African American Turnout and African American Candidates*

Luke Keele† Ismail White‡ David Nickerson§

First draft: February 17, 2011
This draft: January 23, 2013

Abstract

ω_a Do minority voters respond to co-racial or co-ethnic candidates? That is does the increased chance of substantive representation translate into increased participation? Here, we focus on this question among African American voters. While much of the empirical literature on this question has produced conflicting answers, recent studies suggest that minority candidates can significantly increase minority turnout. We argue that past work on this topic does not adequately account for the fact that minority voters in places with minority candidates may systematically differ in their level of participation than minority voters in places without minority candidates. In this study we address the weakness of previous research designs and offer a multi-method design that use the redistricting process to gain additional leverage over this question. First, we conduct an observational study that uses the redistricting process after the 2000 Census to model the selection process and ensure that voters who were moved to districts with African American candidates through the redistricting process are comparable to voters that remained in existing districts with white candidates. Second, we conduct a field experiment after the 2010 Census among voters that have been moved to a new district with African American representation. Our multi-method design focuses on voters in North Carolina and Georgia, where threats to interval validity are low. We find that in most cases turnout does not increase among African Americans when they are newly represented by an African American in the U.S. House. When turnout does increase, the increase appears to be temporary.

*We thank Jas Sekhon, Rocío Titiunik, Don Green, Walter Mebane, Jonathan Nagler, Vince Hutchings, Neil Malhotra, Marc Meredith, and seminar participants at New York University, the University of Wisconsin, Yale University, Temple University, Texas A&M University, Penn State University, the University of Pennsylvania, and Ohio State University for helpful comments and discussion. A previous version of this paper was presented at the annual meeting of the American Political Science Association, Seattle WA, 2011

†Associate Professor, Department of Political Science, 211 Pond Lab, Penn State University, University Park, PA 16802 Phone: 814-863-1592, Email: ljk20@psu.edu

‡Assistant Professor, Department of Political Science, 2008 Derby Hall, Ohio State University, Columbus, OH 43210 Phone: 614-292-4478, Email: white.697@osu.edu

§Associate Professor, Department of Political Science, 217 O'Shaughnessy Hall, Notre Dame University, Notre Dame, IN 46556 Phone: 574-631-7016, Email: dnickers@nd.edu

Since the passage of the Voting Rights Act in 1964, minority candidates have been elected to political office at all levels of government. One question is whether candidates from specific racial and ethnic groups trigger participatory effects among voters that share the same racial or ethnic identity. In this paper, we revisit the question of whether African American candidates increase African American electoral participation, and offer a new multi-method research design that leverages the redistricting process in a way that accounts for many of the analytical challenges (i.e., problems with selection effects, variation in treatment specification and treatment effect heterogeneity) that have plagued previous researcher's efforts. By focusing on the effects of African American candidates when voters are moved through the redistricting process, we are able to offer a more precise test of how African American candidates affect individual level electoral behavior. Moreover, our spans two different redistricting cycles which provides greater temporal coverage. We find that at best African American candidates have a temporary effect on turnout among co-racial voters. In fact, in some cases we find that moving from a white candidate to an African American candidate appears to decrease African American voter turnout. We conclude that while representation of minorities has increased in Congress, these candidates appear less effective at inspiring continued African American involvement in the electoral process.

1 Minority Turnout and Minority Candidates

An influential study by **?** provided the initial evidence that minorities candidates and office-holders might increase minority turnout. **?** found that African Americans in cities with African American mayors displayed higher rates of political efficacy and participation than African Americans in cities with white mayors. One explanation for this finding was a theory of racial political participation known as empowerment, which states that when an office holder shares the citizen's race this generates a psychological benefit that increases political participation (**???**). More specifically, it is thought that a heightened sense of political empowerment occurs when minorities live in places where they witness political power held

by members of their racial in-group (?????). Here, a co-racial or co-ethnic candidate in political office sends a signal to the minority group that they have a stake in the political process and can influence policy.

While empowerment theory was formulated in the context of mayoral elections, the wave of new minority officeholders produced by the Voting Rights Act (VRA) prompted scholars to extend the theory to other legislative offices. After Congress amended Section 2 of the VRA and the Supreme Court's ruled on vote dilution in *Thornberg v Gingles*, many states were now required to create majority-minority legislative districts in order to achieve preclearance from the Justice Department. Following the census in 1990 and 2000, minority candidates gained a number of seats at both the state and Federal level.

Following the increase in minority representation produced by Section 2 of the VRA, a literature developed trying to answer the question of whether minority candidates generally increase minority turnout (??????????). Early work using precinct level data found little evidence of increased turnout (??). But later studies have all confirmed the link between minority candidates and minority turnout. ? used precinct level data in Florida and Georgia and finds higher turnout when a black congressional incumbent is on the ballot. ? find stronger evidence that Hispanic candidates have a positive net effect on minority turnout - in their case Latino turnout. The strongest evidence was found by ? who aggregates individual level data from across 20 years and hundreds of elections and also finds an increase in turnout among African Americans when there is an African American candidate. Though one recent study casts doubt on whether this is true for Hispanics (?)

Of course, empowerment may not be the only possible mechanism that might explain why minority turnout would increase with co-racial candidates. Minority candidates should view minority voters as a natural voting bloc that is easily mobilized. Under this mechanism, minority turnout may increase since minority candidates will have a strong incentive to turnout co-racial voters. As such, minority candidates may use targeted mobilization efforts aimed specifically at minority voters (?).

While current theory has been devoted to understanding why we might expect an increase in minority participation, we would argue that there are plausible counter-arguments as well. Public ignorance of politics is well documented, and many legislative offices may not be visible enough to engage citizens' interest. Even elections for the U.S. House may not be visible enough for minority voters to even realize the candidate shares his or her racial identity. Moreover, the seats created under the VRA tend to very safe. The lack of competition may work to undermine voter interest, and candidates will have little need for mobilization and voter outreach. Finally, other research has found that empowerment may wear off after one or two election cycles and thus may no longer mobilize minority voters (**?**).

With plausible theoretical arguments for and against the participatory effects of these districts, and a number of research design issues at stake, considerable attention needs to be paid to the research design, so that a sharp test of the theory can distinguish between these competing claims. We turn to issues of design issues.

2 Research Design

Our basic research question is fairly simple but developing an answer raises thorny issues. To understand the issues that we face, we start with some basic notation.[1][2] Let $D_i \in \{0, 1\}$ be an indicator of treatment that is 1 if the individual faces an African American candidate and 0 otherwise and $Y_i \in \{0, 1\}$ records whether an individual votes or not. We define the average causal effect as $E[Y_i|D = 1] - E[Y_i|D = 0]$. Of course for $E[Y_i|D = 1] - E[Y_i|D = 0]$ to be a valid estimate of the causal effect of the treatment D_i, we need to be confident that $E[Y_i|D = 1] = E[Y_i|D = 0]$ *before* $D = 1$ goes in to effect. In our context, we need this to be true *before* treated voters face an election with an African American candidate. If this is

[1]Our outline here is based on the potential outcomes framework from the treatment effects literature (**???**). Here, we imagine that for each individual i, there exists a pair of potential outcomes: $Y_i(1)$ for what would occur if the individual were exposed to the treatment and $Y_i(0)$ if not exposed. In this framework, we define the causal effect of the treatment as the difference: $Y_i(1) - Y_i(0)$. The fundamental problem is that we cannot observe both $Y_i(1)$ and $Y_i(0)$. Instead we must estimate average effects of treatments over populations: $E[Y_i(1) - Y_i(0)]$ or $E[Y_i|D = 1] - E[Y_i|D = 0]$.

[2]In the analyses that follow, we actually estimate average treat on the treated: $ATT = E[Y_i(1) - Y_i(0)|D_i = 1]$.

not true, any difference we observe might be due to this pre-treatment difference instead of the treatment. Here, we face three specific threats to the estimation of valid causal effects.

First, we must account for selection: the process by which voters are selected for the treatment. Unless we account for selection, estimates from standard statistical methods will be biased (**?**). Why we should expect that voters that face minority candidates may systematically differ from voters who do not? Consider the following example, many minority candidates represent or run in majority-minority districts or minority influence districts created by state legislators complying with the VRA. It might be the case that state legislators draw boundaries to perhaps include African American subpopulations that are more or less likely to vote. For example, assume state legislators believe that the creation of a majority-minority district creates a safe Democratic seat while perhaps making other districts more competitive for Republican candidates. Let's further assume that legislators must select one of two counties for inclusion in the majority-minority district both of which are 40% black. In county 1, African American turnout averages 60% while in county 2 African American turnout averages 40%. If legislators are trying to create a safe Democratic seat, county 1 is much more likely to be included in the district rather than county 2. Selection of this type makes it unlikely that $E[Y_i|D = 1] = E[Y_i|D = 0]$ holds and thus invalidates $E[Y|D = 1] - E[Y|D = 0]$ as an estimator of the causal effect. With one exception, the extant literature has not corrected for selection.

One important way we might possibly disentangle the selection process is to find voters that are facing an African-American candidates for the first time. Some political units have had African American representation for decades, while others have only recently gained African American representation. If we focus on voters new to African American candidates, we can more readily ensure treated and control units are comparable *before* the treatment occurs. For voters that have long had African American representation, pre-treatment covariates are often difficult to obtain. Also it may be the case that minority voters adjust to minority representation. If so, we might expect to find a large initial increase in turnout

that may decay. If we restrict our study to voters that are newly represented by an African American candidate, we will be able to observe whether the effects fit this pattern.

Second, we must account for heterogenous responses to the treatment. That is, when voters are treated, they must respond in the same way for a statistical model to produce consistent parameter estimates. One existing study, for example, pools all House, Senate, and gubernatorial races from 1982 to 2000 (**?**). Here, we have to assume that the response to a House candidate is the same as the response to a Senate candidate. Even in **?**, where the type of office is constant it is possible that responses differ across congressional districts. Why does this matter? When there is response heterogeneity, least squares estimates of the treatment effect converge to a consistently estimated parameter, but this parameter does not represent a meaningful treatment effect (**?**). Next, we outline how we leverage the redistricting process in the research design to overcome these challenges.

2.1 Redistricting

The redrawing of district lines each decade provides us with a chance to overcome the selection process that contaminates most estimators of causal effects. Our research design builds on other uses of redistricting to estimate the effect of incumbency advantage (**??**). Other work has used redistricting to estimate whether Hispanic candidates increase turnout among Hispanic voters (**?**).

We leverage the redistricting process across two different research designs. The first design is based on observational data after the 2000 Census. The second design is based on a field experiment after the redistricting process that followed the 2010 Census. Redistricting provides us with two distinct advantages for both designs. First as we outline below, redistricting provides us with a way to model the selection process with observational data. Second, it allows us to find instances where voters are moved to African American House members for the first time.

Our study is aided by compliance with Section 2 of the VRA. That is African American

voters are often moved to create or bolster either majority-minority or minority influenced districts. Moreover, Republicans often pack African American voters into existing minority represented districts to create districts favorable to their candidates elsewhere. Thus the racial dynamics of redistricting often creates the situation we hope to exploit: African American voters being moved by redistricting to an African American candidate. We use this in both the observational study and in the field experiment.

Using redistricting does change the estimand—the quantity being estimated—in the observational study. While it may be possible to separate the effect of African American candidates from the fact that a district is majority-minority or minority influenced, we assume the two are fused and impossible to separate. For the observational study, the treatment is being moved into a majority-minority or minority influenced district with a African American candidate for the U.S. House.[3] Formally, $D_i = 1$ for voters that are moved from a white incumbent to a African American Democrat in a majority-minority district. In the field experiment, we can define the estimand to suit our research question. Next, we describe in detail the two designs that we use in conjunction with redistricting.

2.1.1 Observational Study

In our observational study, we collect data on (pre-treatment) variables that potentially confound treatment status and the outcome. One might use this data with either matching estimators or regression models to adjust for these confounders. Once the observed differences (in these confounders) between the treatment and control groups have been taken into account, we can estimate causal effects. This strategy requires an assumption that is sometimes referred to as "selection on observables" (**?**). Under this assumption, the researcher asserts that all relevant variables that predict treatment are observed by the researcher. In statistical terms, we must assume that we have perfectly specified models for both turnout and selection into the treatment. Undoubtedly, this is a very strong assumption that we

[3]Our treatment is quite similar to that in **?** except that they also make comparisons at the level of the state legislature. We only focus on the U.S. House and hold state offices constant by making sure they generally match across treated and control areas.

wouldn't expect to be true in general. With redistricting, however, this assumption is plausible.

