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When Do the Advantaged See the Disadvantages of Others? A Quasi-Experimental Study of National Service*

Cecilia Hyunjung Mo† Katharine Conn‡

February 24, 2017

Abstract

Are there mechanisms by which the advantaged can see the perspective of the disadvantaged? If advantaged individuals have prolonged engagement with disadvantaged populations and confront issues of inequality through national service, do they see the world more through the lens of the poor? We explore this question by examining Teach For America (TFA), as TFA is a prominent national service program that integrates top college graduates into low-income communities for two years and employs a selection model that allows for causal inference. A regression discontinuity approach utilizing an original survey of over 32,000 TFA applicants and TFA's selection data for the 2007-2015 application cycles reveals that extended intergroup contact in a service context causes advantaged Americans to adopt beliefs that are closer to those of disadvantaged Americans. These findings have broad implications for our understanding of the impact of intergroup contact on perceptions of social justice and prejudice reduction.

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The American dream is viewed as more attainable by the socioeconomically advantaged than the disadvantaged. Perspectives on the fairness of the economic, social and political system are divided by color (Kinder and Sanders 1996) and class (Newman, Johnston, and Lown 2015), and these divisions are consequential. Those at the top of the socioeconomic ladder have been found to have more political influence than those at the bottom (Bartels 2003; 2008; Carnes 2013; Gilens 2012; Page, Bartels, and Seawright 2013; Putnam 2015), and perceptions of fairness strongly influence support for social welfare and affirmative action policies, as well as the justice system and the like (Alesina, Glaeser, and Sacerdote 2001; Bènabou and Tirole 2006; Gilens 1999; 2003; Hurwitz and Peffley 2005). Moreover, if income inequality continues to increase (Keeley 2015; Saez 2013), political interest and participation will be depressed among all but the most affluent citizens (Solt 2008). This poses a challenge to the health of American democracy, as a central feature of a democracy is representational equality (Dahl 1971).

Obstacles that disadvantaged Americans might face as it relates to attaining the American dream will not necessarily be removed if those with political power do not recognize that those obstacles exist (Putnam 2015). Short of addressing income inequality, are there mechanisms by which the "haves" can see the world from the lens of the "have nots"?[1] Is national service, an experiment of many democratic societies to cultivate the values and norms of healthy democracies (James 1910), one such mechanism? In his 1961 inaugural address, President John. F. Kennedy famously said "ask not what your country can do for you, ask what you can do for your country." That year, the Peace Corps was established. Since then, the number of national service programs have grown, and over 1.25 million Americans have answered Kennedy's call to serve.[2] Recent political leaders, regardless of political party, including Presidents George W. Bush, William Clinton, George H.W. Bush, and Barack Obama have trumpeted service programs during their terms with a viewpoint that "citizen service changes people for the better" (Clinton 2001; Corporation for National and Community Service 2014). In addition to directly assisting communities in need, these programs have had an explicit objective to help promote a better understanding of the com-

[1]While we employ "haves" and "have nots" as a shorthand for advantaged and disadvantaged segments of society, it it important to note that being advantaged is a continuum. For instance, one can be advantaged from the perspective of income and simultaneously disadvantaged from the perspective of race, to the extent that white privilege is real.

[2]This includes approximately 220,000 Peace Corps volunteers, 980,000 AmeriCorps volunteers, and 50,000 Teach For America corps members.

munities they serve. But are national service programs indeed able to cultivate an understanding of the perspective of the disadvantaged communities they work in?

Studying the effects of national service programs, and the intergroup contact that is at the core of these programs, has been elusive due to problems of selection bias. When an individual participates in a national service organization, is it because that individual already sees the perspectives of the "have nots"? Or does participation in a service experience alter perceptions of social justice? We overcome this selection bias problem by studying Teach For America (TFA), a prominent national service organization that focuses on inequality, and recruits top college graduates and integrates them in low-income communities for a minimum of two years. Crucially, TFA began implementing a selection process that lends itself to a quasi-experimental regression discontinuity design in 2007. Causal inference is made possible by comparing the outcomes of applicants who fell just short of the acceptance threshold score (and were not accepted to TFA) against those who fell just past the threshold score (and were accepted into the program). We collect responses from over 32,000 TFA applicants across nine cohorts of applicants between 2007 and 2015 in an original survey, and combine this data with over 120,000 TFA applicant files. The scope of the data and the nature of the program being studied provides us with novel and important leverage over a research question of enduring interest that has proven difficult to answer in the past.

We also contribute to important research on prejudice reduction. If greater awareness and perspective-taking can be enhanced by serving in a national service program, then we should gain insights on mechanisms to address prejudice. According to extant prejudice research, the avenues by which prejudice reduction is realized is through greater knowledge gains, as well as increased perspective-taking and empathy for the out-group (Pettigrew and Tropp 2008).[3] As such, if we are able to detect a durable "real-world" intervention under which the advantaged segment of the population gains the perspective of the disadvantaged, we should also detect prejudice reduction towards the poor, and the racial and ethnic minorities who are disproportionately poor. This is significant given that social scientists know very little about actual policies and programs that can decrease prejudice, despite a vast literature on prejudice. A recent meta-analyses of research on

[3]Perspective-taking and empathy are similar in many ways, and there is evidence that each can give rise to the other; however, they are distinct concepts. Empathy is an emotional response that involves "feeling for" another. Perspective-taking is more cognitive, and involves imagining another's point of view (Vorauer and Quesnel 2015). In this study, we do not make this nuanced distinction between perspective-taking and empathy.

prejudice reduction found that there is a paucity of internally valid research; only 11 percent of the hundreds of studies on prejudice reduction test the causal effects of real-world interventions (Paluck and Green 2009; Paluck 2016).

Our results suggest that national service programs have a strong impact on participants' attitudes and beliefs that reflect greater empathy and perspective-taking of disadvantaged communities. Relative to non-participants, ceteris paribus, participants have a greater belief in the unfairness of the economic, social, and political status quo in the United States. Participation catalyzes beliefs that systemic injustices are more to blame for the positions of disadvantaged Americans than their positions being a natural consequence of the individuals' own decisions and merit. Moreover, participation cultivates less prejudice towards disadvantaged populations and greater amity towards these groups. The effects we find are both substantively large and durable. These findings provide insight on the impact of national service programs, which is significant given the amount of public and private investments made in creating and maintaining such programs both domestically and globally. More broadly, these results have implications for our understanding of the impact of intergroup contact on perceptions of social justice in American society and prejudice reduction.

Divisions by Class and Color

Income inequality has increased in the United States since the 1970s (Keeley 2015; Saez 2013), and the proportion of Americans believing that the United States is stratified into groups of "haves" and "have nots" has increased substantially in the last three decades (Newport 2015). Some have argued that in this new Gilded Age, where wealth and power are increasingly concentrated among the top income brackets, high- and low-income Americans know less about each other. These scholars have raised concerns that there are two Americas, and individuals who reside firmly in the more privileged version do not even realize it, which may work to perpetuate a system that keeps a segment of Americans from climbing up the socioeconomic ladder (Putnam 2015). Research into the antecedents of beliefs about poverty has found that persons of higher socioeconomic status point to the ostensible fairness of the economic, social, and political system, emphasizing the centrality of hard work to achieve their privileged positions, whereas low-income Americans increasingly doubt the veracity of the American dream in which prosperity and success can be acquired through hard work alone (Kreidl 2000; Kluegel and Smith 1986; Newman, Johnston, and Lown 2015).

Paralleling a divide in opinions about the fairness of the status quo and the opportunity gap along class lines, there exists a large racial divide in perceptions of fairness. For instance, white Americans view the economic system as notably more just than black Americans (Newport 2015; Sigelman and Welch 2009) and Hispanic Americans (Hunt 1996). Kinder and Sanders (1996) spoke of this racial cleavage with regards to attitudes towards the role of government in providing assistance to black Americans, including affirmative action programs, and the absence of equal opportunities. Reduced to the core, extant research finds that, on average, black and Hispanic Americans feel that their world is unfair, and that government involvement and policies to remedy structural racial inequity is necessary. They recognize that individualistic factors like hard work is key, but that it is simply not enough in light of an unfair system. Meanwhile, the average white American has been found to feel no such structural remedies are necessary, as they blame the victim and their perceived deficiencies when thinking about poverty (Lipset 1996; Ryan 1971).

When studying perceptions of the criminal justice system by race, viewpoints are also starkly divergent; most white Americans believe that the criminal justice system is fundamentally fair, while most black Americans do not (Hurwitz and Peffley 2005). Perceptions of the criminal justice system are particularly crucial, as people who believe the criminal justice system to be unfair tend to evaluate the entire political system more negatively (Lind and Tyler 1988). In other words, racial division on perceptions of the criminal justice system suggests that there are conflicting viewpoints on the integrity of the political system as a whole by race as well.

Attitudes regarding the economic realm are deeply intertwined with racial attitudes in the United States. Since the mid-1960s, poverty has been covered in the media in such a way that there has been an increasing association of racial minorities with the "undeserving poor"; poverty has increasingly been viewed through a racial lens by U.S. citizens (Gilens 1999; 2003). According to Alesina, Glaeser, and Sacerdote (2001), to many white Americans, the poor are a member of some different group than themselves, creating the perception of the poor as "other," rather than an in-group member. As such, when considering the opinions of advantaged Americans about economic position and class, race is often consciously or unconsciously part of their calculations on differences between those who are at the top and those who are at the bottom with regards to economic position. To that end, in any inquiry about the advantaged and disadvantaged socioeconomic segments of our population, it is important to examine attitudes pertaining to race.

The Promise of National Service

National service programs have aspired to not only benefit the populations they serve, but to influence the beliefs, values, and careers of those that serve. National service programs have been pitched as a means by which individuals are socialized around social issues and prolonged meaningful contact with a vulnerable population is cultivated. The creation of many prominent national service programs is rooted in a hope that when advantaged citizens work with disadvantaged populations, they will become more conscientious, knowledgeable, and tolerant citizens that are better able to understand the perspective and life situations of the marginalized. U.S. philosopher William James (1910) argued that national service could be a mechanism by which the interests of a healthy nation can be cultivated. He provided the inspiration for national service programs domestically in his essay in which he called for universal national service to form "the moral equivalent of war" to "redeem the society from a dull existence built upon a 'pleasure economy' of insipid consumerism." He described the youths of a "pleasure economy" in peace-time as the "gilded youths," and argued that they ought to be "drafted off" to do some form of civilian national service "to get the childishness knocked out of them, and to come back into society with healthier sympathies and soberer ideas." The concepts of this essay acted as a rallying cry for service in the interests of the nation that ultimately contributed to the creation of organized national service like depression-era Civilian Conservation Corps, and later, the Peace Corps and AmeriCorps.[4]

Subsequent studies of national service and small-scale service learning programs have provided preliminary indications that national service can trigger "healthier sympathies and soberer ideas." Numerous descriptive and qualitative explorations of service programs have found suggestive evidence of service learning resulting in heightened social awareness (Conway, Amel, and Gerwien 2009; Yorio and Ye 2012), increased amity towards the community they service (Lee, Olszewski-Kubilius, Donahue, and Weimholt 2007; Seider, Gillmor, and Rabinowicz 2012), reduced tendencies to believe in stereotypes about marginalized groups (Greene 1995), and higher appreciation for diversity and levels of tolerance (Astin and Sax 1998; Primavera 1999). In an examination of AmeriCorps volunteers, Einfeld and Collins (2008) argued that not only did many participants increase their

[4]See the history of national service provided by American Association of State Service Commissions (www.statecommissions.org/history-of-national-service.html).

awareness of inequality but they also developed increased empathy, attachment, trust, and respect for those they worked with. In a study of a college service program, Giles and Eyler (1994) observed that participants also became less likely to "blame social service clients for their misfortunes," and more likely to stress a need for equal opportunity (p.327).

The Potential of Extended Contextualized Intergroup Contact

A crucial mechanism by which many national service programs purport to foster understanding, awareness, tolerance and bridge-building is intergroup contact between advantaged and disadvantaged communities. Service in TFA typically involves sending a high-achieving college-educated adult, whose socioeconomic status is above the national average, into a predominantly poor and minority neighborhood to teach for two years. Does the contact that arises between this advantaged group with a disadvantaged population result in added perspective-taking and prejudice reduction?

Very little might occur when socioeconomically advantaged America meets disadvantaged America. In the face of economic class heterogeneity, advantaged high-income individuals are more likely to uphold a meritocratic ideology than those residing in more economically homogeneous contexts, and believe that their hard work rather than luck and privilege facilitated their more ideal circumstance (Newman, Johnston, and Lown 2015). Meanwhile, disadvantaged low-income individuals who see inequality are more likely to reject meritocratic ideology. In other words, intergroup proximity along economic lines has been found to lead to contrasting views around fairness and the justness of the status quo by income status, increasing class-based polarization.

Perhaps contact can actually cause greater divisions rather than greater understanding. Previous research on "racial threat" (e.g., Key 1949; Blalock 1967; Goldman and Hopkins 2015) suggests that concentrated geographic racial diversity catalyzes more negative racial attitudes. Putnam (2000) found that virtually all measures of civic health (e.g., voting, volunteering, and trust) are lower in more diverse settings. What emerged in more racially diverse communities was an unpropitious picture of civic desolation, negatively affecting everything from political engagement to the state of social ties.

But it is possible that intergroup contact can accomplish a great deal. Early studies on desegregation revealed encouraging trends. After the U.S. military began desegregating, Brophy (1945) found that the more deployments white soldiers had with black soldiers, the more positive their

racial attitudes became. Similarly, white police officers who had worked with black police officers later objected less to teaming with and taking orders from black officers (Kephart 1957).

While the formulation of intergroup contact theory in Allport (1954) has inspired extensive research over the past half century to determine whether intergroup contact can increase perspective-taking and reduce intergroup prejudice, it is perhaps not surprising that the effects of contact is mixed given the range of what "contact" can mean (Amir 1969; Ford 1986; Hopkins, Reicher, and Levine 1997; McClendon 1974). Moreover, many contact studies have not resembled the conditions of ideal contact specified by Allport (1954). Living in a neighborhood with an out-group member that one might bump into is quite different from contact with a roommate or workmate with whom you have to interact. Having an opportunity to closely see the life of an individual and their families, hear their stories, and develop a causal understanding of their life history can be a more powerful form of contact.

Prolonged and deeper exposure to other groups that goes beyond spatial proximity and brief constructed contact in a laboratory setting matters when predicting the effects of intergroup contact (Pettigrew 1998; Pettigrew and Tropp 2006; 2008). When Allport (1954) forwarded the contact hypothesis, "intimate contact" was noted as a condition for ideal intergroup contact. Contact with diversity has been found to be a more positive and cohesion-enhancing experience with both greater depth of exposure (regular direct contact)—which allows for personal relationships to form—as well as the duration of exposure (contact over time), as prolonged contact allows for greater opportunities for individuals to learn about the out-group, change their own behavior, develop affective ties, and re-appraise their in-group (Pettigrew 1998). Theoretically, greater perspective-taking towards disadvantaged Americans could take hold when advantaged Americans "walk a mile in someone else's shoes" rather than a meager step by having extended and meaningful interactions with disadvantaged Americans. The TFA two-year service experience, in which the participant is tasked to interact with the "out-group" as their full-time teacher meets both criteria of potentially cohesion-enhancing intergroup contact: duration and depth.

Additionally, the particular context in which intergroup contact occurs matters profoundly. Institutional and societal norms structure the form and impacts of contact situations (Kinloch 1981; 1991). As two additional conditions for ideal intergroup contact, Allport (1954) noted the importance of the support of authorities, law, or custom and having common goals. For instance,

consider the effects of living in a racially mixed neighborhood in South Africa with the apartheid policy of racial segregation. The context of state-condoned systemic discrimination was found to poison intergroup contact, as interactions between white and black South Africans were discouraged (Russell 1961). Now consider the effects of contact between nurses and patients in hospitals that not only condone, but commit to serving low-income communities, and where nurses and patients both have the shared goal of improving health outcomes. Redman and Clark (2016) examined the case of pre-service nurses in low-income areas and observed that as these nurses interacted with low-income individuals in the context of being a service provider, they critically reflected on the social justice issues of their patient population and "began to grapple with causes and explanations of the disproportionate share of social and health risks concentrated in particular segments of society"; they thus "experienced" rather than solely "intellectualized" inequality and social injustice (p.446). As such, it crucially matters if intergroup contact occurs in a setting where the structures in which people are disadvantaged and remain disadvantaged are more likely to be visible to the advantaged, and the social norms in which the interaction occurs are service-oriented with an aim to address poverty and help advance those in poverty. In TFA, contact is in the context of service, and participants are pushed to engage with under-resourced populations with the goal of reducing and addressing the vulnerabilities of disadvantaged populations.[5]

Rather than negligible or enhanced negative out-group attitudes arising from intergroup contact, deeper prolonged contact, which is contextualized in a service context where inequality is both visible and the problem that should be addressed—what we hereafter refer to as *extended contextualized intergroup contact*—can lead to enhanced understanding that has advantaged individuals see the world more through the lens of the disadvantaged segment of society. Extant research on perspective-taking over the last five decades indicates that perspective-taking translates to real shifts in attitudes and beliefs, as "the representation of the target comes to resemble the perspective-taker's own self-representation" (Galinsky and Moskowitz 2000, p.709). Namely, perspective-takers make the same attributions for others that they would have made if they themselves had found

[5]It is worth noting that Allport's (1954) formulation of intergroup contact theory maintained that ideal contact between groups requires four optimal conditions: equal status, a common goal, authority sanction, and intimate contact. In our case, one can argue that the status is not equal, as the advantaged group is in a position of authority (e.g., the teachers) to the disadvantaged population (e.g., students). However, contact theory research suggests that while Allport's conditions facilitate prejudice reduction, they are by no means necessary (Pettigrew and Tropp 2006).

themselves in that situation (Galinsky and Moskowitz 2000). In this study, the "perspective-takers" are advantaged Americans and the "target" population" is disadvantaged Americans.

While extended contextual intergroup contact is with a set of individuals, perspective-taking generalizes to an entire out-group. Specifically, contact that leads to more positive evaluations of individuals one comes into contact with leads to more positive evaluations of those individuals' most salient group category (e.g., racial group and class). According to rich research on perspective-taking, these positive evaluations include a decrease in the *denial of discrimination*, which is the tendency to believe that intergroup disparities do not stem from institutional and individual-level discrimination (Todd, Bodenhausen, and Galinsky 2012), engendering more positive attitudes toward social policy designed to redress intergroup inequalities. Given the target group becomes more "selflike" with enhanced perspective-taking, there should also be a reduction in *"actor-observer bias"*—a tendency to attribute one's own actions to the particular situation and attribute another person's actions to the actor's overall disposition rather than to situational factors (Jones and Nisbett 1971). Thus, we predict the following two predictions.

Prediction 1: Decrease in "denial of discrimination" increasing perceptions of injustice. Extended contextualized intergroup contact through national service will cause advantaged Americans to question the fairness of the status quo and see economic, political, and social systems as more unfair.

Prediction 2: Decrease in "actor-observer bias" enhancing perceptions of out–group victimization. Extended contextualized intergroup contact through national service will cause advantaged Americans to shift their beliefs for why low-income individuals and racial minorities are in a lower socioeconomic position to be more external. Participants will increase their focus on structuralistic as opposed to individualistic explanations of poverty.

Additionally, if there is greater empathy, then prejudice reduction should also take hold. An increase in perspective-taking for a particular group is a meaningful mechanism by which prejudice for that particular group declines (Pettigrew and Tropp 2008). Moreover, as noted in Todd, Bodenhausen, and Galinsky (2012), in viewing an out-group in more "selflike" terms, increased perspective-taking should translate to an increase in identification with the targeted out-group. As such, if prediction 1 and 2 hold, we should also see the following.

Prediction 3: Decrease in prejudice and increase in identification with the out--group. Extended contextualized intergroup contact through national service will cause advantaged individuals to have decreased levels of prejudice and increased levels of positive affect towards the disadvantaged groups with which they interact.

