# A Change of Heart or Change of Address? The Geographic Sorting of Whites' Attitudes towards Immigration

Ariela Schachter
Department of Sociology
Stanford University

450 Serra Mall
Stanford, CA 94305

arielas1@stanford.edu

DRAFT: 1/30/2015. Please do not cite without author permission.

**Abstract**

Do White Americans change their attitudes when immigrants move into their neighborhoods? Evidence from public opinion research remains mixed and infers causality from cross-sectional data. Drawing from research on White flight, I instead propose a sorting model: White Americans who are predisposed to dislike immigration leave neighborhoods with growing immigrant populations and move to places with fewer immigrants. In the long run, Whites with liberal immigration attitudes remain in neighborhoods with large immigrant populations, while those with more conservative attitudes move away. Using geocoded panel data from the General Social Survey (2008-2010), I find no evidence that immigrant influxes cause changes in individual attitudes, but find preliminary evidence in support of the sorting model. The residential mobility of White Americans may be a key mechanism linking local immigrant population size and public opinion on immigration.

In communities across the country, U.S.-born Americans increasingly find themselves in contact with immigrants. From 2000 to 2011, the foreign-born population grew from 31 to over 40 million people (Pew 2013), and immigrants have moved beyond traditional gateways, settling into the suburbs and regions throughout the country (Singer 2004; Lichter 2012). The effects of this demographic change are far-reaching and motivate the central question of this paper: how do Americans react when immigrants move into their neighborhoods?

Previous scholarship focuses on two potential outcomes resulting from the settlement of large immigrant populations: attitudes and residential flight. With respect to attitudes, scholars have investigated how Americans' opinions on immigration are shaped by immigrant populations in their cities and neighborhoods, positing that an influx of immigrants will either break down social barriers, leading to more positive relations and support for liberal immigration policies, or be viewed as a threat to the native-born's (and particular Whites') economic, political, or social resources, leading to more negative attitudes about immigration (see Hainmueller and Hopkins (2014) for a review). Where geographic mobility is concerned, social scientists examine whether native-born Americans are likely to move away from neighborhoods due to changing economic circumstances, racial animus, or other neighborhood or individual characteristics resulting from influxes of immigrant residents (e.g., Frey 1995; White and Liang 1998; Crowder, Hall and Tolnay 2011; Hall and Crowder 2014). Critically missing from both lines of scholarship is an examination of how negative attitudes towards immigration may encourage Americans to move away from immigrants, and how these attitude-driven moves may explain why the size of the local immigrant population is correlated with individuals' attitudes towards immigration.

In order to capture this intersection, I propose a sorting model that connects changes in local immigrant populations, political attitudes on immigration, and the geographic mobility decisions of native-born Whites. [1] Drawing from previous work on White flight (Frey 1979; Galster 1990; Lee and Wood 1991; Crowder 2000; Krysan 2002; Crowder and South 2008), I argue that one avenue for expressing displeasure with a growing immigrant population is to move to an area with a smaller immigrant population. Over the long-term, these ideologically-driven moves lead to a 'sorted' population where those with liberal immigration attitudes remain in communities with larger immigrant populations, while those most opposed to immigration end up in neighborhoods with relatively few immigrants. Following the work of Sampson and Sharkey (2008), the sorting model views neighborhood selection as a central sociological process, rather than statistical bias. Unlike alternative theories thought to explain the link between immigrant population size and political attitudes, the sorting model accounts for two key and seemingly incongruous empirical observations: Americans react negatively to large influxes of immigrants, but on average tend to hold more positive attitudes about immigration when they live in neighborhoods with more immigrants (Hopkins 2010).

Testing the implications of the sorting model requires longitudinal data that reveal attitudes on immigration and residential mobility patterns over time. Longitudinal data also allow for more rigorous testing of existing theories that posit that immigrant influxes cause *changes* in individuals' attitudes. Using newly-available geocoded panel data from the General Social Survey (2008-2010), I present the first longitudinal, causal analysis of threat and contact effects on immigration attitudes, paying attention to treatment non-compliance (Gerber and Green 2012) and selection bias (Sampson, Morenoff and Gannon-Rowley 2002). I find that the immigration attitudes of native-born Whites do not significantly change as their exposure to immigrants increases. This finding runs in direct opposition to existing models of immigration attitude change, which suggest that contact with immigrants can alter attitudes (e.g., Hopkins 2010). I then test the sorting model, and find preliminary evidence that Whites who hold more negative attitudes towards immigration are more likely to move when their neighborhoods experience an influx of immigrants, and that they tend to move to neighborhoods with smaller immigrant populations. Residential mobility is a fundamental mechanism connecting local immigrant population size to public opinion on immigration.

**Theorizing Attitude Change**

Scholars have long debated whether threat—negative reactions to a growing immigrant population—or contact—positive reactions as a result of increased interactions between immigrants and natives—are more likely drivers of public opinion on immigration. The racial threat hypothesis, originally advanced by Key (1949) and Blalock (1967) to explain relations between Whites and Blacks in the U.S. South, argues that contact among groups can lead to conflict when there is competition over resources. In the context of immigration attitudes, the threat hypothesis holds that as the size of the immigrant population grows, the native-born will feel more threatened and express increasingly negative attitudes towards immigration policy (e.g., increased support for restricting the level of immigration into the United States). The source of this 'threat' is often unspecified, but it is generally conceptualized as challenges to native-born political (Glaser 1994), social (Bobo 1999), and/or economic dominance (Olzak 1992).

Alternatively, Allport (1954), Williams (1947) and others have advanced the racial contact hypothesis, positing that as Whites have meaningful, positive interactions with Blacks, their negative stereotypes are dissipated, and this translates into more positive attitudes towards Blacks. Like the racial threat hypothesis, the racial contact hypothesis has been analogously applied to relations between immigrants and the native-born. The contact hypothesis depends on the development of close, long-term relationships where immigrants and natives are roughly equal in terms of socioeconomic status; the effects of casual contact are likely less robust (Pettigrew 1998; Ellison, Shin and Leal 2011). However, Oliver and Wong (2003) argue that even casual exposure can help combat negative group stereotypes.

Empirically, researchers generally test threat and contact theories by examining the relationship between the size of the local immigrant population and native-born attitudes towards immigration. To date, all previous studies have relied on cross-sectional or time-series data, limiting the rigorousness and robustness of any causal claims (Fogleman and Kelldstadt 2012). If Americans living in areas with larger foreign-born populations hold more negative attitudes, there is supposed support for threat; if they hold more positive attitudes (relative to those living in areas with few immigrants), there is putative support for contact.

While these basic premises are largely agreed upon, exact measures and model specifications have varied widely, and overall there is not overwhelming evidence supporting either theory. Some studies have found evidence of a threat response in reaction to the size of the Latino (but not foreign-born) population (Stein, Post and Rinden 2000; Tolbert and Grummel 2003; Campbell, Wong and Citrin 2006). Others have found a threat response to the immigrant population only for specific subgroups or circumstances, for example: in border states but not non-border states (Branton et al. 2011), only in reaction to the size of the undocumented immigrant population (Hood and Morris 1998), only in reaction to Spanish-speaking Latinos (Rocha and Espino 2009), or in reaction to the perceived, not actual, size of the Latino population (Alba et al. 2005). Alternatively, others have found evidence of a contact effect in response to the size of the local Asian population (Hood and Morris 1997) and the local foreign-born population (Hood and Morris 1998).