To help the reader understand how we use redistricting in the observational study, Figure **??** contains a map of one of the areas we study in North Carolina. In this example, some voters were moved from the 5th district represented by white, Republican incumbent Brad Miller to the 12th district represented by African American incumbent Mel Watt around the city of Winston-Salem. In this case, we have a number of precincts that move from the 5th district to the 12th. Voters in the precincts that move are our treated voters as they are moved into a district where they have a chance to vote for a African American candidate for Congress for the first time. For these voters, the House candidate changes, but all voting costs are held constant as polling places remain the same. Other work has shown that if the cost of voting increases in terms of moving the polling place, turnout will decrease (**?**). To that end, we ensured that the voters in our study did not face any change in their polling location after redistricting. We use voters that remain in the 5th district as our controls since they remain under a white incumbent. These voters are suitable controls since they share a similar voting history and for them nothing changes after redistricting. We do not use any voters that are already in the 12th district in the analysis, since **?** prove this comparison requires additional assumptions for identification. The appendix contains similar figures for the other areas included in our study.

A design based on redistricting provides us with a number of advantages. First, when analysts believe that selection has occurred and wish to account for it, they must ask themselves who are the decision makers in charge of selection and what criteria did they use in the selection process (**?**)? In the redistricting process, we are able to identify the decision makers in the selection process as state legislators. Moreover, we know the criteria by which state legislators select geographic areas into Congressional districts. That is, state legislators use census data on race and election data on registration, turnout rates, and vote returns to decide how to draw districts. Recent media reports note that legislators pay particular

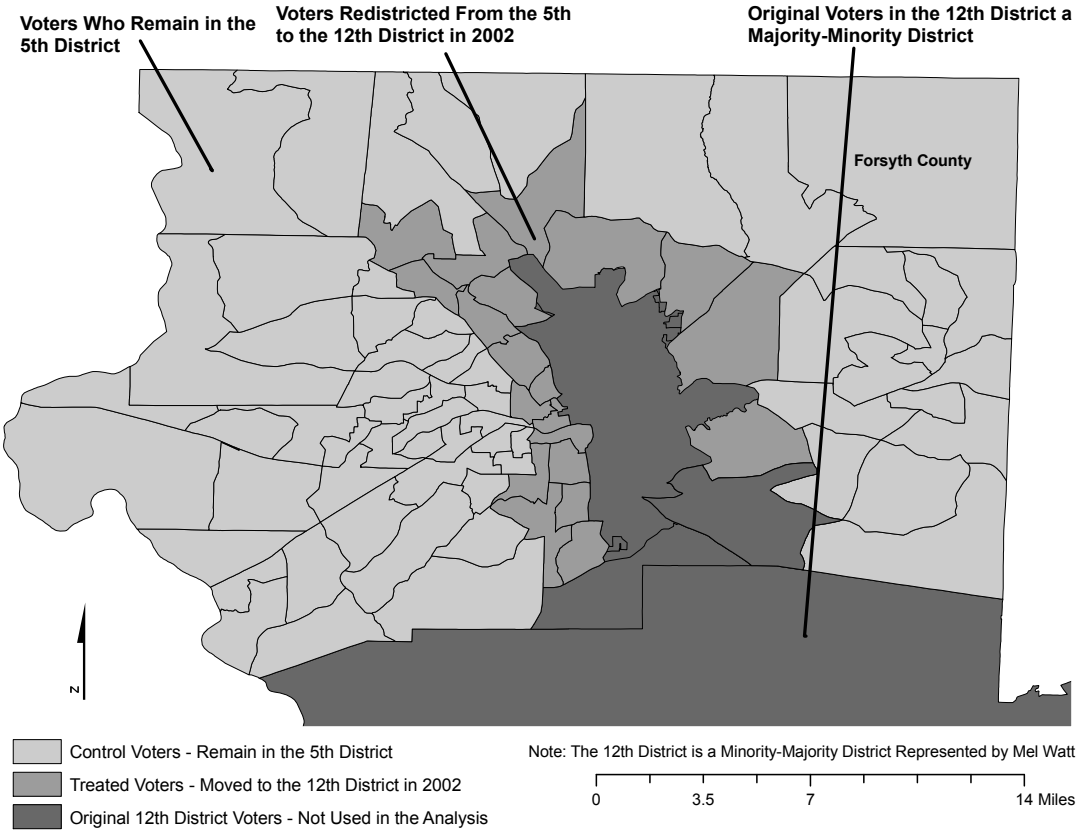

Figure 1: Change in district boundaries for House Districts 5 and 12 from 2000 to 2002
Note: Precincts are moved from the 5th district represented by white Republican incumbent Brad Miller to the 12th district represented by Democratic incumbent Mel Watt, an African American. Both won easily in 1998 and 2002. All voters reside in Forsyth county North Carolina.

attention to presidential vote share when drawing district lines (**?**). As such, we have good reason to believe that the specification of our statistical models will be nearly correct since we can simply model the selection process that occurs when states redistrict. Moreover, as **?** note another strength of the design is that district boundaries are drawn by public officials, not voters. Thus, redistricting shares an important aspect of experiments: the individuals in charge of assigning treatment are separate from the population that receives the treatment. As such, while state legislators rely on observable measures such as as vote share, they do not consider any individual-level characteristics of voters that are not available to us. Importantly, this implies that unobservables should not play an important role in the selection process. In short, redistricting increases the credibility of our design since it gives us confidence that once we condition or control for observable characteristics, units may be comparable in terms of their unobservable characteristics as well.

Second, redistricting provides us with the longitudinal component we require.[4] Redistricting allows us to compare turnout levels between those moved into a district with an African American candidate and those left behind *before* voters are moved. This will allow us to exploit something called a placebo test. Causal theories do more than predict the presence of an effect; they also predict the absence of an effect in the absence of treatment. Testing for effects that are known not to exist is often referred to as a placebo test. For example, if we compare turnout before redistricting and find that turnout levels differ, any post-redistricting effects are suspect. Thus, we apply our statistical models to time period before redistricting occurred to ensure there is no difference in turnout behavior between those who are later moved to an African American candidate and those that remained behind after redistricting. The placebo test allows us to assess the quality of our counterfactual and understand the role of statistical adjustment in the creation of our counterfactuals. As we outline below, we build our method of statistical adjustment around a placebo test of this type.

[4] **?** use a longitudinal design when studying the effect of majority-minority districts on House election outcomes but do not verify over time comparability.

One thing we cannot control in our design is the electoral environment that occurs in the two districts after redistricting. Clearly, the treated voters have been moved to a new Congressional district while the control voters remain in a district with a different Congressional campaign. Thus we cannot control for campaign effects directly. We can, however, make some informal comparisons. We would prefer the campaigns in the two districts to be identically competitive in terms of mobilization and political interest. The key worry is that a competitive election in the control district may cause African American voters to turnout at unusually high rates which would then obscure any increase in turnout by voters that have moved to the African American candidate. Of course, this problem is endemic to the research question. In any design based on redistricting, a counterfactual comparison has to be made across two different Congressional districts where different elections occur simultaneously. In general, we seek to account for this concern by using areas where voters are moved from one uncompetitive environment to another. That is, we specifically look for areas where voters move from a district with a white Republican candidate who wins easily and has done so for sometime. Thus we can contrast voters facing a white Republican candidate who is expected to win easily with voters who now have a chance to vote for an African American candidate in an equally uncompetitive election. In the appendix, we present summaries of the ex-post electoral environment for each area that we study.

In some cases, we will compare voters from entire counties that are moved to an African American candidate to voters in counties that were not moved. In other instances, we will focus on a single county where some precincts from that county are moved from a district with a white candidate to an African American candidate or incumbent. We designate this second design as a within-county design since county is held constant. Where possible, we attempt to use within-county designs. The reason we prefer the within-county design is that in many states, especially in the South, election administration is done by county governments. Thus some county governments may make it more difficult or easier to vote depending on the number of polling locations used or the number of voting machines at each

polling location. In the within-county design, factors of this type will be held constant.

It is also possible that there may be some time lag to the treatment effect. That is, there may be some delay before the representative can publicize himself or herself via casework or town meetings in these newly added areas. If so, voters may not be fully aware of having been moved into a district with minority representation at the first election. To account for this, we estimate effects for two to three elections after redistricting occurs. This allows us to observe any possible delay in the onset of the treatment. Finally, we must account for heterogenous treatment effects. That is, it might be the case that the effect of African American representation in majority-minority districts differs from district to district. For example, it may be the case that in urban areas with higher levels of socio-economic status, African American voters are more likely to be empowered by this new form of representation. We account for heterogeneity by looking at districts in separate analyses. We are unable to examine every district, but we select a representative set of districts for our study.

2.1.2 Field Experiment

As we have outlined above, the observational study is confined to studying turnout in years after the 2000 Census. We also exploited redistricting after the 2012 Census with field experiments. Again, we rely on the redistricting process to create situations where African American voters have a first time opportunity to vote for an African American candidate for the U.S. House. Again, we identified areas where large number of African American voters were moved to a district with an African American candidate. The next section describes the geographic areas where we conducted the experiment.

We conducted two get out the vote field experiments via mail in the 2012 Congressional primaries. In each experiment, there were three experimental conditions. In the first condition, voters did not receive any mail from us and thus formed the control group. The other two conditions consisted of voters receiving mail encouraging them to vote. The mailing explicitly mentioned the redistricting process, and urged them to vote in the upcoming primary. In one condition, the mailing provided no information about the race of the candidates

in the primary; all information included was confined to factual statements about each candidate's background. In the other condition, we revealed the race of the candidates, where at least one of the candidates was African American. The appendix contains both reprints of the mailings along with more technical detail on the execution of the experiment. We sent mailings to voters who were both new to the district, but also to voters that already resided in the district. We later stratify the results by old and new voters to better understand the results.

Combining the observational study with the field experiment strengthens our research design considerably. In the observational study we are unable to hold the post-redistricting context constant as treated and control are in different House elections. In the field experiment, the treated and control voters are in the same electoral context. Moreover, in the observational study, we cannot know if voters understand either the fact that they have a new representative or that the representative is now African American. Thus it is possible that the moved voters never know they can now vote for a co-racial candidate. We think it is unlikely that African Americans are unaware of the race of their House candidate. For example, in the 1996 Black Election Study 78% of respondents were able to correctly identify the race of their representative when that representative was African American. In the field experiment, since we inform voters about both the redistricting process and the race of the candidate, we known they know the race of the candidate. Finally, the experiment has the usual advantages that experiments have over observational studies (**?**). As such, while the observational study has weaknesses, those deficiencies are directly corrected by the field experiments.

2.2 Case Selection

In our study, as in any study, we face a trade-off between internal and external validity. By internal validity, we mean the credibility of the estimates of the causal effect of interest, and by external validity we mean the generalizability of the causal effect to other populations.

Our design seeks to maximize internal validity, but this must be done at the expense of external validity. As the reader will see, we focus on local populations in Georgia and North Carolina where we think comparability between groups with and without an African American candidate is high. Thus we limit our inference to specific areas in these two states. We think this limitation is worth the gain in internal validity. Consistent with the goal to maximize interval validity, we confined our study to districts in Georgia and North Carolina. We found data availability and reliability to be highest in these two states. These states also allowed us to examine districts that range from rural and suburban to urban.[5]

2.2.1 North Carolina

North Carolina is somewhat famous or perhaps infamous for its redistricting in the 1990's. In that decade, North Carolina created two majority-minority districts: the 1st and 12th. The creation of these districts set off a series of lawsuits that took years to litigate (**??**). The redistricting process in 2000 and 2012 created far less controversy. For the observational study, we analyzed voting patterns after voters were added to District 1 and 12. For the field experiment, we again relied on movements into District 12 after the 2012 Census.

For the observational study, we study two different parts in North Carolina, First, we examined the three rural counties, Chowan, Pasqoutonk and Perquimans, that were moved from the 3rd district where Walter Jones, a white Republican, had held that seat since 1994 to District 1. This area is also useful since it allows us to observe a rare open seat election. Before the 2002 election, Eva Clayton, an African American woman, announced her retirement. Four different candidates competed in the Democratic primary in the Spring of 2002. The winner of that primary, Frank Ballance, went on to easily win the seat in the Fall of 2002.[6] For this district, we also include results from the 2002 primary. Figure **??** in the appendix contains a map that outlines the geographic change.

[5]See the appendix for details on African American representation in the state legislature for our areas under study.

[6]Frank Ballance, an African American man, later resigned due to criminal charges. His seat was filled in a special election by G. K. Butterfield who has held the seat ever since.

The second area in the observational study is around the city of Winston-Salem. The center of Winston-Salem has been apart of District 12 since its creation in 1992. The map in Figure **??** demonstrates how precincts were moved in this case. Under the 2002 redistricting plan, a number of precincts around the Winston-Salem urban core were moved from the 5th district to the 12th. The 5th district seat was held by Richard Burr a white Republican. For this analysis, we are able to restrict the analysis to Forsyth County making it our preferred within-county design where all county level variation is held fixed. Note that Winston-Salem has never had an African American mayor. In both cases in North Carolina, the post-redistricting campaigns were uncompetitive in both the treated and control areas. Table **??** in the appendix contains details on all post-redistricting elections in terms of vote margins and campaign spending.

