interethnic exposure creates a stronger connection to the country as a whole: exposed participants have

greater national pride and more positive attitudes about Nigeria, they are more knowledgeable about other parts of the country, and they are four times as likely to be living outside their ethnic region seven years later. Second, consistent with social identity theory, immersion in a different ethnic region highlights distinctions between groups and reinforces participants' connection to their ethnic group: exposed participants have more positive attitudes toward their own ethnic group, but not others, and are more likely to have all their closest friends from their ethnic group.

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# Does Exposure to Other Ethnic Regions Promote National Integration? Evidence from Nigeria

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JEL codes: D02, D91, J15, O15, R23

Keywords: Nation building, national integration, national service, internal migration, intergroup exposure, interethnic relations, diversity.

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\*World Bank Research Group, [ookunogbe@worldbank.org](mailto:ookunogbe@worldbank.org). I am grateful to Alberto Alesina, Asim Khwaja, Michael Kremer, Nathan Nunn, and Dina Pomeranz for their encouragement, support and advice. I also thank Oladeji Abubakar, Martin Abel, Adigun Agbaje, Kehinde Ajayi, Buchi Ajufo, Michael Callen, Scott Carrell, Juan Pablo Chauvin, Jasmina Chauvin, Ryan Enos, Paola Giuliano, Shelby Grossman, Leander Heldring, Yusuf Neggers, Yemi Okunogbe, Philip Osafo-Kwaako, Owen Ozier, Gautam Rao, Tristan Reed, Ryan Sheely, Adam Wagstaff and numerous seminar participants for their comments and support at different stages of the project. Eze Ihedioha provided helpful research assistance. I appreciate the cooperation of our partner university, survey respondents, and focus group participants, without whom this project would not have been possible. This project received funding from the Weiss Family Fund, Harvard Institute for Quantitative Social Science and Lab for Economic Applications and Policy. The findings, interpretations, and conclusions expressed in this paper, including any errors, are entirely mine and do not necessarily represent the views of the World Bank Group, its Executive Directors or the governments of the countries they represent.

## 1 Introduction

National integration is an important policy goal in many nation states. From European states in the 19th and early 20th centuries, to newly independent African, Asian and South American states in the latter half of the 20th century, to OECD countries facing an influx of migrants in the 21st century, national leaders of states with different cultural, religious and social groups have been confronted with the task of nation building:<sup>1</sup> how to forge a national identity and promote cooperative intergroup relations in the face of primordial group loyalties. In many cases, groups are segregated into different regions allowing perpetuation of mistrust (Robinson, 2017). Promoting integration and actively managing diversity is especially important to many governments given the negative social and economic outcomes that are associated with high levels of ethnic and religious diversity in developing countries.<sup>2</sup> However, there is limited evidence on the success of current policies.

One approach that a number of countries have adopted to promote integration is to require citizens, especially young people, to live in a different region of the country for a fixed amount of time. Typically, the goal of these programs is to expose participants to the diversity of the country, to foster loyalty to the country and to build a sense of civic responsibility. In Nigeria, for over 40 years, the government has sent cohorts of university graduates to different regions of the country for a mandatory year of national service through its National Youth Service Corps (NYSC). The national service programs in Ghana, Kenya and Malaysia and the sent-down movement in China are other examples of these physical relocation programs.<sup>3</sup> Examples are present in developed countries as

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<sup>1</sup>Alesina and Reich (2015) provide many examples and references from France, Italy, Germany, Spain, Kenya, Tanzania and China.

<sup>2</sup>See Alesina and La Ferrara 2005 for a review.

<sup>3</sup>Malaysia's service program seeks to "develop and enhance the spirit of patriotism amongst youths and encourage national integration and racial unity" (National Service Training Department Malaysia 2015).

well in programs such as ERASMUS and Teach for America.<sup>4</sup>

This paper uses the context of the NYSC in Nigeria to ask: what is the impact of an individual's temporary exposure to a different ethnic region on his or her actions and attitudes that are important for nation building? It focuses on ethnic exposure because it is the most salient dimension of diversity in this setting. In particular, it studies the impact on members of one of the dominant ethnic groups in Nigeria (the Yoruba) as they become exposed to other groups.<sup>5</sup>

The empirical strategy exploits the randomized assignment of NYSC participants to different states of the country. The difference in exposure arises because some participants are posted to a state where they are the ethnic majority (the "control group") while others are posted to a state outside their ethnic region (the "treatment" group). Compliance with NYSC posting is not perfect; as a result, the analysis uses individuals' treatment status given by their assigned state of service as an instrument for their actual treatment status and estimates local average treatment effects (LATE) for compliers. Since states differ on other dimensions besides ethnicity, the analysis controls for state characteristics such as religion and poverty level.

To measure integration, this paper uses both observable revealed preference outcomes such as future voluntary migration to other regions of the country outside the context

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Similarly, one of the objectives of the National Service Scheme in Ghana is to "promote national unity and strengthen the bonds of common citizenship among Ghanaians" (National Service Scheme Ghana 2015). In Kenya, the National Youth Service seeks to promote among its participants, "values of discipline, democracy, citizenship and cooperation" (National Youth Service Kenya 2015).

<sup>4</sup>As part of its efforts to promote integration among member countries, the European Union enables over 250,000 university students to experience living in a different European country through its ERASMUS study-abroad and international work placement programs. In the United States, programs like Americorps and Teach for America place young people in national service assignments around the country, often in a different location from their home communities.

<sup>5</sup>Yorubas are one of three dominant ethnic groups in Nigeria. Unlike the other two, Hausa and Igbo, which are majority Muslim and Christian, respectively, Yorubas are made up of both religious groups in similar proportions with a history of peaceful coexistence. As such, religion is not a primary dimension of exposure they face.

of the program, knowledge of different parts of the country, and relationships (such as marriage and close friendships) with people from other ethnic groups, as well as stated attitudes towards the country, their ethnic group, and other ethnic groups. To study these questions, I partnered with a public university in southwest Nigeria to administer a phone survey to alumni who participated in NYSC seven years earlier. Collecting outcomes in the context of a broader alumni survey, and not as a study of NYSC, reduces potential concerns of demand bias in participants' responses.

The results indicate two concurrent effects of interethnic exposure. On the one hand, exposure increases participants' attachment to the country as shown by their greater national pride and improved attitudes towards Nigeria as well as their greater knowledge of the country and increased mobility across regions. On the other hand, exposure highlights distinctions between ethnic groups and reinforces participants' attachment to their ethnic group, in some cases to the detriment of their relationships with other groups.

The first set of results reveal that individuals who completed NYSC in a different ethnic region are over four times as likely to be living outside their ethnic region seven years later (14 percentage points higher than a base of 4 percent). This migration is not driven by individuals choosing to remain in their NYSC state or the ethnic region in which they served; rather, I find that exposed participants are also more likely to be living outside their ethnic region in regions other than where they completed youth service.

The observed increase in migration is associated with both increased knowledge of other states and greater willingness to live in a new culture. Participants who were previously exposed to a different region of the country have a 14 percentage point higher success rate at identifying governors and capitals of states in other ethnic regions. In contrast, there is no differential knowledge across participants of states within their ethnic region. Again, these results are not limited to the NYSC location; rather, participants become

more informed about other regions as well.

Further, exposed participants express greater willingness to migrate across ethnic lines to take up a hypothetical job offer with a given salary increase. This effect size is about one-third of the effect of a 50 percent salary increase on willingness to migrate. The differential willingness to move in response to economic opportunity suggests that prior exposure reduces psychological costs of migrating to an unfamiliar region. Supporting this idea, qualitative evidence indicates that “fear of the other” is an important mental barrier that exposure reduces.

Consistent with the results on increased knowledge and internal migration, exposure to a different ethnic region increases participants’ sense of attachment to the country as measured by responses to survey questions on national pride, national unity and attitudes towards Nigerians. During focus groups and interviews, participants attribute this to an increased appreciation of the diversity of the country and the realization that they belong to something larger than their group.

At the same time, exposed participants develop greater attachment to their ethnic group as measured by questions on ethnic pride and attitudes towards co-ethnics. There is no evidence of improved attitudes towards other ethnic groups on measures such as trust, closeness and support for interethnic marriage. While these results may initially seem surprising, they are consistent with a large body of work on social identity theory (Sherif et al 1954, Tajfel and Turner 1979, Tajfel 1982) which predicts that immersion in a foreign culture increases the salience of participants’ ethnic identity and spurs participants to compare, and favorably consider, their culture in contrast to other cultures. Further, a greater identification with one’s own group could negatively impact relations with members of other groups. In line with this, exposed participants are less likely to have close friends from other ethnic groups.