The Case of Teach For America

TFA is a prominent national service program, established in 1990 with a mission "to enlist, develop, and mobilize as many as possible of our nation's most promising future leaders to grow and strengthen the movement for educational equity and excellence."[6] TFA was created with a two-pronged theory of change. In the short-term, TFA aspires for its teachers or corps members to affect positive change in the classroom in their two years of service. In the longer term, TFA aspires for its corps members to be so transformed by their experiences in the classroom that they would lead systemic change from their positions of power after their service in TFA (Foote 2008). In 1993, TFA became a charter program of AmeriCorps, an organization created by the federal government to expand national service, and in 2004, TFA began receiving direct appropriations from the federal government. Over the last 25 years, more than 50,000 Americans have participated in TFA, working with 10 million children in 52 regions within 36 states. And TFA has become an attractive opportunity for recent college graduates and one of the most visible national service programs; over 50,000 individuals applied to TFA's 2015 corps alone.[7] At more than 130 colleges and universities in the United States, over 5 percent of the senior class applied to TFA.[8]

TFA is a strong case to consider the effects of national service on perspective-taking between advantaged and disadvantaged communities for a number of reasons. First, TFA attracts a large group of high socioeconomic status Americans every year. A college degree is an eligibility requirement to join TFA.[9] With only 34 percent of Americans holding a college degree (DOE 2014), TFA admits can be considered advantaged members of America's social fabric from the fact that they are all college graduates themselves. TFA admits can also be considered advantaged as the vast

[6]Source: www.teachforamerica.org/about-us/our-mission (accessed March 27, 2016).

[7]Source: www.teachforamerica.org/about-us/annual-report (accessed February 19, 2016).

[8]Source: www.teachforamerica.org/sites/default/files/2012-13_Press_Kit_Updated_06_19_12.pdf.

[9]Source: www.teachforamerica.org/teach-with-tfa/tfa-and-you/applicant-prerequisites (accessed March 7, 2016).

majority of participants have college-educated parents (93 percent of alumni survey respondents), and educational attainment is a key factor in the reproduction of socioeconomic inequality (Black, Devereux, and Salvanes 2005; Rouse and Kane 1995). Over 80 percent of our alumni survey respondents are from the middle or upper economic class, with nearly 50 percent noting they are at least from the upper middle class. Moreover, 64.2 percent are white, and to the extent that "white privilege" exists (Roithmayr 2014), this is another indicator that the average TFA participant is part of a more advantaged class.[10]

Second, TFA places their participants in the lowest income schools in America. In sharp contrast to the privileged upbringing of the majority of TFA participants, over 80 percent of the students taught by TFA corps members qualify for free or reduced-price lunch (FRPL) and are African American or Hispanic.[11] The socioeconomic make-up of the student population is intentional, as TFA officially seeks "partnership with communities where there is a disparity in educational opportunity along lines of race and class," and all partner schools have "at least 60 percent of students eligible for FRPL, a common proxy for need."[12]

Third, extended contextualized intergroup contact between advantaged and disadvantaged populations occur. As full-time teachers charged to help address education inequality for two years, TFA corps members are actively in contact with low-income students and their families for an extended period. Participants have the opportunity to view their students' well-being and level of achievement in light of their familial, community, and societal context, which gives them a more nuanced view of the realities under which systemic inequalities might form. Moreover, their interactions with disadvantaged communities are contextualized within a social and institutional service context to advance the economic success of low-income students.

Finally, TFA is nearly ideal from the standpoint of teasing out causality. Previous studies on national service programs have been affected by selection effects, but in 2007, TFA instituted

[10]As noted earlier, advantage is a continuum, and all TFA participants are considered advantaged from the perspective that they have attained a college degree and were competitive for a highly selective admission process, which only admits 15 percent of applicants (Source: www.teachforamerica.org/sites/default/files/2012-13_Press_Kit_Updated_06_19_12.pdf). However, TFA is not a monolithic organization with regards to race and class, and diversity is a core value of the organization (Source: https://www.teachforamerica.org/about-us/careers/life-at-tfa/workforce-diversity-and-inclusiveness).

[11]Source: Teach For America "School and Student Demographics 2014-2015."

[12]Source: www.teachforamerica.org/tfa-on-the-record/responses/april-22-2014-nation (accessed March 18, 2016).

a selection process with a cutoff threshold that enables us to implement a quasi-experimental regression discontinuity analysis. Our identification strategy exploits the fact that admission into TFA is a discontinuous function of an applicant's selection score, which represents TFA's assessment of how successful the applicant will be in the classroom. The ability to leverage a selection process that enables causal inference, coupled with the visibility and attractiveness of TFA as a national service program for advantaged individuals to come into extended contextualized intergroup contact with disadvantaged individuals, makes TFA an ideal case to consider in this study.

Data and Measurement

We leverage TFA selection data and an original national survey of TFA applicants to test our predictions. The exact question wording and coding scheme of each of our measures from both data sources are provided in Online Appendix F. Unless noted otherwise, questions were recoded to be between 0 and 1 so that treatment effects can be interpreted in percentage point terms.

Selection Data

TFA maintains detailed selection data (e.g., contact information, application year, selection score, admissions decision, matriculation decision, placement information, and demographic characteristics), and we employ these data for all applicants who made it to the final round of interviews in the TFA application process for the 2007-2015 application cycles. While over 380,000 applied to TFA between 2007 and 2015, we restrict our focus to the third of applicants who were finalists for admission, and hence, at least close to being admitted. This amounts to a sample size of 120,417.[13]

Our primary focus is on alumni starting from the 2007 cohort because a selection process that involved the creation of an admission cutoff score was instituted in 2007. Since the 2014 and 2015 cohorts are currently participating in TFA, they have not fully been "treated," and are excluded from the main analyses. For the 2007 to 2013 cohorts, we have data on 91,752 applicants.[14]

[13]The original file contained 134,808 observations. We removed 5,463 applicants with contact restrictions, 7,221 applicants with invalid email addresses, and 1,568 duplicate cases (duplicate cases were generated as there were applicants who applied to TFA multiple times). To ensure applicants who applied more that once would only be contacted once, we preserved contact information for only the most recent application year. The remaining 139 applicants were removed when checking for duplicate errors. We utilized the application file only, and did not update the contact information for alumni to ensure that the share of contact information errors in our file would be the same for admits and non-admits.

[14]TFA provided 104,853 email addresses total, and 91,752 addresses (87.5 percent) were valid for use in the survey. For the 2014 and 2015 cohorts, TFA provided 29,955 email addresses, and 28,665 cases (95.7 percent) were valid.

Survey Data

Data Collection

On October 1, 2015, we emailed applicants invitations to participate in an online survey. The survey stayed active for six months, closing on March 31, 2016.[15] Of the 91,752 TFA applicants from the 2007-2013 cohorts that were targeted, 24,938 at least started the survey (27.2 percent) and 19,332 completed the survey (21.1 percent).[16] Among the 31,376 TFA alumni (2007-2013 corps members), 10,598 alumni at least started the survey (33.8 percent) and 8,515 alumni completed the survey (27.1 percent). Of the 60,376 applicants who did not participate in TFA, 14,340 at least started the survey (23.8 percent) and 10,817 finished the survey (17.9 percent). The survey completion response rate (AAPOR RR1 response rate) and partial response rate (AAPOR RR2 response rate) information by application cycle are shown in Figure A.1a and Figure A.1b in Online Appendix A, respectively, and there are no notable differences in response rates by application year.

Table B.2 in Online Appendix B presents demographic summary statistics of study participants. The average participant in our survey is 29 years old, has a college GPA of 3.53, and went to a selective undergraduate school. A minority were eligible to receive a Pell Grant in college (30.5 percent). Approximately 70 percent of the study sample are female (72.1 percent) and white (71.5 percent), and 93.6 percent of study participants have parents with a post-secondary education. Over half of the participants identify with a religion (57.6 percent), and nearly half of the study participants are upper class or upper middle class Americans (48.9 percent). Allaying concerns of survey response bias, we find that our participant population is generally representative of the overall TFA applicant population on each of the demographic dimensions we consider apart from race. Our participant sample skews somewhat more white; however, the skew is similar for both our admit and non-admit survey sample.[17]

[15] Participants received up to eight email reminders regarding survey participation, and incentives were offered to increase response rates (see Online Appendix G for details on the incentives utilized to encourage survey response).

[16] For the current participants, 7,679 at least started the survey (26.8 percent), and 5,572 completed the survey (19.4 percent).

[17] To consider how representative our sample is, we can consider demographic characteristics from the TFA admissions data for our survey sample and the full sample. Our alumni survey sample is 0.09 years younger, 1.9 percentage points more likely to be female, 7.3 percentage points more likely to be white, have a college GPA that is 0.02 points higher, have attended a university that is 0.69 percentage points more selective, and 2.4 percentage points less likely to have received a Pell Grant than the full alumni sample. Our non-admit sample is 0.67 years younger, 2.1 percentage points more likely to be female, 7.9 percentage points more likely to be white, have a college GPA that is 0.02 points

Outcome Measurement

There are four batteries that were asked to capture whether there is enhanced perspective-taking for disadvantaged populations with respect to class and race: (1) systemic injustice; (2) class-based injustice; (3) the relationship between class and education inequality; and (4) racial injustice. These questions map onto our three predictions: (1) reduction in "denial of discrimination"; (2) reduction in "actor-observer bias"; and (3) reduction in prejudice levels and increased identification with disadvantaged populations. Table B.3 in Online Appendix B provides summary statistics of each of our outcome measures.

Systemic Injustice: We measure attitudes around systemic injustice with two measures from a political support index (Booth and Seligson 2009) that assess the level of respect an individual has for U.S. political institutions (response options: 0 = not at all $\rightarrow$ 1 = a lot) and the extent to which citizens' basic rights are protected by the United States political system (response options: 0 = not at all $\rightarrow$ 1 = a lot). We also consider an index of these two measures (*system support index*); the Cronbach's alpha score is 0.71, which is acceptably high.

Class-Based Injustice: We consider four questions from the World Values Survey that center on blaming those who are poor for being poor as opposed to an external entity (e.g., government) or force (e.g., misfortune or lack of fairness), which have been found to be strongly predictive of support for government welfare policies (Alesina, Glaeser, and Sacerdote 2001). For instance, if people perceive the poor as lazy, then individuals are less likely to support redistributive policies. Namely, we provide the respondent with four pairs of statements and assess which statement in each pair individuals agree with more: (1) "We need larger income differences as incentives for individual effort" (coded as 0) versus "Incomes should be made more equal" (coded as 1); (2) "People should take more responsibility to provide for themselves" (coded as 0) versus "Government should take more responsibility to ensure that everyone is provided for" (coded as 1); (3) "In the long run, hard work usually brings a better life" (coded as 0) versus "Hard work doesn't generally bring success-it's more a matter of luck and connections" (coded as 1); and (4) "People are poor because of laziness and lack of willpower" (coded as 0) versus "People are poor because of an unfair society" (coded as 1). We also consider an index of these four measures, which we call the *class-based injustice index*;

higher, have attended a university that is 1.5 percentage points more selective, and 2.1 percentage points less likely to have received a Pell Grant than the full non-admit sample.

the Cronbach's alpha score is 0.77.

Class-Based Education Inequality: To capture beliefs on whether education inequality is due to individual effort or the system, we assessed three questions. We measured beliefs on whether poor families do not value education as much as richer families, and whether systemic injustices perpetuating inequity throughout society "are contributors to the inequality in educational achievement in the US" (response options: 0 = not a contributor/does not occur → 1 = main contributor). Additionally, we assess the extent to which a respondent believes that "students from low income backgrounds have the same educational opportunities as students from high income backgrounds" (response options: 0 = strongly disagree → 1 = strongly agree).

Racial Injustice: The racial injustice battery includes four questions from the standard racial resentment or symbolic racism measures forwarded by Kinder and Sanders (1996) and Henry and Sears (2002).[18] Additionally, we asked "How much racial discrimination do you feel there is in the US today, limiting the chances of individuals from particular racial groups to get ahead?" (response options: 0 = none at all → 1 = a great deal). We also consider an index of this discrimination measure and the four racial resentment measures, which we refer to as the *racial resentment index*, given the Cronbach's alpha score is 0.86.[19]

We also asked a series of questions about the respondent's level of satisfaction with the treatment of each of the of the following minority groups (response options: 0 = very dissatisfied → 1 = very satisfied): Asians, Hispanics, blacks, Muslims and immigrants. We consider each measure separately, and as a simple index, which we refer to as the *discrimination index* given high internal consistency of these measures; the Cronbach's alpha score is 0.85.

Racial Prejudice: We employ two measurements to capture prejudice. First, we implement a skin-tone Implicit Association Test (IAT), a method for gauging unconscious antipathy toward various groups. The IAT has commonly been used in psychology and neuroscience (Greenwald,

[18]We include a question on the extent to which respondents agree that black Americans have gotten less than they deserve (response options: 0 = strongly disagree → 1 = strongly agree); agree that black Americans should overcome prejudice without special favors (response options: 0 = strongly disagree → 1 = strongly agree); agree that it is really just a matter of black Americans working harder to be just as well off as whites (response options: 0 = strongly disagree → 1 = strongly agree); and agree that slavery and discrimination has made it difficult for black Americans to work their way up (response options: 0 = strongly disagree → 1 = strongly agree).

[19]We reverse code the question on black Americans getting "less than they deserve," there being a legacy of "slavery and discrimination," and the extent to which racial discrimination "limits" particular groups so that a negative coefficient can be interpreted as a reduction in racial resentment.

McGhee, and Schwartz 1998; Greenwald, Nosek, and Banaji 2003), and increasingly in political science to predict political behavior (Arcuri, Castelli, Galdi, Zogmaister, and Amadori 2008; Mo 2015) and policy judgments (Malhotra, Margalit, and Mo 2013; Pérez 2010). The IAT is a method designed to capture the strength of associations linking social categories (dark skin color versus light skin color) to evaluative anchors (good versus bad).[20] The difference in categorization performance is argued to measure differential association of the two concepts with the attribute, and capture "implicit" (system 1) attitudes that are automatic, as opposed to "explicit" (system 2) attitudes that are effortful and conscious (Kahneman 2003). The IAT Effect is a D score, which ranges from -2 to 2, where negative numbers indicate an implicit bias favoring darker skin-tones over lighter skin-tones, positive values suggest an implicit bias favoring lighter skin-tones over darker skin tones, and 0 indicates neutrality.[21] The IAT was asked at the end of the survey to minimize the degree to which respondents could be primed to think about race in the survey by completing the IAT.

Second, we asked about feelings of closeness to minority groups. We assessed this by asking: "Here is a list of groups. Please read over the list and check the box for those groups you feel particularly close to—people who are most like you in their ideas and interests and feelings about things." We are interested in whether individuals check that they feel close to "Blacks" and "Hispanics" given over 80 percent of the communities TFA serves in are African American and

[20] Respondents complete two categories of tasks in random order. In the first task, respondents classify whether pictures of faces are "light" or "dark." In the second task, respondents classify whether certain words are "good" or "bad" words. Then, respondents classify both faces and words, and what is randomly manipulated is whether "dark skinned faces"/"good" (and accordingly "light skinned faces"/"bad") are associated with the same key or whether "dark skinned faces"/"bad" (and accordingly "light skinned faces"/"good") are associated with the same key (see Table C.5 in Online Appendix C for details on the task sequence). The IAT requires individuals to categorize the evaluative anchors and social categories, and individuals who are prejudiced against darker skinned individuals should be quicker at classifying pictures and words when "light skinned faces" ("dark skinned faces") is paired with "good" ("bad") than when "light skinned faces" ("dark skinned faces") is paired with "bad" ("good").

[21] $D = (1/2)(Mean_{stage6} - Mean_{stage3})/\sigma_{stages6,3} + (1/2)(Mean_{stage7} - Mean_{stage4})/\sigma_{stages7,4}$ (see Greenwald, Nosek, and Banaji (2003) for greater details on this scoring algorithm). The IAT measure involves computing two mean differences and dividing each difference score by its associate "inclusive" standard deviation. The part of the IAT D score that accommodates general processing speed—the fact that irrespective of their attitudes, some individuals respond faster than others on a wide range of cognitive tasks—is this "inclusive" standard deviation. Respondents are obliged to correct errors before proceeding and latencies are measured to the occurrence of the correct response. The D effect is then an equal-weight average of two resulting ratios. Stage 6 and 7 are trials in which pictures of dark-skinned individuals are paired with "good" words and pictures of light-skinned individuals are paired with "bad" words. Stage 3 and 4 are trials in which light-skinned individuals are paired with "good" words and dark-skinned individuals are paired with "bad" words. Note that the Stage 6 and 7 trials and the Stage 3 and 4 trials are in random order to avoid order effects. Hence, a positive score would indicate that an individual took longer to associate pictures of dark-skinned individuals with "good" words ($Mean_{stage6}$) than pictures of light-skinned individuals with "good words ($Mean_{stage3}$), and longer to associate pictures of light-skinned individuals with "bad" words ($Mean_{stage7}$) than pictures of dark-skinned individuals with "bad" words ($Mean_{stage4}$).

Hispanic. We also consider two additional groups to act as placebo checks; namely, our treatment should have no effect on how close they feel towards "the elderly" and "Christians." This set of questions translates to four dichotomous measures, where 1 indicates whether the respondent noted that he/she feels particularly close to the group in question.

Identification Strategy

To measure the causal effect of participating in a national service program on its program participants, we employ a quasi-experimental method that exploits the fact that acceptance into TFA is a discontinuous function of an applicant's selection score. Essentially, this type of design allows for an identification strategy that compares the outcomes of those who fall just short of the threshold score (and are not accepted to TFA) against those who fall just above the threshold score (and are accepted into the program).

This is important because of selection bias concerns. Consider the following model:

$$y_i = \alpha + \tau D_i + \epsilon_i \tag{1}$$

where i represents the individual, y_i is our outcome measure of interest, D_i denotes receipt of the treatment (serving in TFA), ϵ_i is measurement error, and τ is our parameter of interest—the relationship between serving in TFA and our outcome measures of interest. If individuals select into service organizations because of important unobserved determinants of later outcomes, which is plausible, direct estimation of τ by estimating model (1) would be biased.

Say that each individual receives an application score X_i as part of the admission score, and c is the cutoff score for admission. We can overcome this bias if the distribution of unobserved characteristics of individuals just shy of being admitted and not receiving the treatment, and the distribution of those who were just above the bar for admission and receiving the treatment, are essentially drawn from the same population. In other words, concerns of bias can be addressed if the following equation holds:

$$\lim_{\Delta \downarrow 0} E[\epsilon_i | X_i = c + \Delta] = \lim_{\Delta \uparrow 0} E[\epsilon_i | X_i = c + \Delta] \tag{2}$$

where ϵ_i is the unobserved determinants of future outcomes.

If equation (2) holds, the following indicator variable for whether an individual scored above

the cutoff can act as an instrumental variable for receipt of the treatment (D_i):

$$D_i = \begin{cases} 1, & \text{if } X_i \geq c \\ 0, & \text{if } X_i < c. \end{cases} \tag{3}$$

Namely, if participating in TFA is based upon a cutoff score and the distribution of unobservable determinants of future outcomes is continuous at the selection threshold, our parameter of interest, τ, can then be identified without bias through a regression discontinuity design (RDD). TFA participation is indeed based upon a cutoff score, and as we will show below, pre-treatment characteristics are continuous at the cutoff. Note that as the cutoff differs for each TFA cohort, and we consider seven cohorts, we standardize the cutoff for each cohort to be zero ($c = 0$).

However, TFA does not employ a sharp cutoff strategy. While a cutoff score is employed in the admissions process, admission (rejection) into TFA is not necessarily guaranteed if an applicant scores above (below) the application score cutoff; rather, the *probability* of admission dramatically increases (decreases) if an applicant receives an admission score that is higher (lower) than the cutoff, as those close to the threshold score are reevaluated to ensure that the admissions recommendation based on the score should be upheld. Moreover, while the vast majority of admitted applicants decide to matriculate into the program, take-up of the program is imperfect. For the 2007-2013 application cycles, the matriculation rate was 83.20 percent. As such, we employ a fuzzy RDD, which does not require a 100 percent jump in the probability of receiving the treatment at the c^* threshold, and only requires the following to hold:

$$\lim_{\Delta \downarrow 0} Pr[D = 1 | X = c + \Delta] \neq \lim_{\Delta \uparrow 0} Pr[D = 1 | X = c + \Delta]. \tag{4}$$

As the probability of treatment jumps by less than one at the threshold, the jump in the relationship between outcome Y and the score X can no longer be interpreted as an average treatment effect. As in an instrumental variable setting, however, the treatment effect can be estimated by dividing the jump in the relationship between Y and X at c (the reduced form estimate) by the fraction induced to take-up the treatment at the threshold (the first-stage estimate). Thus, our treatment effect τ_F for outcome Y is the following:

$$\tau_F = \frac{\lim_{\Delta \downarrow 0} E[Y | X = c + \Delta] - \lim_{\Delta \uparrow 0} E[Y | X = c + \Delta]}{\lim_{\Delta \downarrow 0} E[D | X = c + \Delta] - \lim_{\Delta \uparrow 0} E[D | X = c + \Delta]} \tag{5}$$

where we assume equations (2) and (4) to hold, and the F subscript refers to the fuzzy RDD.