The field experiment also focuses on District 1. After the 2012 census, parts of Durham, Granville, Franklin, and Nash counties were added to District 1. This included portions of the city of Durham which accounted for most of the population added to the district. We conducted the field experiment in the District for the primary in May of 2012. In the primary, Butterfield was challenged by Dan Wittacre a white candidate. Butterfield might be mistaken for white, which caused us to tailor the racial cue contained in the mailing. While both mailings contained pictures of the candidates, the mailing designed to reveal the race of the candidate included details about Butterfield that cued his race. These details included his membership in the Black Caucus and the NC Association of Black Lawyers.

2.2.2 Georgia

Georgia, like Texas, redistricted twice after the 2000 census. The first redistricting plan was drawn by a Democratically controlled state legislature. In 2002, however, the Republican party gained control of the state senate and governorship. Then in 2004, the Republican party captured the state house as well. With both the governorship and legislature under GOP control, state legislators proceeded to redraw the Democratic map created in 2002. On May 6, 2005, Governor Perdue signed into law the second redistricting plan since the 2000

census (**?**). Here, we only study voters that were moved between 2004 and 2006. We do this since we have better data for 2002 than 1998 thus giving us a better placebo test. The redistricting after the 2012 Census occurred with little fanfare. We study three districts in the state. Again we looked for areas with substantial black populations that were moved from white incumbents to black incumbents. In the end, we examine two different areas for the observational study and one for the field experiment.

For the observational component, we first study when African American voters were moved from District 8, represented by Jim Marshall a white Democratic incumbent, to District 2 a seat held by Sanford Bishop, a black Democrat, who has held that seat since it was drawn to be a majority-minority district in 1992. We use two counties, Peach and Dooley, where African American voters were moved from areas which had never had a African American representative into the 2nd District. Most of the changes to this district consisted of counties that were moved out of the district in 2002 and then were moved back in 2006. This was primarily a function of Democrats attempting to make the 8th District more competitive in their favor and Republicans moving African Americans back into the 2nd District to shift the map back in their favor for the 2006 election. Figure **??** in the appendix contains a map that outlines the geographic change in this area.

We next examine voters who are moved into District 13 represented by David Scott an African American Democrat in Cobb County after the second redistricting in 2005. After the 1990 redistricting, Cobb County was split between the 6th and 7th Districts and was represented by Newt Gingrich until a special election in 1999 and Bob Barr another white Republican. In 2002, state legislators drew the map such that part of Cobb County remained in the 6th while the rest of the county was split between the 11th won by Republican Phil Gingrey in 2002 and the 5th represented by John Lewis an African American incumbent. The new plan drawn in 2005 left parts of Cobb County split between the 6th and the 11th districts but added a substantial portion of the county to the 13th District while the 5th District no longer covered any part of the county. In our analysis, we compare voters in

Cobb County who were moved into District 13 but before were part of either the 6th or 11th before 2005. We exclude any voters that were part of the 5th for the two elections where the county was included in that district. Here, we are able to apply our preferred within county design. Figure **??** in the appendix contains a map of the area along with the district boundaries. Table **??** in the appendix presents detailed information on the post-redistricting elections in Georgia.

Finally, we also found a unique opportunity to control confounding factors via design in Cobb County. State legislators split a number of precincts in Cobb County when they completed the redistricting plan in 2005. That is, they split precincts across the two Congressional districts that make up the county. Of these split precincts, we found two precincts that were split across District 11 where Phil Gingrey the white Republican was the incumbent and District 13 where David Scott an African American Democrat was the incumbent.[7] Thus within these two precincts, some of the voters were in a House district with a white incumbent and some voters were able to vote for a black candidate for the first time in 2006. Thus we can compare black voters who were voting at the same location, but some were given ballots for a white candidate and some for a black candidate. This design allows us to hold all precinct level covariates constant and as such is superior to the within county design as a large number of factors are held constant by the design of the study. For voters in these precincts, we will simply adjust for the individual level covariates in the voter file.

For the field experiment, we use District 4 which covers parts of Atlanta and its southeastern suburbs. The district is represented by Hank Johnson, an African American, who was first elected to the House in 2006. Before redistricting in 2012, the district covered portions of DeKalb, Rockdale, and Gwinnett counties, After redistricting, the district added parts of Gwinnett, Rockdale, and Newton counties. In the primary, Johnson was challenged by two Lincoln Nunnally, who is white, and Courtney Dillard, who is African American.

[7]Two other precincts were split across these districts as well, but these precincts were formerly part of the 5th District. Therefore 2006 would not be the first time African American voters had a chance to vote for an African American candidate.

Here, voters were randomized across two different mailings. In the first, we simply included details about the candidates but no photos. In the second mailing, we included photos of the candidates.

In sum, we examine five different majority-minority districts each with different overall profiles. Both District 1 in North Carolina and District 2 in Georgia contain no large metropolitan areas and are by and large rural districts. The counties in these districts tend to be poorer and less well-educated. The part of District 12 in North Carolina that we examine mainly encompasses the Winston-Salem metro area, a longstanding Southern urban area with a core that is predominantly African American. The part of District 13 in Georgia that we examine, Cobb County, is predominantly suburban and has grown more recently with the rise of Atlanta. District 4 in Georgia is also largely suburban but also contains parts of central Atlanta. We think these five areas provide a reasonable representation of areas in the South with African American voting blocs.

In both states, we verified that precinct boundaries did not change as voters were moved from white to African American candidates. In many cases, the precinct identifier in both states is the name of the polling location. This allows us to know with a high degree of certainty whether polling places remained the same before and after redistricting thus holding voting costs constant. We also verified precinct boundaries using maps and GIS software. In Cobb County, we removed a few precincts from the study that were altered for the 2006 election.

3 Data

For both the observational study and the field we use the voter files from both North Carolina and Georgia. The voter file contain whether registered voters voted in each election. In the field experiment, we selected voters from the voter file and randomized the treatments to those voters. For the observational study, the voter file contains some covariates that we use in the analysis including gender, age, race, and party registration in North Carolina.

In North Carolina, we discarded the small fraction of African Americans that were not registered as Democrats. Restricting the analysis to Democrats among African Americans in North Carolina reduces the sample by less than 3%. Use of the voter file, of course, limits our analysis to registered voters.

For the observational study, we combined the individual level data in the voter file with two other data sources at the precinct level. The first data source is Census data from 2000. While the Census obviously contains many different covariates, we used the following Census measures: percentage of African Americans, percentage of African Americans that are of voting age, percentage with a college degree, percentage with a high school degree, percentage unemployed, percentage below the poverty level, percentage of housing that is renter occupied, and median age.[8] We also collected precinct level data from both state election boards. Specifically, precinct level election data allowed us to measure partisan support for Federal offices, turnout, and the percentage of African Americans that are registered to vote. These are all measures that we expect state legislators to use when redistricting, thus we seek to ensure that these measures are comparable across our treated and control groups.

4 Analysis

4.1 Observational Study

For the observational study, we report unadjusted voter turnout rates for those that were moved by redistricting and those who remained in the existing district. It is this comparison that represents the correct counterfactual quantity, but it does not correct for any selection. Conducting this analysis before redistricting occurs forms a simple placebo test that allows us to understand whether we need to correct for selection.

To correct for selection, we conduct an analysis based on matching estimators. In the

[8]Census data in 2000 was collected at either the block or blockgroup level. We hired a GIS analyst to either aggregate the block level data to the precinct geography or estimate precinct level measures from the blockgroup since in North Carolina and Georgia precincts typically differ by less than 1% in terms of population. Thus all census measures were used as precinct level covariates.

matching, we use a precinct level propensity score. Here, we estimate a logistic regression with $Pr(D_i = 1)$ as the outcome variable and using all the precinct level Census, election, and turnout measures as predictors. We also match on the individual level covariates from the voter file. As we noted above, race and party identification are held constant by stratification and thus we do not match on these measures. In the matching, we pay special attention to voter history by matching on it exactly. This means that people who didn't vote in last two elections are exactly matched to citizens who didn't vote and vice versa. Since we have voting history for two elections, voters are matched exactly in a four level combination. Exact matching on past outcomes implies that our analysis is equivalent to a nonparametric differences-in-differences (DID) estimator (**?**).

Our matching estimator is built around the placebo test to ensure maximal pre-treatment comparability. Here, we started with a basic matching analysis in either 1998 for North Carolina or 2002 for Georgia, using Genetic matching (**??**). We exact match on voter history, but we also match on age, gender, and the precinct level propensity score. In these analyses, we should find effects close to zero. To build our inference directly on this placebo test, we simply tracked the turnout behavior of the matched voters who pass the placebo test in the subsequent treated elections after redistricting. In short, we are only willing to declare treated and control voters comparable if they pass the placebo test by displaying no observed difference in turnout before redistricting, and we then limit our inference to these voters by following their voting records through later elections. In the treated elections, we simply calculate the difference in turnout percentages across the treated and control voters. We use a χ^2 test to calculate whether this difference in percentages is statistically significant. In North Carolina, we track these voters during the 2002, 2004, and 2006 elections and calculate turnout rates in each year. In Georgia, we track voters through the 2006 and 2008 elections. This analysis requires us to exclude anyone that registered to vote between the placebo election and the election after redistricting. It is possible that citizens will be motivated to register and vote given the redistricting treatment, but they, by definition, cannot be

included in the placebo test. The distribution of these voters might differ from those in the placebo test. We capture newly registered voters in a secondary matching analysis that is reported in the appendix.

Often we find that the analysis with all the registered voters does not pass the placebo test. When this occurs, we search for a subset of voters for whom the placebo test holds. We accomplish this by enforcing a caliper on the precinct level propensity score. A caliper is a matching rule that stipulates that two matched pairs must be some minimum distance or they will not be matched. Application of a caliper invariably discards some treated observations. This makes the inference more local but reduces bias in the estimated treatment effect if it allows us to pass the placebo test. We enforce the caliper on the precinct level propensity score, since we know that assignment to treatment is based on these covariates. We started with a caliper distance of .2 times the standard deviation of the propensity score; this caliper distance is a useful starting point (**?**). If we observe no differences in turnout under this caliper distance, we increased the caliper distance to observe whether we could increase the number of observations used while still maintaining a zero order placebo effect. We iterated this process until we found a caliper distance that produced a point estimate that passes the placebo test but drops the smallest number of observations. If a smaller caliper was necessary, we repeated the process until we found a subset of voters that satisfied the placebo test.

4.2 Field Experiment

The randomization in the field experiment allows for a simple form of analysis. Here, we simply report the difference in proportions across treatments. Specifically, we report two comparisons. First, we report the comparison between the control condition and the mailing without a racial cue. Second, we report the comparison between the control condition and the mailing with the racial cue. We report on balance statistics in the appendix.

5 Results

5.1 Observational Study

5.1.1 North Carolina

Table **??** contains unadjusted turnout levels for House District 1 in North Carolina. The control units are voters that remained in District 3 with a white Republican incumbent, and the treated units are voters that were moved from District 3 to the open race with a African American candidate in District 1. The estimates in Table **??** show that treated and control are not comparable since turnout levels differed before the first treated election in 2002. Next, we turn to the first matching analysis.

Table 1: Unadjusted Turnout Levels for African Americans U.S. House District 1

	Control Counties Turnout (%)	Treated Counties Turnout (%)
1998[a] General	59.8	50.3*
2000[a] General	73.4	65.2*
2002 Primary	43.4	27.5*
2002 General	61.1	42.4*
2004 General	73.1	67.6*
2006 General	45.8	30.6*

Note: Voters in treated counties were moved by redistricting from white incumbent to open race won by an African American Democrat. Voters in control counties remain with white incumbent. [a]Placebo estimates: all counties in same congressional district with white incumbent for these years. First election for which redistricting was effect was 2002. * p-value < 0.05

Next, we turn to the longitudinal analysis in Table **??**. In 1998, we observe a difference of around one percentage point that is not statistically significant. When we recalculate the turnout rate for this same subset of voters in 2002, where the treated voters are now in a majority-minority district with an African American candidate in an open race, we find

that turnout is lower by nearly 12 points. Turnout for the treated voters remains lower in both 2004 and 2006. Thus all the evidence, we have seen so far indicates that political participation by African American moved to a district with an African American candidates actually declines. We next turn to our second area of analysis in North Carolina.