More recently, measures of threat and contact have been re-conceptualized as *changes* in the size of the local immigrant population (Hopkins 2010; Newman and Velez 2014), based on the idea that threat and contact are a response to changing rather than constant demographic conditions, and also that change at the local level is more noticeable (Kahneman and Tvesky 1979). In the most comprehensive empirical analysis to date, Hopkins (2010) finds that Americans tend to react negatively to sudden influxes of immigrants into their neighborhoods. While the paper focuses on these negative reactions, in the same analyses Hopkins (2010) also finds that Americans who live in neighborhoods with larger existing immigrant populations tend to hold more liberal attitudes on immigration policy. The seeming paradox of these findings—that Americans hold more liberal attitudes when they live in places with more immigrants, but hold more conservative attitudes when they live in places with increases in the immigrant population—goes unaddressed, and is not clear how a straight-forward application of the threat or contact hypotheses can explain these results.

Given the variety of model specifications, time periods, data sets, and other differences, it is perhaps not surprising that the findings of previous studies have varied so widely. I argue that this lack of consistency is a red flag, warning of a critical absence or flaw. Nevertheless, scholars continue to debate findings of threat or contact, ignoring the very real possibility that these theories offer an incomplete picture, and that current empirical approaches may be inadequate. Motivated by these inconsistencies, in the following section I identify key theoretical and methodological issues, and then offer an alternative theoretical perspective that incorporates these critiques.

*Challenges to Threat and Contact Theories*

Both threat and contact theories posit that increases in the size of the local immigrant population *cause* changes in the attitudes of native-born residents, and interpret cross-sectional results as causal. However, the extent to which individuals really change their political attitudes in response to demographic changes is unknown. According to research on political socialization, symbolic attitudes like partisanship and political ideology form beginning in childhood and are flexible until young adulthood (Sears 1983; Sears 1988). After this life-course stage, symbolic attitudes are highly stable and often do not change (Glenn 1980; Sears 1983; Alwin, Cohen and Newcomb 1991). The attitude stability literature conceptualizes racial attitudes as symbolic and unlikely to change in adulthood (Sears 1988), suggesting that it is not safe to assume that individuals are changing their opinions on immigration.

This causality assumption is central to theories of threat and contact, but existing studies have only used cross-sectional data (Fogleman and Kellstedt 2012), interpreting a correlation between percent immigrant and immigration attitudes as evidence of a causal relationship. In order to test the causal effects of threat or contact, the ideal model would examine the relationship between changes in the size of the local immigrant population and changes in individual attitudes towards immigration over time. Unfortunately, such panel data is extremely rare and very expensive to collect. The recent addition of a panel design to the General Social Survey, which I exploit in the present study, provides a unique opportunity for more rigorous causal inference testing (see below for more details on data).

A focus on change over time highlights a second assumption built into threat and contact analyses: that native-born Whites stay in their neighborhoods and experience changes in the immigrant population. In fact, some Whites may have moved to the neighborhood in which they are observed *after* the neighborhood has experienced an influx (or retreat) of immigrants. In a statistical sense, geographic mobility is a form of treatment non-compliance: these native-born Whites have not experienced the 'treatment' of a change in the local immigrant population, and thus we cannot interpret any changes in their immigration attitudes as causal (Gerber and Green 2012). If we can find evidence that among those who have not moved, changes in the size of the local immigrant population are related to changes in immigration attitudes, we can be more confident that we are identifying real, causal effects.

Recognizing the potential for geographic mobility also raises the issue of selection bias, or the idea that White Americans are not randomly assigned to live in different neighborhoods. The threat of selection bias plagues all research on contextual effects, begging the question: how can we be sure that the characteristics which determine where people live are not the underlying cause of any neighborhood effects on individual outcomes (Sampson et al. 2002)? While previous studies of immigration attitudes (Hopkins 2010) and racial attitudes more broadly (Oliver and Wong 2003) have paid some attention to this issue, the use of cross-sectional data has limited their ability to satisfactorily account for selection bias.[2] Models that use multiple observations of individual respondents to control for all measured and unmeasured characteristics that may be the underlying cause of contextual effects yield more conservative and more reliable estimates of real neighborhood effects (Sampson and Sharkey 2008). Using individual-level fixed-effect models (described in detail below), coupled with the exclusion of moving respondents, allows me to better estimate the causal effect of a changing immigrant population on changing attitudes.

*Immigration and White Flight: An Alternative Approach*

An alternative approach to dealing with geographic mobility and questions of causality is to consider whether neighborhood selection and mobility are central processes that link local immigrant population size and immigration attitudes. Instead of treating moves by native-born respondents as unrelated statistical 'noise' that must be eliminated from empirical analyses, we should consider whether native-born Whites might intentionally be moving away from immigrants. Sampson and Sharkey (2008) broadly encourage such an approach, arguing that neighborhood selection—the characteristics and social forces that drive people to move into and out of neighborhoods—is central to understanding many sociological processes.

Literature on White flight from immigrants supports this contention. Recent research on geographic mobility demonstrates that native-born Whites are more likely to move away as the size of the local immigrant population in their neighborhood increases (Crowder et al. 2011; Hall and Crowder 2014). While this is partially driven by the characteristics of Whites who tend to live in neighborhoods with more immigrants (which themselves encourage mobility), these differences alone do not explain the trend, suggesting that some Whites may be intentionally moving away from neighborhoods with large immigrant influxes (Crowder et al. 2011; Hall and Crowder 2014). Furthermore, on average Whites tend to move to neighborhoods with fewer immigrants than the ones they left, and Whites living in places that have experienced rapid, large increases in their immigrant populations are particularly likely to move, and to move to places with smaller immigrant populations (Hall and Crowder 2014). Other studies similarly find evidence that Whites tend to leave states (Frey 1995) and metro areas (White and Liang 1998) as immigrants move into them.[3]

The tendency for Whites who live in areas with more immigrants to have higher rates of geographic mobility demonstrates that there is some sort of relationship between residential mobility and immigrant population size. However, it remains unclear whether attitudes about immigration are a causal component of geographic mobility. One of the central debates in the White flight literature, which looks at not only flight from immigrants but also native-born minority groups, is whether these patterns are really driven by some kind of animus directed at the incoming minority population, or if other, non-attitudinal or non-racial factors explain these trends.

Good evidence suggests that attitudes are central to explaining White flight from Blacks (Galster 1990; Emerson, Chai and Yancey 2001; Krysan 2002; Krysan et al. 2009; Lewis, Emerson and Klineberg 2011; Swaroop and Krysan 2011). In an early study in Cleveland, Galster (1990) found an association between the level of segregationist sentiments, percent Black, and White mobility, suggesting that attitudes, in combination with population flows, drive residential mobility. Other studies have focused on the neighborhood preferences of Whites, finding that after taking account of non-racial issues like crime and poverty, Whites who express higher levels of racial animus are more likely to say they prefer all-White neighborhoods (Emerson et al. 2001; Krysan et al. 2009; Lewis et. al. 2011) or that they would move out of neighborhoods with larger minority populations (Krysan 2002; Swaroop and Krysan 2011). While none of these studies have focused on anti-immigrant animus, they suggest that a similar process may be occurring when Whites move out of neighborhoods with large immigrant influxes.