These findings contribute to three main bodies of work. First, this paper increases our understanding of the impact of nation-building policies in developing countries (Miguel 2004, Kevane 2008, Collier 2009, Bandyopadhyaya and Green 2013). It provides some of the early empirical evidence on the role of physical relocation programs on national integration. Bazzi et. al (2018) find positive long-term impacts on use of national language and interethnic marriage from a program that permanently relocated voluntary migrants to outlying islands in Indonesia. This paper finds sustained impacts from one year of living in a different ethnic region.

Second, this paper relates to a large literature on the determinants and impacts of migration. Whereas the migration literature focuses on constraints in credit, insurance, information, transportation and land markets in restricting the allocative efficiency of labor markets (Bryan et al 2014, Gollin and Rogerson 2010, Fernando 2015), this paper highlights the potential role of mental barriers. Individuals are more willing to move in response to given economic opportunities in unfamiliar regions when they have previously experienced interethnic exposure, suggesting that psychological barriers constrain their migration decisions. Along the same lines, the paper contributes to a broader literature on familiarity bias: the observation from financial markets and laboratory experiments that avoiding the unknown leads people to make sub-optimal economic decisions (Cao et al 2011, Ackert et al 2005). This finding indicates that, by reducing mental barriers to migration, temporary interethnic exposure can increase efficient allocation of human capital across regions and have potentially significant impacts on economic growth.

Finally, this paper contributes to a broad literature in social psychology, political science, and economics on the effects of social interaction and the formation of social attitudes. It advances this literature on two frontiers: the nature of the exposure and the timeframe of impact. Most of the current empirical literature considers the impact on majority groups of

interacting with peers from a different race or socio-economic status within an institutional context (Boisjoly et al 2006, Rao forthcoming, Burns et al 2015, Carrell et al 2015, Scacco and Warren 2018). In contrast, this paper examines the effect of relocating an individual from their home region to a different region while holding constant exposure to a diverse peer group for both treatment and control groups. In particular, this paper does *not* provide a test of the intergroup contact hypothesis (Allport 1954); instead, the associated mechanisms include being exposed to an unfamiliar community and living as a minority in a different region. Whereas the abovementioned papers report improved attitudes and actions towards other social groups, I find no such evidence. Rather, I find a reinforcement of participants' ethnic identity and relationships. In addition, unlike most existing studies that provide results within a short time frame of one to three years, this paper presents results seven years later when individuals are completely removed from the institutional setting in which the exposure occurred.<sup>6</sup>

The rest of this paper is organized as follows. Section 2 describes the National Youth Service Corps program while Section 3 discusses the empirical strategy and addresses possible challenges to identification. Section 4 provides a conceptual framework for the nature of exposure that occurs in this setting. Section 5 reports and discussed results on the impact of interethnic exposure on outcomes of interest and Section 6 concludes by highlighting policy implications and areas for future research.

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<sup>6</sup>The physical relocation component in this paper is similar to Dobbie and Fryer (2015), which examines the impact of participating in Teach for America, a selective U.S. program that places talented university graduates at teaching positions in under-resourced communities. The paper examines the overall impact of participation as opposed to the impact of participating in a distinct racial or ethnic group, their results are qualitatively different.

## 2 The National Youth Service Corps

The National Youth Service Corps (NYSC) is a one-year, mandatory program for Nigerian citizens who are less than 30 years old when they graduate from a tertiary institution (university, monotechnic or polytechnic).<sup>7</sup> The government enforces participation by making it illegal for private or public sector employers to employ any graduate who does not possess an NYSC completion or exemption certificate. With over 200,000 participants annually, it has an annual budget of 75 billion naira (about US\$400 million in 2014)<sup>8</sup> making it by far the largest government program targeted at youths (Federal Government of Nigeria 2014 Budget).

NYSC was established in 1973 after the devastating Nigerian civil war that lasted from 1967 to 1970. The civil war was fought along ethnic lines, as the majority Igbo South-Eastern Region seceded to form the Republic of Biafra following severe violence against Igbos in different parts of Nigeria. From its inception, an explicit goal of NYSC was to reconstruct, reconcile and rebuild post-war Nigeria. It was designed to address the dual objectives of meeting national development needs and promoting national integration (NYSC Act of 1973, Olutola 1979). The youth mobilized into the program were expected to mitigate the acute shortage and uneven distribution of skilled labor across the country. At the same time, by enrolling youth from different regions of the country to serve together and by exposing them to the modes of living in different parts of Nigeria, it sought to “remove ignorance and prejudice and promote national unity” (NYSC Act of 1973). As such, the focus on tertiary-educated youths is in recognition of their potential as national leaders and influencers, as well as their ability to provide skilled labor.

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<sup>7</sup>Besides those over 30 at graduation, exemptions are also granted to those who have received national honors or served in the armed forces, police or other security agency.

<sup>8</sup>This amount is about one-quarter of the health budget, one-fifth of the defence budget and one-sixth of the education budget.

The introduction of NYSC was met initially with some resistance and public protests (Sanda 1976, Marenin 1979) but over time, it became established as a core institution in Nigeria. It is now enshrined in the 1999 Constitution of Nigeria (Section 315) and its influence extends to all local governments of the country through the presence of corps members. Nevertheless, NYSC remains a controversial topic in Nigeria and there are regular demands for its termination in the popular press from critics decrying its large costs and limited impact. On the other hand, supporters claim it plays a significant role in promoting intergroup harmony. However, there has been limited empirical evidence on the impact of the program.<sup>9</sup>

The service year is divided into four components: orientation, primary assignment, community development and passing out ceremony. It begins with a regimented three-week orientation camp in each state. Corps members are required to wear uniforms throughout the camp and are not permitted to leave. Orientation exercises, such as physical training and drills, sports competitions, lectures on different social issues, language classes, and social activities, are designed to internalize the ideals of the program, build comradery among corps members and introduce them to their host state.

At the end of the orientation, corps members receive posting letters to a “place of primary assignment” in a local government within the state. They work at this position for the remainder of the year, mostly as school teachers but also as staff in hospitals, government offices, private companies and non-profit organizations. Corps members receive a monthly stipend comparable to the federal minimum wage (equivalent to about \$100 in 2015) from the government, and often, a supplemental stipend and/or housing from their employer.

A third component of the program is community development service (CDS). One

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<sup>9</sup>Existing studies (e.g Marenin 1979, 1989, Obadare 2005, Sanda 1976) are very informative but there are selection concerns in the choice of comparison groups.

day each week, instead of working at the place of primary assignment, corps members work on community service projects in teams. CDS teams serve in a variety of ways such as environmental sanitization and beautification projects, HIV sensitization, extra-mural classes for secondary school students, road safety campaigns, among others. Lastly, at the end of the year, upon receipt of a clearance letter from participants' primary employers confirming satisfactory completion of their duties, NYSC issues a certificate of completion to corps members in a passing out ceremony (NYSC 2015a).

### 3 Methodology

#### 3.1 NYSC Randomized State Assignments and Empirical Strategy

NYSC seeks to encourage “the development of common ties among the youths of Nigeria and the promotion of national unity” (NYSC 2015b). As a result, a unique feature of the program is that participants are randomly assigned to one of the 37 states of the country, with the intention that the composition of the cohort in each state reflects the national diversity. This randomized assignment will be the main feature of the program that the research design will exploit.<sup>10</sup>

The randomization procedure is as follows: Each university submits a list of its graduating class to NYSC. This list includes the name, gender, marital status, date of birth, course of study, state of origin, and date of graduation. NYSC identifies those who are above 30 years old at graduation and issues them a certificate of exemption, as they are not eligible to serve. Married women and those with chronic illnesses are required to submit documentation in support of their status and are manually assigned to their family's home state.

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<sup>10</sup>An alternative identification strategy would be to measure the impact of participating in NYSC altogether by using the discontinuity in participation from graduating before age 30. The available sample in this study is not sufficient for this analysis and I plan to explore this in future research.

All other graduates are randomly assigned to the different states of the country using a computer algorithm. According to NYSC staff, the algorithm takes into consideration the following factors: meeting the manpower needs in different parts of the country, ensuring that no student is posted to his or her home state, and producing a cohort of corps members in each state that reflects the diversity of the overall graduating cohort. NYSC sends back the list of students and their state postings to universities that then distribute to students.