Table 2: Turnout for Elections in U.S. House District 1 Among African American Voters With Similar Voting Rates in 1998

	1998[a]		2002 Primary		2002 General		2004		2006	
	Control	Treated	Control	Treated	Control	Treated	Control	Treated	Control	Treated
	63.6	62.5	48.2	36.7	68.5	54.6	80.0	74.6	57.0	46.7
	Difference		Difference		Difference		Difference		Difference	
	-1.1		-11.5		-13.9		-5.4		-10.3	
χ^2	0.34		21.59*		50.29*		10.42*		25.89*	

Note: Cell entries are the estimated turnout percentages for treated and control groups. Treated voters are those moved by redistricting from a white Republican incumbent in 2000 to an African American candidate in 2002. [a]Placebo estimates: all voters are in the same congressional district in this year and estimates should be zero by construction. Adjustment in 1998 analysis is via exact matching on voter history, age, gender, and precinct-level propensity score with caliper applied. We then track the same set of voters from 1998 through subsequent elections. That is, we track the turnout rates for voters with similar voting rates in 1998. * p-value < 0.05

Table **??** contains the unadjusted estimates before and after redistricting for District 12 in North Carolina. We see that the precincts that were moved into District 12 tended to vote at lower rates before being moved to an African American candidate. The difference is not as large as in District 1 but the differences remain substantial. These rates remain lower after the redistricting treatment, which again demonstrates the need for statistical adjustment.

We repeat the matching analyses for voters in Forsyth county, who were moved from a Republican in the 5th House District to a African American incumbent in District 12. The analysis, here, has the advantage of being a within-county design, so all county level factors related to election administration are held constant. The other key difference between here and District 1 is that we are now studying an urban area instead of a largely rural area. Table **??** contains estimates for the voters that we tracked from 1998 to subsequent elections. In 2002, the placebo test effect is mere tenth of a percentage point. In 2004 and 2006, we observe minor differences that are not statistically significant.

Table 3: Unadjusted Turnout Levels for African Americans in U.S. House District 12

	Control Precincts Turnout (%)	Treated Precincts Turnout (%)
1998[a]	63.8	56.2*
2000[a]	77.1	71.3*
2002	65.7	56.7*
2004	84.8	74.5*
2006	38.4	28.6*

Note: Voters in treated counties were moved by redistricting from white incumbent to a race won by an African American incumbent. Voters in control counties remain with white incumbent. [a]Placebo estimates: all voters in same congressional district with white incumbent for these years. First election for which redistricting was effect was 2002. * p-value < 0.05

Table 4: Turnout for Elections in U.S. House District 12 Among African American Voters With Similar Voting Rates in 1998

	1998[a]		2002		2004		2006	
	Control	Treated	Control	Treated	Control	Treated	Control	Treated
	71.8	70.9	74.5	74.6	88.8	88.1	56.1	54.9
	Difference		Difference		Difference		Difference	
	-0.9		0.1		-0.7		-1.2	
χ^2	0.154		0.003		0.158		0.211	

Note: Cell entries are the estimated turnout percentages for treated and control groups. Treated voters are those moved by redistricting from a white Republican incumbent in 2000 to an African American candidate in 2002. [a]Placebo estimates: all voters are in the same congressional district in this year and estimates should be zero by construction. Adjustment in 1998 analysis is via exact matching on voter history, age, gender, and precinct-level propensity score with caliper applied. We then track the same set of voters from 1998 through subsequent elections. That is, we track the turnout rates for voters with similar voting rates in 1998. * p-value < 0.05

Thus the pattern for voters moved to District 12 differs from that of voters moved into District 1. Here, we find that when African American voters are moved to a district with an African American candidate little changes in terms of turnout behavior. The difference in the results–strongly negative to nearly zero–across the two areas of North Carolina suggest that our concerns about treatment heterogeneity were justified. That is the effect may differ from place to place. Pooling such disparate estimates will be highly misleading. We now turn to Georgia.

5.1.2 Georgia

We begin with the results from the 2nd House District in Georgia. Like District 1 in North Carolina, this congressional district is either rural or made up of small towns. As we mentioned earlier, we rely on the second redistricting in Georgia. Thus, we use the results from 2002 as our placebo estimates. That is we compare voters who were moved to an African American candidate in 2006 and had been able to vote for an African American House representative at anytime before then. We were careful to not include any areas that were moved to an African American member of Congress in 2002, but were then moved out of that district in 2005. Here, we examine voters that were moved from a white Democratic incumbent to an African American incumbent.

Table **??** contains the unadjusted results for House District 2. Surprisingly, the unadjusted estimates pass the placebo test in 2002. That is the unadjusted difference in voting rates was a mere 0.6 of a percent. We next observe that in 2006 turnout did actually increase for those moved to the majority-minority district. This increase did not last long, however, as turnout in the control group was actually higher in 2008. The full analysis largely match the pattern in the unadjusted estimates.

Table **??** contains the results from our longitudinal analysis. The results from the placebo test are improved but not perfect as we observed a difference of 1.2 percentage points. In 2006, however, turnout increases just over seven percentage points. Importantly, this is the first evidence we have found of an increase in turnout for voters moved to an African

Table 5: Unadjusted Turnout Levels for U.S. House District 2

	Control Voters Turnout (%)	Treated Voters Turnout (%)
2002[a]	58.1	58.7
2004[a]	77.6	79.6*
2006	48.9	54.0*
2008	80.9	78.7*

Note: Voters in treated counties were moved by redistricting from white incumbent Democrat to race won by an African American incumbent. Voters in control counties remain with white incumbent. [a]Placebo estimates: all voters in same congressional district with white incumbent for these years. First election for which redistricting was in effect was 2006. * p-value $<$ 0.05

American candidate. In 2008, however, turnout in the treatment group is lower by one percentage point. Thus, the increase we observed in 2006 appears to be temporary.

Finally, we present the results from Cobb County. Cobb County forms a fourth type of geographic area. It is a fast-growing suburb of Atlanta with high levels of education and income. In the 2000 Census median family income in the county exceeded $67,000 and 28% of residents above the age of 25 had a college degree. Compare that to Dooley County one of the counties in our District 2 analysis. In Dooley County median income was just over $35,000 and less than six percent had a college degree. We might expect African Americans with high levels of SES, as in Cobb County, to be more likely respond to the opportunity to vote for a African American candidate. The analysis, here, again represents our preferred within-county design. We report the results from full county analysis in the appendix. The full county results are consistent with what we have found thus far. That is, for African Americans that are moved into District 13, turnout either does not change or declines. Here, we report results for the two split precincts, where voters in the same precinct were in

Table 6: Turnout for Elections in U.S. House District 2 Among Voters With Similar Voting Rates in 2002

	2002[a]		2006		2008	
	Control	Treated	Control	Treated	Control	Treated
	55.8	57.0	56.0	63.1	89.2	88.2
	Difference		Difference		Difference	
	-1.2		7.1		-1.0	
χ^2	0.670		23.12*		0.902	

Note: Cell entries are the estimated turnout percentage in treatment and control groups. Treated voters are those moved by redistricting from a white Democratic incumbent in 2004 to an African American incumbent in 2006. [a]Placebo estimates: all voters are in the same congressional district in this year and estimates should be zero by construction. Adjustment in 2002 analysis is via exact matching on voter history, age, gender, and precinct- level propensity score with caliper applied. We then simply track the same set of voters from 2002 through subsequent elections. That is, we track the turnout rates for voters with identical voting rates in 2002. * p-value < 0.05

different Congressional districts.

For these two precincts, we have voters going to the same polling place, but some reside in a district with an African American candidate and others reside in a district with a white Republican incumbent. For these analyses, all precinct level covariates are held constant by the design, as such we only use covariates from the voter file. To that end, we match on age and gender with an exact match on voting history. We use the county designated precinct names of Marietta and Oregon. Table **??** contains the unadjusted results for the two split precincts in Cobb County. Again, we find that the voters who are moved into the majority-minority district have lower turnout rates before and after redistricting.

Table **??** contains results from our longitudinal analysis. The pattern, here, is quite clear. In three of the four analyses, the placebo results are good to excellent with two of them being exactly zero. In all cases, however, we observe declines of four percentage points or more in 2006. In 2008, the estimates are split evenly between negative and positive without any

Table 7: Unadjusted Turnout Levels for Cobb County - Split Precincts

Marietta Precinct		
	Control Voters Turnout (%)	Treated Voters Turnout (%)
2002[a]	57.9	53.6
2004[a]	84.6	81.1
2006	46.9	46.3
2008	81.2	79.4
Oregon Precinct		
	African American Voters	
	Control Voters Turnout (%)	Treated Voters Turnout (%)
2002[a]	60.0	49.2
2004[a]	79.5	75.7
2006	48.9	37.1
2008	89.7	76.6*

Note: Treated voters were moved by redistricting from white incumbent to an African American incumbent, while control voters remain with white incumbent. Each precinct was split across Congressional districts, and all voters voted at the same polling place. [a]Placebo estimates: all voters in same congressional district with white incumbent for these years. First election for which redistricting was effect was 2006. *p-value < 0.05

clear pattern. In general, we observe good placebo estimates followed by either a one or two election decline in turnout rates. There is, however, no evidence of turnout increasing.

Table 8: Turnout for Elections in Cobb County Among Voters With Similar Voting Rates in 2002 - Split Precincts

Marietta Precinct						
African American Voters						
	2002[a]		2006		2008	
	Control	Treated	Control	Treated	Control	Treated
	57.9	57.9	63.2	57.9	94.7	100
	Difference		Difference		Difference	
	0.0		-5.6		5.3	
χ^2	0.108		0.110		1.027	
Oregon Precinct						
African American Voters						
	2002[a]		2006		2008	
	Control	Treated	Control	Treated	Control	Treated
	60.0	60.0	64.0	48.0	96.0	88.0
	Difference		Difference		Difference	
	0.0		-16		-8.0	
χ^2	0.083		0.731		.271	

Note: Cell entries are the estimated turnout percentage in treatment and control groups. Treated voters are those moved by redistricting from a white Republican incumbent in 2004 to an African American incumbent in 2006. [a]Placebo estimates: all voters are in the same congressional district in this year and estimates should be zero by construction. Adjustment in 2002 analysis is via exact matching on voter history, age, and gender. We then track the same set of voters from 2002 through subsequent elections. That is, we track the turnout rates for voters with similar voting rates in 2002. *p-value < 0.05

5.2 Omnibus Test

We conduct one final analysis, which serves two purposes. First, we have presented a large number of estimates and tests across four geographic areas, when we have a general hypothesis that we would like to test. Therefore, it is useful at this point to conduct an omnibus test that summarizes our results. Second, we have conducted our analyses at the individual level.

The treatment however generally occurs at the precinct level or one might even argue at the county level. However, insofar as precincts are split, the treatment is at the individual level. That said, generally, one could argue that our inferences should occur at a more aggregate level. Here, we perform an omnibus test and account for aggregation with the sign test.[9]

How does the sign test work? Let us say that the status quo hypothesis is that African American candidates increase turnout. To make an inference about this hypothesis, we treat each estimate that is not from a placebo test in our analysis as a trial, and we treat each positive treated minus control difference as evidence for the status quo hypothesis. For the total number of tests, we can: ask how likely is the observed number of positive differences if the null hypothesis is true? Thus we formulate the following hypotheses about p, the probability of a positive difference for each trial:

$$H_0 : p = \frac{1}{2} \text{ vs } H_a : p > \frac{1}{2}$$

In our analyses, we conducted 15 different tests based on the stratified matching estimator (reported in the appendix) and 15 different tests based on the longitudinal matching estimator. We count the number of times, for each estimator, that the difference in turnout percentages is positive. We don't record the magnitude of the difference, just whether the difference was positive. Of course, this feature of the test disadvantages the alternative hypothesis, since any positive difference no matter how small counts as evidence against the null hypothesis.

We start with the results for African Americans. For the stratified matching estimator, we count four positive differences and one that is exactly zero and is dropped. For the longitudinal matching estimator, we count three positive differences. Assuming each trial is from a binomial distribution with probability of success equal to 0.5, the p-value for the

[9]Readers should note that sign test is a special case of the exact binomial test where the probability is fixed at 0.5. This sign test can also be used to test for differences in medians as an alternative to a rank based test. The trials are not strictly independent, but we think this still serves as a useful summary of the overall results.

two sign tests are .971 and .996, respectively. Thus there is little evidence to would allow us to reject the null hypothesis. However, if we change the alternative hypothesis to be one where African American candidates *decreases* turnout, the p-values are 0.089 and 0.018 for the stratified and longitudinal estimators respectively. Thus we are able to reject the null under this alternative hypothesis in one case and narrowly avoid rejecting it in another depending on the level of the test. For whites, the results are even more stark. For the stratified matching estimator, we count zero positive differences out of 15 tests. For the longitudinal data, there were 3 positive estimates out of 15 tests. Under a one-sided positive test, that implies p-values of 1 and 0.99 respectively. If we were to test for a negative effect, our p-values would be 0.000 and 0.018. In sum, the sign test provides little evidence of an increase in turnout and better evidence for a decrease in turnout. It is worth noting that even if we use just 15 observations per test, we have enough power to detect effects.