Of course, many White Americans face obstacles to 'achieving' their neighborhood preferences (Nall and Mummulo 2014). They may not have the financial resources necessary to live in a neighborhood with their preferred immigrant population size and other characteristics, or there may not be any nearby neighborhoods with smaller immigrant populations compared to their current neighborhood (Hall and Crowder 2014). Also, life-cycle characteristics like family composition and age are important drivers of geographic mobility (Speare, Goldstein and Frey 1974). Taken together, these factors suggest that not all anti-immigration Whites will move away from neighborhoods with large or growing immigrant populations, even if there is evidence of a general trend.

**Theoretical Framework and Hypotheses**

As outlined above, the current literature claims that there is a causal relationship between an increase in the local immigrant population and individuals changing their attitudes on immigration. Despite repeated empirical analyses, neither threat nor contact theory has been properly tested due to the lack of longitudinal data and lack of attention to geographic mobility, which may lead to treatment non-compliance and selection bias. The first key analysis in this paper properly tests the causal effects of these two theories, leading to two competing hypotheses:

***Threat Hypothesis:*** *An increase in the local immigrant population increases opposition to immigration among native-born Whites who did not recently move to the neighborhood.*

***Contact Hypothesis:*** *An increase in the local immigrant population decreases opposition to immigration among native-born Whites who did not recently move to the neighborhood.*

But what if there is no causal effect of a change in the immigrant population on Whites' attitudes? Given that several previous cross-sectional analyses have found an association between Whites' attitudes and the size of the local immigrant population (Hainmueller and Hopkins 2014), a 'null' causal effect would suggest that some sort of selection process is occurring to create a 'false' cross-sectional effect. The White flight literature lays the foundation for just such a selection process.

Geographic mobility may be an intervening process that occurs *after* neighborhoods experience a large increase in their immigrant populations, but *before* we observe native-born Whites' attitudes about immigration. More specifically, when immigrants move into a neighborhood, Whites who are already opposed to immigration move out of the neighborhood. The Whites who chose not to move are those who are less opposed to immigration. In the long-run, this process can result in a negative correlation between immigrant population size and opposition to immigration, because Whites who are most opposed to immigration will be living in neighborhoods with the fewest immigrants (either because they moved there or because they always lived there). While this negative correlation could be interpreted as evidence of a contact effect, the sorting model advanced here argues that such a causal interpretation is inaccurate. Whites' attitudes are not changing; rather, Whites are sorting themselves into neighborhoods that match their already-held attitudes about immigration. The sorting model leads to the following hypothesis:

***Sorting Model Hypothesis:*** *Native-born Whites do not change their attitudes towards immigration in response to changes in the local immigrant population.*

Evidence of a null effect is necessary, but not sufficient to support the sorting hypothesis. In order to be confident that sorting—geographic mobility driven by attitudes about immigration together with increases in the local immigrant population—is occurring, three additional conditions must be met:

***Sorting Model Sub-Hypotheses:*** *First, there is a cross-sectional, negative correlation between the size of the local immigrant population and opposition to immigration. Second, Whites who are opposed to immigration are more likely to move when their neighborhood experiences an influx of immigrants. And third, Whites who move in reaction to an influx of immigrants move to places with smaller immigrant populations than their previous neighborhood.*

The paper will provide four sets of analyses to assess these hypotheses. The first analysis will examine only Whites who have not moved recently, and measure the causal effect of change in the size of the local immigrant population on attitudes towards immigration. The second analysis examines the cross-sectional relationship between the size of the local immigrant population and opposition to immigration. The third analysis looks at the predictors of geographic mobility, focusing on whether Whites who are more opposed to immigration tend to move out of neighborhoods that experience an influx of immigrants. Finally, the last analysis examines the destinations of moving Whites.

## Data, Measures, and Methods

### *Data*

Every two years the General Social Survey (GSS) collects information on demographics and individual attitudes from a nationally representative sample of adults living in the United States. Starting in 2006, the GSS added a panel data design. Every other year a new three-wave panel begins, such that in 2008 and 2010 participants in the second and third waves of the original 2006 panel were re-interviewed, along with respondents in the first and second waves of a new panel that began in 2008 (and ended in 2012).

Relative to existing studies of threat and contact effects, the GSS panel data represent a significant step forward. Panel data allow for more rigorous testing of causal claims by measuring change over time. Panel data also yields better leverage over the threats of selection bias and treatment non-compliance. The GSS panel data is the best existing data for the first analysis focused on causality.

On the other hand, GSS panel data is not ideally suited to an analysis of geographic mobility due to its small sample size and limited waves of data. Existing research on White flight from immigrants (eg, Crowder et al. 2011; Hall and Crowder 2014) has relied on household studies like the Panel Study of Income Dynamics (PSID), which allows for detailed, robust analyses of household mobility and contextual effects, but contains no data on the attitudes and opinions of respondents. The GSS panel data used in this study, while limited in some ways relative to the PSID, has the unique advantage of including information on geographic mobility *and* respondent attitudes.

In order to maximize sample size, I include all native-born White respondents from the first two GSS panels (which began in 2006 and 2008, respectively) [4], yielding samples of 2,281 respondents in 2008 and 1,872 respondents in 2010. While attrition in the GSS panel is similar to that in other longitudinal surveys (Smith and Son 2010), neither attitudes about immigration nor the size of the local immigrant population predict dropping out of the panel, suggesting that attrition is an unlikely source of bias (see Appendix Table A1).[5] Of the 1,872 possible respondents observed in both 2008 and 2010 in the combined panels, 680 are randomly missing values on the dependent variable (36% of the sample) because the GSS uses a three-ballot design for core items such that each item is only asked to a randomly selected two-thirds of all respondents.

For the panel data analysis of changing opposition to immigration, valid data on all covariates in both 2008 and 2010 is available for 892 native-born White respondents who did not move between 2008 and 2010. For the cross-sectional analysis of opposition to immigration, I focus on respondents with valid data on all covariates in 2010, yielding a sample size of 974. Finally, in the analysis of geographic mobility between 2008 and 2010, which draws on observations in both years, the analytic sample includes 971 respondents.

In order to measure the size of the local immigrant population, I use GSS restricted-access geocodes, which allow me to merge in Census and ACS data. When possible I use lagged contextual data to be sure that measures of the size of the immigrant population pre-date measures of respondents' attitudes. For the 2008 wave, I use data from the 2006-2008 ACS 3-year estimates. For the 2010 wave, I use the 2008-2010 ACS 3-year estimates. While the 3-year estimates are not ideal for obtaining precise measures of demographic changes from 2008-2010, they are the only data available that covers almost all of the counties of residence for respondents in the sample (3-year estimates do not exist for counties with populations less than 20,000).