NYSC randomized assignments provide that participants posted to different states are similar in expectation. Therefore, participants posted to states in which their ethnic group is the majority (the “control group”) should be otherwise similar to those posted to states in which they are not the majority (the “treatment group”). As a result, any differences in outcomes between the two groups can be attributed to the state to which they were assigned to serve.<sup>11</sup>

There are three major ethnic groups in Nigeria (Hausa, Igbo and Yoruba), alongside over 200 others. Hausas, often grouped together with Fulanis, are based in northern Nigeria. They are predominantly Muslim and have some of the highest poverty rates in the country. Ibos have relatively higher income, are predominantly Christian and are based in the southeast. Yorubas are also relatively of higher income, about evenly split between Christian and Muslim and are located in the southwestern part of Nigeria. The Yoruba region includes Lagos State, the largest commercial hub in Nigeria. Figure 1 illustrates the geographic distribution of different ethnic groups across states in Nigeria. Using the Nigeria Demographic and Health Survey (NDHS 2008), which is representative at the state level,<sup>12</sup> I calculate the share of ethnicities in each state and classify a state as having an

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<sup>11</sup>Without the exogenous variation from NYSC assignments, it would be misleading to simply compare people living in their ethnic homeland to those who are not since different unobservable characteristics such as openness to other cultures, tolerance, ambition, may affect the migration decision.

<sup>12</sup>The national census and other national surveys in Nigeria do not collect ethnicity information due to the political sensitivity of ethnicity.

ethnic majority if more than 50 percent of the population belongs to one ethnic group. This produces three majority regions (Hausa-Fulani, Igbo and Yoruba majority regions). Following the geopolitical categorization used in Nigeria, I divide the remaining states, those without any majority ethnic group, into two groups: Southern Minorities and Northern Minorities.

The crucial feature of the randomized allocation is that the characteristics of corps members should not determine their state postings. Analysis of administrative data from a partner university in a Yoruba state reveals patterns that are consistent with the assignment rules (see Section 3.2 for more information on the university sample and data). The rule of not posting students to their home state is followed in 99.7% of cases. For the randomization checks, I regress a given state characteristic on available individual variables (age, gender, state of origin, course studied, whether the student graduated on time, whether the student transferred to another department, whether the student has a phone number or email address on file). There is a possibility that students' course of study influences their posting based on manpower needs in different states; therefore, the analysis reports results of a joint F-test of the null hypothesis of random assignment with and without the academic discipline. Participants' postings based on the different state characteristics mentioned above are not systematically correlated with available participant characteristics among all Yoruba students as well as within the survey sample (Table 1 and Appendix Table A1). The first column in Table 1 shows that for the key treatment variable in this paper (whether or not the participants are posted to a state in their ethnic-majority region), a joint F-test fails to reject the null hypothesis of random assignment with a p-value of 0.49 (including the discipline) and 0.67 (excluding the discipline).

After students receive their postings, they may request to be redeployed to a different state given the provisions for health or family reasons (genuine or otherwise), or they may

wait until the next batch of postings to be remobilized. As such, the state in which an individual serves may be different from the assigned state. Matching the survey data and administrative data reveals that 87 percent of participants serve in their assigned state. Of the 13 percent that do not, only one individual redeployed from a Yoruba state to a non-Yoruba state. Since compliance with NYSC state assignment is not perfect, I use the assigned state as an instrumental variable to estimate the effect of the state in which the individual serves. This yields the local average treatment effect (LATE) for those for whom the NYSC assignment determines their state of service. Since almost no one who is untreated takes up treatment, the LATE can be interpreted as the “treatment on the treated.”

The primary estimation equation is

$$Y_i = \alpha + \beta \widehat{Exposure}_i + \widehat{OtherStateAttribute}_i + X_i\gamma + \epsilon_i \quad (1)$$

where  $Y_i$  are the outcomes of interest (migration decisions, knowledge, attitudes towards the nation, towards own ethnic group, and attitudes towards and relationships with other ethnic groups).  $Exposure_i$  is an indicator variable for whether the participant served in a different ethnic region (instrumented by whether the participant was posted to a different ethnic region).<sup>13</sup>  $X_i$  is a vector of controls (age, gender, religion, marital status, course studied, graduated on time, changed course, has contact info, and pre-NYSC exposure to non-Yoruba regions). All regressions include fixed effects for participant state of origin and interviewer.

Besides ethnic composition, states of Nigeria differ along other dimensions such as

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<sup>13</sup>The explanatory variable could also be a continuous measure—the share of non-Yoruba in the state. However, as Figure 2 shows, most of the variation in share of Yorubas occurs within the Yoruba region as there are very few Yorubas in any other state. For this reason, as well as to have a reference “treatment” and “control” group, I primarily use the indicator variable.

religion, geographic distance, poverty and rural share (see Figure 2).<sup>14</sup> Random assignment to states also creates exogenous exposure to these state attributes, some of which are highly correlated with ethnicity. In particular, compared to Yoruba majority states, non-Yoruba states are further away and more rural: the correlation between being a non-Yoruba state and distance (rural share) is 0.70 (0.80). The main empirical specification includes controls for religion and poverty of the service state *OtherStateAttribute* (also instrumented by the assigned state) but does not include distance and rural share due to multicollinearity problems.<sup>15</sup>

As long as NYSC state assignment only affects outcomes by inducing participants to serve in the assigned state, this provides an unbiased estimate of  $\beta$ . For instance, the instrument would not be valid if receiving an undesirable posting caused people to have persistent negative views towards the country. Although it is not possible to rule out a direct effect of the posting, this is unlikely, as there is widespread acceptance that there is a fair chance of being posted to any part of the country.

### 3.2 University Alumni Survey

I worked with a Nigerian university to conduct an alumni phone survey and to obtain administrative data for previous NYSC participants. This university is a large public university with fees subsidized by the government, so it attracts students from different socioeconomic backgrounds. The university is in a Yoruba majority region and about 75 percent of students are Yoruba. The analysis is limited to Yoruba participants as there

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<sup>14</sup>Religion data comes from the National Demographic and Health Survey 2008. I calculate geographic distance from the university town using ArcGIS. Poverty data is from the National Poverty Profile Report 2010 from the National Bureau of Statistics. I calculate rural share from the rural/ urban classification of local governments from Census file 2006.

<sup>15</sup>In regressions that include distance and rural share as controls, the coefficients are comparable but lose statistical significance as the standard errors are doubled, reflecting the difficulty in distinguishing the ethnicity effect given the strong correlations with these controls.

were too few participants from each of the other ethnic groups for meaningful inferences to be drawn. Besides, since non-Yoruba participants had been living in a Yoruba region throughout college, they have in some way been “treated” with intergroup exposure. Women who are married at the time of posting (3.3 percent of the cohort) are also excluded from analysis since their allocation is explicitly non-random.

The survey includes questions on respondents’ current and previous locations, migration preferences, attitudes towards Nigeria and other ethnic groups, close relationships, demographic information as well as a quiz on knowledge of other states. To avoid priming respondents and to minimize experimenter demand bias, there was no mention of NYSC in the survey until the last section of the survey. Given the interest in observing impacts on long term outcomes, the 2008 NYSC cohort was selected as it is the earliest year for which there is significant contact information for alumni.

The university sent out emails and mobile phone text messages to the contact list describing the alumni survey, requesting their current phone numbers and alerting respondents that they would be contacted by the research team. Trained enumerators attempted to contact all potential respondents with available phone numbers for a survey using Computer Assisted Telephone Interviewing (CATI) software. After successfully interviewing participants, interviewers asked them for names and contact information for their ex-classmates. In addition, the survey team sent emails to all respondents to thank them for their participation and to request further referrals that may not have been provided during the phone interview. The team also used social media (Facebook, Linked In and webpages) to identify and contact individuals and request their current contact information but these avenues were less successful than the phone referrals.

Enumerators completed interviews with 644 participants, 51.1 percent of the 1,260 they attempted to interview (Table 2). However, only 4.4 percent of the attempted interviews

were refused. Most unsuccessful attempts were due to a lack of current contact information for participants.<sup>16</sup> Among applicants the survey team could contact (i.e. interviewed plus refusals), the survey completion rate was therefore 91.5 percent.

Participants posted to a state with a Yoruba majority completed the survey at a 47 percent rate; though lower than the 52.1 percent for those posted to non-Yoruba majority states, this difference is not statistically significant ( $p=0.14$ ). To address potential selection bias from attrition, Table 1, Panel B shows that the randomization balance checks continue to hold in the survey sample. In addition, including demographic controls in the regressions produces no qualitative changes to the results.

## 4 Conceptual Framework

The structure of the NYSC service year results in two layers of interethnic exposure that have different implications for the outcomes. First, due to the randomized state assignments, all participants are exposed to a diverse *cohort* as each state receives participants from across the country. During the orientation camp as well as during the weekly community service projects, participants live and work alongside other college graduates from different states of the country.

Intergroup contact theory (Allport 1954, Brown and Hewstone 2005) states that, under appropriate conditions, interpersonal contact is one of the most effective ways to reduce prejudice and increase tolerance between groups. Consistent with this, there is a growing literature that reveals a positive impact of interactions with other racial, religious or socio-economic groups on attitudes and behavior such as empathy, generosity, support for affirmative action, and racial tolerance (Boisjoly et al 2006, Rao forthcoming, Fryer and Dobbie 2015, Burns et al 2015, Carrell et al 2015).