One weakness of the sign test is that it does not consider the magnitude of the estimated differences, only whether the signs are positive or negative. As a robustness check, we also used the Wilcoxon signed rank test, which does account for the magnitude of treated and control differences. Since the signed rank relies on ranks of the treated and control differences, it will not be influenced by the large negative effects in parts of North Carolina. We found the results from the signed rank test to be perfectly consistent with those from the sign test.

5.3 Field Experiment

5.3.1 North Carolina

We now present results from the field experiment in North Carolina. As we noted previously, we report two main results from these experiments. Table **??** reports the treatment effect comparing voters who did not receive a mailing as compared to voters who received a mailing without a racial cue. Table **??** also reports the treatment effect comparing voters who did not receive a mailing as compared to voters who received a mailing with a racial cue. We also stratify the effect by whether a voter was new to the district after being moved by the

redistricting process or whether the voter resided in the district before. If both types of mail boost turnout, we interpret that to be a simple GOTV effect. However, if only new voters respond to the mailing with a racial cue that suggests that it was the new chance to vote for a African American candidate that boosted turnout.

Table 9: Results From Field Experiment in NC District 1 House Primary

	Voters In District	Voters New to District
No Mail Compared to Mail W/o Racial Cue	-1.5	0.7
p-value	.085	.126
No Mail Compared to Mail W/ Racial Cue	1.2	0.2
p-value	.131	.410

Cell entries represent the difference in percentages across treatment condition and control condition. A positive percentage implies that turnout was higher for voters that received a mailing as compared to voters that did not receive a mailing encouraging them to vote.

Based on the results in Table **??** we find little evidence that new voters responded to the racial cue. The difference in turnout across conditions is a mere two-tenths of a percent.

5.3.2 Georgia

Table 10: Results From Field Experiment in GA District 4 House Primary

	Voters In District	Voters New to District
No Mail Compared to Mail W/o Racial Cue	2.1	0.07
p-value	.028	.541
No Mail Compared to Mail W/ Racial Cue	1.7	1.7
p-value	.072	.011

Cell entries represent the difference in percentages across treatment condition and control condition. A positive percentage implies that turnout was higher for voters that received a mailing as compared to voters that did not receive a mailing encouraging them to vote.

In Georgia, we do find some evidence that the new voters responded to the racial cue in the mailing. Among new voters, those who received the mailing with the racial cue,

turnout was higher by 1.7% points. Interestingly among voters who already resided in the district, both types of mail increased turnout, which suggests a GOTV effect but not a racial effect. We might also interpret the results as a pattern where the new voters respond to the racial cue but older voters do not. This is consistent with the one effect we found in the observational data. In Georgia District 2, we found voters responded to an African American candidate for one election but the effect faded in subsequent elections. The results from the field experiment are consistent with that pattern where for new voters there is a response to the racial cue, but for voters already in the district, they do not respond to the racial cue.

6 Discussion

We think our study offers both substantive and methodological insights. One methodological insight to be drawn from our study is the clear evidence of treatment heterogeneity. While we generally find no effects, we find a large negative effect in one instance and a small positive effect in another. As we noted earlier, one existing study pools over 4,000 elections (**?**). Pooling such a large number of diverse districts and races almost surely leads to inconsistent estimates. Also it is clear that selection needs to be accounted for when modeling turnout. Districts are clearly drawn to suit greater political purposes. Thus we must expect that state legislators will draw districts strategically. If our empirical estimates do not account for this, we may be misled. While our research here says nothing about how Hispanics might respond in majority-minority districts, other work using the same research design in Hispanic districts finds results consistent with what we present here (**?**).

Substantively, we find there is little evidence that African American candidates increase turnout among African American voters. We also present results in the appendix, where we show that registration also doesn't increase among African American voters. What we do observe is that turnout generally declines when white voters are moved into these districts, reflecting perhaps a racial backlash. Many readers may object that we only present a limited set of tests from four candidates across two states. In reply, we would say that concerns about

selection require such an approach. Like a laboratory experiment, we must give up some external validity in other to better estimate causal effects. While the circumstances of our test are unrepresentative, it is these circumstances that allow us to see the effects caused by a treatment with clarity. Redistricting allows us to better specify our models and present clear evidence that treated and control are comparable before any voters can vote for an African American candidate.

Why might African American voters not respond when moved to a majority-minority district with an African American representative? We believe that we can safely rule out that the explanation is African American voter are unaware of the race of their Member of Congress. Unless we think awareness is lower among African Americans than whites there is little reason to think that whites should respond negatively to being redistricted but African Americans would be unaware. One could perhaps argue that the redistricting process itself depresses turnout. While that is a possibility, other research has found that turnout does not decline when voters are moved from one district to another after redistricting (**?**). Our conjecture is that the lack of competition is the key factor. Without competition, there is no need for mobilization of voters and little reason for newly imported voters to express themselves at the polls. While our study cannot distinguish between these different mechanisms, we believe it does provide strong evidence against the hypothesis that African American voters uniformly respond to co-racial representation in the form of higher turnout.

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Appendices

A.1 State Level African American Representation

In the observational study, we defined the treatment as being moved into a (nearly) majority-minority district with represented by an African American Member of Congress. Of course, U.S. House districts overlap with state legislative districts that may also have African American representatives. **??** argue that each additional level of co-racial representation further boosts turnout. That is, turnout will be highest in areas with African American representation in the state house, state senate, and U.S. House. Here, we note whether any of our treated areas overlapped with African American representation in the state legislature.

We start in North Carolina with District 1. This area was covered by a single state Senate district that did not at any time have an African American representative. Until 2004, none of the treated counties were part of any N.C. House districts with African American representatives. In 2004, Perquimans county, one of the three treated counties, was added to NC House district 5 which was represented by Howard Hunter an African American. The other area we studied in North Carolina, Forsyth County also did not at any time have an African American representative for the State senate. One state house district in the county, the 71st, did have an African American representative. This district, however, did not overlap with any of our treated or control areas. Thus in North Carolina, in 2004, we have a joint state house and U.S. House treatment for one county.

In Georgia, we first focus on the two counties that were moved into U.S. House District 2. Parts of the treated counties have been represented by Lynmore James, an African American, since 1992. The treated area of Cobb County in our study has had a more complicated pattern of African American representation in the Georgia House of Representatives. A very small area in the treated part of the county was represented by Billy McKinney until 2002 when he lost to a white Democrat named John Noel. Noel later lost to an African American in 2004 who has represented the district since then. In 2002, Alisha Thomas won the the

33rd House District in our treated area and has represented that area since then. Thus in 2006, when our treatment occurs about half of the treated area had African American representation in the Georgia House. None of the treated or control areas in Georgia ever had African American representation in the state senate.

We see no reason any of these patterns should affect on our results. Additional African American candidates should either increase turnout further or have no effect at all. That is, we cannot envision any scenario where having an African American representative in the state house decreased turnout when these areas were moved to U.S. House districts with an African American representatives. Moreover, most of the areas we study did not have any African American representation the year they were treated.

A.2 Post Redistricting Campaign Data

Here we present detailed information on the post-redistricting elections for the observational study results. Our main concern is that one of the elections in the control areas in the observational study is competitive which may cause an unusual increase in mobilization. Table **??** contains details on the electoral environment in the post-treatment (post-redistricting) elections in North Carolina for the four districts we use in our analysis. We have nearly ideal conditions in 2002, the first election after redistricting. In both cases, the African American voters that do not move to the majority-minority district experience an election where the Republican incumbent in unopposed. The only instance where the control voters face a competitive environment are in 2004 and 2006 when the seat is open in the 5th District. The Republican wins but not by a huge margins. Interestingly, however, the Democratic challenger in these elections spends very little, which suggests that large scale mobilization probably did not occur. Moreover, the African American candidate, Mel Watt, spends more than half a million dollars despite vote margins of more than fifteen points. Thus treated votes may have experienced mobilization during the election.

Table **??** contains details on the electoral environment in the post-treatment (post-

Table 11: NC Districts Post-Redistricting Profile and Environment

	Case 1		Case 2	
	Treated Moved To	Control Remained In	Treated Moved To	Control Remained In
District	1	3	12	5
Party	Dem	Rep	Dem	Rep
First Election in New District	2002	2002	2002	2002
2002 Vote Share	64%	100%	65%	100%
2004 Vote Share	65%	71%	67%	59%
2006 Vote Share	100%	69%	57%	57%
2002 Campaign Spending	.626	.462	.358	.420
2002 Opponent Campaign Spending	.012	0	.003	.012
2004 Campaign Spending	.422	.639	.579	1.1
2004 Opponent Campaign Spending	.039	.012	.105	.383
2006 Campaign Spending	.387	.553	.503	1.4
2006 Opponent Campaign Spending	0	.065	.442	.139

Note: Spending in millions of dollars. Spending data from Center for Responsive Politics. Open seat in District 1 in 2002. Open seat in District 5 in 2004.

redistricting) elections in Georgia for the four districts we use in the observational study results. Here, we are unable to only compare uncompetitive districts. In one case, voters who were moved to District 2 from District 8 were moved to hurt the electoral prospects of the Democratic incumbent in the 8th. Thus, in the 8th we might expect mobilization to occur among the African American voters who were not moved to the African American incumbent. Since the Democratic candidate was in an extremely competitive election, we must expect some mobilization effort among African Americans. As such, it is here that we might least expect turnout to be higher among those moved to the African American candidate. Interestingly in District 13, despite the challenger losing handily, spending by the challenger exceeded spending by the African American incumbent. For the African American voters who do not move to the 13th, the challenger there spends a mere $3,000 dollars in 2006 and nothing in 2008. Thus we can be confident voters in the control district were not mobilized by the challenger there.

Table 12: GA Districts Post-Redistricting Profile and Environment

	Case 1		Case 2	
	Treated Moved To	Control Remained In	Treated Moved To	Control Remained In
District	2	8	13	11
Party	Dem	Dem	Dem	Rep
First Election in New District	2006	2006	2006	2006
2006 Vote Share	68%	51%	69%	71%
2008 Vote Share	69%	57%	69%	68%
2006 Campaign Spending	.818	1.9	1.2	1.3
2006 Opponent Campaign Spending	.028	2.0	1.3	.003
2008 Campaign Spending	1.0	1.8	1.4	1.6
2008 Opponent Campaign Spending	.008	1.2	5.2	0

Note: Spending in millions of dollars. Spending data from Center for Responsive Politics.

A.3 Additional Empirical Results For The Observational Study

Here, we report the results from an additional matching analysis. The analysis reported in the paper, excludes any voter that registered to vote after the placebo test election. The results here include all voters registered to vote at the first election after redistricting. In this matching analysis, we stratify the precinct level propensity score and exactly match within these propensity score subclasses. This is equivalent to a matching analysis with propensity score subclassification (**?**). We use ten propensity score subclasses, we tend to lose some observations as overlap decreases but the bias adjustment should be greater.[10] We also match on voting history as described above. We use genetic matching to form our matched samples (**??**). With the matched data, we then estimate the turnout rate with a regression model adjusting for age and gender with clustering on precincts to account for within precinct correlations. We implement this analysis, before and after redistricting

[10]We also used five propensity score subclasses but generally found betters results in terms of the placebo test with ten subclasses.

occurred. We expect it to return no effect in the election before redistricting. In the placebo test analysis, for North Carolina, we exact match on turnout in 1996 and 1994; in Georgia we exact match on turnout in 2004 and 2002. If we fail this placebo test, we have decreased confidence in the estimates after redistricting since the groups were not comparable before the treatment occurred.[11]

A.3.1 North Carolina

We start with the results from District 1 in North Carolina in Table **??**. We first examine the results from the placebo test in 1998 to understand whether our statistical adjustments are successful. For the placebo test, we wish to do more than simply find an estimate that is not statistically significant, the closer the estimated difference in turnout is to zero the greater confidence we have in our adjustments. As we can see in the first row of Table **??**, the placebo test results are quite good as the estimate is less than a single percentage point. As we mentioned before we might expect this primary to be singularly competitive since the seat is open and might energize African American voters who have been newly shifted into District 1. However, we find a large decline in turnout. That is, for African Americans who were moved into District 1 with African American candidates, turnout was around 13 points lower in both the primary and general election. In the 2004 general, turnout is basically the same for both treated and control voters. In 2006, however, turnout among the treated in District 1 was again lower by more than five percentage points.

Table **??** reports the estimates after we matched on individual level covariates and used subclassification on the precinct level propensity score. Here, we find our corrections work better than in District 1. The placebo effect estimate is a tenth of a percentage point, and we find very little difference between the controls who stayed with a white candidate and the treated units that moved to an African American candidate. In each election between 2002 and 2006, the estimated difference never exceeds half of a percentage point.

[11] In every case, we estimate the average treatment effect on the treated not the average treatment effect. More specifically, we estimate $E[Y_i(1) - Y_i(0)|D = 1]$.