Per Lee and Card (2008), potential concerns that the admission score is coarse, due to the score being discrete rather than continuous, is addressed by clustering our standard errors at the admission score level. We control for each application year to allow for differences in averages by cohort year. Finally, the choice of bandwidth for the RDD estimator follows Imbens and Kalyanaraman (2011), which is a conservative estimate for fuzzy RDD estimates.

A key threat to a causal interpretation of our estimates is the possibility of response selectivity, which would compromise the assumption of equation (2). Namely, the response rate of non-admits might be lower than admits. Figure A.2a and Figure A.2b in Online Appendix A plot the completion response rate (AAPOR RR1 response rate) and partial response rate (AAPOR RR2 response rate), respectively. There is no significant difference in the response rates at the cutoff (we consider the difference for RR1 ($p = 0.104$) and RR2 ($p = 0.294$); see Table A.1 in Online Appendix A).

Response selectivity bias can still hold if non-admits who respond are different in some important way. If there is a discontinuous difference in respondent characteristics around the score threshold, it will compromise our empirical design. We test for this by assessing whether observable pre-treatment measures of the study participants trend smoothly at the cutoff. As described above, TFA provided detailed selection data of all applicants to enable this exercise, which included demographic data on whether applicants qualified for financial aid when applying to college, college GPA, and the applicant's undergraduate institution's school selectivity. Additionally, we consider a number of pre-treatment demographic characteristics that were collected in our survey: age, sex, race, whether a parent received post-secondary education, socioeconomic class while growing up, and identification with a religion. We first visually inspect whether there is a discontinuity, and reassuringly, there is no break at the cutoff (see Figures D.4 and D.5 in Online Appendix D). When we conduct a fuzzy RDD analysis for each of the 13 pre-treatment demographic characteristics, there is not one measure that is significantly different at the cutoff (see column (3) of Table E.6 in Online Appendix E, where each coefficient is visualized in Figure 1). The assumption that there are no meaningful differences in pre-treatment measures at the cutoff holds.

[Figure 1 about here]

Another threat to causal interpretation is if applicants and interviewers can manipulate the admission score. This is theoretically impossible because neither the applicants nor the interviewers

are aware of the cutoff score. For further verification of non-manipulation at the cutoff, we test the null hypothesis of continuity of the density of the forcing variable—the admission score—at the cutoff. Reassuringly, we find that there is no discontinuity at the cutoff in the density function of the admissions score ($p = 0.27$).

Results

Before we assess the fuzzy RDD results, we verify that being above the cutoff is an appropriate instrument for admission into and participating in TFA. This assumption is indeed robust; at the cutoff, there is a 28.7 percentage point ($p < 0.001$) bump in the admission rate and a 24.9 percentage point ($p < 0.001$) bump in participating in TFA (see Figure A.3(a) and Figure A.3(b), respectively, and Table A.1 in Online Appendix A).

Overall, we find strong evidence that, ceteris paribus, participation in TFA increases perspective-taking. We detect (1) an increase in perceptions of systemic injustice against the disadvantaged per *prediction 1*; (2) a decrease in both class-based and racial resentment—increased beliefs that situational or environmental factors are the root cause of outcomes for those who are disadvantaged rather than the disposition of disadvantaged individuals per *prediction 2*; and (3) a decrease in prejudice and an increase in identification with disadvantaged minorities per *prediction 3*.[22]

An inspection of response averages by score near the cutoff for each outcome of interest are provided in the Figures D.6-D.7 in Online Appendix D. These figures provide visual evidence that there are attitudinal shifts at the cutoff; however, to get a more definitive estimate of the effects, we implement the quasi-experimental estimation strategy described above. The causal effect estimates from a fuzzy RDD analyses are reported in column (3) of Table 1 and visualized in Figure 2.[23] All our findings reported below are based on optimum bandwidth calculations according to Imbens and Kalyanaraman (2011) unless stated otherwise; however, the significance of the RDD results are generally not sensitive to alternative bandwidths (see Table E.7 in Online Appendix E).

[Figure 2 and Table 1 about here]

[22] When we simply compare the average response of those who accepted their admission with those who declined their admission, as well as non-admits, we see that the direction of attitudinal and belief differences are largely consistent with each of our three predictions (see Table B.4 in Online Appendix B). More specifically, matriculants, on average, display higher perceptions of class-based injustice and lower racial resentment and prejudice levels than both non-admits and non-matriculants.

[23] First stage and reduced form results are reported in column (1) and column (2), respectively, in Table 1.

Broadly, our results indicate that TFA participants are much more likely to lose faith in political institutions than the non-admit "control" group, indicating a sense that the political status quo is not fair—a decrease in "denial of discrimination." On our index of systemic injustice measures, we find that participating in TFA decreases an individual's support for the current political system by 10.4 percentage points ($p = 0.005$). Specifically, participants are 9.1 percentage points ($p = 0.032$) less likely to respect "the political institutions of the United States" and are 10.2 percentage points ($p = 0.003$) less likely to feel that "citizens' basic rights are well protected." These drops are quite large. When we benchmark our results against Haiti, a country that has consistently had among the lowest levels of political system support in the Americas over the last decade, we see that the decrease in system support due to TFA participation, as measured by our index, is equivalent to 86 percent of the difference in political system support between the United States and Haiti (see column (7), row (3) of Table E.9 in Online Appendix E).[24]

Participation in TFA is also linked to a greater perception of class-based injustice, and participants are more likely to attribute poverty to underlying systemic issues and other external factors than to a lack of individual effort. We detect a 9.3 percentage point ($p = 0.004$) increase overall in participants' support of pro-poor policy perspectives (*class-based injustice index*), which represents a meaningful 20 percent increase relative to the mean value of this measure for non-admits (see Table B.4 in Online Appendix C for the mean value of each of our outcome measures by admission and participation status: (1) non-admit; (2) non-matriculants; and (3) matriculants). Specifically, TFA participants are more likely to argue for greater income redistribution (an increase of 5.8 percentage points, $p = 0.049$) and greater government responsibility to ensure everyone is provided for (an increase of 7.5 percentage points, $p = 0.011$). To understand the magnitude of these effects, we benchmark our effect sizes against the German population, as Americans tend to prioritize individualism over the role of the state, whereas Germans tend to prioritize state interference (to ensure nobody is in need) over individualism (Pew Research Center 2011). These two effects are equivalent to 30 percent and 37 percent, respectively, of the difference between how the average American answers these questions compared to the average German (see column (7), rows (4)-(5) of Table E.9 in Online Appendix E).[25] Further, TFA participation is linked to an increase in the

[24]Source: The 2010 AmericasBarometer by the Latin American Public Opinion Project.

[25]Source: Wave 3 of the World Values Survey.

belief that having a "better life" is more closely linked to "luck and connections" than to hard work alone (9.3 percentage points, p = 0.026) and that "poor people are poor due to an unfair society" as opposed to "laziness and lack of willpower" (7.2 percentage points, p = 0.001).

This general dissatisfaction with the broader political system and external blame attribution is detectable when we consider attitudes around the education system. We find that TFA participants are 7.4 percentage points (p = 0.005) more likely to feel that "systemic injustices that perpetuate inequity throughout society" contribute to the income-based education achievement gap, which represents an 11 percent increase relative to the mean value of non-admits. Participants more frequently disagree that "students from low-income backgrounds have the same opportunities as those from high-income backgrounds"; there is an 11.3 percentage points percentage point differential (p < 0.001), which represents a substantial 24 percent decrease relative to the mean value of non-admits. Likewise, TFA participants are less likely to attribute blame to the poor for class divisions in educational achievement. For example, we find that participants are 8.5 percentage points (p = 0.012) more likely to disagree that poor families "do not value education as much as richer families," which represents a 13 percent decrease relative to the mean value of non-admits.

Accompanying decreased blaming toward poor communities, TFA participation is linked to a reduction in blame towards minority groups. We find that TFA participation results in a decrease of 12.6 percentage points (p < 0.001) on our *racial resentment index*, which represents a sizable 58 percent decrease relative to the mean value of non-admits. To further put this effect in context, the reduction in racial resentment index is 72 percent of the difference between how black Americans and white Americans answer these questions in the 2008 ANES (see column (7), row (12) of Table E.9 in Online Appendix E). Unpacking this index, we see that participants are more likely to attribute racial inequality in this country to systemic and historical factors than to lack of agency or effort on the part of black Americans. Participants are 12.3 percentage points (p = 0.001) more likely to disagree with the statement that "if blacks would only try harder they would be just as well off as whites," and are 15.8 percentage points (p < 0.001) more likely to disagree with the statement that blacks should "(overcome) prejudice and (work) their way up...without any special favors." From the perspective of societal injustice, they are also more likely to attribute any difficulty in upward social mobility on the part of black Americans to "generations of slavery and discrimination" (11.8 percentage points, p < 0.001) and racial discrimination in today's society

(11.7 percentage points, $p < 0.001$).

Further, compared to the control group, TFA participants are 10.6 percentage points ($p < 0.001$) less satisfied with the treatment of minority groups in our society as a whole, which represents a 27 percent decrease relative to the mean value of non-admits. When considering the assessment of discrimination against various minority groups separately, the degree of this dissatisfaction differential ranges from approximately 10 percentage points for Asian Americans, Hispanics, and immigrants ($p = 0.000$-0.007) to 17.3 percentage points ($p < 0.001$) for black Americans. It is notable that dissatisfaction with the treatment of Asians and Muslims increases. Given that over 80 percent of the student population TFA participants work with are African American or Hispanic, contact with Asians and Muslim were not necessarily high.[26] This speaks to the generalization of concerns of discrimination to minorities as a whole from contact with a subset of minorities.

We also find evidence of prejudice reduction through our measure of implicit bias towards darker skin color—the skin-tone IAT. We find that TFA participants score on average 0.121 points ($p = 0.096$) lower than the control group on this measure.[27] This difference is economically meaningful, as it represents 40 percent of the mean value of non-admits. However, this difference is only weakly significant at the optimal bandwidth. As the IAT test was a supplement to the survey, and thus subject to a smaller sample size, and the optimal bandwidth recommended by Imbens and Kalyanaraman (2011) is a conservative estimate for a fuzzy RDD, we extend the bandwidth measures to twice the optimal value and find that the impact of TFA participation on the IAT score is a decrease of 0.087 points ($p = 0.038$). To place this result in context, we consider the level of skin color-based prejudice for white, Hispanic, and black Americans, as intergroup bias research suggests that skin color-based prejudice would be lower for those of darker skin color (Fu, Tarnita, Christakis, Wang, Rand, and Nowak 2012; Billig and Tajfel 1973). We find that our treatment effect is roughly equivalent to the 0.109 point difference in skin tone-based prejudice between white and Hispanic Americans and a third of the 0.319 point difference in skin tone-based prejudice between whites and African Americans (see column (3), rows (13)-(14) of Table E.9 in

[26] Source: Teach For America "School and Student Demographics 2014-2015."

[27] The Black-White IAT was implemented on the 2007 TFA cohort in 2010, and consistent with our findings, implicit black-white prejudice decreases after participating in TFA (Fryer and Dobbie Forthcoming).

Online Appendix E).[28] The fact that we see an effect on the IAT is notable, as the IAT is a measure of automatic and unconscious attitudes, which are difficult to shift (Rydell and McConnell 2006).[29]

Finally, not only does TFA participation result in a decrease in certain measures of prejudice, but participants are also more likely to report feelings of "particular closeness" (in "ideas, interests, and feeling about things") to both African Americans and Hispanics, the two most-served minority populations within the organization. In the 2014-2015 academic year, 48 percent of the student population at TFA placement schools were African American, while 35 percent were Hispanic.[30] Specifically, compared to non-participants, participants report feeling 8.7 percentage points ($p = 0.030$) closer to African Americans and 2.0 percentage points ($p = 0.731$) closer to Hispanics, though the latter effect is not statistically significant.

In interpreting these closeness measures, however, we expect there to be differential effects on closeness depending on the racial demographic group with which TFA participants came into contact. We leverage the fact that there is variation with respect to the student population a TFA participant serves by their regional placement. In some regions, nearly all of the students in the TFA placement schools are black (e.g., 94 percent of students in Mississippi, 90 percent of students in St. Louis, Missouri; and 89 percent of students in Detroit, Michigan). In other regions, nearly all of the students in the TFA placement schools are Hispanic (e.g., 97 percent of student in the Rio Grande Valley; 90 percent of students in San Antonio, Texas; and 77 percent of students in Los Angeles, California).[31] Feelings of closeness to the black and Hispanic community should change most among participants who served in communities with a large black and Hispanic student population, respectively. This is indeed what we observe (see Figure 3).[32] When more than

[28] This benchmarking estimate is based upon publicly available data on the skin-tone IAT from Harvard University's *Project Implicit*.

[29] This finding also helps ameliorate concerns of social desirability bias, though it is highly unlikely that there would be differences in bias levels at the cutoff, as admission is based upon predicted teacher effectiveness and not class- and race-based resentment. As an additional non-self-reported measure, we consider the ethnic fractionalization of respondents' zip codes. We see evidence of geographic sorting within three years of participation, where TFA participants are living in more diverse communities than non-TFA participants (4 percentage point difference, $p = 0.07$). We do not consider this as one of our primary measures, as there may be other factors that result in geographic sorting like income shocks stemming from allocating at least two years to service work that may reduce geographic flexibility. However, this is additional suggestive evidence that there is an increase in closeness to diverse communities.

[30] Source: Teach For America "School and Student Demographics 2014-2015."

[31] Source: Teach For America "School and Student Demographics 2014-2015."

[32] We do not know which of the non-admits would have been placed in predominantly African American or Hispanic communities, and as such, we consider all non-admits in this analyses. Note, however, the placement of admits is

50 percent of the student population is black, the causal effect of participating in TFA on feelings of closeness to black individuals is 19.1 percentage points ($p = 0.002$). However, if the minority of the student population is black, the effect size shrinks to a negligible 1.3 percentage points ($p = 0.819$), and the difference between the effects on closeness to black individuals by student population is statistically meaningful ($p < 0.001$). When the dominant student population is Hispanic, compared to non-participants, participants report feeling 14.6 percentage points closer to the Hispanic community ($p = 0.020$). As expected, this effect size decreases substantially when the minority of the student population is Hispanic (2.5 percentage points, $p = 0.535$).[33] Again, the difference between the effects on closeness to Hispanics by student population is statistically meaningful ($p < 0.001$).

[Figure 3 about here]

Our results also indicate that these effects are long-lasting, given that the effects we see throughout are the average effects for participants six months to seven years after the completion of TFA service, and the robustness of our effects are not sensitive to the exclusion of more recent cohorts. For example, when we examine the cohort-by-cohort effects of our racial injustice measure from 2007 through 2013, we find that the impact of participation in TFA on the reduction of racial resentment ranges from 6.4 to 15.4 percentage points in magnitude (see Figure E.8(a) in Online Appendix E). The largest effect is for the 2013 cohort; however, we do not see strong evidence of a decay effect. Notably, when we examine the *Skin-Tone Implicit Association Test*, we see that the reduction in implicit racial prejudice becomes slightly stronger over time (see Figure E.8(b) in Online Appendix E).[34] As noted by Paluck (2016) in her meta-analyses of prejudice research, while there are very few studies of real interventions that reduce prejudice, there are even fewer that examine long-term effects, where even just three months is considered long-term. By examining

semi-random as TFA participants are not allowed to state preferences on school assignment; the first job that is offered by a school district has to be accepted. Nevertheless, TFA participant preferences for regions are taken into account with regional placements.

[33]Note that the pooled effect reported in Table 1 is not a simple weighted average of the reported effects when the dominant student population is Hispanic (black) and the reported effects when the minority of the student population is Hispanic (black) because the pooled analyses includes observations that were dropped in the sub-group analyses due to missing student population data.

[34]Effects are not consistently statistically significant for each cohort, as we are underpowered to detect effects when we examine each cohort separately. Note that the RDD approach is data-intensive, as it focuses on individuals close to the cutoff. What we are able to see by mapping the effects by each cohort is that one recent cohort is not responsible for the pooled effect across multiple cohorts that we are estimating.

the impact of national service on participants at least six months after program participation, we contribute to a relatively scant but important body of causal research on the long-term effects of interventions on prejudice reduction and the mechanisms by which prejudice is reduced.

Robustness Checks

To assess the robustness of our findings, we conduct a number of tests. We begin by re-examining the racial prejudice questions on closeness. First, there is no reason to believe that participation in a national service program like TFA, which focuses on public education, would have any impact on attitudes towards the elderly community or Christian community. As a placebo test, we included "the elderly" and "Christians" as groups in the battery of questions of what groups with which an individual feels "particularly close." Reassuringly, TFA participation does not alter feelings of closeness to the elderly (-3.49 percentage points, $p = 0.249$) or Christians (-0.17 percentage points, $p = 0.969$; see Figure E.9 in Online Appendix E).

Additionally, we leverage the data we have on current participants to assess whether we observe the effects we see post-treatment at the outset. While there is no data on participants *before* they begin the two-year program, we can take advantage of data we have on individuals who have participated in the program for fewer than 6 months—the 2015 cohort between the months of October and December. As shown in Figure E.10 in Online Appendix E, when we examine the effect size of TFA participation for each of our variables for those who received a smaller "dose" of the program, we see evidence that the effects that we see did *not* exist pre-treatment.[35] For those who only began receiving the treatment, effect sizes are never statistically meaningful. One could note that this is an issue of statistical power. However, apart from two questions on class and education inequality—whether poor families do not value education as much as richer families, and whether systemic injustices perpetuate inequity—out of the 26 outcomes we consider, differences between participants and non-participants are either closer to 0 and/or of an opposite direction than our treatment effects (e.g., system support, closeness to blacks or Hispanics, and racial resentment). The fact that we do see two questions in which effect sizes are comparable is not particularly concerning, as we expect that some attitude shifts may not require the full two-year

[35]Note that when we created an index combining variables, we only consider the index for this analytical exercise.

dose of program participation.[36]

We also report the average causal effects when we conduct an intent-to-treat (ITT) analysis in Table E.8 in Online Appendix E.[37] In other words, when the treatment assignment is based upon admission, the "treatment" group also includes those that were assigned to receive the treatment but did not. If participation causes shifts in attitudes and beliefs on the dimensions we are interested in, we would expect the inclusion of non-matriculants to results in an attenuation in our effects. Indeed, when we look at the ITT effect sizes rather than the treatment-on-the-treated (TOT) or complier average treatment effect sizes, each of the ITT effect sizes are consistently smaller than the TOT effect sizes by 0.20 to 1.8 percentage points. However, with the majority of those assigned to the "treatment" group receiving the treatment, statistical significance (or insignificance) for each of the 26 variables never changes.

Finally, one may be concerned that effect sizes are overestimates if non-admits pursued work in sectors that may socialize individuals to harbor greater racial resentment and believe that systemic injustices and other external factors are secondary to individualistic explanations for poverty between their application to TFA and the administration of the survey. However, they could also be underestimates if non-participants worked in low-income schools or a national service program aside from TFA. To explore this possibility, we examine the job sectors of non-participants since 2007, the first cohort year in our study. As seen in Figure H.11-H.13 in Online Appendix H, over a third of non-participants pursued work in the education sector. The next two most represented sectors are the non-profit and legal sectors. Nearly half of non-participants entered the legal, non-profit, and education sectors, and there are no theoretical reason that these three sectors would lead to attitudinal shifts that run orthogonal to that of national service programs. As such, it is unlikely that our causal effects overestimate the effect of TFA due to the career trajectory of non-participants.

[36] We interpret these results cautiously as the lack of statistical power for the small dosage case does not allow us to definitely rule out the possibility that the effect sizes for small dose and full dose sample are the same. However, there is some reassurance in the fact that aside for the two education inequality questions, the effect size for the small dosage sample is systematically closer to 0 or in an opposite direction.