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<sup>16</sup>Although most individuals in Nigeria have mobile phones, their phone numbers change frequently.

The conditions laid out for the intergroup contact theory are: equal status, common goals, intergroup cooperation, support of authority and personal interaction. With the NYSC camp activities, corps uniform, teamwork to complete service projects, and same level of education of participants, this layer of exposure has features that are expected to promote positive intergroup relationships. It is crucial to note that this exposure to a diverse cohort is common to all NYSC participants: both the treatment and control group in this study experience this level of diversity exposure to the same degree and, as such, any changes resulting from this layer of exposure will be undetected. Identifying this effect would require a comparison group that did not participate in NYSC.

The second layer of exposure, resulting also from the randomized assignments and which is the focus of this paper, is that participants are exposed to different ethnic *communities*. Unlike the control group, the treatment group participants are immersed in communities where they are not the ethnic majority. Within these ethnically different communities, they interact with students, co-workers, clients and other members of the local community as they carry out the day-to-day activities of the primary assignment. This layer of exposure may have different implications.

On the one hand, living in a different ethnic region may lead to a greater attachment to the country. For example, experiencing the physical and cultural diversity of the country and recognizing the different groups with whom they share a nationality may expand participants' concept of the entity to which they belong. As such, this exposure could lead individuals to broaden their identity beyond their ethnic group and embrace a national identity, as well as improve their attitudes and relationships with other groups. In addition, this exposure may enable participants overcome familiarity bias as direct experience with a different region of the country may increase their likelihood of migrating to unfamiliar regions in the future.

On the other hand, living among a different ethnicity may lead to a greater attachment to participants' ethnic group. For treated participants, being immersed in a different ethnic community represents a change from being a member of a majority group to being a minority in their new context. This change of status may make participants' ethnic identity more salient (Bisin and Verdier 2000, Bisin et al 2015, Connor 1972) and lead to a closer identification with their own group ("minority channel"). Social identity theory describes how in different settings, individuals categorize themselves into groups, and the different social groups to which an individual belongs are associated with positive or negative connotations (Tajfel and Turner 1979, Tajfel 1982). The theory posits that individuals strive to maintain or enhance their self-esteem and as such, they seek to gain a positive social identity by favorably comparing their in-group to the relevant out-groups. This may lead to in-group favoritism whereby the ingroup is favored at the expense of the outgroup.

In sum, whereas both control and treatment group participants may experience improved intergroup attitudes as a result of being exposed to a diverse cohort, those who serve in a different ethnic region may develop a stronger attachment to the nation from experiencing the diversity of the country and overcoming a fear of the unknown. On the other hand, the experience of being a minority among a different group may reinforce their attachment to their ethnic group.

## 5 Results and Discussion

This section begins with describing the NYSC experience of respondents to show that the treatment assignments created greater interactions with other ethnic groups. Then, it discusses the results on the impact of interethnic exposure on different aspects of national integration.

## 5.1 Degree and Types of Interactions with Host Communities

NYSC location has a strong impact on the degree of interethnic interactions individuals had during their service year. I measure participants' patterns of interethnic interactions during NYSC with the question: "*Please think about the people you mostly interacted with during NYSC, at home and at work, about what share of them were from each ethnic group [Hausa, Igbo, Yoruba, Other Northern group, Other Southern group]?*" For each group, the possible answers are: None, Just a few, Less than half (but more than a few), More than half (but not almost all), Almost all.<sup>17</sup> For ease of exposition, I report results below using an indicator variable for either "more than half" or "almost all" interactions occurring with a particular group.

Serving in a non-Yoruba region decreases interactions with Yorubas and increases interactions with other ethnic groups. Among participants who served in a Yoruba state, 65 percent had more than half of their regular interactions with other Yorubas during the service year. However, serving in a non-Yoruba region reduces this share of participants by 42 percentage points (Table 3, row 1).

Further, participants report positive interactions with the local communities. Eighty-four percent of participants visited locals at home, 69 percent attended celebrations such birthdays, weddings, and naming ceremonies, 54 percent received a parting gift from the local community when leaving and 61 percent are still in touch with people from the local community. In all, participants felt very welcome in host communities (average of 4.5 on a 5 point scale). I create a quality of stay index using the standardized mean of these variables and find no evidence suggesting that exposed participants were poorly treated in their host communities. On the contrary, exposed participants, on average, report more

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<sup>17</sup>Piloting the survey revealed that respondents found it easier to respond in this manner than with actual percentages. Enumerators were trained to ensure that the responses were consistent e.g. there could not be more than one group with a "more than half" or "almost all" response.

positive interactions (0.28 s.d.) with their local community (Table 3, row 2).

## 5.2 Internal Migration and Knowledge of Other States

A key aspect of national integration is the free movement of people across the country. From inception, one of the stated objectives of NYSC has been “to encourage members of the service corps to seek, at the end of their corps service, career employment all over the country thus promoting free movement of labour” (NYSC 2015b). I examine the extent to which participants who served in a different ethnic region become more likely to make their homes outside their ethnic homeland.

I find that interethnic exposure during NYSC quadruples the likelihood that an individual lives outside their ethnic region seven years later. The interethnic migration rate for control group subjects is 4.4 percent. This is similar to the overall rate among the Yoruba: only about 5 percent of Yorubas live outside their ethnic homeland (estimate calculated from NDHS 2008).<sup>18</sup> However, for exposed participants, the interethnic migration rate is 15.6 percent. Table 3 (row 3) shows that, using the IV regression framework, the treatment effect is 12.2 percentage points.

Living outside one’s ethnic region after being exposed is not simply due to individuals remaining in the NYSC location, for example, by obtaining a permanent position with the NYSC employer or finding a job through a network of contacts. Only 20 percent of the 15.6 percent of treated participants (3 percentage points) living outside their ethnic region are living in their NYSC service state. The remaining 80 percent (12.6 percentage points) are living in non-coethnic states other than their NYSC state.

Similarly, the higher interethnic migration is not concentrated in the ethnic region in

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<sup>18</sup>There is significant variation in interethnic migration rates across ethnic groups; for example, over 20 percent of Igbos live outside their ethnic homeland. The rate for Hausas is similar to Yorubas at about 4 percent.

which an individual served which would suggest culture-specific channels such as learning the local language. Rather, of the 15.6 percent of treated participants living outside their ethnic region, 60 percent (9.7 percentage points) are in a different ethnic region from where they served.<sup>19</sup> Rows 4 and 5 of Table 3 respectively show that participants who served outside their ethnic region are 8.1 percentage points more likely to be living in a non-Yoruba state that is not the NYSC state and 5.4 percentage points more likely to be living in a non-Yoruba state that is not in the NYSC region.

The following sub-sections present two complementary findings that shed light on possible reasons for the increase in interethnic migration: exposed participants are more knowledgeable about different states of the country, and they are more willing to move in response to economic opportunities.

### 5.2.1 Knowledge of Other States

As a simple test of knowledge, I ask participants to name the capitals of three given states and the governors of a different set of three states. For each set of three states, one of the states is in southwestern Nigeria (Yoruba region) while the other two are in two different non-Yoruba regions.

Perhaps unsurprisingly, participants are on average significantly more aware of states in their ethnic region. Overall, 90 percent and 83 percent of participants provide the correct state capital and state governor for Yoruba-majority states. Their performance drops significantly for other regions: 66 percent and 70 percent, respectively, provide the correct state capitals for states in the North (Hausa and Northern Minorities regions) and in the South (Igbo and Southern Minorities regions). For the question on state governors, 27 percent and 33 percent had the correct answers for the North and South non-Yoruba

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<sup>19</sup>This is an underestimate because people who served in the northern and southern minority regions and are now living there may be living in a different culture from the one they were exposed to during NYSC.

regions, respectively. I create a Knowledge of States index using the average number of correct responses to the 4 questions on non-Yoruba states and, separately, the 2 questions on Yoruba states.

Interethnic exposure during NYSC has a positive and significant impact on knowledge of other states. Row 6 of Table 3 shows that exposed participants are 11.5 percentage points more likely to provide the correct answers for capitals and governors of states in non-Yoruba regions. Notably, as with the migration result, this effect is not limited to the state in which the respondent served; rather, exposed participants become more aware of states in different regions of the country. To illustrate this, the dependent variable in Table 3, Row 7 is coded to indicate giving correct answers for states that are outside the individual's ethnic region and outside the state in which they served. The coefficient on interethnic exposure reduces slightly to 10.5 percentage points and remains statistically significant. In contrast, interethnic exposure does not affect (the already high levels of) knowledge of governors and capitals in Yoruba states (row 8).