In some analyses I also use tract-level measures from the 2000 Census and 2005-2009 ACS 5-year estimates. The tract-level data allow me to utilize a smaller geographic measure of the size of the immigrant population in 2008 (using the 2005-2009 ACS), and a measure of change in the size of the immigrant population from 2000 to 2008, in order to test whether geographic mobility is more sensitive to immigrant levels or recent changes (Hopkins 2010; Newman and Velez 2014). Unfortunately, the tract level data cannot be used to assess changes from 2008 to 2010 because there are not distinct 5-year ACS estimates to capture change from 2008 to 2010. This is a limitation of the existing design of the Census and ACS.

*Measures for Changing Attitudes Analysis*

The first dependent variable, *opposition to immigration*, is based on responses to the question: “Do you think the number of immigrants to America nowadays should be: increased a lot, increased a little, remain the same, reduced a little, or reduced a lot?” The variable has a range of 1-5 and is coded such that a higher value indicates a more negative (e.g., anti-immigration) attitude. This question is commonly used in studies of immigration attitudes, and is the only measure available in all waves. In the individual-level fixed-effect models (described in detail below), the dependent variable is *change in opposition*, which is calculated as the difference from wave to wave. Thus, larger values indicate a bigger change from time one to time two, and the sign represents whether anti-immigration attitudes increased (positive sign) or decreased (negative sign).

The key independent variable is the *change in the percent foreign-born in the county*, which is calculate by taking the difference between the percent immigrant in the 2008-2010 ACS and the 2006-2008 ACS. I also include several time-varying controls to ensure that any relationship between changing attitudes and changing immigration levels is not spurious. At the individual-level, I include two indicators of changing socioeconomic status based on previous research demonstrating strong SES effects on immigration attitudes (Hainmueller and Hopkins 2014). First, *became unemployed* is a dichotomous variable to identify respondents who lost their jobs between 2008 and 2010, which is based on their reported work status at each wave. Second, *change in household income* is calculated by first using Hout’s (2004) recoding procedure to create a continuous measure of household income, and then taking the difference from 2010 to 2008. Change in household income is reported in ten-thousand dollar increments.

Two additional county-level measures are used to control for changes in SES: *change in logged median household income* and *change in unemployment*. Both measures are drawn from the ACS data. These measures are particularly important given the overlap of the Great Recession with the GSS panel data. Finally, I also control for *change in logged total county population* in order to differentiate between stable counties with changing immigrant populations and growing or shrinking counties with non-immigrant population changes.

*Measures for Cross-Sectional Attitudes Analysis*

Here I use the same basic set of measures as the previous analysis, but instead of using the 'change' measures I only examine 2010 levels (e.g., percent foreign-born in 2010 rather than change in percent foreign-born, and current household income rather than change in household income).[6] I additionally include a few time-invariant control variables: education, measured with *college graduate* (=1), *gender* (female=1), *age*, and political affiliation, with an indicator for *Republican* (=1, Democrat or other =0).

*Measures for Geographic Mobility Analysis*

In this analysis the dependent variable captures *geographic mobility* and is a three-category measure that differentiates among respondents who do *not move*, those who *move within their counties* (changing Census tracts), and those who *move between counties*. I differentiate between these shorter (within county) and longer-distance (between county) moves both because they may be driven by different processes (Nivalainen 2004) and because of the data limitations, which constrain my ability to measure change over time at the tract level.

Key independent variables include multiple measures of the local immigrant population, along with opposition to immigration. I include indicators of the *percent foreign-born in the Census tract, 2008* and the *percent foreign-born in the county, 2008* in order to measure the size of the local immigrant population. I also include a measure for the *change in percent foreign-born in the census tract, 2000-2008* in order to capture neighborhoods that experienced a rapid influx in the immigrant population (Crowder et al. 2011; Hall and Crowder 2014).[7] I use the same measure of immigration attitudes as the previous analysis, except here *opposed to immigration* is recoded as a dichotomous variable comparing those who think immigration should be reduced a lot or a little (=1) to all other responses, in order to simply interpretation of the interaction effect (see below).

I also include several individual and county-level controls to account for other factors that might predict geographic mobility. First, *age* and *age-squared*, *gender* (female=1, male=0), *marital status* (married=1, all other=0), and whether or not the respondent has *children in household* (=1) are all indicators of the life-cycle stage of the respondent. Younger people, men, non-married individuals, and childless adults experience higher rates of geographic mobility (Speare et al. 1974). I also include an indicator for being a *homeowner* (=1), as this should limit geographic mobility (Speare et. al. 1974; McHugh, Gober and Reid 1990). I include multiple measures of socioeconomic status: *household income* (in $10,000s), whether or not the respondent is a *college graduate* (=1), and an indicator for if the respondent is currently *unemployed* (=1, all other=0). Poverty, unemployment, and lower SES status are associated with higher rates of residential instability (Herzog, Schlottmann and Boehm 1993; Boehm, Herzog and Schlottmann 1998), while higher SES status is associated with longer-distance moves (Nivalainen 2004).

Additionally I include two measures of political attitudes, in order to account for the fact that people may prefer neighbors who are co-partisans (Nall and Mummulo 2014). *Republican* (=1, Democrat or Other=0) indicates political affiliation while *political conservatism* (scale 1-7) indicates how liberal (=1) to conservative (=7) the respondent rates herself.

Finally, four controls are drawn from the 2006-2008 ACS to capture county-level SES. *Poverty rate* captures the percent of county households classified as being below the federal poverty line. *Median rent* is the median rent for non-owner-occupied housing in the county. *Unemployment rate* is the percent of civilian labor force participants who are unemployed in the county, and *median household income* captures household income in the county. Together these measures capture SES variation at the county level that may influence geographic mobility (Crowder et al. 2011; Hall and Crowder 2014). These controls are particularly important given the study's overlap with the Great Recession.

*Method*

The data are structured such that each individual respondent (i = 1,…,n) is observed at two distinct periods (t = 1, 2). The general model is specified as:

$$y_{it} = \mu_t + \beta x_{it} + \lambda x_i + \alpha_i + \varepsilon_{it} \quad (1)$$

where μ is the intercept, which may be different for each time period, β is a vector of time-varying coefficients, λ is a vector of time-invariant coefficients, α is a person-specific error term that does not vary over time, and ε is a person-specific random error term that varies over time.

First, to examine changes in immigration attitudes, I use individual-level fixed effect (FE) models that take full advantage of the panel-data structure. Rather than examine between-respondent variation (which is all of the variation in a cross-sectional model), the FE model examines only within-respondent variation. More specifically, the FE model regresses change in anti-immigration attitude on change in the size of the foreign-born population, as specified in equation 2:

$$\Delta y_{i(t,t-1)} = \beta\Delta x_{it,it-1} + \Delta\varepsilon_{it,it-1} \quad (2)$$

where β is a vector of time-varying coefficients, including percent foreign-born. FE models control for all time-invariant characteristics; baseline differences in immigration attitudes by education, gender, political affiliation, and any other time-invariant characteristic (eg, λ and α) are automatically accounted for in these models. The dependent variable can be interpreted as the within-person change in immigration attitudes from 2008 to 2010. The coefficients for the continuous independent variable can be interpreted as (for example) the effect of a one-point change in the percent foreign-born on a one-point change in anti-immigration attitudes.