[37] Recall that 17 percent of those who were assigned to receive the treatment did not.

Discussion

Using an original survey that we administered to over 32,000 TFA applicants for the 2007–2015 cohorts, married with TFA's selection data, we find robust causal evidence that participation in TFA translates to increased perspective-taking. TFA participants, who are all advantaged from the perspective of being high-achieving college-educated adults, take on attitudes that are closer to those of the "have nots" regarding the fairness of the economic, social, and political status quo, and key beliefs that are predictive of how people view redistribution. They are more likely to view disadvantaged populations as victims of external barriers to advancement, and attribute economic success to external versus personal explanations. Gilens (1999) found that when poverty was racialized, support for welfare decreased. When there is extended contact with low-income communities, and poverty is contextualized in a service framework, we see support for assistance and welfare increase, and blame for what keeps some individuals in a lower socioeconomic position is attenuated. Per the basic predictions of contact theory and research on perspective-taking, increased empathy also translates to both explicit and implicit prejudice reduction towards disadvantaged populations. Accompanying prejudice reduction, there is evidence of greater identification with disadvantaged groups. Powerfully, these effects are economically and statistically meaningful. Moreover, these shifts in attitudes have far greater permanence than the short-term effects commonly reported from laboratory or survey experiments.

The scope of the TFA application data and the nature of this national service program provide us with novel and important leverage over the question of whether advantaged Americans can see the world through the lens of the disadvantaged, and allow us to contribute to an important but thin field experimental literature on contact theory (Paluck and Green 2009). Future research should look at how these attitudinal and belief shifts translate to behavioral changes. For instance, are participants more likely to vote and be active in civic life?[38] What is the career trajectory of these participants? Does the perception that there is greater social injustice translate to greater activism and efforts to build a sturdier economic and social ladder for disadvantaged individuals to climb? A recent study of the 2007 TFA cohort suggests that participants are more likely to pursue

[38]Interestingly, McAdam and Brandt (2009) find that civic engagement declines after participating in TFA; however, this analysis involves simple comparisons of matriculants, dropouts, and non-matriculants, which are susceptible to issues of endogeneity, and cohorts when TFA was a nascent program.

careers in education after their service years and that they are optimistic that the achievement gap is solvable one year after their service (Fryer and Dobbie Forthcoming). Further inquiry is also necessary to determine how extended and contextualized intergroup contact must be in order to affect change. For instance, TFA requires participants to be in the classroom for two years. Would we see the enduring and substantively large effects that we see after a shorter "treatment"?

Further, additional research is needed to explore questions of external validity. What is the domain of applicability of our findings? It is possible that those who apply to national service programs differ from the general population in important ways. For instance, if the general population is less eager to learn about others than the subset of the population that seriously considers national service and/or is eligible for these programs, the results that we see may be more muted in the general population. Conversely, our estimates may be underestimates when one considers the possibility that among TFA applicants, racial resentment may already be lower and sensitivity to social injustice may already be higher than the national population, as all applicants are opting into participating in an organization that aims to address education inequality.[39] Additionally, would we see similar effects with other national service programs in which advantaged and disadvantaged communities have extended contextualized intergroup contact?

The notion of meritocracy is often deemed a centerpiece of American political ideology and the keystone principle of the belief system referred to as the "American dream" (Hochschild 1995), "American creed" (Huntington 1981), or "American ethos" (McCloskey and Zaller 1984). In an increasingly unequal economic and social environment, Americans are seeing themselves more and more as "haves" and "have nots," and the "have nots" see the American dream as much more illusory than the "haves." This divergence is consequential as the U.S. is increasingly diversifying, and civic trust is decreasing as a result (Putnam 2000). Moreover, affluent Americans have disproportionate influence on policies (Bartels 2008; Carnes 2013; Gilens 2012; Page, Bartels, and Seawright 2013; Putnam 2015). Our research on national service points to a pathway for meaningfully increasing perspective-taking among advantaged Americans. These findings have important implications to our broader understanding of the mechanisms by which perceptions of social justice and prejudice can be altered.

[39] When we assess the average racial resentment scores of non-admits (see Table B.4 in Online Appendix C), it is notably lower than the racial resentment scores of the average white American (see Table E.9 in Online Appendix E).

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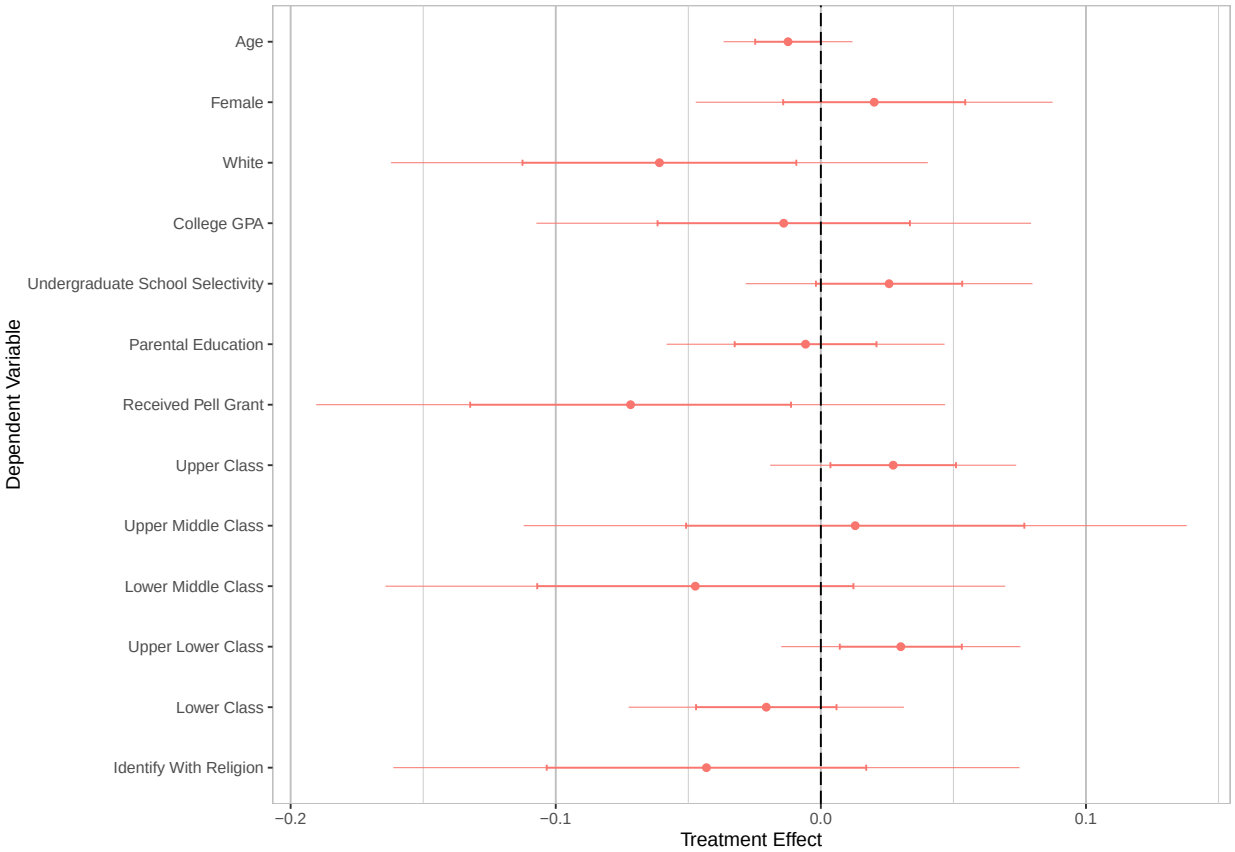
Figure 1: Two-Stage Least Squares (2SLS) Estimates - Baseline Pre-Treatment Characteristics

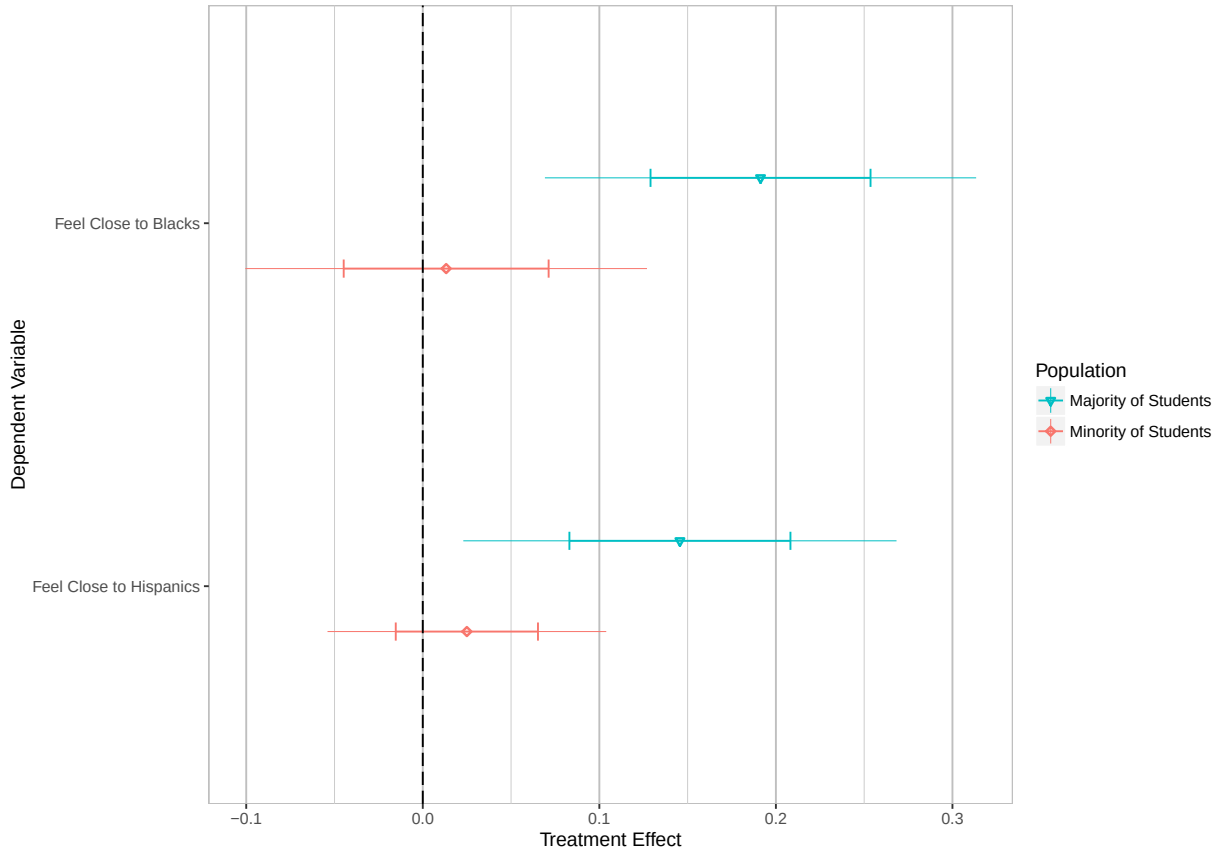


Notes: The 95 percent confidence intervals surround point estimates; the thicker lines between the bars represent one standard error.

Figure 2: 2SLS Estimates - Complier Average Causal Effects of National Service

Notes: The 95 percent confidence intervals surround point estimates; the thicker lines between the bars represent one standard error.

Figure 3: 2SLS Estimates - Closeness by Student Population



Notes: We estimate the effect of TFA participation on feelings of closeness to the Black community (Hispanic community) by whether the majority (greater than 50 percent) or minority of students participants are African American (Hispanics). The 95 percent confidence intervals surround point estimates; the thicker lines between the bars represent one standard error.

Table 1: Complier Average Causal Effects of National Service—Fuzzy Regression Analyses

	First Stage (1)	Reduced Form (2)	2SLS (3)	Observations (4)
Panel A: Systemic Injustice				
Level of Respect of U.S. Political Institutions	0.275***	-0.025**	-0.091**	19,830
	(0.025)	(0.011)	(0.043)	
Sense that Citizens' Basic Rights Are Protected by the U.S. Political System	0.298***	-0.031***	-0.102***	19,839
	(0.023)	(0.010)	(0.034)	
System Support Index	0.276***	-0.029***	-0.104***	19,827
	(0.025)	(0.010)	(0.037)	
Panel B: Class-Based Injustice				
Incomes Should be Made More Equal (as Opposed to Unequal to Incentivize Individual Effort)	0.319***	0.019**	0.058**	19,847
	(0.021)	(0.009)	(0.030)	
Gov't (as Opposed to Individuals) Should Take More Responsibility to Ensure that Everyone is Provided For	0.327***	0.025**	0.075**	19,853
	(0.021)	(0.010)	(0.030)	
Hard Work Doesn't Generally Bring Success – It's More a Matter of Luck and Connections	0.290***	0.027**	0.093**	19,850
	(0.023)	(0.012)	(0.042)	
People are Poor Because of an Unfair Society (as Opposed to Laziness and Lack of Willpower)	0.346***	0.025***	0.072***	19,855
	(0.020)	(0.008)	(0.022)	
Class-Based Injustice Index	0.274***	0.026***	0.093***	19,822
	(0.025)	(0.009)	(0.033)	
Panel C: Class-Based Education Inequality				
Contributor to Education Inequality: Poor Families Do Not Value Education as Much as Richer Families	0.331***	-0.028**	-0.085**	19,302
	(0.021)	(0.011)	(0.034)	
Contributor to Education Inequality: Systemic Injustices Perpetuate Inequity Throughout Society	0.339***	0.025***	0.074***	19,312
	(0.021)	(0.009)	(0.026)	
Agreement That Low Income Students Have the Same Educational Opportunities as High Income Students	0.301***	0.034***	-0.113***	20,871
	(0.022)	(0.007)	(0.024)	
Panel D: Racial Injustice				
Agreement that Blacks Have Gotten Less then They Deserve	0.298***	0.032***	0.108***	19,525
	(0.023)	(0.012)	(0.039)	
Agreement that Blacks Should Overcome Prejudice Without Special Favors	0.286***	-0.045***	-0.158***	19,534
	(0.024)	(0.011)	(0.041)	
Agreement that It's Really Just a Matter of Blacks Working Harder to be Just as Well Off as Whites	0.283***	-0.035***	-0.123***	19,531
	(0.025)	(0.010)	(0.036)	

Continued on next page...

Table 2: Complier Average Causal Effects of National Service—Fuzzy Regression Analyses (Continued)

	First Stage (1)	Reduced Form (2)	2SLS (3)	Observations (4)
Agreement that Slavery and Discrimination Has Made it Difficult for Blacks to Work Their Way Up	0.317***	0.038***	0.118***	19,539
	(0.022)	(0.009)	(0.029)	
Extent to Which Racial Discrimination Limits Particular Racial Groups	0.339***	0.040***	0.117***	19,473
	(0.020)	(0.009)	(0.026)	
Racial Resentment Index	0.295***	-0.037***	-0.126***	19,414
	(0.023)	(0.008)	(0.030)	
Satisfaction with Treatment of Asians	0.309***	-0.031***	-0.100***	19,269
	(0.022)	(0.011)	(0.037)	
Satisfaction with Treatment of Hispanics	0.294***	-0.029***	-0.100***	19,290
	(0.024)	(0.011)	(0.037)	
Satisfaction with Treatment of Blacks	0.279***	-0.048***	-0.173***	19,291
	(0.025)	(0.011)	(0.042)	
Satisfaction with Treatment of Muslims	0.275***	-0.035***	-0.128***	19,282
	(0.026)	(0.012)	(0.044)	
Satisfaction with Treatment of Immigrants	0.343***	-0.036***	-0.104***	19,290
	(0.020)	(0.009)	(0.027)	
Discrimination Index	0.285***	-0.030***	-0.106***	19,250
	(0.024)	(0.008)	(0.027)	
Panel E: Racial Prejudice				
Skin-Tone Implicit Association Test	0.350***	-0.042*	-0.121*	9,444
	(0.025)	(0.025)	(0.073)	
Feel Close to Blacks	0.385***	0.034**	0.089**	19,027
	(0.018)	(0.016)	(0.041)	
Feel Close to Hispanics	0.317***	0.006	0.020	19,027
	(0.022)	(0.018)	(0.057)	

Notes: The table reports first stage, reduced form, and two-stage least square (2SLS) estimates. The 2SLS estimates instruments for Teach For America participation using an indicator for scoring above the cutoff. All specifications include controls for cohort year. Standard errors are clustered at the selection score level. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

Online Appendix

When Do the Advantaged See the Disadvantages of Others? A Quasi-Experimental Study of National Service

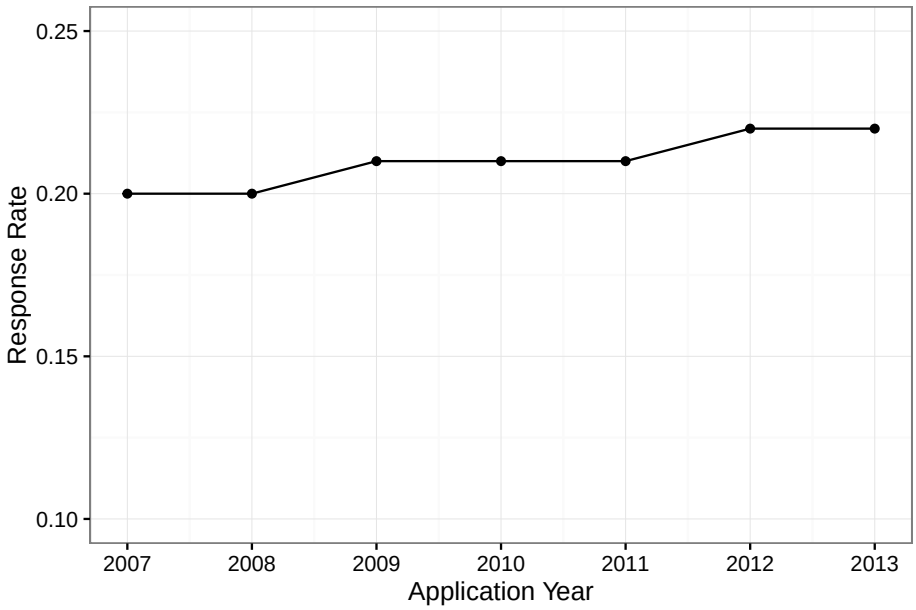
A First Stage and Survey Response

Table A.1: First Stage Results and Survey Response Rate Differences at the Cutoff Score

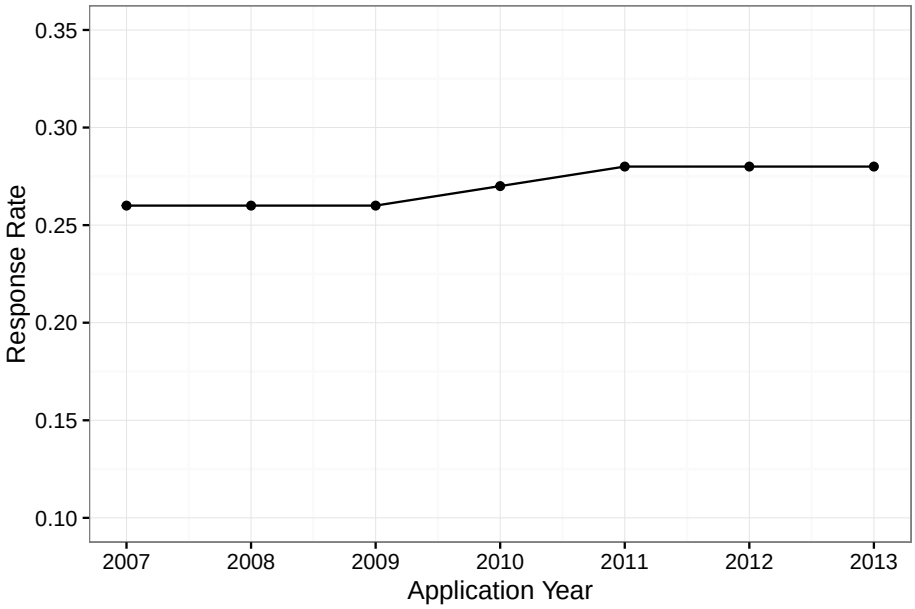
	2SLS
Panel A: First Stage Results	
Admission Rate	0.287***
	(0.031)
Matriculation Rate	0.249***
	(0.032)
Observations	24,920
Panel B: AAPOR Standard Definition Response Rates	
RR1	0.011
	(0.010)
RR2	0.016
	(0.010)
Observations	91,687