### 5.2.2 Willingness to Migrate

I elicit respondents' willingness to migrate by asking them how likely they will be to accept a hypothetical job offer with a given salary increase (10%, 50% or 100%) in their current field of work but in a different state. I ask the questions for states in three regions of the country (one question for Yoruba region and two questions for non-Yoruba regions). The possible responses are Very Unlikely (1), Unlikely (2), Likely(3) and Very Likely (4).

Before turning to the treatment effect, I highlight two observations from the data. First, as expected, the higher the salary increase, the more willing individuals are to move. On the 4-point scale, the average willingness to move to different locations is 2.2 for a 10% increase, 2.6 for a 50% increase and 2.9 for a 100% increase. Second, respondents have

clear preferences across locations. On average, across the three income levels, respondents are least willing to move to a Hausa region (1.9 on 4-point scale), followed by Igbo region (2.6) and most willing to move within their Yoruba ethnic region (3.2).

To further investigate the differential willingness to move to a different ethnic region, I take the expressed willingness to move within the ethnic region as a base measure of generalized willingness to migrate (absent of ethnic considerations). Then, I estimate the willingness of an individual to move outside their ethnic region relative to their willingness to move within their ethnic region and examine whether this varies by exposure. To do this, I pool the nine outcomes for each individual for the different job locations at different salary levels and run a specification with individual fixed effects as shown below.

$$Y_{ilr} = \alpha + \phi \widehat{Exposure}_i * NonYorubaLocation_l + \theta NonYorubaLocation_l + \lambda_i + \kappa_r + \epsilon_{ilr} \quad (2)$$

where  $Y_{ilr}$  is the expressed likelihood of individual  $i$  to move to a location  $l$  at salary increase  $r$ .  $NonYorubaLocation_l$  is an indicator for the hypothetical job being in a non-Yoruba location.  $\lambda_i$  are individual fixed effects and  $\kappa_r$  are fixed effects for different levels of the salary increase.  $\phi$  is the coefficient of interest as it captures the differential willingness to move to a non-Yoruba state (relative to a Yoruba state) for those that were exposed to another ethnic region during NYSC.

Table 4 indicates that, compared to control group participants, exposed participants are 14.7 percentage points more willing to move across ethnic lines (relative to their willingness to move to a Yoruba state). This effect is economically large; it is equivalent to over one-third of the impact of a 50% salary increase.

### **5.2.3 Discussion**

The above pattern of results on observed migration, willingness to migrate and knowledge of other states suggests that exposed individuals develop a greater interest and openness to different parts of the country. Differential willingness to migrate for fixed economic gain suggests that there are important mental barriers to interethnic migration. Qualitative evidence from interviews and focus groups reveal that a fear of the “other” is a specific type of mental barrier that interethnic exposure is able to reduce. In a very early review of NYSC, Sanda (1976) reports that:

*“Many Nigerian adults, especially the parents, were haunted by [...] fear for the safety of their children when and if they are deployed to serve the nation outside the geographical limits of their ethnic groups. With Nigeria’s recent history of ethnic antagonisms, such fears could not be dismissed as imaginary.”*

Although the civil war ended 45 years prior, there are persistent ethnic tensions in Nigeria that occasionally escalate to localized violence. With limited exposure and information about other regions, it is easy for individuals’ perceptions of other ethnic regions to be defined by these events. Even when the specific “other” region is not violence-prone, individuals may feel it is unsafe. For example, an interview respondent described how he always felt scared of going to “the North” while growing up in Yorubaland. It was only after NYSC exposure that he was able to overcome his fear of all northern states.

Although an analysis of economic impact is beyond the scope of this paper, the evidence suggests that reducing these mental barriers to migration could have potentially significant economic growth effects for the country by increasing efficient allocation of labor. Bryan and Morten (2015) develop a structural model, which they estimate with data from the US and Indonesia, to show how lower physical and cultural migration costs are associated with higher productivity by facilitating the movement of labor to where it is most productive.

In this paper, I provide evidence on a policy that potentially reduces these cultural costs.

### 5.3 National Attitudes, Ethnic Attitudes and Interethnic Attitudes and Relationships

This section examines the impact of interethnic exposure on individuals' attitudes towards the country and their ethnic group, as well as relationships with people from other ethnic groups and attitudes towards them. I create a standardized index of attitudes towards the country using responses to questions on national pride ("How proud do you feel to be a Nigerian?"), national unity ("In your opinion, is Nigeria better off as one country or as more than one country?"), as well as feelings of trust and closeness to "Nigerians, in general." I create a similar index of attitudes towards participants' own ethnicity using the respective questions on ethnic pride, trust and closeness to Yorubas and support for co-ethnic marriage (See Notes to Table 3 for a full list of questions used in the index).

First, consistent with the set of results on increased internal migration and knowledge of different regions, interethnic exposure increases attachment to the nation. Table 3, row 9 shows that participants that served in non-Yoruba regions develop more positive attitudes towards Nigeria as a whole (0.21 s.d.). Second, ethnic attachment *also increases* (Table 3, row 10). People who spent one year living among a different culture have a greater appreciation of their Yoruba heritage. These two effects are reflected during interviews and focus groups, participants described how experiencing different geographic and social environments in Nigeria increased their appreciation of the country. At the same time, they describe the increased salience of their ethnic identity in their interactions with other groups. As corps members, they were visibly outsiders to the local community. They often narrated their surprise at different elements of the host culture. Together, these findings suggest that national and ethnic pride are not mutually exclusive: Not only can

they coexist, but they can also grow simultaneously.

There is no evidence of any effect of interethnic exposure during NYSC on an index of attitudes on closeness to other groups, trust for other groups and support for interethnic marriage (Table 3, row 11), nor on having romantic relationships with people from other ethnic groups (rows 12 and 13). In addition, there is a large and statistically significant *negative* effect on having any non-Yoruba close friends (out of 4 closest friends). In other words, participants exposed to non-Yoruba regions are 13 percentage points more likely to have all of their close relationships be from their own ethnic group, suggesting that the exposure may have reinforced their identification with their own group.

#### 5.4 Heterogeneous Effects

This section examines the possibility that there may be group-specific treatment effects. First, it considers that the possibility that exposure to specific ethnic regions may impact interactions and attitudes towards the ethnic group in that region. Second, it examines differential treatment effects by participants' age group, gender and religion. Given the limited sample, these results are primarily suggestive.

The previous section examines the impact of serving in a non-Yoruba state on future migration to, attitudes towards and relationships with other ethnic groups in general. It is possible that this masks ethnic-specific effects. Table 5 presents similar outcomes as Table 3 but provides ethnic-specific outcome variables as well as ethnic-specific treatments. For example, as a parallel to row 1 in Table 3 where the outcome is having more than half of daily interactions with Yorubas, the outcomes in rows 1-4 of Table 5 are having more than half of daily interactions with Hausas, Igbos, Northern minority groups and Southern minority groups. In addition, instead of having a single explanatory variable of serving in a non-Yoruba state, Table 5 has four explanatory variables for serving in a Hausa state,

Igbo state, Northern minority state or Southern minority state.

First, reassuringly, the results indicate that serving in a given ethnic region leads to greater interactions with the local ethnicity during NYSC: serving in Hausa and Igbo states increases the share of respondents that had more than half their interactions with the local ethnicity by 45 percentage points and 41 percentage points respectively. Similarly, participants who serve in a Northern minority state are have more interactions with both Hausas and nothern minorities while those who serve in Southern minority states have more interactions with Igbos and Southern minorities (Table 5, rows 1-4).

Second, on the migration results, consistent with the results in Table 3, there is no evidence that future migration is driven by remaining in (or returning to) the NYSC service region (Table 5, rows 6-9). Instead, for example, serving in a Hausa region leads to migrating to both Hausa region and Southern minority regions. Similarly, serving in one non-Yoruba region of the country improves knowledge of other non-Yoruba regions (rows 10-11). Third, there is no evidence that pooling non-Yoruba ethnic groups together masks any potential impacts on attitudes towards or relationships with the specific ethnicity to which participants were exposed (Table 5, rows 12-17).

Lastly, it is possible that NYSC exposure to a non-Yoruba region affects different types of participants differently. The impressionable years hypothesis in social psychology states that core attitudes, beliefs, and values are established during late adolescence and early adulthood (between 18 and 25 years) and are less susceptible to change afterwards (Krosnick and Alwin, 1989). As such, I compare effects on participants below and above the median age at the end of NYSC, which coincidentally, is 25 years. The results in Table 6 reveal that the improved attitudes towards Nigerians is concentrated among younger participants (0.356 s.d. vs. -0.004 s.d., p=0.017). Along the same lines, exposure has a more positive effect on attitudes towards other ethnic groups for younger participants

than older participants (0.136 vs. 0.118,  $p=0.085$ ) although the effect is not statistically significant for either group (Table 6, rows 9 and 11). There are no heterogenous effects for migration or relationships with other groups. I also check for heterogeneous effects by participants' gender and religion, and find no supporting evidence.