Table 13: Matching Estimates of Turnout Levels for U.S. House District 1

1998[a] *General*	0.7
	(3.0)
N	3178
2002 Primary	-13.2*
	(6.1)
N	712
2002 General	-13.7*
	(2.8)
N	1932
2004 General	-0.4
	(3.7)
N	1952
2006 General	-11.4*
	(3.5)
N	2358

Note: Cell entries are the treated minus control difference in turnout with standard errors in parenthesis. Treated voters are those moved by redistricting from a white Republican incumbent in 2000 to an African American candidate in 2002. [a]Placebo estimates: all voters are in the same congressional district in this year and estimates should be zero by construction. Adjustment is via exact matching on voter history and on ten precinct-level propensity score subclasses. Adjustment for age and gender via regression. Standard errors adjusted for precinct-level clustering. Estimates represent difference-in-difference estimates. We omit 2000 as a placebo test since the first treated year is 2002 a midterm election. * p-value < 0.05

Table 14: The Effect of House Candidate Race and Redistricting in U.S. House District 12

1998[a] *General*	-0.1
	(2.3)
N	1024
2002 General	0.1
	(3.3)
N	1074
2004 General	-0.4
	(4.3)
N	1370
2006 General	0.06
	(2.3)
N	1592

Note: Cell entries are the treated minus control difference in turnout with standard errors in parenthesis. Treated voters are those moved by redistricting from a white Republican incumbent in 2000 to an African American candidate in 2002. [a]Placebo estimates: all voters are in the same congressional district in this year and estimates should be zero by construction. Adjustment is via exact matching on voter history and on ten precinct-level propensity score subclasses. Adjustment for age and gender via regression. Standard errors adjusted for precinct-level clustering. Estimates represent difference-in-difference estimates. We omit 2000 as a placebo test since the first treated year is 2002 a midterm election. * p-value < 0.05

A.3.2 Georgia

Table **??** contains estimates for voters in the 2nd House District in Georgia. Readers should note that turnout in 2008 was very high among African Americans undoubtedly due to the presence of Obama on the ballot. We find this is true in all the results we present for Georgia. Given that the presence of Obama was constant across all states this should not bias our estimates. Strictly speaking, we pass the placebo test in 2002 since the estimates are not statistically significant, but the point estimate is fairly large at 3.8 percent. Given this poor result, we also estimated a placebo test for 2004. In 2004, the placebo results are much better with estimated differences of less than one percent. This implies that we should have greater faith in the estimates for 2008 than 2006. Here, we do observe a small increase in turnout in 2006; it is over three percentage points. In both cases, we cannot rule out that zero is contained within a 95% confidence interval. In 2008, we observe that turnout for those moved is lower relative to those that were not moved. Thus we see some weak evidence for an increase in turnout due to voters moving to an African American candidate. Whatever increase we observe, however, it appears to be temporary. Moreover, in 2008 when the estimates pass a placebo test, we observe a decline in turnout among the treated. For whites, the placebo test effect is rather large at just under two percentage points. The estimates in 2006 and 2008 are negative but small in magnitude and are small relative to their estimated standard errors.

Here, we report the results for all moved areas in Cobb County. To reprise, here voters moved from District 11 under Republican incumbent Phil Gingrey to District 13 under African American David Scott. Table **??** contains the unadjusted results for Cobb County. Here, we find that turnout was lower among treated voters in both 2002 and 2004. While the differences are not large at three and a half percentage points in 2002 and one and a half percentage points in 2004, they indicate the need for statistical adjustment.

Table **??** contains estimates from our matching estimator for African American voters in Cobb County. In Cobb County, the placebo results are poor. However, given what we

Table 15: The Effect of House Candidate Race and Redistricting in U.S. House District 2

2002[a] *General*	-3.8
	(2.3)
N	5826
2004[a] *General*	-0.7
	(2.3)
N	7162
2006 General	3.4
	(2.7)
N	8296
2008 General	-3.4
	(1.4)
N	12220

Note: Cell entries are the treated minus control difference in turnout with standard errors in parenthesis. Treated voters are those moved by redistricting from a white Democratic incumbent in 2004 to an African American incumbent in 2006. [a]Placebo estimates: all voters are in the same congressional district in this year and estimates should be zero by construction. Adjustment is via exact matching on voter history and on ten precinct-level propensity score subclasses. Adjustment for age and gender via regression. Standard errors adjusted for precinct-level clustering. Estimates represent difference-in-difference estimates. * p-value $<$ 0.05

Table 16: Unadjusted Turnout Levels for Cobb County

	Control Voters Turnout (%)	Treated Voters Turnout (%)
2002[a]	62.8	59.3*
2004[a]	85.9	84.4*
2006	52.1	51.9
2008	83.4	81.7*

Note: Voters in treated counties were moved by redistricting from white incumbent to a race won by African American incumbent. Voters in control counties remain with white incumbent. [a]Placebo estimates: all voters in same congressional district with white incumbent for these years. First election for which redistricting was effect was 2006. *p-value < 0.05

observe in 2006 and 2008, we would argue that we can still reasonably conclude that the move to a majority-minority district did not increase turnout. That is in 2006, we see a slight increase. In 2008, we observe statistically significant decline in turnout. Readers should keep in mind that these matching estimates are equivalent to difference-in-difference estimates. Thus the point estimates for 2006 and 2008 account for overtime change among the two groups. Thus in 2006 one might conclude there was a minor uptick in turnout that increase is gone by 2008.

Table **??** contains the results from our longitudinal analysis where the estimates are generally consistent with those in Table **??**. The placebo estimates are slightly improved from the matched analysis. However, we treat the placebo estimate as a baseline difference and look for deviations from this baseline. In 2006 we observe a slight increase, but not one that is statistically distinguishable from zero. In 2008, we observe a return to the baseline estimate in 2002. In general, the results in Table **??** do not provide compelling evidence that turnout behavior changed after redistricting. We now turn to the results from the two split precincts in Cobb County.

Table 17: Matching Estimates of Turnout Levels for Cobb County

2002[a] General	-2.7
	(2.1)
N	8124
2006 General	0.9
	(2.1)
N	14334
2008 General	-3.3*
	(1.3)
N	22774

Note: Cell entries are the treated minus control difference in turnout after adjustments via matching and regression with standard errors in parenthesis. Treated voters are those moved by redistricting from a white Republican incumbent in 2004 to an African American incumbent in 2006. [a]Placebo estimates: all voters are in the same congressional district in this year and estimates should be zero by construction. Adjustment is via exact matching on voter history and on ten precinct-level propensity score subclasses. Adjustment for age and gender via regression. Standard errors adjusted for precinct-level clustering. Estimates represent difference-in-difference estimates.

Table 18: Turnout for Elections in Cobb County Among Voters With Identical Voting Rates in 2002

	2002[a]		2006		2008	
	Control	Treated	Control	Treated	Control	Treated
	63.0	61.0	65.5	64.3	94.5	91.6
	Difference		Difference		Difference	
	-2.0		-1.2		-2.9	
χ^2	2.12		0.76		14.44*	

Note: Cell entries are the estimated turnout percentage in treatment and control groups. Treated voters are those moved by redistricting from a white Republican incumbent in 2004 to an African American incumbent in 2006. [a]Placebo estimates: all voters are in the same congressional district in this year and estimates should be zero by construction. Adjustment in 2002 analysis is matching on voter history, age, and gender. Exact matching is applied to voter history. We then track the same set of voters from 2002 through subsequent elections. That is, we track the turnout rates for voters with similar voting rates in 2002.

Table **??** contains the results after exactly matching on voter history and matching on age, age-squared, and gender. First, we are able to produce perfect placebo outcomes. That is voting rates before redistricting were identical in both precincts. In the Marietta precinct, we observe no change in 2006 and a slight decline in 2008, as such there is no evidence of a treatment effect. In the Oregon precinct, turnout declines in both subsequent elections.

Table 19: Turnout Levels After Matching for Cobb County - Split Precincts

Marietta Precinct				
	Control Voters Turnout (%)	Treated Voters Turnout (%)	Difference	N
2002[a]	57.9	57.9	0	38
2006	46.9	46.9	0	64
2008	81.2	79.2	-2	96
Oregon Precinct				
	Control Voters Turnout (%)	Treated Voters Turnout (%)	Difference	N
2002[a]	60.0	60.0	0	50
2006	48.9	42.2	-6.7	90
2008	89.7	80.9	-8.8	136

Note: Cell entries are the turnout percentages after adjustments via matching. Treated voters are those moved by redistricting from a white Republican incumbent in 2004 to an African American incumbent in 2006. Each precinct was split across Congressional districts, and all voters voted at the same polling place. [a]Placebo estimates: all voters are in the same congressional district in this year and estimates should be zero by construction. Adjustment is via matching on voter history, age, and gender. *p-value < 0.05

A.4 Voter Registration Rates

Here, we present one additional analysis. We might also expect that when state legislators move African American citizens into majority-minority districts that this will attract new voters. This should be reflected in voter registration rates that is we might expect an influx of new voters. Of course, a flood of newly registered voters should also be reflected in turnout rates, which, as we have shown, did not appear to increase. As one final empirical analysis, we explore whether registration rates might also have been affected by the move into a majority-minority district. As we outlined earlier, our analysis is based on the so-

called voter file a database which contains records on all citizens that are registered to vote. The voter file contains data on the date each citizen registered to vote. We calculated the percentage of registered voters that registered in the year of the election before the closing date in each state. In North Carolina, the closing date is 25 days before the election. In Georgia, the closing date is the fifth Monday before the election. As a rule of thumb, we counted all the voters that registered before October 1st of the election year. Thus we can observe whether a higher percentage of voters registered right before the first chance to vote for an African American as compared to areas that were not moved to a majority-minority district. We present unadjusted estimates, since we have almost no covariates to use for statistical adjustment. Table **??** contains the results from our analysis. Table reftab:registr also contains placebo estimates for each area in both states. The placebo estimates are reasonable close particularly for District 13 in Georgia. In North Carolina, we observe either a modest increase in registration in 2002, the first year of treatment. In Georgia we see minor increases, but these increases are also found among control voters. Noticeably, in 2008 in Georgia, registration rates were higher in majority-minority districts. Perhaps House candidates led registration drives in concert with the Obama campaign.

Table 20: Percentage of Registered Voters Registering in Year of Election

North Carolina				
District 1				
	1998[a]	2002	2004	2006
Control	5.0%	4.1%	4.9%	2.6%
Treated	4.2%	4.5%	8.8%	3.1%
District 12				
	1998[a]	2002	2004	2006
Control	5.1%	3.8%	7.9%	4.2%
Treated	4.4%	4.1%	6.8%	3.1%
Georgia				
District 2				
	2002[a]	2006	2008	
Control	3.8%	4.9%	17.9%	
Treated	2.8%	4.9%	23.5%	
District 13				
	2002[a]	2006	2008	
Control	7.5%	10.2%	18.5%	
Treated	7.8%	10.3%	21.0%	

Note: [a]Placebo estimates.