Notes: First stage results employ the optimal bandwidth according Imbens and Kalyanaraman (2011). Standard errors are clustered at the selection score level. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Figure A.1: Survey Response Rates

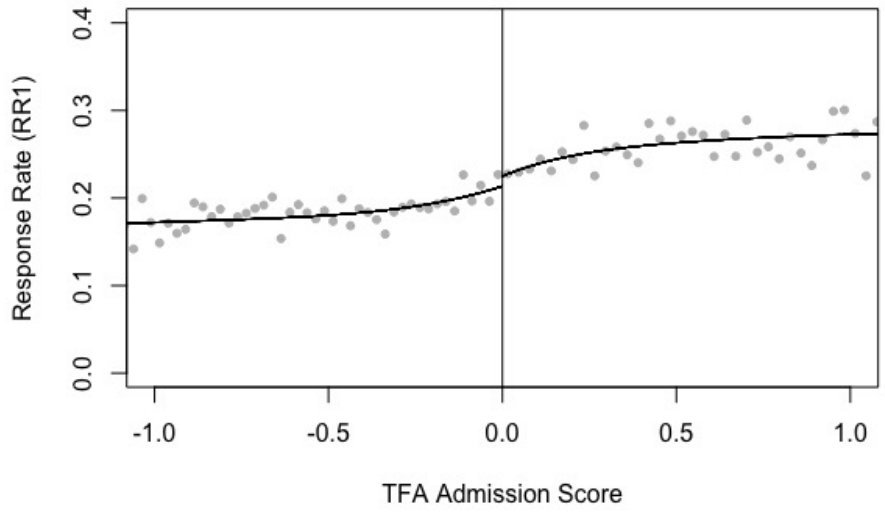


(a) Response Rate (AAPOR Standard Definition: RR1)

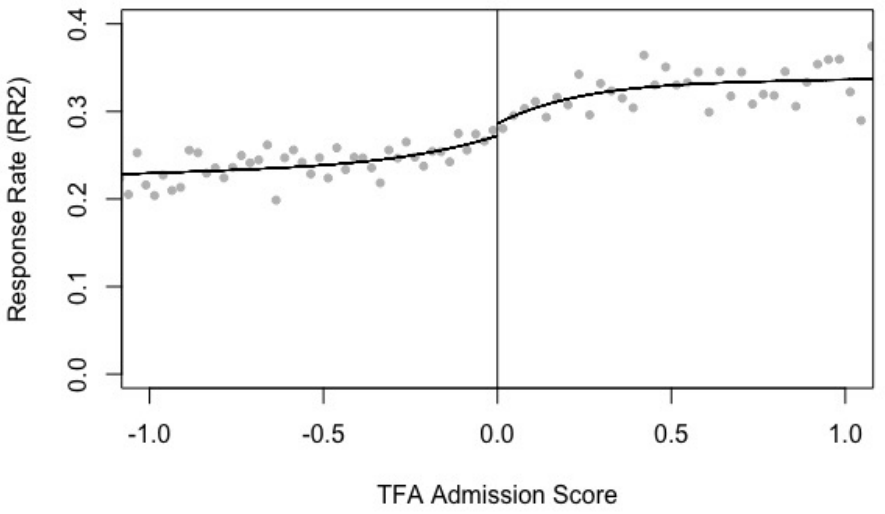


(b) Response Rate (AAPOR Standard Definition: RR2)

Figure A.2: Survey Response (Balance Test)

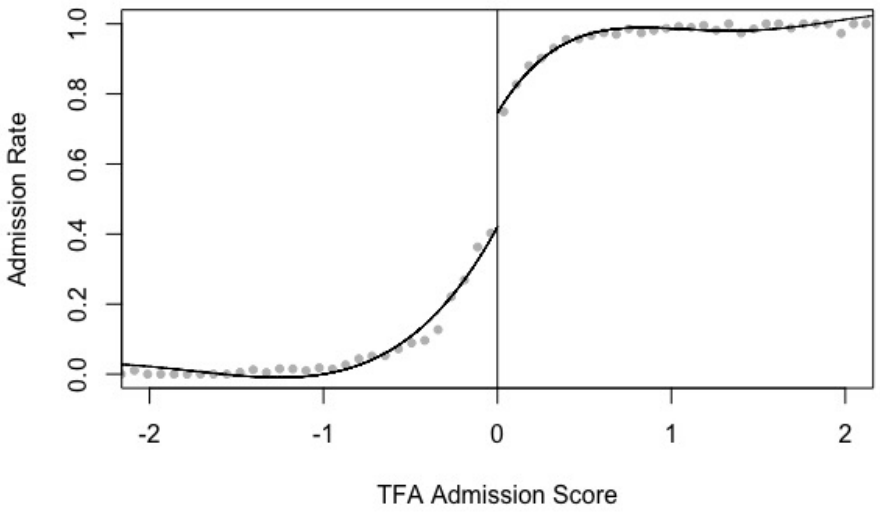


(a) Response Rate (AAPOR Standard Definition: RR1)



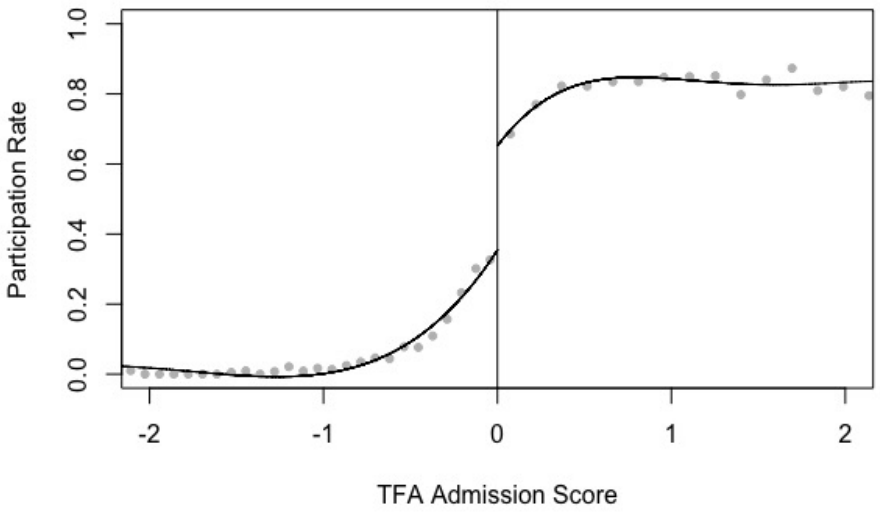
(b) Response Rate (AAPOR Standard Definition: RR2)

Figure A.3: First Stage Results



Notes: $\beta = 0.287$ ($p < 0.001$).

(a) Selection into Teach For America



Notes: $\beta = 0.249$ ($p < 0.001$).

(b) Participating in Teach For America

B Summary Statistics

Table B.2: Summary Statistics: Baseline Characteristics of Survey Participants

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
Age	19,276	29.302	4.926	17	66
Female	19,317	0.721	0.448	0	1
White	19,306	0.715	0.452	0	1
College GPA	19,297	3.526	0.383	0	4
Undergraduate School Selectivity	14,986	0.791	0.190	0	1
Parental Education (Received Post-Secondary Education)	19,276	0.936	0.246	0	1
Received Pell Grant	18,776	0.305	0.460	0	1
Upper Class	19,293	0.036	0.185	0	1
Upper Middle Class	19,293	0.453	0.498	0	1
Lower Middle Class	19,293	0.365	0.481	0	1
Upper Lower Class	19,293	0.077	0.266	0	1
Lower Class	19,293	0.069	0.254	0	1
Identify with Religion	19,250	0.576	0.494	0	1

Table B.3: Summary Statistics: Outcome Measures

Variable	Observation	Mean	Standard Deviation	Minimum	Maximum
Panel A: Systemic Injustice					
Level of Respect of U.S. Political Institutions	19,830	0.490	0.238	0	1
Sense that Citizens' Basic Rights Are Protected by the U.S. Political System	19,839	0.457	0.224	0	1
System Support Index	19,827	0.473	0.203	0	1
Panel B: Class-Based Injustice					
Incomes Should be Made More Equal (as Opposed to Unequal to Incentivize Individual Effort)	19,847	0.659	0.244	0	1
Gov't (as Opposed to Individuals) Should Take More Responsibility to Ensure that Everyone is Provided For	19,853	0.666	0.259	0	1
Hard Work Doesn't Generally Bring Success – It's More a Matter of Luck and Connections	19,850	0.476	0.260	0	1
People are Poor Because of an Unfair Society (as Opposed to Laziness and Lack of Willpower)	19,855	0.739	0.213	0	1
Class-Based Injustice Index	19,822	0.635	0.190	0	1
Panel C: Class-Based Education Inequality					
Contributor to Education Inequality: Poor Families Do Not Value Education as Much as Richer Families	19,302	0.301	0.289	0	1
Contributor to Education Inequality: Systemic Injustices Perpetuate Inequity Throughout Society	19,312	0.818	0.231	0	1
Agreement that Low Income Students Have the Same Educational Opportunities as High Income Students	20.871	0.092	0.172	0	1
Panel D: Racial Injustice					
Agreement that Blacks Have Gotten Less Than They Deserve	19,525	0.779	0.249	0	1
Agreement that Blacks Should Overcome Prejudice Without Special Favors	19,534	0.208	0.248	0	1
Agreement that It's Really Just a Matter of Blacks Working Harder to be Just as Well Off as Whites	19,531	0.131	0.207	0	1
Agreement that Slavery and Discrimination Has Made it Difficult for Blacks to Work Their Way Up	19,539	0.850	0.227	0	1
Extent to Which Racial Discrimination Does Not Limit Particular Racial Groups	19,473	0.776	0.217	0	1
Racial Resentment Index	19,414	0.186	0.186	0	1
Satisfaction with Treatment of Asians	19,269	0.505	0.272	0	1
Satisfaction with Treatment of Hispanics	19,290	0.239	0.238	0	1
Satisfaction with Treatment of Blacks	19,291	0.168	0.225	0	1
Satisfaction with Treatment of Muslims	19,282	0.169	0.227	0	1
Satisfaction with Treatment of Immigrants	19,290	0.191	0.234	0	1
Discrimination Index	19,250	0.379	0.158	0.167	1
Panel E: Racial Prejudice					
Skin-Tone Implicit Association Test	9,444	0.281	0.440	-1.858	1.595
Feel Close to Blacks	19,027	0.290	0.454	0	1
Feel Close to Hispanics	19,027	0.247	0.431	0	1
Feel Close to Elderly	19,027	0.303	0.460	0	1
Feel Close to Christians	19,027	0.224	0.417	0	1

Table B.4: Summary Statistics: Outcome Measures by Application Status

Variable	Mean by Application Status			Difference in Means	
	Non-Admit	Non-Matriculant	Matriculant	Matriculant vs. Non-Admit	Matriculant vs. Non-Matriculant
Panel A: Systemic Injustice					
Level of Respect of Political Institutions	0.482	0.496	0.497	0.015	0.001
Sense that Citizens' Basic Rights Are Protected by the Political System	0.458	0.478	0.452	-0.006	-0.026
System Support Index	0.470	0.487	0.475	0.005	-0.012
Panel B: Class-Based Injustice					
Incomes Should be Made More Equal (as Opposed to Unequal to Incentivize Individual Effort)	0.654	0.651	0.665	0.011	0.014
Gov't (as Opposed to Individuals) Should Take More Responsibility to Ensure that Everyone is Provided For	0.653	0.669	0.680	0.027	0.011
Hard Work Doesn't Generally Bring Success – It's More a Matter of Luck and Connections	0.468	0.469	0.486	0.018	0.017
People are Poor Because of an Unfair Society (as Opposed to Laziness and Lack of Willpower)	0.714	0.724	0.768	0.054	0.044
Class-Based Injustice Index	0.623	0.629	0.650	0.027	0.021
Panel C: Class-Based Education Inequality					
Contributor to Education Inequality: Poor Families Do Not Value Education as Much as Richer Families	0.350	0.320	0.244	-0.106	-0.076
Contributor to Education Inequality: Systemic Injustices Perpetuate Inequity Throughout Society	0.782	0.797	0.861	0.079	0.064
Agreement that Low Income Students Have Same Educational Opportunities as High Income Students	0.112	0.085	0.071	-0.041	-0.014
Panel D: Racial Injustice					
Agreement that Blacks Have Gotten Less then They Deserve	0.747	0.771	0.816	0.069	0.045
Agreement that Blacks Should Overcome Prejudice Without Special Favors	0.239	0.213	0.172	-0.067	-0.041
Agreement that It's Really Just a Matter of Blacks Working Harder to be Just as Well Off as Whites	0.154	0.134	0.104	-0.050	-0.030
Agreement that Slavery and Discrimination Has Made it Difficult for Blacks to Work Their Way Up	0.817	0.848	0.887	0.07	0.039
Extent to Which Racial Discrimination Does Not Limit Particular Racial Groups	0.749	0.758	0.808	0.059	0.050
Racial Resentment Index	0.216	0.194	0.153	-0.063	-0.041
Satisfaction with Treatment Asians	0.522	0.521	0.485	-0.037	-0.036
Satisfaction with Treatment Hispanics	0.270	0.244	0.204	-0.066	-0.04
Satisfaction with Treatment Blacks	0.198	0.168	0.135	-0.063	-0.033
Satisfaction with Treatment Muslims	0.188	0.161	0.149	-0.039	-0.012
Satisfaction with Treatment Immigrants	0.212	0.199	0.165	-0.047	-0.034
Discrimination Index	0.398	0.382	0.356	-0.042	-0.026
Panel E: Racial Prejudice					
Skin-Tone Implicit Association Test	0.299	0.327	0.254	-0.045	-0.073
Feel Close to Blacks	0.281	0.232	0.309	0.028	0.077
Feel Close to Hispanics	0.247	0.210	0.253	0.006	0.043

C Implicit Attitude Test

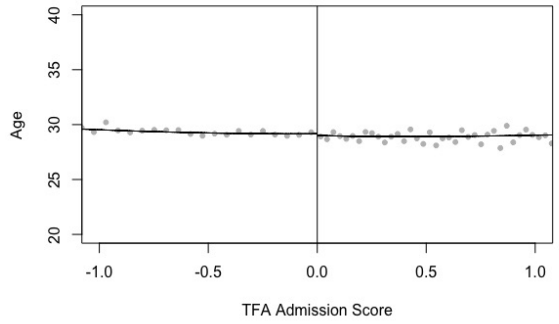
Table C.5: Sequence of Blocks in the Skin-Tone Implicit Association Test (IAT)

Block	**Number of Trials**	**Function**	**Items Assigned to Left-Key Response**	**Items Assigned to Right-Key Response**
B1	20	Practice	Light skinned faces	Dark skinned faces
B2	20	Practice	Bad	Good
B3	20	Practice	Light skinned faces + Good	Dark skinned faces + Bad
B4	40	Test	Light skinned faces + Good	Dark skinned faces + Bad
B5	20	Practice	Dark skinned faces	Light skinned faces
B6	20	Practice	Dark skinned faces + Good	Light skinned faces + Bad
B7	40	Test	Dark skinned faces + Good	Light skinned faces + Bad

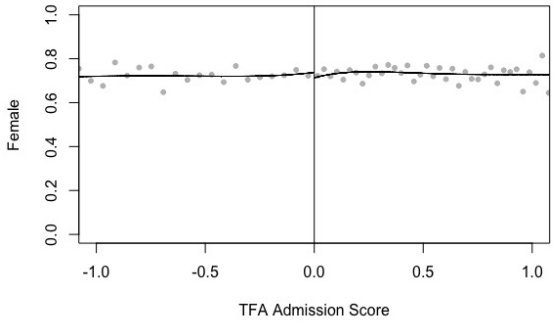
Notes: A trial is defined as the time from the onset of a single stimulus to the correct categorization of that stimulus. Trials in which an error is made require the participant to correct the error before proceeding. Blocks B3, B4, B6, and B7 alternate trials presenting a "good" or "bad" word with trials presenting a light skinned or dark skinned face. To avoid concerns of block order, the sorting rules in blocks B3 and B4 are counterbalanced with B6 and B7 between subjects.

D Plots at the Discontinuity

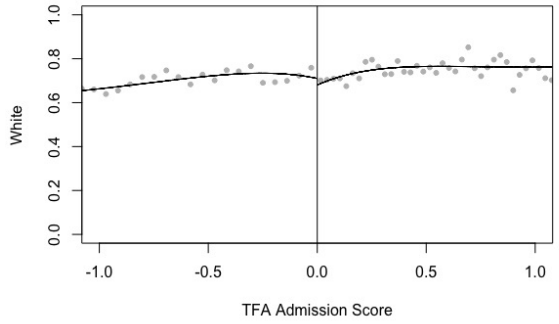
Figure D.4: Pre-Treatment Demographic Characteristics, Balance Test (Part I)



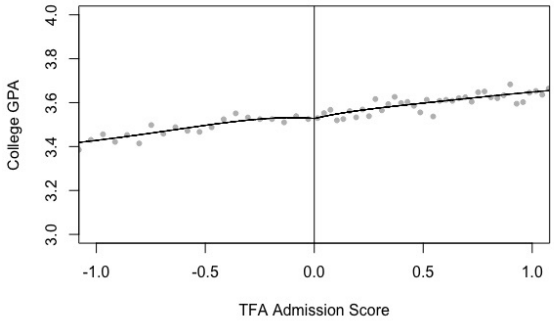
(a) Age



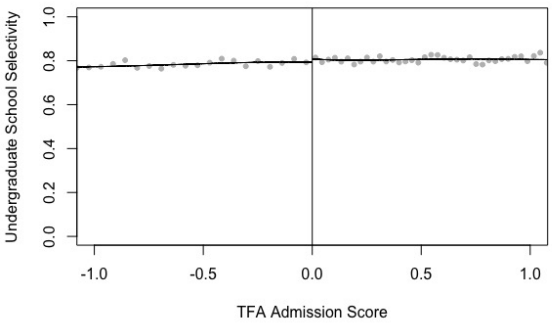
(b) Female



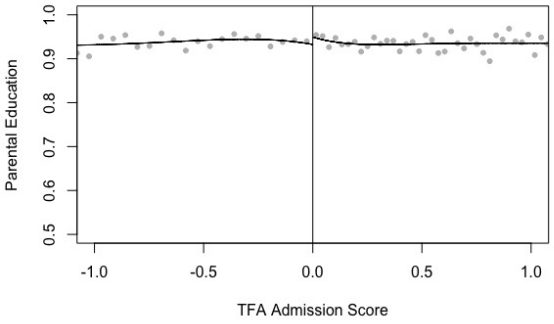
(c) White



(d) College GPA

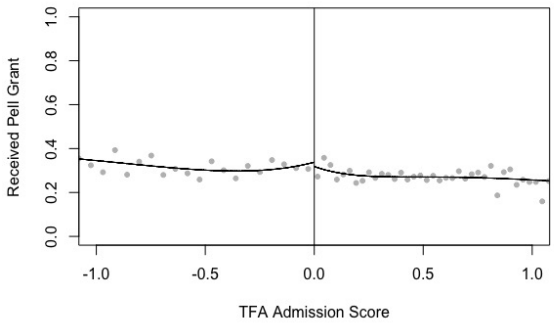


(e) Undergraduate School Selectivity

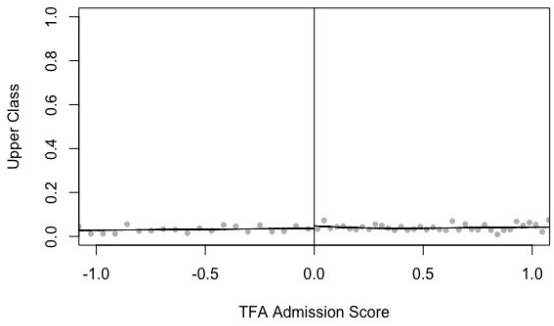


(f) Parental Education (Received Post-Secondary Education)