## 6 Conclusion

The findings in this paper show that temporary physical relocation to a different ethnic region has long lasting impacts on individuals. The results present a nuanced perspective of the overall impact of interethnic exposure on integration: exposed participants develop greater national pride *but also* greater ethnic pride; they are more likely to live among other ethnic groups, but do not feel closer to them or trust them more. These results have implications for our understanding of the process of national integration in general, as well as the specific role of physical relocation policies.

A central lesson is that the specific type of intergroup exposure matters. The treatment in this paper, relocating members of a majority group to live as a minority in a different region appears to have affected participants in two ways. On the one hand, experiencing different regions firsthand broadens their attachment to the broader nation. On the other hand, immersion in a different group highlights ethnic distinctions, leading to increased attachment to their ethnic group. The social identity literature suggests that treatments that trigger individuals' need to achieve positive group distinctiveness may result in strengthened identification with their own group even when there is no explicit conflict or competition between groups (Tajfel and Turner 1979, Tajfel 1982).

A further implication is that national and ethnic identities can not only coexist but attachment to both identities can simultaneously increase in response to certain interventions. This finding contrasts with the common view that these two identities are in opposition

to each other. This perspective of competing identities is aptly captured by President Samora Machel of Mozambique who declared that “for the nation to live, the tribe must die.” Rather, my findings suggest that embracing the nation does not necessarily come at the expense of one’s ethnicity.

The results raise more questions about the ultimate goals and intermediate processes of integration. Observing greater physical mobility in the absence of increased intergroup cohesion raises the question of the extent to which physical integration is desirable in and of itself if it does not promote greater understanding and cooperation among groups. While there may be important economic benefits to individuals who now freely pursue economic opportunities across different regions, the social consequences are unclear. Kaufmann (1996) argues that in countries with a history of civil conflict, physical separation of different groups into different regions is the only way to prevent future conflict. However, as Laitin (2004) points out with the examples of the Igbo in Nigeria who returned to the Hausa state of Kano in large numbers after the civil war, voluntary ethnic mixing continues even after a severe conflict. In cases like this, when physical integration occurs independent of social cohesion, further research is needed to assess the impact on a range of outcomes such as violence, public goods provision, economic growth, political stability among others. An additional area for further research is to examine the economic and social effects on locations that receive NYSC corps members, as this is an important complement to understanding the effect on those who serve.

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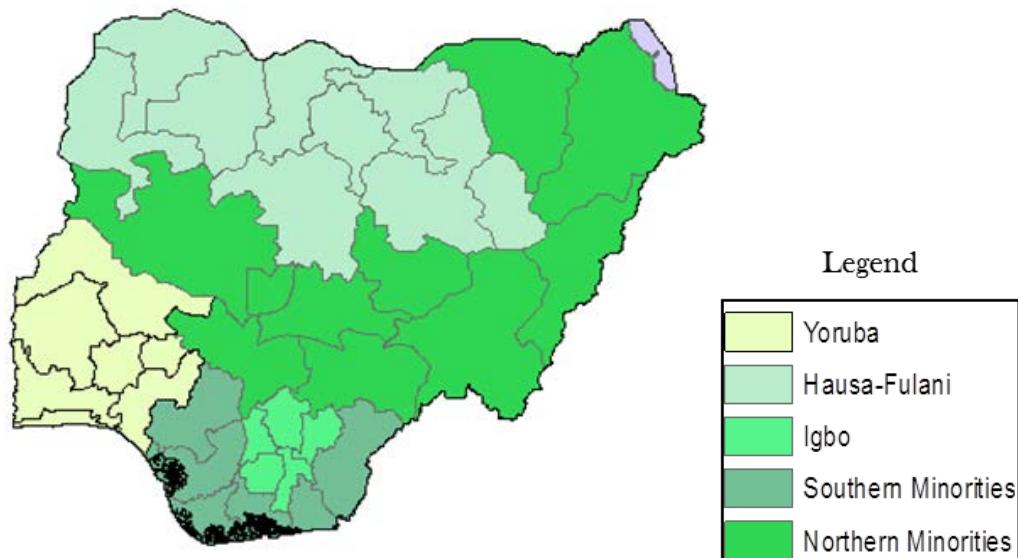
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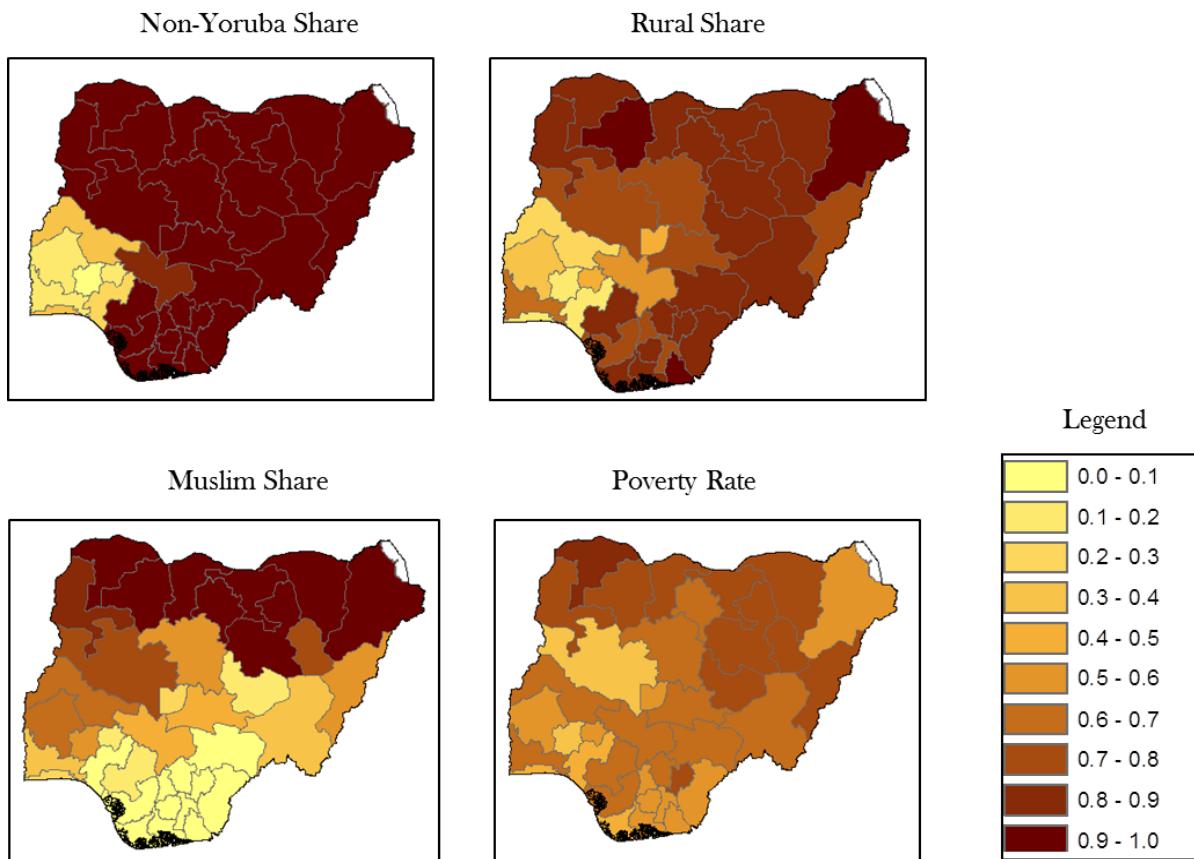
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**Figure 1: Distribution of Ethnic Groups in Nigeria**



**Figure 2: Characteristics of States in Nigeria**



**Table 1: Randomization Balance Checks**

	A: All Yoruba Participants		B: Survey Respondents	
	Non-Yoruba Majority	Non-Yoruba Share	Non-Yoruba Majority	Non-Yoruba Share
	(1)	(2)	(3)	(4)
Age	-0.000 (0.005)	-0.000 (0.004)	0.003 (0.007)	0.002 (0.005)
Female	-0.043* (0.025)	-0.035* (0.018)	-0.050 (0.035)	-0.036 (0.025)
Graduate on Time	-0.025 (0.034)	-0.011 (0.026)	-0.087* (0.048)	-0.060* (0.036)
Changed Major	-0.010 (0.040)	-0.006 (0.029)	-0.047 (0.063)	-0.024 (0.042)
Married	-0.084 (0.114)	-0.062 (0.087)	0.011 (0.141)	0.032 (0.090)
Has phone or email	-0.002 (0.032)	-0.005 (0.023)	0.052 (0.067)	0.039 (0.049)
Arts	0.059 (0.046)	0.042 (0.034)	0.079 (0.069)	0.053 (0.050)
Education	0.012 (0.046)	0.001 (0.034)	0.039 (0.068)	0.014 (0.049)
Law	-0.100 (0.084)	-0.069 (0.061)	-0.007 (0.118)	-0.008 (0.083)
Science and Tech	0.001 (0.042)	0.001 (0.031)	0.051 (0.061)	0.037 (0.044)
Social Science	-0.036 (0.048)	-0.029 (0.035)	0.016 (0.068)	0.014 (0.048)
Health	0.006 (0.057)	-0.001 (0.042)	0.097 (0.074)	0.065 (0.053)
Number of observations	1260	1260	644	644
Joint F-stat (i)	0.4940	0.4607	0.652	0.707
Joint F-stat (ii)	0.6738	0.6178	0.358	0.402

Notes: Results are from OLS regression of being a non-Yoruba majority state and the share of non-Yorubas on available individual characteristics from administrative data. Missing course category is Agriculture. Joint F-stat (i) is joint significance of all regressors while Joint F-stat (ii) excludes the course studied as this may be used in determining placements. \*\*\*, \*\* and \* denote significance at the 1, 5 and 10% levels, respectively.