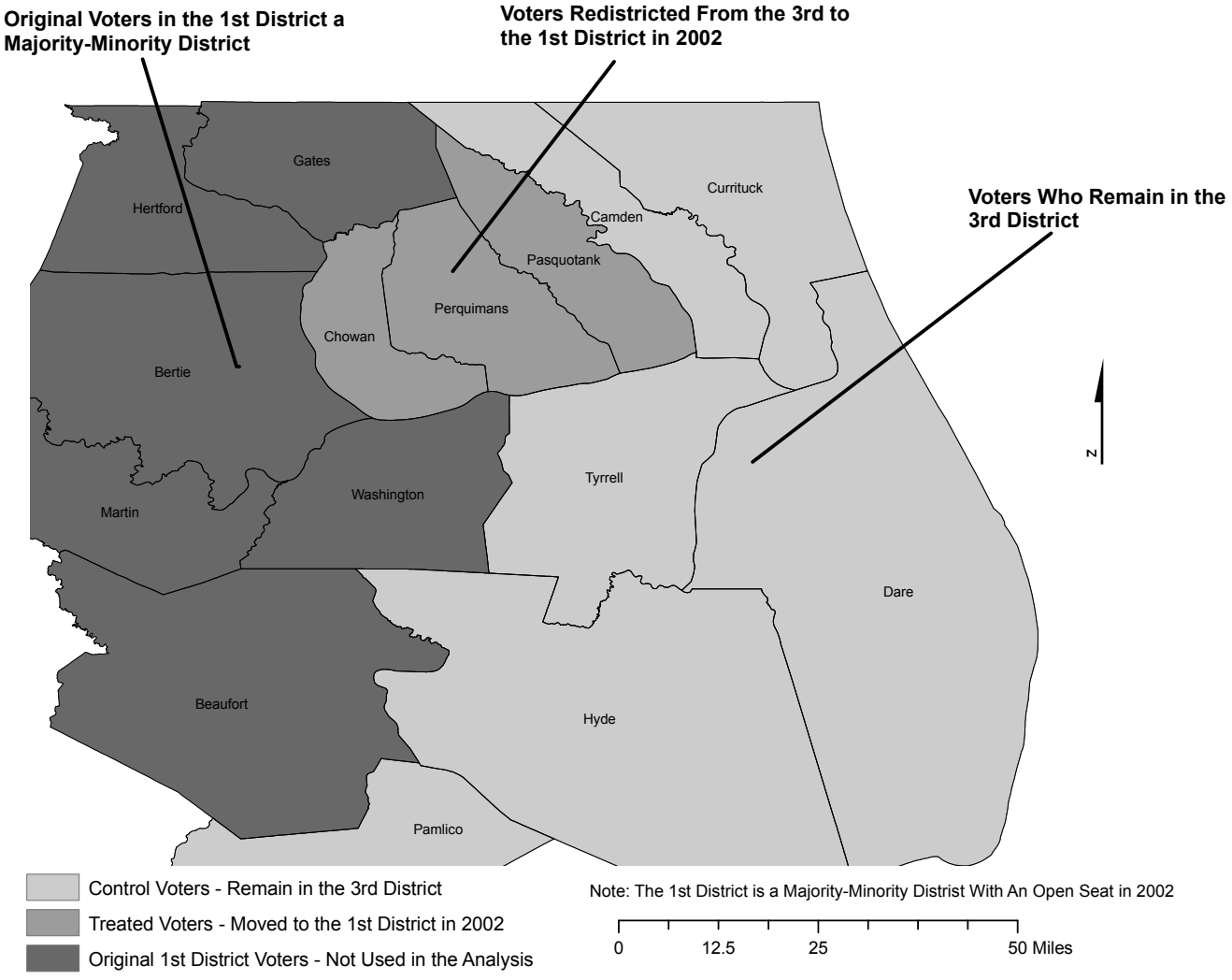


Figure 2: Change in district boundaries for North Carolina House Districts 1 and 3 from 2000 to 2002.

Note: Counties are moved from the 3rd district represented by white Republican incumbent Walter Jones to the 1st district in 2002 where the seat was open. The seat in the 1st district was won by Frank Ballance an African American Democrat. Both won easily in 2002.

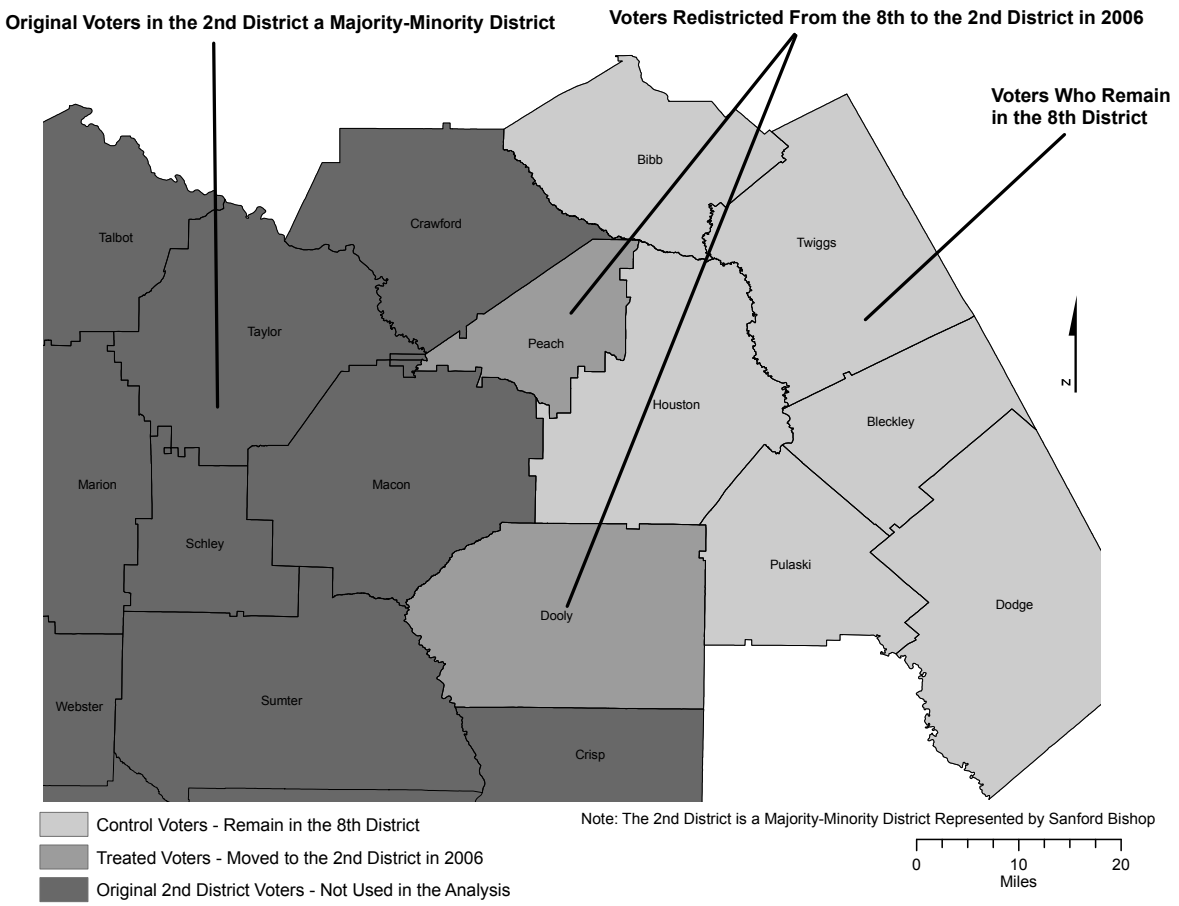


Figure 3: Change in district boundaries for Georgia House Districts 2 and 8 from 2004 to 2006.

Note: Precincts are moved from the 8th district represented by white Democrat incumbent Jim Marshall to the 2nd district represented by Sanford Bishop an African American Democrat. Both won easily in 2006.

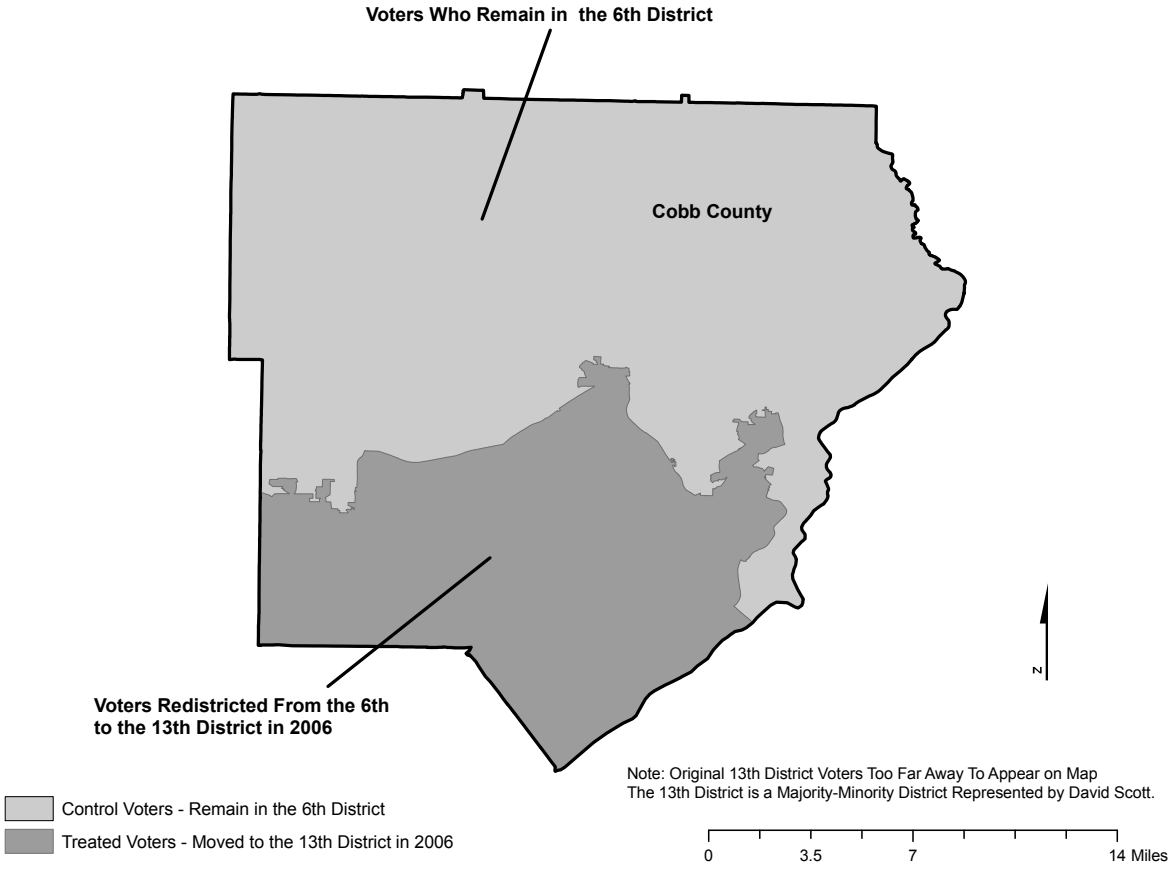


Figure 4: Change in district boundaries for Georgia House Districts 6, 11 and 13 from 2004 to 2006.
Note: Precincts are moved from either the 6th or 11th district represented by white Republican incumbent to the 13th district represented by David Scott an African American Democrat. All candidates won easily in 2006. All voters reside in Cobb County.

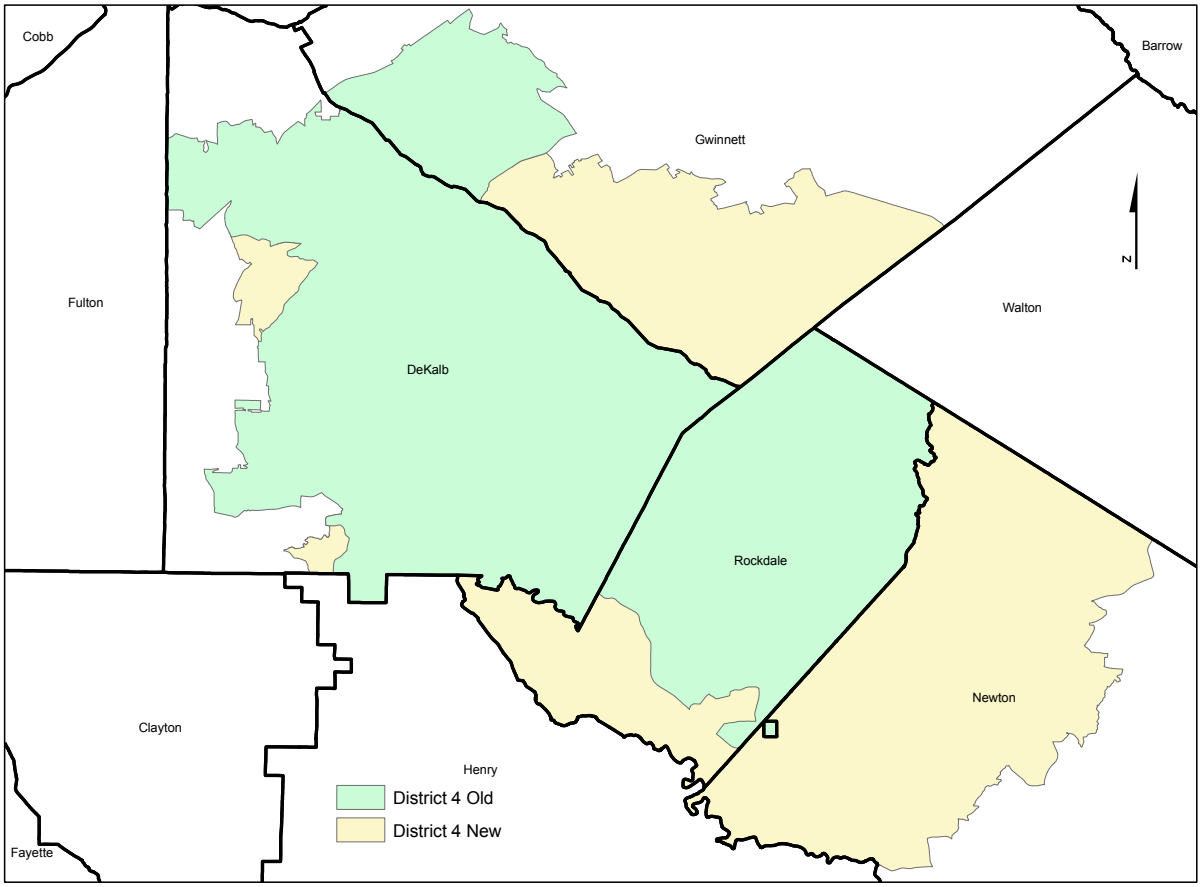


Figure 5: Change in district boundaries for Georgia House District 4 from 2004 to 2006.