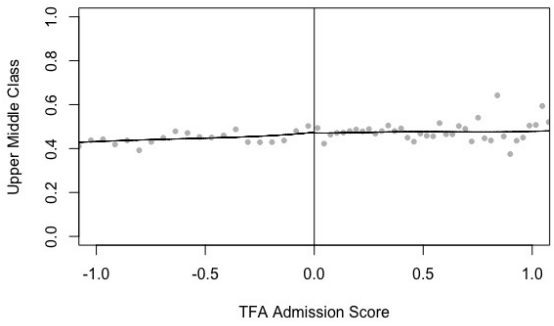
Figure D.5: Pre-Treatment Demographic Characteristics, Balance Test (Part II)



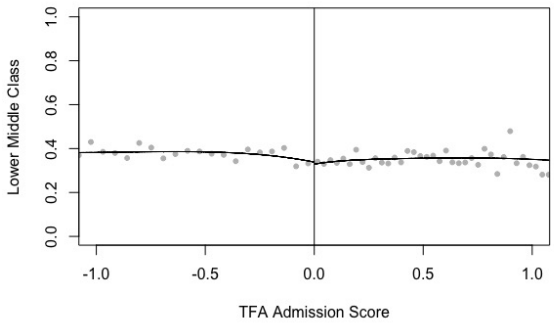
(a) Received Pell Grant



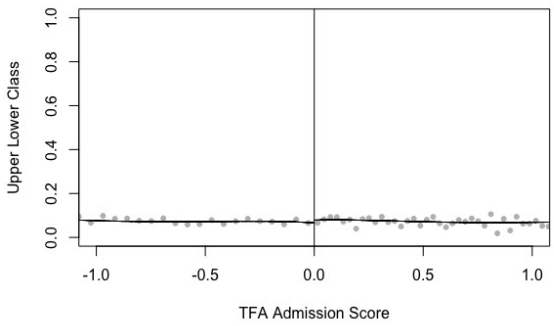
(b) Upper Class



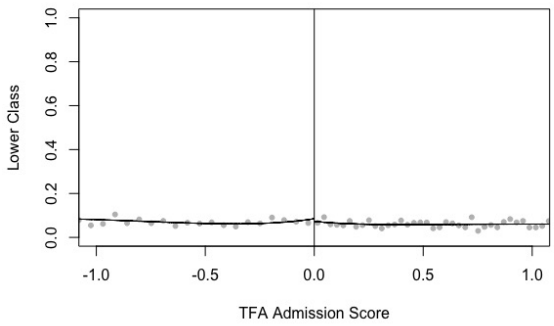
(c) Upper Middle Class



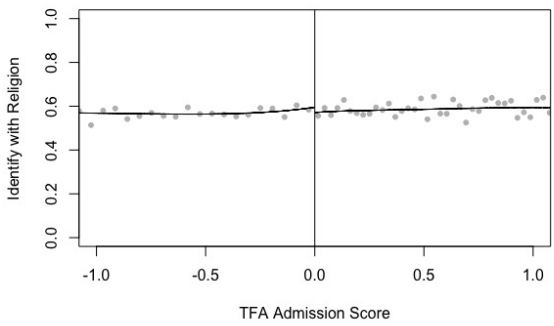
(d) Lower Middle Class



(e) Upper Lower Class

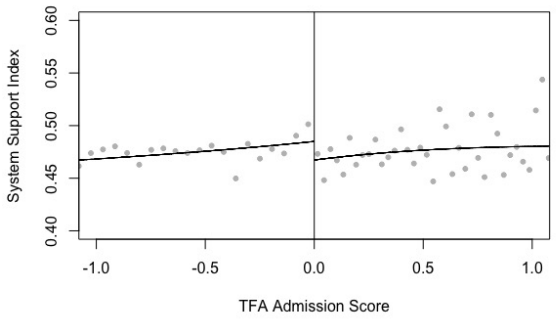


(f) Lower Class

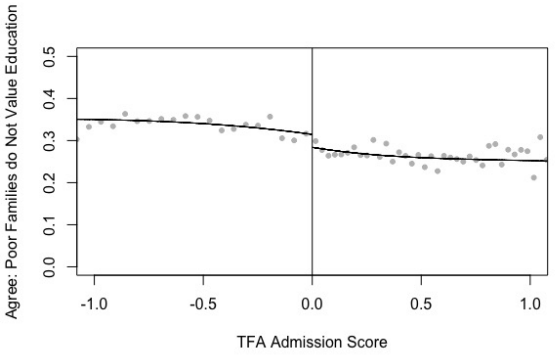


(g) Identify with Religion

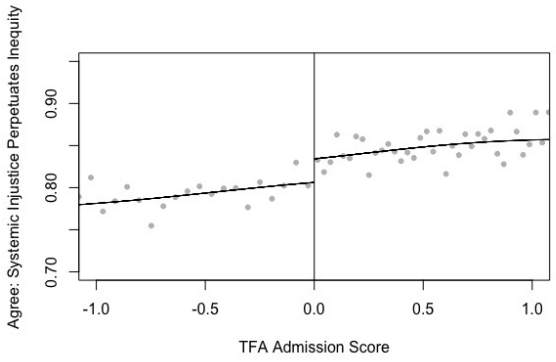
Figure D.6: Outcome Measures by Admission Score (Part I)



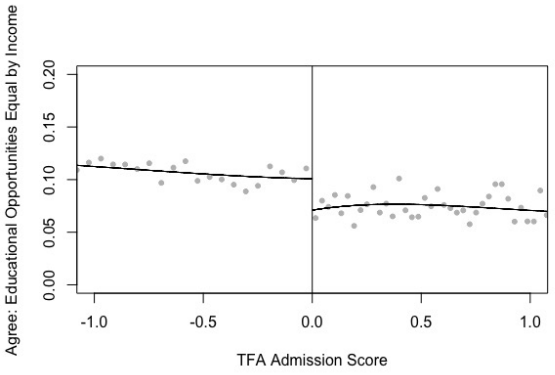
(a) System Support Index



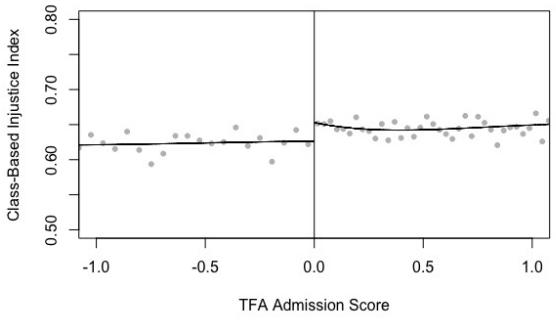
(b) Contributor to Education Inequality: Poor Families Do Not Value Education



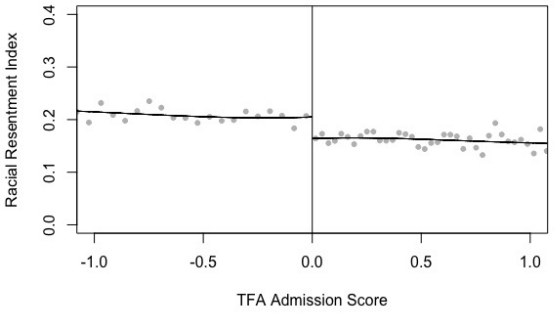
(c) Contributor to Education Inequality: Systemic Injustice



(d) Agreement That Low and High Income Students Have the Same Educational Opportunities

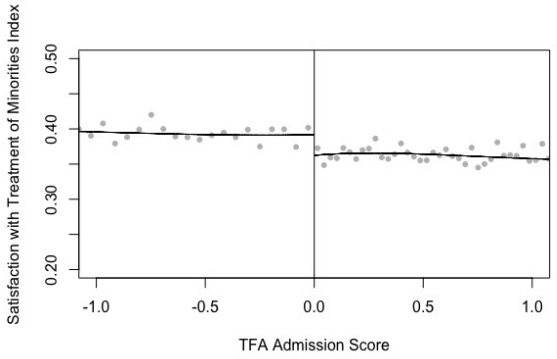


(e) Class-Based Injustice Index

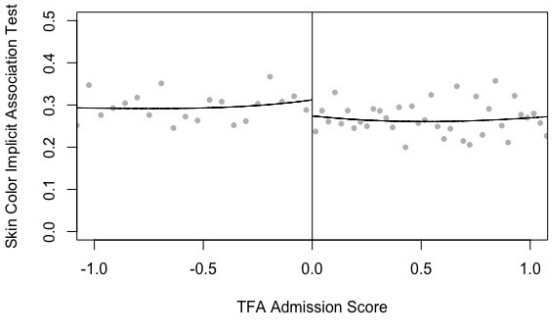


(f) Racial Resentment Index

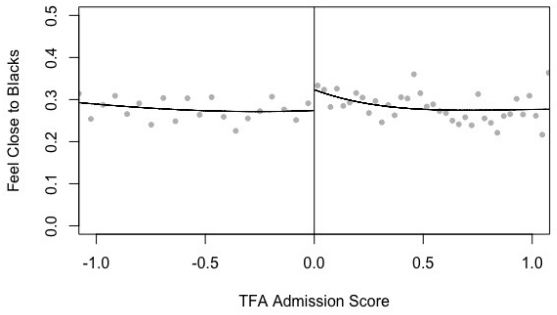
Figure D.7: Outcome Measures by Admission Score (Part II)



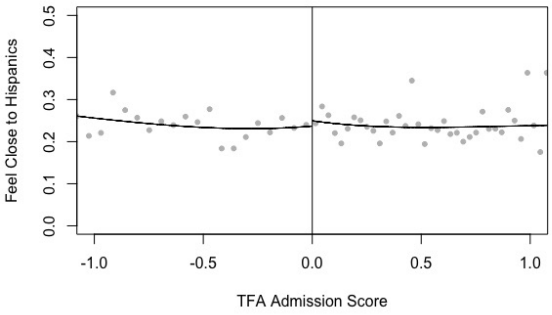
(a) Discrimination Index



(b) Skin-Tone Implicit Association Test



(c) Feel Closeness to Blacks



(d) Feel Closeness to Hispanics

E Fuzzy Regression Discontinuity Results

Table E.6: Baseline Pre-Treatment Characteristics (Balance Tests)

	First Stage (1)	Reduced Form (2)	2SLS (3)	Observations (4)
Age	0.305***	-0.004	-0.012	19,276
	(0.023)	(0.004)	(0.012)	
Female	0.413***	0.008	0.020	19,317
	(0.017)	(0.014)	(0.034)	
White	0.334***	-0.020	-0.061	19,306
	(0.021)	(0.017)	(0.052)	
College GPA	0.341***	-0.005	-0.014	19,297
	(0.021)	(0.016)	(0.048)	
Undergraduate School Selectivity	0.325***	0.008	0.026	14,986
	(0.025)	(0.009)	(0.028)	
Parental Education (Received Post-Secondary Education)	0.345***	-0.002	-0.006	19,276
	(0.020)	(0.009)	(0.027)	
Received Pell Grant	0.328***	-0.024	-0.072	18,776
	(0.021)	(0.020)	(0.061)	
Upper Class	0.329***	0.009	0.027	19,293
	(0.021)	(0.008)	(0.024)	
Upper Middle Class	0.320***	0.004	0.013	19,293
	(0.022)	(0.020)	(0.064)	
Lower Middle Class	0.325***	-0.015	-0.047	19,293
	(0.022)	(0.019)	(0.060)	
Upper Lower Class	0.392***	0.012	0.030	19,293
	(0.018)	(0.009)	(0.023)	
Lower Class	0.364***	-0.007	-0.021	19,293
	(0.019)	(0.010)	(0.026)	
Identify with Religion	0.329***	-0.014	-0.043	19,250
	(0.021)	(0.020)	(0.060)	

Notes: The table reports first stage, reduced form, and two-stage least square (2SLS) estimates. The 2SLS estimates instruments for Teach For America admission using an indicator for scoring above the cutoff. All specifications include controls for cohort year. Standard errors are clustered at the selection score level. $*p < 0.10$, $**p < 0.05$, $***p < 0.01$.

Table E.7: Robustness of Results by Bandwidth

	Optimal Bandwidth (1)	0.5 X Bandwidth (2)	2 X Bandwidth (3)	Observations (4)
Panel A: Systemic Injustice				
Level of Respect of U.S. Political Institutions	-0.091**	-0.100	-0.036	19,830
	(0.043)	(0.062)	(0.023)	
Sense that Citizens' Basic Rights Are Protected by the U.S. Political System	-0.102***	-0.122**	-0.054***	19,839
	(0.034)	(0.052)	(0.018)	
System Support Index	-0.104***	-0.109**	-0.050**	19,827
	(0.037)	(0.053)	(0.020)	
Panel B: Class-Based Injustice				
Incomes Should be Made More Equal (as Opposed to Unequal to Incentivize Individual Effort)	0.058**	0.078	0.029*	19,847
	(0.030)	(0.048)	(0.016)	
Gov't (as Opposed to Individuals) Should Take More Responsibility to Ensure that Everyone is Provided For	0.075**	0.088*	0.038**	19,853
	(0.030)	(0.049)	(0.017)	
Hard Work Doesn't Generally Bring Success – It's More a Matter of Luck and Connections	0.093**	0.088	0.053**	19,850
	(0.042)	(0.062)	(0.022)	
People are Poor Because of an Unfair Society (as Opposed to Laziness and Lack of Willpower)	0.072***	0.087**	0.054***	19,855
	(0.022)	(0.039)	(0.013)	
Class-Based Injustice Index	0.093***	0.072	0.058***	19,822
	(0.033)	(0.046)	(0.018)	
Panel C: Class-Based Education Inequality				
Contributor to Education Inequality: Poor Families Do Not Value Education as Much as Richer Families	-0.085**	-0.081	-0.098***	19,302
	(0.034)	(0.057)	(0.019)	
Contributor to Education Inequality: Systemic Injustices Perpetuate Inequity Throughout Society	0.074***	0.067	0.067***	19,312
	(0.026)	(0.045)	(0.015)	
Agreement that Low Income Students Have Same Educational Opportunities as High Income Students	-0.113***	-0.139***	-0.064***	20,871
	(0.024)	(0.036)	(0.013)	
Panel D: Racial Injustice				
Agreement that Blacks Have Gotten Less then They Deserve	0.108***	0.106*	0.077***	19,525
	(0.039)	(0.058)	(0.021)	
Agreement that Blacks Should Overcome Prejudice Without Special Favors	-0.158***	-0.156***	-0.101***	19,534
	(0.041)	(0.060)	(0.022)	
Agreement that It's Really Just a Matter of Blacks Working Harder to be Just as Well Off as Whites	-0.123***	-0.122**	-0.077***	19,531
	(0.036)	(0.051)	(0.019)	
Agreement that Slavery and Discrimination Has Made it Difficult for Blacks to Work Their Way Up	0.118***	0.124***	0.082***	19,539
	(0.029)	(0.045)	(0.016)	

Continued on next page...

Table E.7 : Robustness of Results by Bandwidth (Continued)

	Optimal Bandwidth (1)	0.5 X Bandwidth (2)	2 X Bandwidth (3)	Observations (4)
Extent to Which Racial Discrimination Limits Particular Racial Groups	0.117***	0.130***	0.088***	19,473
	(0.026)	(0.043)	(0.014)	
Racial Resentment Index	-0.126***	-0.125***	-0.087***	19,414
	(0.030)	(0.043)	(0.016)	
Satisfaction with Treatment of Asians	-0.100***	-0.110*	-0.067***	19,269
	(0.037)	(0.057)	(0.020)	
Satisfaction with Treatment of Hispanics	-0.100***	-0.154***	-0.073***	19,290
	(0.037)	(0.057)	(0.020)	
Satisfaction with Treatment of Blacks	-0.173***	-0.178***	-0.105***	19,291
	(0.042)	(0.062)	(0.022)	
Satisfaction with Treatment of Muslims	-0.128***	-0.112*	-0.065***	19,282
	(0.044)	(0.065)	(0.024)	
Satisfaction with Treatment of Immigrants	-0.104***	-0.151***	-0.068***	19,290
	(0.027)	(0.050)	(0.015)	
Discrimination Index	-0.106***	-0.118***	-0.066***	19,250
	(0.027)	(0.041)	(0.014)	
Panel E: Racial Prejudice				
Skin-Tone Implicit Association Test	-0.121*	-0.117	-0.086**	9,444
	(0.073)	(0.119)	(0.042)	
Feel Close to Blacks	0.089**	0.091	0.075***	19,027
	(0.041)	(0.075)	(0.025)	
Feel Close to Hispanics	0.020	0.019	0.034	19,027
	(0.057)	(0.091)	(0.032)	

Notes: The table reports the two-stage least square (2SLS) estimates for the optimal bandwidth, half that bandwidth, and double that bandwidth. The 2SLS estimates instruments for Teach For America participation using an indicator for scoring above the cutoff. All specifications include controls for cohort year. Standard errors are clustered at the selection score level. *$p < 0.10$, **$p < 0.05$, ***$p < 0.01$.

Table E.8: Intent-to-Treat (ITT) versus Treatment-on-the-Treated (TOT) 2SLS Estimates

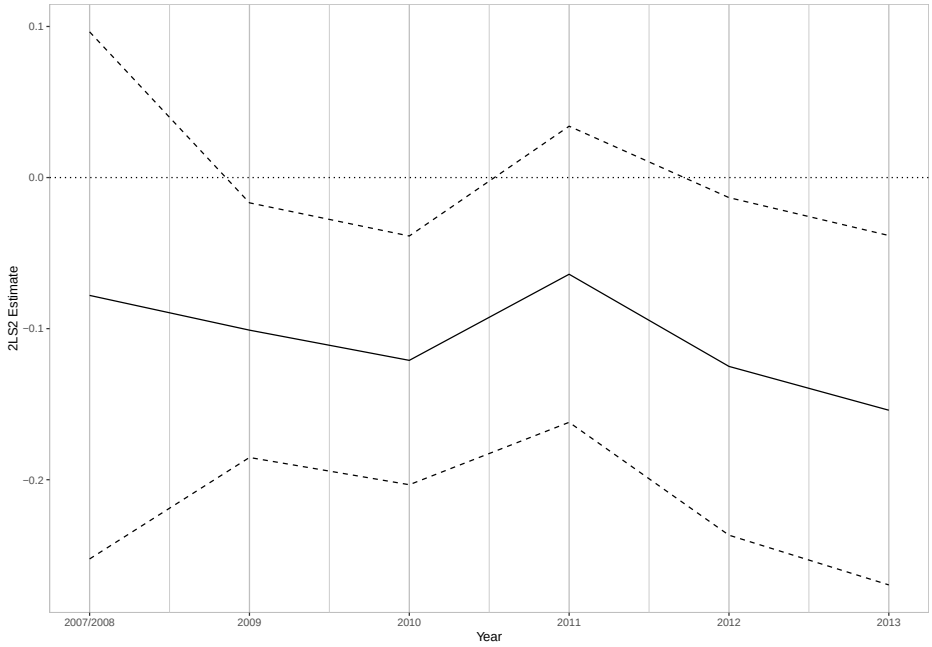
	ITT (1)	TOT (2)
Panel A: Systemic Injustice		
Level of Respect of U.S. Political Institutions	-0.081**	-0.091**
Sense that Citizens' Basic Rights Are Protected by the U.S. Political System	-0.091***	-0.102***
System Support Index	-0.092***	-0.104***
Panel B: Class-Based Injustice		
Incomes Should be Made More Equal (as Opposed to Unequal to Incentivize Individual Effort)	0.052**	0.058**
Gov't (as Opposed to Individuals) Should Take More Responsibility to Ensure that Everyone is Provided For	0.067**	0.075**
Hard Work Doesn't Generally Bring Success – It's More a Matter of Luck and Connections	0.083**	0.093**
People are Poor Because of an Unfair Society (as Opposed to Laziness and Lack of Willpower)	0.063***	0.072***
Class-Based Injustice Index	0.083***	0.093***
Panel C: Class-Based Education Inequality		
Contributor to Education Inequality: Poor Families Do Not Value Education as Much as Richer Families	-0.076**	-0.085**
Contributor to Education Inequality: Systemic Injustices Perpetuate Inequity Throughout Society	0.066***	0.074***
Agreement that Low Income Students Have Same Educational Opportunities as High Income Students	-0.101***	-0.113***
Panel D: Racial Injustice		
Agreement that Blacks Have Gotten Less then They Deserve	0.096***	0.108***
Agreement that Blacks Should Overcome Prejudice Without Special Favors	-0.140***	-0.158***
Agreement that It's Really Just a Matter of Blacks Working Harder to be Just as Well Off as Whites	-0.109***	-0.123***
Agreement that Slavery and Discrimination Has Made it Difficult for Blacks to Work Their Way Up	0.105***	0.118***
Extent to Which Racial Discrimination Does Not Limit Particular Racial Groups	0.104***	0.117***
Racial Resentment Index	-0.113***	-0.126***
Satisfaction with Treatment Asians	-0.090***	-0.100***
Satisfaction with Treatment Hispanics	-0.090***	-0.100***
Satisfaction with Treatment Blacks	-0.155***	-0.173***
Satisfaction with Treatment Muslims	-0.115***	-0.128***
Satisfaction with Treatment Immigrants	-0.093***	-0.104***
Discrimination Index	-0.095***	-0.106***
Panel E: Racial Prejudice		
Skin-Tone Implicit Association Test	-0.109*	-0.121*
Feel Close to Blacks	0.079**	0.089**
Feel Close to Hispanics	0.018	0.020