**Table 2: Survey Completion by Treatment Status**

	<i>Majority Ethnic Group in NYSC Region</i>			P-value of difference
	Total	Yoruba	Non- Yoruba	
N	1260	247	1013	
Completed Interview	644	116	528	
Completion Rate	51.1%	47.0%	52.1%	0.1461
Refusals	55	9	46	
Refusal Rate	4.4%	3.6%	4.5%	0.5364

Notes: Table indicates total number of Yoruba participants in the cohort as well as by their NYSC posting region. It also indicates the number and share of the cohort that were successfully interviewed and those who refused. The remainder were unreachable by the research team.

**Table 3: Impact of Serving in a Non-Yoruba Region**

Outcomes	Served in Non-Yoruba region	N	R-sqr	Control mean
<b>A: NYSC Experience</b>				
(1) Had majority of daily interactions with Yoruba	-0.417*** (0.057)	641	0.229	0.647
(2) Quality of Stay Index	0.280*** (0.072)	644	0.121	2.105
<b>B. Migration</b>				
(3) Lives in Non-Yoruba Region	0.122*** (0.034)	632	0.070	0.044
(4) Lives in Non-Yoruba Region & Non-NYSC State	0.081** (0.032)	632	0.087	0.044
(5) Lives in Non-Yoruba Region & Non-NYSC Region	0.054* (0.030)	632	0.078	0.044
<b>C. Knowledge of States</b>				
(6) Index for Non-Yoruba Region	0.115*** (0.033)	637	0.130	0.386
(7) Index for Non-Yoruba Region & Non-NYSC State	0.105*** (0.035)	636	0.113	0.386
(8) Index for Yoruba States	0.019 (0.032)	638	0.060	0.855
<b>D. National Attitudes, Ethnic Attitudes and Interethnic Attitudes and Relationships</b>				
(9) Index of Attitudes towards Nigeria	0.205*** (0.078)	644	0.047	3.034
(10) Index of Attitudes towards Yoruba	0.221*** (0.085)	644	0.070	4.611
(11) Index of Attitudes towards Non-Yorubas	0.031 (0.077)	644	0.112	2.710
(12) Married to Non-Yoruba (among married)	0.012 (0.046)	430	0.104	0.114
(13) Ever dated Non-Yoruba	0.033 (0.060)	643	0.115	0.612
(14) Any of 4 closest friends is non-Yoruba	-0.128*** (0.043)	644	0.074	0.888

Notes: Each row represents a different regression. All results come from IV regressions where being posted to a non-Yoruba state is used as an instrument for serving in a non-Yoruba state. Regressions include controls for baseline individual characteristics (age, gender, marital status, religion, state of origin, course studied, graduated on time, had phone or email on file, changed course in college, pre-NYSC exposure to other regions), other characteristics of the service state (religion and poverty) which are also instrumented by the posting state, and interviewer fixed effects. Robust standard errors in parentheses. \*\*\*, \*\* and \* denote significance at the 1, 5 and 10% levels, respectively.

### **Additional Notes to Table 3**

<b>Outcome</b>	<b>Description</b>
Had majority of daily interactions with [insert ethnic group]	Had "More than half" or "Almost all" interactions with [insert ethnic group]. Other options are: Almost none, Just a few, Less than half.
Quality of Stay Index	Standardized index of responses to the following questions: During your service year, did you (1) Visit the home of someone in your host community? (2) Attend a celebration (such as naming ceremony, birthday, funeral) of someone in your host community? (3) Receive any gifts from the community when you were leaving? (4) Are you still in touch with any of the indigenes? (5) How welcome did you feel in the host community? (1 Not welcome at all - 5 Very welcome).
Migration Questions	Coded from response to the question: In which state are you currently living? Regression excludes the 2% of respondents living outside Nigeria.
Knowledge of States Index	The average of correct responses to the question: Who is the current governor of [insert state]? and What is the capital of [insert state]?
Index of Attitudes towards Nigeria	Standardized index of responses to the following questions: Nigeria: How proud do you feel to be a Nigerian? (1 Not proud at all - 7 Extremely proud), In your opinion, is Nigeria better off as one country or as more than one country?, How close do you feel to Nigerians in general? (1 Not close at all - 7 Extremely close), How much do you trust Nigerians in general? (1 Not at all - 7 A lot)
Index of Attitudes towards Yoruba	Standardized index of responses to the following questions: How proud do you feel to be a Yoruba? (1 Not proud at all - 7 Extremely proud), How close do you feel to Yorubas? 1(Not close at all - 7 Extremely close), How much do you trust Yorubas? (1 Not at all - 7 A lot), Let us suppose your close relative marries a Yoruba, would you be in favor of this or opposed to it happening? (1 Strongly oppose - 5 Strongly in favor).
Index of Attitudes towards Non-Yorubas	Standardized index of responses to the following questions: How close do you feel to [Hausas, Igbos]? 1(Not close at all - 7 Extremely close), How much do you trust [Hausas, Igbos]? (1 Not at all - 7 A lot), Let us suppose your close relative marries a [Hausa, Igbo], would you be in favor of this or opposed to it happening? (1 Strongly oppose - 5 Strongly in favor).
Married to Non-Yoruba (among married)	Coded from response to the question: From which ethnic group is your spouse?
Ever dated Non-Yoruba	Coded from response to the question: Have you dated or been in a serious relationship with anyone who is from [Hausa, Igbo, Edo, Other] ethnic group?
Any of 4 closest friends is non-Yoruba	Coded from response to the question: Please think of your four closest friends. Is any of them [Hausa, Igbo, Edo, any other ethnic group]?

**Table 4: Impact of Interethnic Exposure on Willingness to Migrate Outside Ethnic Region (Relative to Within Ethnic Region)**

	<i>Likelihood of Taking Hypothetical Job</i>
Non-Yoruba Job * Served in Non-Yoruba Region	0.147** (0.070)
Non-Yoruba Job	-0.926*** (0.145)
50% Salary Increase	0.375*** (0.025)
100% Salary Increase	0.683*** (0.026)
Number of observations	5769
R-sqr	0.324
Control mean of dependent var	3.087

Notes: Result comes from IV regression where being posted to a non-Yoruba state is used as an instrument for serving in a non-Yoruba state. The analysis includes individual fixed effects using responses by each respondent to a set of nine questions: *"If you were offered a job in the same career line in the (insert one of 3 options) region of the country with a (insert one of 3 options) increase in salary, how likely would you be to take it?"* Robust standard errors in parentheses. \*\*\*, \*\* and \* denote significance at the 1, 5 and 10% levels, respectively.