To examine the cross-sectional relationship between immigration attitudes and the percent immigrant, I use OLS to estimate Equation 1 (above). I limit these models to the 2010 wave of the panel (t=2) so that each respondent is only in the model once. Both the FE and OLS models use clustered standard errors by county to account for geographic clustering, which violate independence assumptions (Wooldridge 2010).

The final multivariate analysis predicts geographic mobility. Since the dependent variable is categorical and unordered, I use multinomial logistic regression. This model is similar to Equation 1 except that $y_{it}$ is modeled as $\log\left[\frac{P(y=m)}{P(y=n)}\right]$, or the log of the probability of falling into category *m* (either type of move) divided by the probability of falling into category *n* (no move). Because the geographic mobility analysis includes data at the tract level, in these models tract is used to calculate clustered standard errors.

## Results

*Descriptive Statistics*

Descriptive statistics (in 2010) are presented in Table 1. On average, native-born Whites live in counties just over 9% foreign-born, which is below the national average (around 12%) and indicative of the general trend for native-born Whites to live in neighborhoods with fewer immigrants and other minorities compared to Americans overall.

[Tables 1 and 2 about here]

Table 2 presents similar statistics but differentiates among respondents who did not move between 2008 and 2010 and those who moved within- or between-counties. These results suggest that moving respondents differ from those who do not move: both within and between-county movers tend to come from counties (and tracts) with larger immigrant populations than those who did not move. Moving respondents also appear to be younger, less likely to be married or have children, and less likely to be homeowners compared to non-movers. Between-county (eg, longer-distance) movers tend to be higher educated than non-movers or within-county (shorter-distance) movers, while within-county movers tend to have lower household incomes and higher unemployment rates compared to non-movers and between-county movers. These descriptive statistics helps explain the bivariate relationship between opposition to immigration and moving status—on average both within- and between-county movers are less likely to hold restrictive immigration attitudes compared to non-movers. While this finding may seem at odds with the sorting model hypothesis, it is explained by the SES and age effects—movers in general are more politically liberal because of their demographic profiles—underscoring the need for multivariate analysis. Overall, the statistics presented in Table 2 demonstrate both that it may be important to differentiate between moving and non-moving respondents, and that the type of move may matter, given these groups' different demographic characteristics.

*Analysis 1: Changing Attitudes*

The first multivariate analysis examines the effect of changes in the local immigrant population on changing attitudes about immigration for non-moving respondents only. I begin with a simple bivariate model (model 1), and then add individual-level (model 2) and county-level (model 3) controls, followed by a final model (model 4) that includes both sets of control variables. As demonstrated across all four models, regardless of the controls, there is no significant relationship between change in the percent foreign-born in the county and changing attitudes. The results of Table 3 allow me to reject Hypotheses 1 and 2: there is no evidence of a causal threat or contact effect. These results do provide initial support for Hypothesis 3, the sorting model.

[Table 3 about here]

I also perform three robustness checks. First, the null causal effect may be driven by low levels of overall attitude change, which would make it difficult to find any statistically significant relationships. However, about 50% of respondents change their opinion on immigration between waves, suggesting that a lack of variation in the dependent variable is not driving the null effect. Second, because fixed-effect models are known to produce large standard errors, I re-estimate models 1-4 without any standard error corrections. As demonstrated in Appendix Table A2, while the standard errors are slightly smaller without the clustering corrections, the effect of changing local immigrant concentrations remains far from statistical significance. Finally, I use an alternative measure of the changing immigrant population—

percent Latino—based on the idea that White Americans may use Latino ethnicity as a proxy for immigrant status (Stein et al. 2000; Tolbert and Grummel 2003; Campbell et al. 2006). As demonstrated in Appendix Table A3, which re-estimates models 1-4 using change in percent Latino in place of change in percent foreign-born, there is again no statistically significant effect on changing attitudes about immigration.

*Analysis 2: Cross-Sectional Attitudes*

While the fixed-effect models provide preliminary evidence of sorting, additional conditions must hold for the sorting model hypothesis to be supported. In order to examine the first of these conditions—that there is a negative cross-sectional relationship between percent immigrant and opposition to immigration—I use OLS regression to examine whether White Americans who live in neighborhoods with larger immigrant populations hold less conservative attitudes about immigration.[8] I again begin with a simple bivariate model (model 1), and then add controls (models 2-6). As demonstrated in Table 4, there is a negative, statistically significant relationship between percent foreign-born and opposition to immigration, such that White Americans who live in counties with larger immigrant populations are less opposed to immigration. The addition of demographic controls has little effect on this relationship, although it does increase the standard error and thus decrease the level of statistical significance.[9]

[Table 4 about here]

These analyses replicate the basic model specifications of previous cross-sectional studies, which have not accounted for the potential geographic mobility of respondents. However, if sorting is occurring, then these cross-sectional results should be particularly strong for immobile respondents. According to the sorting hypothesis, non-moving White Americans live in places where the immigrant population matches their (already established) attitudes on immigration policy. If the sorting model is correct, then the negative correlation between percent immigrant and opposition to immigration in Table 4 should hold when moving respondents are dropped from the analysis. This is indeed the case, demonstrated in Appendix Table A4, which re-estimates models 1-6 of Table 4, using identical model specifications but limiting the analysis to immobile respondents.

All together, these results document that there is a cross-sectional relationship between the size of the local immigrant population and Whites' attitudes on immigration. However, coupled with the results from the previous fixed-effect analysis, this cross-sectional relationship should not be interpreted causally—the size of the immigrant population is not *causing* Whites' immigration preferences to change. Rather, it indicates that a selection process—potentially the sorting model—is responsible for the cross-sectional correlation.

*Analysis 3: Geographic Mobility*

The next critical test of the sorting model hypothesis is to examine whether Whites who are opposed to immigration tend to move away from neighborhoods when immigrants move into them. I use a series of multinomial logistic regression models to predict whether respondents do not move (base category), move within-counties (changing census tracts), or move between-counties. In the first model I only include measures of the local immigrant population in 2008 (prior to moving), at the tract and county-level, along with a measure of recent change in the local immigrant population at the tract level. In the second model I add several individual and county-level controls. Finally, in the third model I add an interaction effect between change in the local immigrant population and the opposition to immigration in 2008, in order to test whether Whites who are opposed to immigration are more likely to move when their neighborhood experiences an influx of immigrants.[10]

[Table 5 about here]

As shown in model 1 of Table 5, the size of the local immigrant population (at the tract level), significantly increases the odds of both within- and between-county moves, but this relationship appears to be explained by the addition of the control variables (model 2). As expected, several demographic characteristics have statistically significant effects on the probability of moving, and appear to mediate the relationship between the size of the local immigrant population and geographic mobility. When the interaction effect is added in model 3, a different picture emerges. Here we see there is no relationship between an immigrant influx and within-county moves, but the interaction between opposition to immigration and change in percent immigrant is positive and marginally significant ($p<.10$) for between-county moves. While the effect is only marginally significant, this suggests that for Whites who are opposed to immigration, an influx of immigrants into their neighborhood has a positive effect on their probability of moving out of their county.

These results are further explored in Figure 1, which graphs the predicted probability of a between-county move as the percentage-point change in the local immigrant population increases, for Whites who do and do not oppose immigration.