Table E.9: Benchmarking Effect Sizes

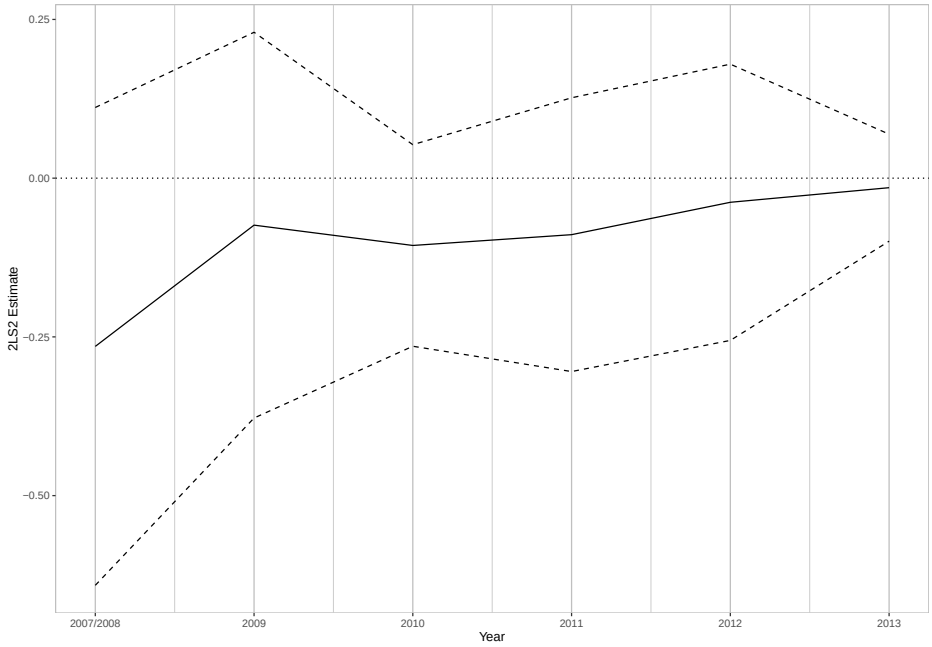
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Systemic Injustice - AmericasBarometer (2010)	**United States**	**Haiti**	**Diff.** *Haiti-U.S.*	**ITT**	**TOT**	**ITT Diff.**	**TOT Diff.**
(1) Level of Respect of Political Institutions	0.437	0.352	-0.085	-0.081**	-0.091**	95%	107%
(2) Sense that Citizens' Basic Rights Are Protected by the Political System	0.450	0.294	-0.156	-0.091***	-0.102***	58%	65%
(3) System Support Index	0.444	0.323	-0.121	-0.092***	-0.104***	76%	86%
Class-Based Injustice - World Values Survey (1995-1998)	**United States**	**Germany**	**Diff.** *Germany-U.S.*	**ITT**	**TOT**	**ITT Diff.**	**TOT Diff.**
(4) Incomes Should be Made More Equal (as Opposed to Unequal to Incentivize Individual Effort)	0.495	0.688	0.193	0.052**	0.058**	27%	30%
(5) Gov't (as Opposed to Individuals) Should Take More Responsibility to Ensure that Everyone is Provided For	0.403	0.604	0.201	0.067**	0.075**	33%	37%
(6) Hard Work Doesn't Generally Bring Success – It's More a Matter of Luck and Connections	0.308	0.412	0.105	0.083***	0.093***	79%	89%
(7) Class-Based Resentment Index*	0.403	0.568	0.166	0.081***	0.091***	49%	55%
Racial Injustice - American National Election Study (2008)	**Whites**	**Blacks**	**Diff.** *Black-White*	**ITT**	**TOT**	**ITT Diff.**	**TOT Diff.**
(8) Agreement that Blacks Have Gotten Less then They Deserve	0.347	0.628	0.281	0.096***	0.108***	34%	38%
(9) Agreement that Blacks Should Overcome Prejudice Without Special Favors	0.734	0.625	-0.108	-0.140***	-0.158***	129%	146%
(10) Agreement that It's Really Just a Matter of Blacks Working Harder to be Just as Well Off as Whites	0.636	0.557	-0.079	-0.109***	-0.123***	138%	156%
(11) Agreement that Slavery and Discrimination Has Made it Difficult for Blacks to Work Their Way Up	0.430	0.637	0.207	0.105***	0.118***	51%	57%
(12) Racial Resentment Index*	0.648	0.480	-0.168	-0.108***	-0.121***	64%	72%
Racial Prejudice - Project Implicit (2015)	**Whites**	***Group***	**Diff.** *Group-White*	**ITT**	**TOT**	**ITT Diff.**	**TOT Diff.**
(13) Skin-tone Implicit Association Test (*Group*=Black)	0.366	0.047	-0.319	-0.109*	-0.121*	34%	38%
(14) Skin-tone Implicit Association Test (*Group*=Hispanic)		0.257	-0.109			100%	111%

Notes: The two variables that make up the *System Support Index* measures are available in the 2010 wave of the AmericasBarometer. The three measures that are part of our *Class-Based Injustice Index* are available in Wave 6 of the World Values Survey. The four racial resentment variables that make up part of the *Racial Resentment Index* are part of the 2008 ANES survey. The *Skin-Tone Implicit Association Test* is also part of Harvard's *Project Implicit*, and we access the data available in 2015 here. We use these four datasets that draw form the general population to benchmark our effect sizes. ITT represents the 2SLS intention-to-treat effect, while TOT denotes the 2SLS treatment-on-the-treated effect. "*" denotes that due to what questions were available in the World Values Survey and the ANES survey, the *Racial Resentment Index* and the *Class-Based Injustice Index* are modified to contain only the measures explicitly noted in the table. We recompute the ITT and the TOT with these modified indices so that our benchmarking analysis is accurate.

Figure E.8: Durability of Effects



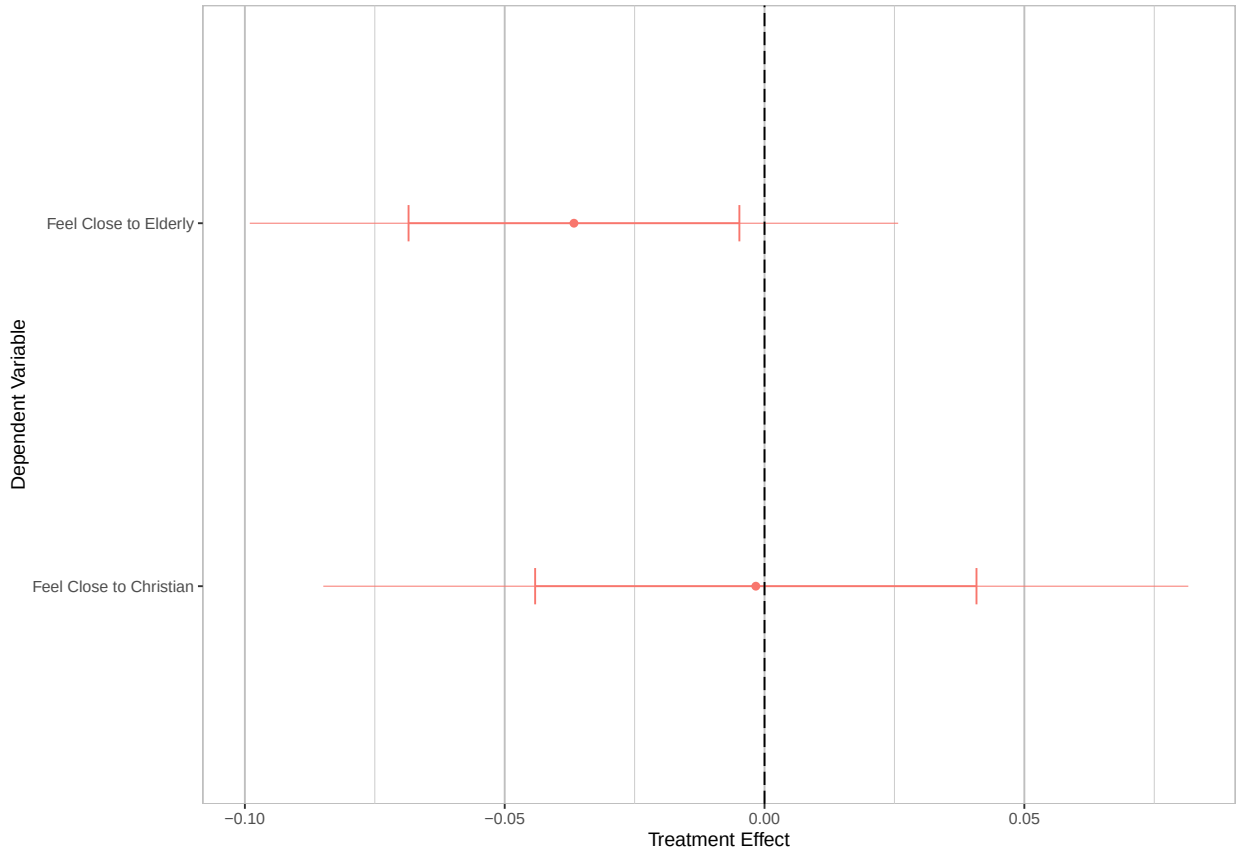
(a) Racial Resentment Index Over Time



(b) Skin-Tone Implicit Association Test Over Time

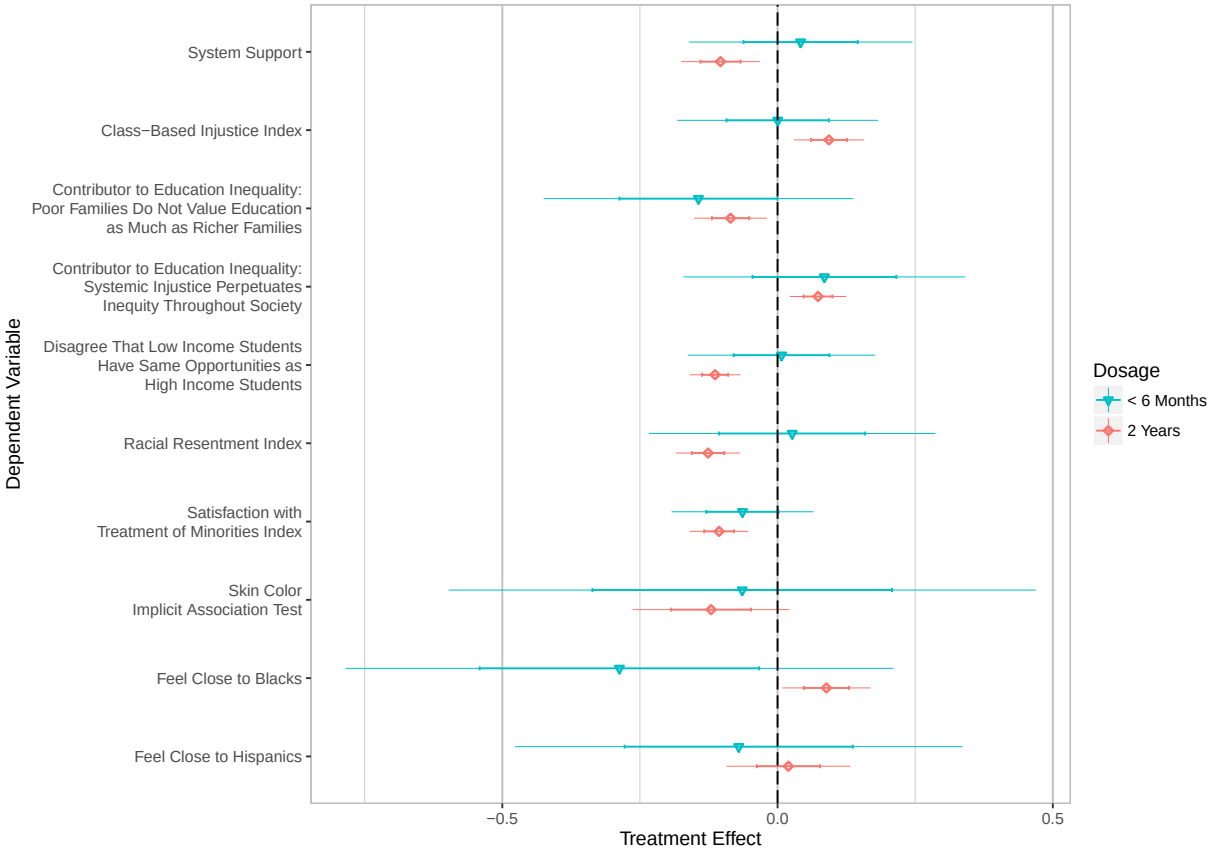
Notes: The solid line represents the average causal effect sizes for each cohort, and the dotted lines represent the 95 percent confidence intervals. We combine the 2007 and 2008 cohorts, as the first-stage in 2008 is not robust.

Figure E.9: 2SLS Estimates - Placebo Check on Closeness Measures



Notes: The 95 percent confidence intervals surround point estimates; the thicker lines represent one standard error.

Figure E.10: 2SLS Estimates - "Pre-Treatment" versus Post-Treatment Causal Effects



Notes: The 95 percent confidence intervals surround point estimates; the thicker lines between the bars represent one standard error.

F Details on Study Question Wording and Coding Rules

Details of the data we received from Teach For America, as well as the original online survey administered between October 1, 2015 and March 31, 2016, are provided below. Exact question wording and information on our response recoding of question items that were recoded are provided.

Baseline Characteristics

Application Information

1. *Application Year* - The cohort an applicant was applying for was provided. (Response Options: 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, and 2015)

2. *Admission Score* - Applicant's final admission score was provided. Only individuals who made it to the final round of the admission process received an admission score, and our target sample focused on individuals that made it to this final round only.

3. *Admission Cutoff Score* - Information on the cutoff score was provided for each application year. To combine cohorts, we standardized each year such that the cutoff is at 0, higher values indicate scoring better, and values can be interpreted as the number of standard deviations away from the cutoff the applicant was.

4. *Admission Decision* - Information on whether an applicant was admitted into TFA was provided (Response Options: 0 = No; 1 = Yes)

5. *Matriculation Decision* - Information on whether an admitted applicant matriculated into TFA was provided. (Response Options: 0 = No; 1 = Yes)

6. *Contact Information* - Up to two email addresses were provided for each applicant.

7. *Placement Region* - Information on which region matriculants were assigned to teach.[1]

Demographic Pre-Treatment Characteristics

1. *Age* - The applicant data provided by TFA contained information on applicant birth date information, which could be used to compute an applicant's age at the time of the survey. The survey also asked: "What year were you born?" Respondents indicated the year in which they were born, and this was recoded such that the variable indicates their age in years. For all analyses aside from descriptive analyses, the variable was coded to be between 0 and 1.

2. *Female* - The applicant data provided by TFA contained information on applicant gender. The survey also asked: "What is your gender?" (Response Options: 0 = Male; 1 = Female)

3. *Ethnicity* - The applicant data provided by TFA contained information on applicant race/ethnicity. The survey also asked: "What racial or ethnic group best describes you?" (Response Options: 1 = White; 2 = Black or African American, 3 = Hispanic or Latino; 4 = Native American; 5 = Asian; 6 = Native Hawaiian or Pacific Islander; 7 = Other (please specify:))

[1]The list of TFA regions are listed here: www.teachforamerica.org/join-tfa/leading-classroom/what-where-youll-teach.

(a) *White* (Response Re-Coding: 0 = All Else; 1 = White)

(b) *Black* (Response Re-Coding: 0 = All Else; 1 = Black or African American)

(c) *Hispanic* (Response Re-Coding: 0 = All Else; 1 = Hispanic or Latino)

(d) *Asian* (Response-Coding: 0 = All Else; 1 = Asian)

4. *College GPA* - The applicant data provided by TFA contained information on college grade point average (GPA), which theoretically ranges from [0.00,4.00]. Given information on the range of the GPA for each applicant's college is not provided, this measure should be interpreted with caution.

5. *School Selectivity* - The applicant data provided by TFA contained information on the undergraduate college of the applicant. Selectivity of the applicant's undergraduate was determined using USA Today rankings. (Response Options: 0 = Least Selective; 0.25 = Less Selective; 0.5 = Selective; 0.75 = More Selective; 1 = Most selective or Premier)

6. *Parental Education - Received Post-Secondary Education* - "What is the highest level of education completed by your most educated parent/guardian?" (Response Options: 1 = Less than High School; 2 = High School Graduate (High School Diploma or GED); 3 = Some College; 4 = College Degree; 5 = Advanced or Professional Degree; 999 = Don't Know)(Response Re-Coding: 0 = High School Graduate or Less; 1 = Some College or Higher)

7. *Received Pell Grant* - The applicant data provided by TFA contained information on whether the applicant qualified to receive a Pell Grant (e.g., financial aid) in college. (Response Options: 0 = No; 1 = Yes)

8. *Social Class* - "When you were growing up, would you describe your family as belonging to the...?" (Response Options: 1 = Upper Class; 2 = Upper Middle Class; 3 = Lower Middle Class; 4 = Upper Lower Class; 5 = Lower Class)

   (a) *Upper Class* - "Upper Class" (Response Re-Coding: 0 = All Else; 1 = Upper Class)

   (b) *Upper Middle Class*(Response Re-Coding: 0 = All Else; 1 = Upper Middle Class)

   (c) *Lower Middle Class* (Response Re-Coding: 0 = All Else; 1 = Lower Middle Class)

   (d) *Upper Lower Class* (Response Re-Coding: 0 = All Else; 1 = Upper Lower Class)

   (e) *Lower Class* (Response Re-Coding: 0 = All Else; 1 = Lower Class)

9. *Identify with Religion* - "What is your religious affiliation?" (Response Options: 1 = Roman Catholic; 2 = Protestant; 3 = Orthodox (Russian/Greek/etc.); 4 = Jewish; 5 = Muslim; 6 = Hindu; 7 = Buddhist; 8 = Agnostic; 9 = Atheist; 10 = Not Religious; 11 = Some Other Religion (please specify:))(Response Re-Coding: 0 = Agnostic, Atheist, or Not Religious; 1 = Any Denomination Selected or Given)

Outcome Measures

Panel A: Systemic Injustice

1. *Level of Respect of U.S. Political Institutions* - "To what extent do you respect the political institutions of the United States?" (Response Options: 0 = Not At All; .17; .33; .5; .67; .83; 1 = A Lot)

2. *Sense That Citizens' Basic Rights Are Protected by the U.S. Political System* - "To what extent do you think that citizens' basic rights are well protected by the political system of the United States?" (Response Options: 0 = Not At All; .17; .33; .5; .67; .83; 1 = A Lot)

3. *Systemic Injustice Index* - Additive index created from the two measures above.

Panel B: Class-Based Injustice

1. *Class-Based Injustice Series* - "Now we'd like you to tell us your views on various issues. How would you place your views on this scale? 0 means you agree completely with the statement on the left; 1 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between."

   (a) *Incomes Should be Made More Equal (as Opposed to Income Differences Being Necessary to Incentivize Individual Effort)* - "0-We need larger income differences as incentives for individual effort.; 1-Incomes should be made more equal." (Response Options: 0; .11; .22; .33; .44; .56; .67; .78; .89; 1)

   (b) *Gov't (as Opposed to Individuals) Should Take More Responsibility to Ensure that Everyone is Provided For* - "0-People should take more responsibility to provide for themselves.; 1-Government should take more responsibility to ensure that everyone is provided for." (Response Options: 0; .11; .22; .33; .44; .56; .67; .78; .89; 1)

   (c) *Hard Work Doesn't Generally Bring Success—It's More a Matter of Luck and Connections* - "0-In the long run, hard work usually brings a better life.; 1-Hard work doesn't generally bring success—it's more a matter of luck and connections." (Response Options: 0; .11; .22; .33; .44; .56; .67; .78; .89; 1)

   (d) *People are Poor Because of an Unfair Society (as Opposed to Laziness and Lack of Willpower)* - "0-People are poor because of laziness and lack of will power.; 1-People are poor because of an unfair society." (Response Options: 0; .11; .22; .33; .44; .56; .67; .78; .89; 1)

   (e) *Class-Based Injustice Index* - Additive index created from the four items in the *Class-Based Injustice Series* questions.