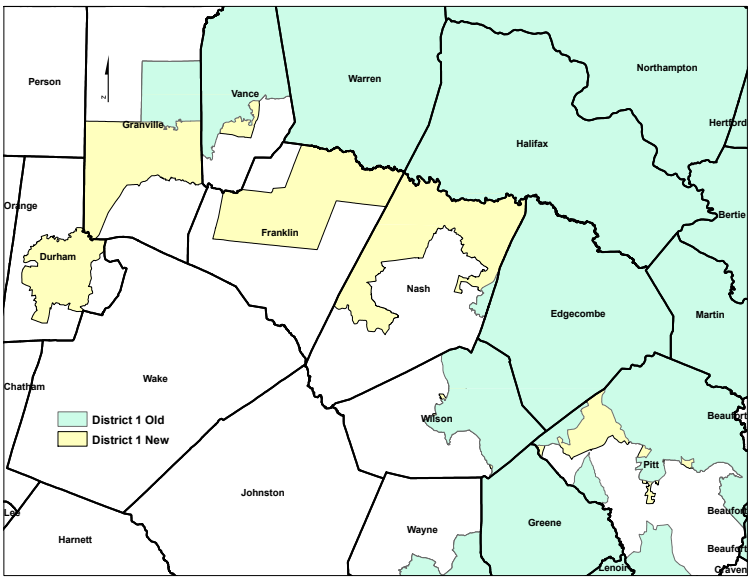
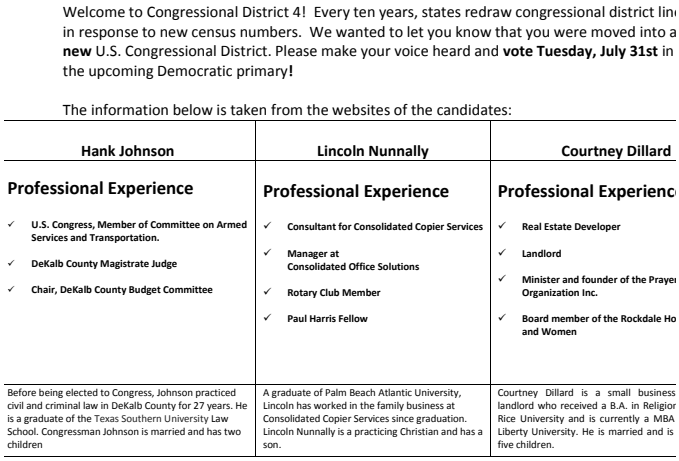


Figure 6: Change in district boundaries for North Carolina House District 1 from 2010 to 2012.

A.5 Experimental Stimuli: Georgia

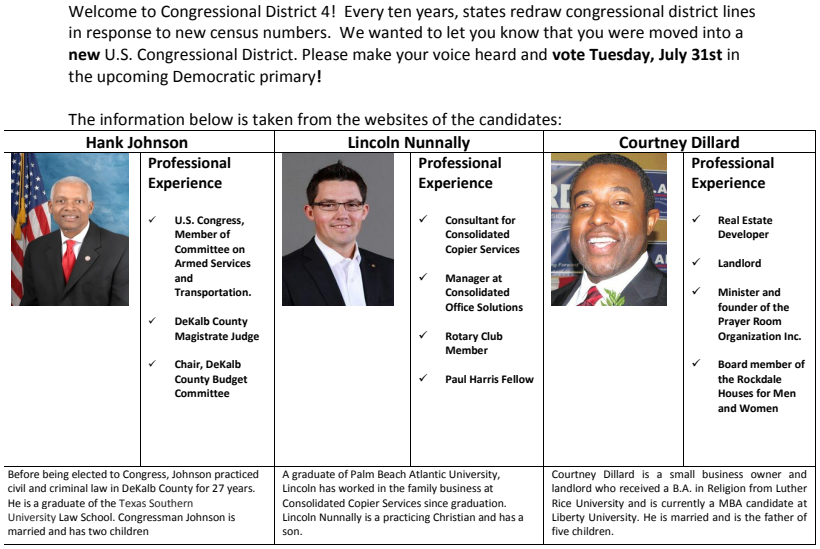


Welcome to Congressional District 4! Every ten years, states redraw congressional district lin
in response to new census numbers. We wanted to let you know that you were moved into a
new U.S. Congressional District. Please make your voice heard and **vote Tuesday, July 31st** in
the upcoming Democratic primary**!**

The information below is taken from the websites of the candidates:

Hank Johnson	Lincoln Nunnally	Courtney Dillard
Professional Experience ✓ U.S. Congress, Member of Committee on Armed Services and Transportation. ✓ DeKalb County Magistrate Judge ✓ Chair, DeKalb County Budget Committee	**Professional Experience** ✓ Consultant for Consolidated Copier Services ✓ Manager at Consolidated Office Solutions ✓ Rotary Club Member ✓ Paul Harris Fellow	**Professional Experienc** ✓ Real Estate Developer ✓ Landlord ✓ Minister and founder of the Praye Organization Inc. ✓ Board member of the Rockdale Ho and Women
Before being elected to Congress, Johnson practiced civil and criminal law in DeKalb County for 27 years. He is a graduate of the Texas Southern University Law School. Congressman Johnson is married and has two children	A graduate of Palm Beach Atlantic University, Lincoln has worked in the family business at Consolidated Copier Services since graduation. Lincoln Nunnally is a practicing Christian and has a son.	Courtney Dillard is a small business landlord who received a B.A. in Religior Rice University and is currently a MBA Liberty University. He is married and is five children.

Figure 7: Mailer in Georgia for First Treatment Condition: No Racial Cue.
Note: Control condition was not receiving a mailing. Mailer sent to both voters new to the district and to voters already residing in the 4th District.



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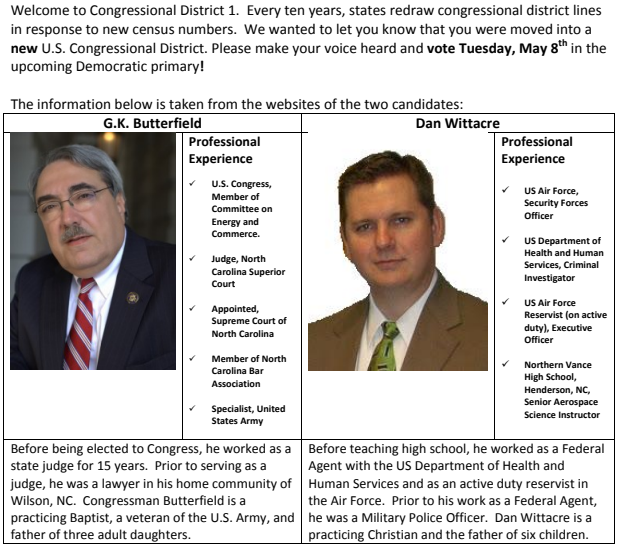
Hank Johnson	Lincoln Nunnally	Courtney Dillard
Professional Experience ✓ U.S. Congress, Member of Committee on Armed Services and Transportation. ✓ DeKalb County Magistrate Judge ✓ Chair, DeKalb County Budget Committee	**Professional Experience** ✓ Consultant for Consolidated Copier Services ✓ Manager at Consolidated Office Solutions ✓ Rotary Club Member ✓ Paul Harris Fellow	**Professional Experience** ✓ Real Estate Developer ✓ Landlord ✓ Minister and founder of the Prayer Room Organization Inc. ✓ Board member of the Rockdale Houses for Men and Women
Before being elected to Congress, Johnson practiced civil and criminal law in DeKalb County for 27 years. He is a graduate of the Texas Southern University Law School. Congressman Johnson is married and has two children	A graduate of Palm Beach Atlantic University, Lincoln has worked in the family business at Consolidated Copier Services since graduation. Lincoln Nunnally is a practicing Christian and has a son.	Courtney Dillard is a small business owner and landlord who received a B.A. in Religion from Luther Rice University and is currently a MBA candidate at Liberty University. He is married and is the father of five children.

Figure 8: Mailer in Georgia for Second Treatment Condition: With Racial Cue
Note: Control condition was not receiving a mailing. Mailer sent to both voters new to the district and to voters already residing in the 4th District.

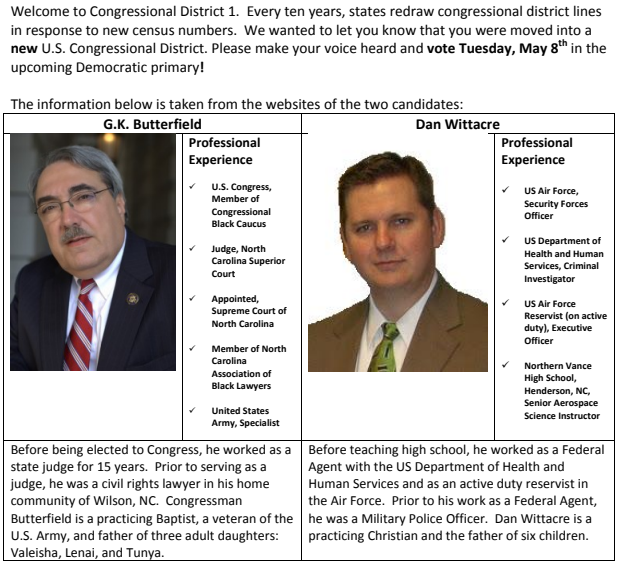


Welcome to Congressional District 1. Every ten years, states redraw congressional district lines in response to new census numbers. We wanted to let you know that you were moved into a **new** U.S. Congressional District. Please make your voice heard and **vote Tuesday, May 8th** in the upcoming Democratic primary**!**

The information below is taken from the websites of the two candidates:

G.K. Butterfield	Dan Wittacre
Professional Experience ✓ U.S. Congress, Member of Committee on Energy and Commerce. ✓ Judge, North Carolina Superior Court ✓ Appointed, Supreme Court of North Carolina ✓ Member of North Carolina Bar Association ✓ Specialist, United States Army	**Professional Experience** ✓ US Air Force, Security Forces Officer ✓ US Department of Health and Human Services, Criminal Investigator ✓ US Air Force Reservist (on active duty), Executive Officer ✓ Northern Vance High School, Henderson, NC, Senior Aerospace Science Instructor
Before being elected to Congress, he worked as a state judge for 15 years. Prior to serving as a judge, he was a lawyer in his home community of Wilson, NC. Congressman Butterfield is a practicing Baptist, a veteran of the U.S. Army, and father of three adult daughters.	Before teaching high school, he worked as a Federal Agent with the US Department of Health and Human Services and as an active duty reservist in the Air Force. Prior to his work as a Federal Agent, he was a Military Police Officer. Dan Wittacre is a practicing Christian and the father of six children.

Figure 9: Mailer in North Carolina for First Treatment Condition: No Racial Cue.
Note: Control condition was not receiving a mailing. Mailer sent to both voters new to the district and to voters already residing in the 1st District.



Welcome to Congressional District 1. Every ten years, states redraw congressional district lines in response to new census numbers. We wanted to let you know that you were moved into a **new** U.S. Congressional District. Please make your voice heard and **vote Tuesday, May 8th** in the upcoming Democratic primary**!**

The information below is taken from the websites of the two candidates:

G.K. Butterfield		**Dan Wittacre**	
	Professional Experience ✓ U.S. Congress, Member of Congressional Black Caucus ✓ Judge, North Carolina Superior Court ✓ Appointed, Supreme Court of North Carolina ✓ Member of North Carolina Association of Black Lawyers ✓ United States Army, Specialist		**Professional Experience** ✓ US Air Force, Security Forces Officer ✓ US Department of Health and Human Services, Criminal Investigator ✓ US Air Force Reservist (on active duty), Executive Officer ✓ Northern Vance High School, Henderson, NC, Senior Aerospace Science Instructor
Before being elected to Congress, he worked as a state judge for 15 years. Prior to serving as a judge, he was a civil rights lawyer in his home community of Wilson, NC. Congressman Butterfield is a practicing Baptist, a veteran of the U.S. Army, and father of three adult daughters: Valeisha, Lenai, and Tunya.		Before teaching high school, he worked as a Federal Agent with the US Department of Health and Human Services and as an active duty reservist in the Air Force. Prior to his work as a Federal Agent, he was a Military Police Officer. Dan Wittacre is a practicing Christian and the father of six children.	

Figure 10: Mailer in North Carolina for Second Treatment Condition: With Racial Cue. Note: Control condition was not receiving a mailing. Mailer sent to both voters new to the district and to voters already residing in the 1st District.