[Figure 1 about here]

Figure 1 demonstrates that for Whites who are opposed to immigration, an influx of immigrants from 2000 to 2008 slightly increases their predicted probability of moving between counties between 2008 and 2010. Whites who are not opposed to immigration are actually less likely to move as the immigrant influx increases. This provides preliminary support for the sorting model: Whites who hold conservative attitudes about immigration experience higher rates of geographic mobility when there is an influx of immigrants into their neighborhood.

However, there is no such interaction effect for within-county moves. This may be because shorter-distance movers are generally of lower-SES backgrounds and thus less likely to have the luxury of moving because of their political attitudes, but since there are only 40 within-county movers in the data, I cannot systematically test this. Broadly, the small sample size may explain why I am unable to detect an interaction effect for within-county movers. Or, shorter-distance moves may not be driven by respondents' attitudes about immigration.

*Analysis 4: Mover Destinations*

The final condition required by the sorting model is that Whites should move to places with smaller immigrant populations than their previous neighborhood. In order to test this idea, I calculate the mean change in percent foreign-born from 2008 to 2010 (at the county level) for two groups: non-county movers (which includes both non-movers and within-county-movers, who by definition have not moved counties and thus cannot be differentiated from the non-movers using the county-level data available from 2008 to 2010) and between-county movers. As shown in Table 6, between-county movers tend to move to neighborhoods with smaller immigrant populations. On average, they experience a statistically significant decrease of 1.31 percentage points, compared to non-movers and within-county-movers who experience almost no change ($p<.001$). Perhaps even more convincingly, Hall and Crowder (2014) find a similar trend in their analysis of PSID data, which has a much larger sample size; in their study, on average native-born Whites move to neighborhoods with smaller immigrant populations, and the decrease in the local immigrant population is particularly large for Whites moving away from neighborhoods that recently experienced a rapid increase in the local immigrant population.

[Table 6 about here]

*Summary of results and limitations*

All together, the results provide strong evidence of a null causal effect: according to the fixed-effect models, immigrant influxes do not change White Americans' opinions on immigration (Table 3). Yet, cross-sectional analyses find a significant association between percent immigrant and White Americans' attitudes on immigration (Table 4). Sorting is a possible explanation for these conflicting findings: Whites who are opposed to immigration are somewhat more likely to move counties when they experience an influx of immigrants (Table 5), and a comparison of means test confirms that they tend to move to counties with fewer immigrants (Table 6).

There are limitations to these analyses due to the small sample size of the GSS, limited number of waves (2), and constraints on the availability of contextual Census/ACS data. First, the small sample size and limited number of waves may account for the null fixed-effect finding. Fixed-effect models tend to produce large standard errors because they only use within-respondent variation (Allison 2009); this tendency is compounded with small sample sizes. This suggests that there may be a true, causal effect on changing attitudes, but the fixed-effect models are too conservative and mistakenly lead me to accept the null hypothesis. However, the estimated coefficient is quite small, ranging from .005 to .03 depending on the model specifications (see Table 3). In order for an effect of this size to be statistically significant, the standard errors would have to be unrealistically reduced, requiring more than double the existing sample size, suggesting that accepting the null hypothesis is a reasonable conclusion. Additionally, Allison (2009) suggests comparing both the coefficients and standard errors from fixed-effect and OLS estimates, following the logic that if the fixed-effect analysis were merely under-powered, the coefficients from these two models would be similar but the standard errors would be larger in the fixed-effect model. While the standard errors in the fixed-effect models are indeed larger, the coefficients are neither similar nor in the same direction (sign), suggesting that sample size/statistical power alone is not responsible for the differences between the two models. This adds confidence to my acceptance of the null causal effect.

Furthermore, fixed-effect models do a better job than cross-sectional regression at limiting bias from unobserved heterogeneity (Allison 2009), which is particularly relevant given the threat of neighborhood selection bias (Sampson et al. 2002). I also exclude moving respondents from the fixed-effect analysis, an additional improvement.

In sum, the first two analyses, which focus on the existence of a cross-sectional association along with the lack of a longitudinal/causal effect, provide compelling evidence to challenge theories of threat and contact, which both focus on attitude change. Combined, these analyses demonstrate that there is a missing link in our understanding of the relationship between local immigrant populations and White Americans' attitudes. I propose that the sorting model may be this missing link.

The second two analyses provide suggestive, initial evidence in support of the sorting model, but the results are not definitive. The key interaction effect in the moving analysis is only marginally significant ($p<.10$), and only holds for longer-distance moves (between-counties). Unfortunately, the data limitations do not allow me to further test this effect. However, the results are in line with previous analyses of PSID data with larger sample sizes, which find that Whites tend to move away from neighborhoods with immigrant influxes, and that such moves are not explained by economic or demographic factors (Crowder et al. 2011; Hall and Crowder 2014). Clearly, further testing and refinement of the sorting model is critical. Below I suggest next steps to further develop and validate the sorting model.

**Discussion**

Imagine the following scenario: a long-time opponent of liberal immigration reform notices an immigrant community has been growing in her neighborhood over the last couple of years. How does she react? Does she set aside her biases and embrace her new neighbors? Or does she reach a point where she decides enough is enough, and she moves to a new neighborhood with fewer immigrants?

This is exactly the scenario that this paper investigates. Immigration, while varying in salience, has been a key national political issue for over a decade. Attitude change is fundamental to theories of immigrant threat and contact, begging the question: do everyday Americans—removed from the intricacies of policy debates—change their basic attitudes about immigration? Research on attitude stability and political socialization predicts limited attitude change (Glenn 1980; Sears 1983; Sears 1988; Alwin et al. 1991). Furthermore, sizable numbers of immigrants have been moving into neighborhoods in the West, Southwest, and Northeast for decades, and newer immigrant destinations in the Southeast and Midwest since the 2000s (Singer 2004). While immigrant concentrations have continued to increase since then, White Americans likely have had time to form their opinions on immigration, decreasing the probability they will continue to change their attitudes.

Despite good reasons to doubt that today's immigrant influxes change attitudes, scholars have interpreted cross-sectional data as evidence of just such a relationship (e.g., Hopkins 2010). Previous studies also suffer from key issues of treatment non-compliance—by assuming all respondents lived in their neighborhoods when the measured immigrant influx occurred—and selection bias—by not adequately controlling for characteristics that drive neighborhood selection.

The first analysis in this paper improves upon previous research on each of these fronts. By using fixed-effect models and limiting the analysis to non-moving respondents, I gain significant leverage over these problems, and my results demonstrate that there is no causal effect. Neither threat—negative reactions to immigrant influxes—nor contact—the development of more positive relations between immigrants and natives—appear to be operating among native-born Whites.

However, this 'null' causal effect yields an incomplete picture. Why have so many studies found a cross-sectional relationship if there is no causal effect? To answer this question, I turned to a parallel line of research on White flight from immigrants (Frey 1995; White and Liang 1998; Crowder et al. 2011; Hall and Crowder 2014). This research examines how the geographic mobility of White Americans is connected to immigrant settlement patterns and local immigrant concentrations. While both studies of immigrant threat/contact and geographic mobility view immigrant concentrations and influxes as a key independent variable, they have focused on different outcomes.