Panel C: Class-Based Education Inequality

1. *Contributors to Education Inequality Series* - "Students from poor communities often perform worse academically than other students in the US. How much do you think each of the following issues are contributors to the inequality in educational achievement in the US?"

   (a) *Poor Families Do Not Value Education as Much as Richer Families* - "Poor families do not value education as much as richer families" (Response Options: 0 = Not a Contributor/Does not Occur; .25 = A Little Contributor; .5 = Moderate Contributor; .75 = Important Contributor; 1 = Main Contributor)

   (b) *Systemic Injustices Perpetuate Inequity Throughout Society* - "Systemic injustices perpetuate inequity throughout society" (Response Options: 0 = Not a Contributor/Does not Occur; .25 = A Little Contributor; .5 = Moderate Contributor; .75 = Important Contributor; 1 = Main Contributor)

2. *Agree that Low Income Students Have Same Opportunities as High Income Students* - "To what extent do you agree or disagree with the following statement? In the US today, students

from low income backgrounds have the same educational opportunities as students from high income backgrounds." (Response Options: 0 = Strongly Disagree; .25 = Disagree; .5 = Neither Agree Nor Disagree; .75 = Agree; 1 = Strongly Agree)

Panel D: Racial Injustice

1. *Racial Resentment Series* - "To what extent do you agree or disagree with the following statements?"

   (a) *Agree That Blacks Have Gotten Less Than They Deserve* - "Over the past few years, blacks have gotten less than they deserve." (Response Options: 0 = Strongly Disagree; .25 = Moderately Disagree; .5 = Neither Agree Nor Disagree; .75 = Moderately Agree; 1 = Strongly Agree)

   (b) *Agree That Blacks Should Overcome Prejudice Without Special Favors* - "Irish, Italian, Jewish, and other minorities overcame prejudice and worked their way up. Blacks should do the same without any special favors." (Response Options: 0 = Strongly Disagree; .25 = Moderately Disagree; .5 = Neither Agree Nor Disagree; .75 = Moderately Agree; 1 = Strongly Agree)

   (c) *Agree That It's Really Just a Matter of Blacks Working Harder to be Just as Well Off as Whites* - "It's really a matter of some people not trying hard enough; if blacks would only try harder they could be just as well off as whites." (Response Options: 0 = Strongly Disagree; .25 = Moderately Disagree; .5 = Neither Agree Nor Disagree; .75 = Moderately Agree; 1 = Strongly Agree)

   (d) *Agree That Slavery and Discrimination Has Made It Difficult for Blacks to Work Their Way Up* - "Generations of slavery and discrimination have created conditions that make it difficult for blacks to work their way up." (Response Options: 0 = Strongly Disagree; .25 = Moderately Disagree; .5 = Neither Agree Nor Disagree; .75 = Moderately Agree; 1 = Strongly Agree)

2. *Extent to Which Racial Discrimination Limits Particular Racial Groups* - "How much RACIAL discrimination do you feel there is in the US today, limiting the chances of individuals from particular RACIAL GROUPS to get ahead?" (Response Options: 0 = None at All; .25 = A Little; .5 = A Moderate Amount; .75 = A Lot; 1 = A Great Deal)

3. *Racial Resentment Index* - Additive index created from the *Extent to Which Racial Discrimination Does Not Limit Particular Racial Groups* and the four *Racial Resentment Series* questions. Note that the *Extent to Which Racial Discrimination*, *Agree That Blacks Have Gotten Less Than They Deserve*, and *Agree That Slavery and Discrimination Has Made It Difficult for Blacks to Work Their Way Up* were reverse coded when constructing the index so that a negative effect can be interpreted as a reduction in racial resentment.

4. *Discrimination in the US Series* - "Next, we'd like to know how you feel about the way various groups in societies are treated. For each of the following groups, please say whether you are very satisfied, somewhat satisfied, somewhat dissatisfied, or very dissatisfied with the way they are treated."

   (a) *Satisfaction with Treatment of Asians* - "Asians" (Response Options: 0 = Very Dissatisfied; .33 = Somewhat Dissatisfied; .67 = Somewhat satisfied; 1 = Very Satisfied)

   (b) *Satisfaction with Treatment Women* - "Women" (Response Options: 0 = Very Dissatisfied; .33 = Somewhat Dissatisfied; .67 = Somewhat satisfied; 1 = Very Satisfied)

(c) *Satisfaction with Treatment Hispanics* - "Hispanics" (Response Options: 0 = Very Dissatisfied; .33 = Somewhat Dissatisfied; .67 = Somewhat satisfied; 1 = Very Satisfied)

(d) *Satisfaction with Treatment Blacks* - "Blacks" (Response Options: 0 = Very Dissatisfied; .33 = Somewhat Dissatisfied; .67 = Somewhat satisfied; 1 = Very Satisfied)

(e) *Satisfaction with Treatment Muslims* - "Muslims" (Response Options: 0 = Very Dissatisfied; .33 = Somewhat Dissatisfied; .67 = Somewhat satisfied; 1 = Very Satisfied)

(f) *Satisfaction with Treatment Immigrants* - "Immigrants" (Response Options: 0 = Very Dissatisfied; .33 = Somewhat Dissatisfied; .67 = Somewhat satisfied; 1 = Very Satisfied)

5. *Discrimination Index* - Additive index created from the six items in the *Discrimination in the US Series* questions.

Panel E: Racial Prejudice

1. *IAT Score* - Created from Skin-tone Implicit Association Test (IAT) test through Project Implicit. Theoretically ranges from [-2,2], where negative numbers indicate an implicit bias favoring darker skin-tones over lighter skin-tones and positive values suggest an implicit bias favoring lighter skin-tones over darker skin tones. More information can be found at: `https://implicit.harvard.edu/implicit/aboutus.html`

2. *Social Proximity Series* - "Here is a list of groups. Please read over the list and check the box for those groups you feel particularly close to - people who are most like you in their ideas and interests and feelings about things. Mark all that apply."

   (a) *Feel Close to Blacks* - "Blacks" (Response Options: 0 = Not Close; 1 = Close)

   (b) *Feel Close to Hispanics* - "Hispanics" (Response Options: 0 = Not Close; 1 = Close)

   (c) *Feel Close to* - "The elderly" (Response Options: 0 = Not Close; 1 = Close)

   (d) *Feel Close to Christians* - "Christians" (Response Options: 0 = Not Close; 1 = Close)

G Incentives

As noted previously, we offered study subjects one of six incentives in the initial survey invitation, the details of which are provided below:

1. USD 1,000 cash prize lottery (two winners)
2. USD 100 cash prize lottery (twenty winners)
3. USD 1000 cash prize lottery (two winner) and a USD 100 cash prize lottery (twenty winners)
4. $5 charitable donation
5. $10 charitable donation
6. None

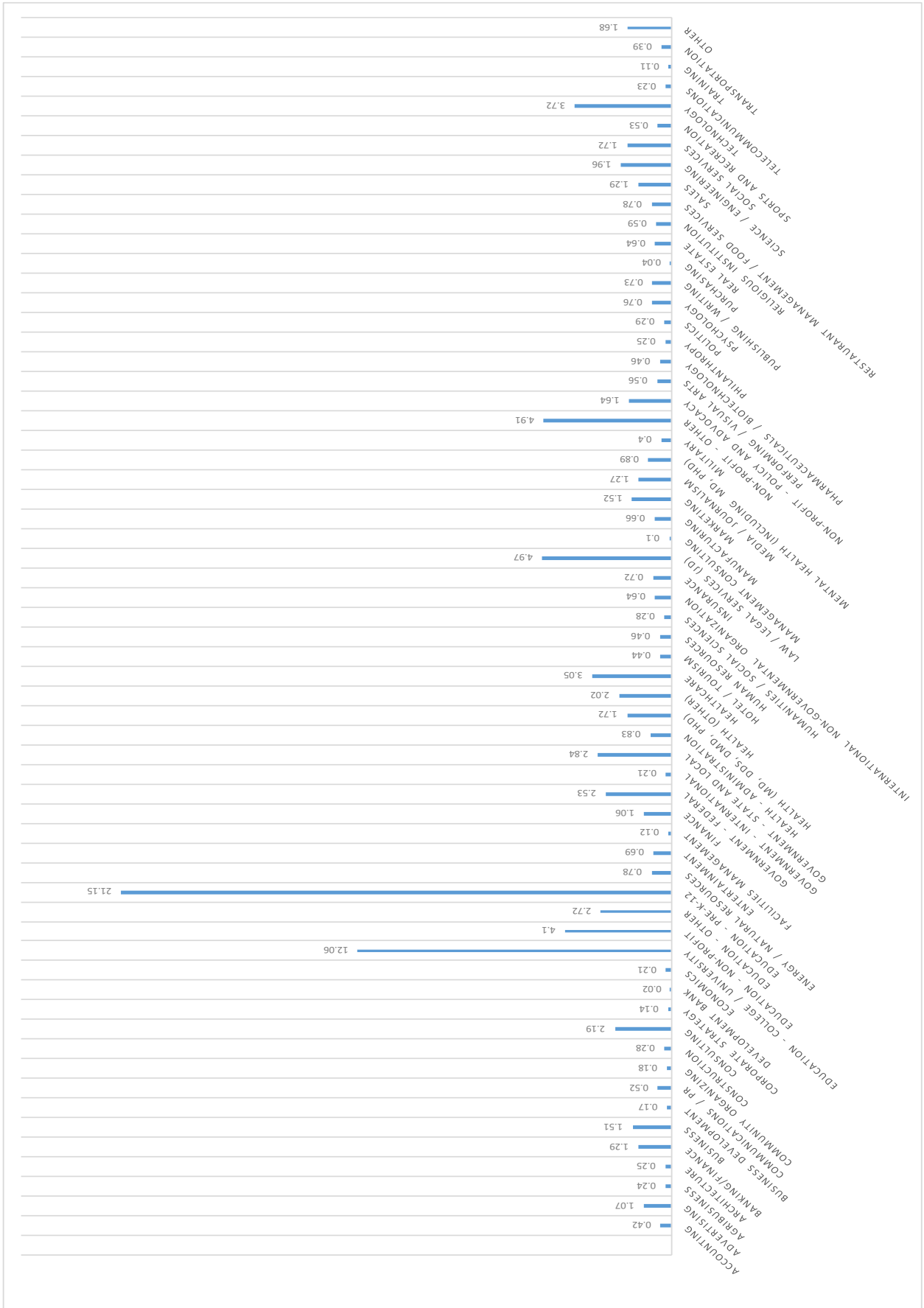
For the two charity incentives, we provided study subjects a choice of 10 charities, representing a wide range of social causes. The charities included the American Cancer Society, the Boys and Girls Club of America, Habitat for Humanity, the Red Cross, the Salvation Army, Save the Children, St. Jude's Childrens Research Hospital, Teach For America, the US fund for UNICEF, and the World Wildlife Federation. Participants could also opt out of the charity donation if they preferred not to participate.

On October 22, 2015, we determined Incentive 3 was most effective in encouraging survey completion. From this date forward, we discontinued the use of Incentives 1, 2, 4, and 5, and extended Incentive 3 to all participants who had not yet completed the survey. On December 10, 2015, we introduced an additional incentive: all survey completers would be entered into a lottery to win a $10 Amazon gift card (100 winners). On February 9, 2016, we expanded upon the Amazon gift card lottery, and offered ten more $10 gift cards and two $50 gift cards. On March 17, we also offered two Apple watches as an incentive.

H Careers of Non-Admits

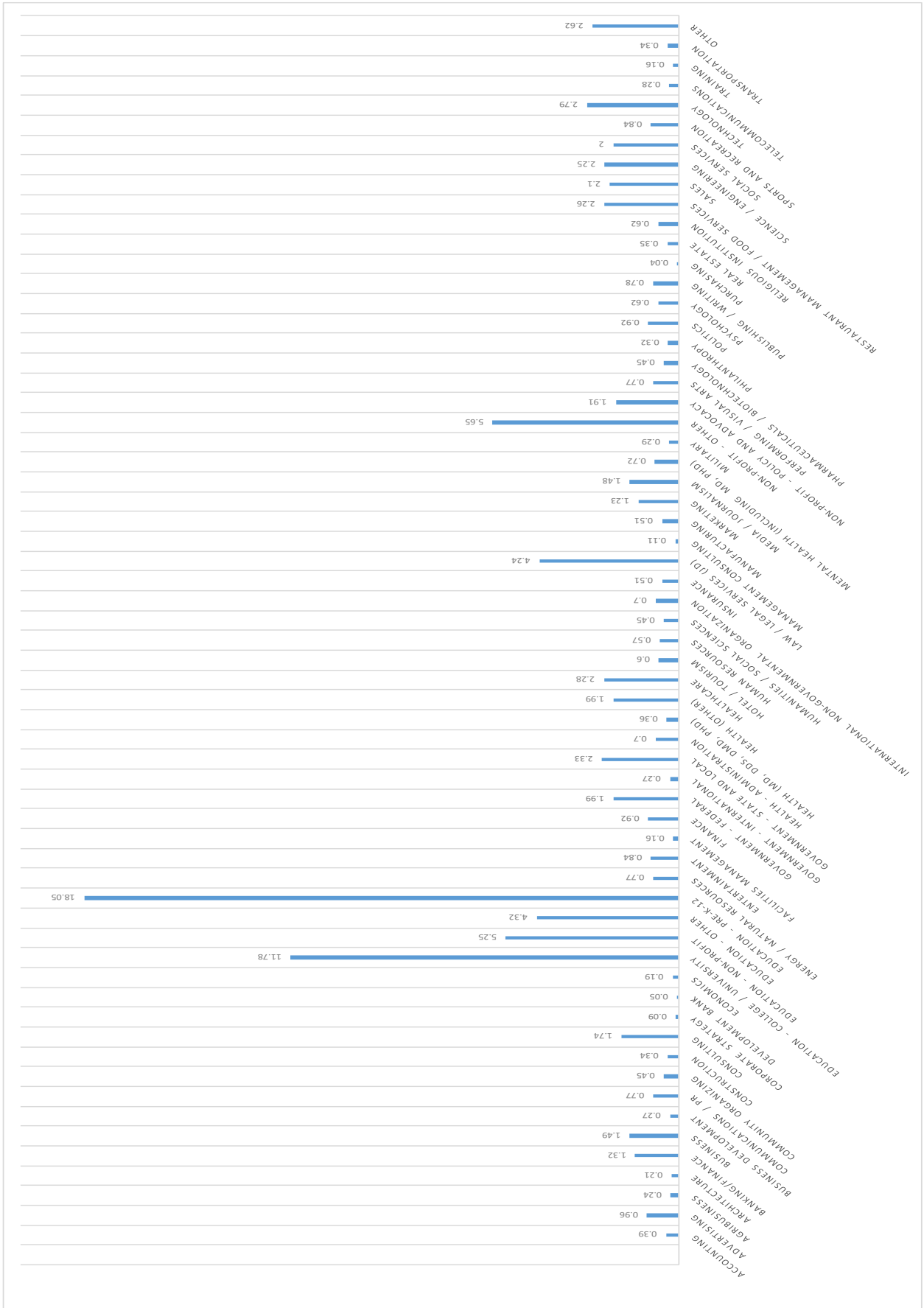
Survey respondents were asked the following question: "We will now ask you about the last three jobs you have held since 2007. For each position, what is your job title, sector, and start and end date for each of these positions?" Figures that break down the share of non-admits in each job sector are provided below.

Figure H.11: Sector of First Job Held Since 2007 of Non-Participants



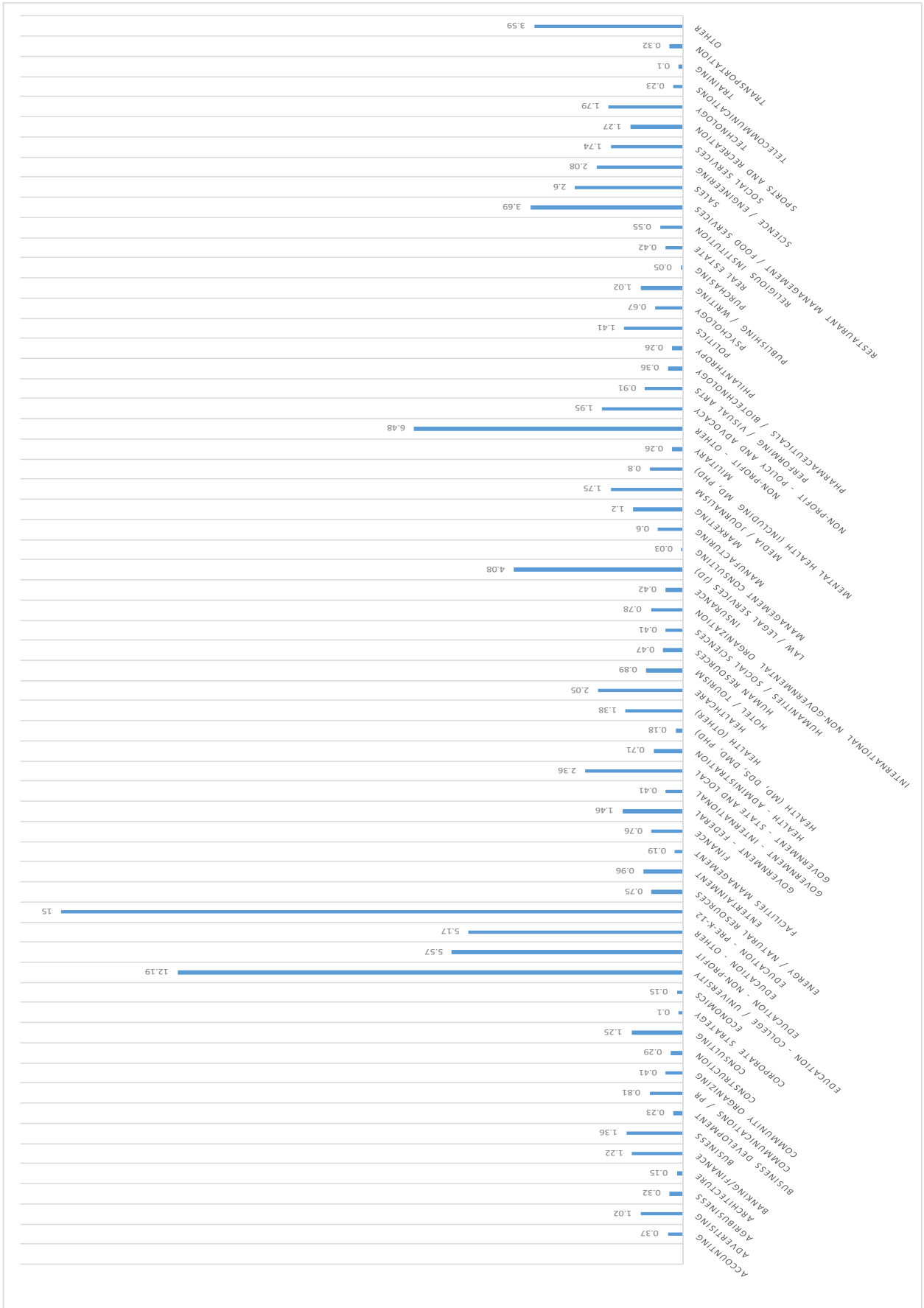
Notes: Survey respondents were asked about the last three jobs they have held since 2007, as that is the first cohort year in our study. This figure displays the percentage of non-participant respondents in each job sector for their first job.

Figure H.12: Sector of Second Job Held Since 2007 of Non-Participants



Notes: Survey respondents were asked about the last three jobs they have held since 2007. This figure displays the percentage of non-participant respondents in each job sector for their second job.

Figure H.13: Sector of Third Job Held Since 2007 of Non-Participants



Notes: Survey respondents were asked about the last three jobs they have held since 2007. This figure displays the percentage of non-participant respondents in each job sector for their third job.