**Table 5: Group-Specific Impact of Serving in a Non-Yoruba Region**

Outcomes:	<i>Served in the following region:</i>							R-sqr	Control mean		
	Hausa	Igbo	Northern Minority	Southern Minority	N						
<b>A: NYSC Experience</b>											
<i>Had majority of daily interactions with:</i>											
(1) Hausas	0.449*** (0.085)	0.056 (0.056)	0.339*** (0.052)	0.010 (0.046)	641	0.318	0.043				
(2) Igbos	-0.020 (0.053)	0.412*** (0.070)	-0.099** (0.040)	0.105* (0.063)	641	0.285	0.138				
(3) Northern minorities	0.018 (0.051)	-0.045 (0.032)	0.143*** (0.035)	-0.025 (0.031)	641	0.147	0.009				
(4) Southern minorities	-0.013 (0.037)	0.018 (0.026)	0.010 (0.022)	0.164*** (0.043)	641	0.156	0.026				
(5) Yorubas	-0.522*** (0.094)	-0.388*** (0.081)	-0.458*** (0.066)	-0.323*** (0.078)	641	0.230	0.647				
<b>B. Migration</b>											
(6) Lives in Hausa region	0.060* (0.034)	-0.018 (0.011)	0.005 (0.009)	-0.013 (0.009)	644	0.066	0.000				
(7) Lives in Igbo region	0.011 (0.008)	0.013 (0.012)	-0.002 (0.004)	0.003 (0.003)	644	0.036	0.000				
(8) Lives in Northern minority region	0.069 (0.057)	0.121** (0.049)	0.100** (0.041)	0.047 (0.040)	644	0.061	0.034				
(9) Lives in Southern minority region	0.100*** (0.038)	-0.026 (0.023)	0.026 (0.020)	0.012 (0.027)	644	0.068	0.009				
<b>C. Knowledge of States</b>											
(10) Index for Hausa and Northern minority region	0.156** (0.068)	0.189*** (0.060)	0.129*** (0.044)	0.070 (0.056)	638	0.136	0.346				
(11) Index for Igbo and Southern minority region	0.038 (0.071)	0.169*** (0.064)	0.106** (0.051)	0.065 (0.060)	629	0.103	0.424				
<b>D. Interethnic Attitudes and Relationships</b>											
(12) Attitudes towards Hausas	0.131 (0.166)	-0.189 (0.141)	0.073 (0.104)	-0.057 (0.121)	644	0.136	2.726				
(13) Attitudes towards Igbos	-0.074 (0.181)	0.080 (0.139)	0.094 (0.115)	0.155 (0.129)	644	0.092	2.693				
(14) Any of 4 closest friends is Hausa	-0.027 (0.098)	0.057 (0.084)	0.042 (0.067)	0.060 (0.076)	642	0.097	0.287				
(15) Any of 4 closest friends is Igbo	-0.153 (0.106)	-0.084 (0.085)	-0.076 (0.071)	-0.031 (0.080)	642	0.082	0.713				
(16) Any of 4 closest friends is Edo	-0.161 (0.111)	-0.054 (0.093)	-0.159** (0.073)	-0.142 (0.087)	642	0.073	0.530				
(17) Any of 4 closest friends is other ethnicity	-0.090 (0.106)	-0.170* (0.088)	-0.077 (0.074)	-0.110 (0.082)	642	0.105	0.452				

Notes: See notes to Table 3. Each row represents a different regression. Each column is an indicator for serving in the respective ethnic region of the country (instrumented by ethnicity in the state of posting). Omitted group are those who served in the Yoruba region.

**Table 6: Heterogeneous Effect of Serving in a Non-Yoruba Region by Agegroup**

Outcomes	<i>Served in non-Yoruba region</i>		P-val of diff.	N	R-sqr	Control mean
	Above median age (25 years)	Below median age (25 years)				
<b>A: NYSC Experience</b>						
(1)	Had majority of daily interactions with Yoruba	-0.421*** (0.084)	-0.411*** (0.073)	0.925	641	0.234 0.647
(2)	Quality of Stay Index	0.259*** (0.097)	0.295*** (0.101)	0.796	644	0.122 2.105
<b>B. Migration</b>						
(3)	Lives in Non-Yoruba Region	0.096** (0.043)	0.140*** (0.047)	0.468	632	0.075 0.044
(4)	Lives in Non-Yoruba Region & Non-NYSC State	0.049 (0.041)	0.102** (0.044)	0.364	632	0.096 0.044
(5)	Lives in Non-Yoruba Region & Non-NYSC Region	0.048 (0.039)	0.056 (0.041)	0.889	632	0.082 0.044
<b>C. Knowledge of States</b>						
(6)	Index for Non-Yoruba Region	0.143*** (0.053)	0.097** (0.039)	0.463	637	0.138 0.386
(7)	Index for Non-Yoruba Region & Non-NYSC State	0.122** (0.056)	0.094** (0.041)	0.680	636	0.116 0.386
(8)	Index for Yoruba States	-0.041 (0.044)	0.063 (0.043)	0.089	638	0.062 0.855
<b>D. National Attitudes, Ethnic Attitudes and Interethnic Attitudes and Relationships</b>						
(9)	Index of Attitudes towards Nigeria	-0.004 (0.116)	0.356*** (0.102)	0.017	644	0.048 3.034
(10)	Index of Attitudes towards Yoruba	0.236* (0.131)	0.209* (0.108)	0.870	644	0.071 4.611
(11)	Index of Attitudes towards Non-Yorubas	-0.118 (0.116)	0.136 (0.099)	0.085	644	0.115 2.710
(12)	Married to Non-Yoruba (among married)	-0.018 (0.066)	0.040 (0.061)	0.505	430	0.105 0.114
(13)	Ever dated Non-Yoruba	0.036 (0.090)	0.032 (0.075)	0.976	643	0.116 0.612
(14)	Any of 4 closest friends is non-Yoruba	-0.140** (0.057)	-0.119** (0.058)	0.791	644	0.075 0.888

Notes: See notes to Table 3. Each row represents a different regression.

## APPENDIX

**Appendix Table A1: Randomization Balance Check Using Other State Characteristics**

	All Yoruba Participants				Survey Respondents			
	Poverty		Rural	Muslim	Poverty		Rural	Muslim
	Distance	Rate	Share	Share	Distance	Rate	Share	Share
(1)	(2)	(3)	(4)		(5)	(6)	(7)	(8)
Age	-0.025 (0.028)	0.001 (0.001)	0.001 (0.003)	-0.001 (0.005)	0.003 (0.039)	0.002 (0.002)	0.003 (0.004)	0.002 (0.007)
Female	-0.229 (0.140)	-0.007 (0.007)	-0.022 (0.014)	0.020 (0.023)	-0.181 (0.195)	-0.000 (0.009)	-0.020 (0.020)	0.022 (0.033)
Graduate on Time	-0.150 (0.195)	0.010 (0.010)	-0.019 (0.020)	0.004 (0.032)	-0.176 (0.294)	0.006 (0.015)	-0.051* (0.027)	0.058 (0.057)
Changed Major	0.251 (0.244)	0.009 (0.011)	-0.023 (0.023)	0.062* (0.037)	0.083 (0.366)	-0.008 (0.017)	-0.041 (0.039)	0.084 (0.062)
Married	0.017 (0.620)	-0.016 (0.028)	-0.040 (0.070)	-0.058 (0.085)	0.025 (0.724)	-0.017 (0.032)	-0.005 (0.101)	-0.112 (0.135)
Has phone/ email	-0.063 (0.183)	0.002 (0.009)	-0.000 (0.019)	-0.021 (0.031)	0.470 (0.341)	0.037** (0.017)	0.025 (0.041)	0.056 (0.062)
Arts	0.638** (0.274)	0.034*** (0.013)	0.031 (0.026)	0.165*** (0.045)	0.833** (0.396)	0.037* (0.019)	0.049 (0.040)	0.133** (0.066)
Education	-0.000 (0.255)	0.008 (0.012)	-0.000 (0.025)	0.057 (0.042)	0.041 (0.363)	0.024 (0.017)	0.032 (0.038)	0.013 (0.062)
Law	-0.317 (0.446)	0.006 (0.021)	-0.085* (0.051)	0.107 (0.070)	0.563 (0.699)	0.020 (0.034)	-0.027 (0.076)	0.133 (0.098)
Science and Tech	-0.140 (0.233)	0.001 (0.011)	-0.012 (0.023)	0.022 (0.038)	0.149 (0.332)	0.019 (0.016)	0.017 (0.035)	-0.019 (0.056)
Social Science	-0.220 (0.260)	0.005 (0.012)	-0.042 (0.027)	0.034 (0.042)	-0.031 (0.362)	0.018 (0.017)	-0.002 (0.039)	-0.041 (0.061)
Health	0.386 (0.333)	0.003 (0.016)	-0.017 (0.034)	0.132** (0.054)	0.975** (0.454)	0.025 (0.021)	0.037 (0.045)	0.109 (0.078)
N	1260	1260	1260	1260	644	644	644	644
Joint F-stat (i)	0.0612	0.1673	0.1250	0.0056	0.231	0.361	0.579	0.067
Joint F-stat (ii)	0.5927	0.6327	0.5657	0.5625	0.744	0.323	0.361	0.550

Notes: Results are from OLS regression each state characteristic on available individual characteristics from administrative data. Missing course category is Agriculture. Joint F-stat (i) is joint significance of all regressors while Joint F-stat (ii) excludes the course studied as this may be used in determining placements. Robust standard errors in parenthesis. \*\*\*, \*\* and \* denote significance at the 1, 5 and 10% levels, respectively.