I draw on these two fields to develop the sorting model. Rather than responding to an immigrant influx by becoming more opposed to immigration, I argue that White Americans who are predisposed to dislike immigration may leave neighborhoods with growing immigrant populations, moving to places with fewer immigrants. In the long run, this geographic sorting leads to a negative correlation between the size of the local immigrant population and opposition to immigration, such that people with liberal immigration attitudes remain in neighborhoods as immigrants move into them, while those with more conservative attitudes move away.

Three pieces of evidence provide initial support for the sorting hypothesis: White Americans who are opposed to immigration are somewhat more likely to move when their neighborhood experiences an influx of immigrants, they tend to move to places with smaller immigrant populations, and there is a negative correlation between percent immigrant and opposition to immigration. Taken together, these multiple pieces of evidence provide convincing support for the sorting model.

Nevertheless, key questions remain to be answered. First, the results imply that not all anti-immigration Whites are moving away from large immigrant populations, just as not all Whites with more liberal attitudes are living in major immigrant destinations. This finding suggests that there may be particular characteristics that make Whites more or less likely to sort themselves. For example, does socioeconomic status shape Whites' abilities to live in neighborhoods that match their immigration preferences? Do anti-immigrant Whites react similarly to all immigrant populations, or does sorting vary by county-of-origin? Furthermore, it is important to examine whether the sorting patterns identified here are driven solely by changes in the local immigrant population, or whether Whites are also reacting to related changes in the local labor market (Frey 1995; 1996; Frey and Liaw 1998), housing market (Ley 2007; Ley and Tutchener 2001), and other changes that may co-occur with, or be caused by, influxes of immigrant residents.

The analyses presented here would not be possible without the recent addition of the GSS panel data, which is a unique resource. Yet these data have their limitations, and further testing of the sorting model will require larger sample sizes. One way this evaluation might pragmatically be accomplished is through the establishment of an internet panel study, which would be much more cost-effective than the in-person interview design of the GSS, allowing for larger sample sizes and more waves.[11] In addition to confirming the findings presented here, larger sample sizes would allow scholars to tackle key questions about who is most likely to move in response to the local immigrant population, and whether additional demographic or economic factors also contribute to sorting.

Limitations and remaining questions aside, this paper clearly demonstrates that immigration attitude change is not currently occurring in response to changing local immigrant populations. The findings here suggests that rather than having a change of heart, some White Americans may be changing their addresses. This does not mean that no one is changing their opinions on immigration, but that levels of immigrant-native integration are more likely to strengthen pre-existing attitudes than change them. I speculate that in the past time periods when immigration was less prominent and most Americans did not hold strong opinions on immigration, Whites' attitudes may have been much more responsive to changes in their neighborhoods. More generally, this study is not a blanket refutation of threat and contact effects. Instead, it offers evidence that neither threat nor contact currently drive White Americans' immigration attitudes.

Over the next 40 years, the United States' population is projected to grow from 13 to 20 percent foreign-born (Passel and Cohn 2008), and there are clear negative implications of immigration-driven sorting, including increased residential segregation and geographic political polarization. But there may also be an upside: if the White Americans who tend to stay in neighborhoods with more immigrants hold more liberal attitudes about immigration policy, they may make for more friendly and welcoming neighbors, creating a more positive context of reception. Further testing of the sorting model will be critical to understanding how relations between immigrants and native-born Americans will continue to develop.

**References**

Alba, Richard, Ruben G. Rumbaut, and Karen Marotz. 2005. "A Distorted Nation: Perceptions of Racial/Ethnic Group Size and Attitudes Towards Immigrants and Other Minorities." *Social Forces* 95: 901-19.

Allison, Paul D. 2009. *Fixed Effects Regression Models.* Los Angeles: Sage.

Allport, Gordon. 1954. *The Nature of Prejudice*. Cambridge, MA: Addison-Wesley.

Alwin, Duane F., Ronald L. Cohen, and Theodore M. Newcomb. 1991. *Political Attitudes Over the Life Span: The Bennington Women after Fifty Years*. Madison, Wisconsin: University of Wisconsin Press.

Blalock, Hubert M. 1967. *Toward a Theory of Minority-group Relations.* New York: John Wiley and Sons.

Bobo, Larry D. 1999. "Prejudice as Group Position: Microfoundations of a Sociological Approach to Racism and Race Relations." *Journal of Social Issues* 55(3): 445–472.

Boehm, Thomas P., Henry W. Herzog, and Alan M. Schlottmann. 1998. "Does Migration Matter? Job Search Outcomes for the Unemployed." *Review of Regional Studies* 28: 3-12.

Branton, Regina, Erin C. Cassese, Bradford S. Jones, and Chad Westerland. 2011. "All Along the Watchtower: Acculturation Fear, Anti-Latino Affect, and Immigration." *The Journal of Politics 73*(03): 664-67

Campbell, Andrea L., Cara Wong, and Jack Citrin. 2006. '"Racial Threat,' Partisan Climate, and Direct Democracy: Contextual Effects in Three California Initiatives." *Political Behavior* 28: 129-50.

Card, David, and John E. DiNardo. 2000. *Do Immigrant Inflows Lead to Native Outflows?* No. w7578. National Bureau of Economic Research.

Crowder, Kyle, Matthew Hall, and Stewart E. Tolnay. 2011. "Neighborhood Immigration and Native Out-Migration." *American Sociological Review* 76(1): 25-47.

Crowder, Kyle, and Scott J. South. 2008. "Spatial Dynamics of White Flight: The Effects of Local and Extralocal Racial Conditions on Neighborhood Out-Migration." *American Sociological Review* 73(5): 792-812.

Crowder, Kyle. 2000. "The Racial Context of White Mobility: An Individual-level Assessment of the White Flight Hypothesis." *Social Science Research* 29(2): 223-257.

Ellison, Christopher G., Heeju Shin, and David L. Leal. 2011. "The Contact Hypothesis and Attitudes toward Latinos in the United States." *Social Science Quarterly* 92(4): 938-958.

Emerson, Michael O., Karen J. Chai, and George Yancey. 2001. "Does Race Matter in Residential Segregation? Exploring the Preferences of White Americans." *American Sociological Review* 66(6): 922-935.

Fogleman, Carlie, and Paul M. Kellstedt. 2012. "The Dynamics of Immigration Attitudes in the US." Paper presented at the 2012 Elections, Public Opinion and Parties conference, University of Oxford.

Frey, William H. 1979. "Central City White Flight: Racial and Nonracial Causes." *American Sociological Review* 44(3): 425-448.

Frey, William H. 1995. "Immigration and Internal Migration "Flight" from US Metropolitan Areas: toward a New Demographic Balkanization." *Urban Studies* 32(4-5): 733-57.

Frey, William H. 1996. "Immigration, Domestic Migration, and Demographic Balkanization in America: New Evidence for the 1990s." *Population and Development Review* 22: 741-763.

Frey, William H., and Kao-Lee Liaw. 1998. "Immigrant Concentration and Domestic Migrant Dispersal: Is Movement to Nonmetropolitan Areas 'White Flight'?" *Professional Geographer* 50: 215-231.

Galster, George C. 1990. "White Flight from Racially Integrated Neighborhoods in the 1970s: the Cleveland Experience." *Urban Studies* 27(3): 385-399.

Gerber, Alan S., and Donald P. Green. 2012. *Field Experiments: Design, Analysis, and Interpretation*. NY: WW Norton.

Glaser, James M. 1994. "Back to the Bible Belt: Racial Environment and White Racial Attitudes in the South." *Journal of Politics* 56(1): 21-41.

Glenn, Norval D. 1980. "Values, Attitudes, and Beliefs." Pp. 596-640 in *Constancy and Change in Human Development*, edited by Orville G. Brim, Jr., and Jerome Kagan. Cambridge: Harvard University Press.

Hainmueller, Jens, and Daniel J. Hopkins. 2014. "Public Attitudes toward Immigration." *Annual Review of Political Science* 17: 225-249.

Hall, Matthew, and Kyle Crowder. 2014. "Native Out-Migration and Neighborhood Immigration in New Destinations." *Demography* 21: 2179-2202.

Herzog, Henry W., Alan M. Schlottmann and Thomas P. Boehm. 1993. "Migration as Spatial Job Search: A Survey of Empirical Findings" *Regional Studies* 27: 327–340.

Holmlund, Bertil. 1984. *Labour Mobility: Studies of Labour Turnover and Migration in the Swedish Labour Market.* The Industrial Institute for Economic and Social Research, Stockholm.

Hood III, M. V., and Irwin L. Morris. 1997. "Amigo o Enemigo?: Racial Context, Attitudes, and White Public Opinion on Immigration." *Social Science Quarterly* 78:309-323.

Hood III, M. V., and Irwin L. Morris. 1998. "Give us Your Tired, Your Poor..but Make Sure They Have a Green Card." *Political Behavior* 20(1).

Hopkins, Daniel J. 2010. "Politicized Places: Explaining Where and When Immigrants Provoke Local Opposition." *American Political Science Review* 104(1): 40-60.

Hout, Michael. 2004. "Getting the Most Out of the GSS Income Measures." GSS Methodological Report 101.

Kahneman, Daniel, and Amos Tversky. 1979. "Prospect Theory: An Analysis of Decision under Risk." *Econometrica* 47(2): 263-92.

Key, Jr., Vladimer O. 1949. *Southern Politics in State and Nation*. Knoxville, TN: University of Tennessee Press.

Kritz, Mary M., and Douglas T. Gurak. 2001. "The Impact of Immigration on the Internal Migration of Natives and Immigrants." *Demography* 38(1): 133-145.

Krysan, Maria. 2002. "Community Undesirability in Black and White: Examining Racial Residential Preferences through Community Perceptions." *Social Problems* 49(4): 521-543.

Krysan, Maria, Mick P. Couper, Reynolds Farley, and Tyrone Forman. 2009. "Does Race Matter in Neighborhood Preferences? Results from a Video Experiment." *American Journal of Sociology* 115(2): 527-559.

Lee, Barrett A., and Peter B. Wood. 1991. "Is Neighborhood Racial Succession Place Specific?." *Demography* 28(1): 21-40.

Lewis, Valerie A., Michael O. Emerson, and Stephen L. Klineberg. 2011. "Who We'll Live with: Neighborhood Racial Composition Preferences of Whites, Blacks and Latinos." *Social Forces* 89(4): 1385-1407.

Ley, David. 2007. “Countervailing Immigration and Domestic Migration in Gateway Cities: Australian and Canadian Variations on an American Theme.” *Economic Geography* 83: 231-254.

Ley, David, and Judith Tutchener. 2001. “Immigration, Globalisation and House Price Movements in Canada’s Gateway Cities.” *Housing Studies* 16: 199-223.

Lichter, Daniel. T. 2012. Immigration and the New Racial Diversity in Rural America. *Rural Sociology* 77(1): 3-35.

Masuoka, Natalie, and Jane Junn. 2013. *The Politics of Belonging: Race, Public Opinion and Immigration.* Chicago: University of Chicago Press.

McHugh, Kevin E., Patricia Gober, and Neil Reid. 1990. "Determinants of Short-and Long-term Mobility Expectations for Home Owners and Renters." *Demography* 27(1): 81-95.

Nall, Clayton, and Jonathan Mummulo. 2014. “Why Partisans Don’t Sort: How Quality and Resource Constraints Prevent Political Segregation.” *Working Paper*. <http://web.stanford.edu/~nall/docs/gp2.9.1.pdf>.

Newman, Benjamin J., and Yamil Velez. 2014. "Group Size versus Change? Assessing Americans’ Perception of Local Immigration." *Political Research Quarterly* 67(2): 293-303.

Nivalainen, Satu. 2004. "Determinants of Family Migration: Short Moves vs. Long Moves." *Journal of Population Economics* 17(1): 157-175.

Oliver, Eric J., and Janelle Wong. 2003. "Intergroup Prejudice in Multiethnic Settings." *American Journal of Political Science* 47(4): 567-582.

Olzak, Susan. 1992. *The Dynamics of Ethnic Competition.* Stanford, CA: Stanford University Press.

Passel, Jeffrey S., and D'Vera Cohn. 2008. "U.S. Population Projections: 2005-2050." *Pew Research Center* <http://www.pewhispanic.org/files/reports/85.pdf>

Pettigrew, Thomas F. 1998. "Intergroup Contact Theory." *Annual Review of Psychology* 49: 65-85.

Pew Research Hispanic Center. 2013. "A Portrait of U.S. Immigrants." <http://www.pewhispanic.org/2013/02/15/u-s-immigration-trends/ph_13-01-23_ss_immigration_01_title/>

Rocha, Rene R., and Rodolfo Espino. 2008. "Racial Threat, Residential Segregation, and the Policy Attitudes of Anglos." *Political Research Quarterly* 62(2): 415-426.

Sampson, Robert J., and Patrick Sharkey. 2008. "Neighborhood Selection and the Social Reproduction of Concentrated Racial Inequality." *Demography* 45(1): 1-29.

Sampson, Robert J., Jeffrey D. Morenoff, and Thomas Gannon-Rowley. 2002. "Assessing 'Neighborhood Effects': Social Processes and New Directions in Research." *Annual Review of Sociology* 28: 443-478.

Saperstein, Aliya, and Andrew M. Penner. 2012. "Racial Fluidity and Inequality in the United States." *American Journal of Sociology* 118(3): 676-727.

Sears, D. 1983. "The Persistence of Early Political Predispositions: The Roles of Attitude Object and Life Stage." Pp. 79-116 in *Review of Personality and Social Psychology*, vol. 4. Edited by Ladd Wheeler. Beverly Hills, CA: Sage.

Sears, David O. 1988. "Symbolic Racism." Pp. 53-84 in *Eliminating Racism: Profiles in Controversy*, edited by P. A. Katz and D. A. Taylor. New York: Plenum.

Singer, Audrey. 2004. *The Rise of New Immigrant Gateways.* Washington, DC: Brookings Institute.

Smith, Tom W., and Jaesok Son. 2010. “An Analysis of Panel Attrition and Panel Change on the 2006-2008 General Social Survey Panel.” GSS Methodological Report No. 118.

Smith, Tom W. 2009. “2006-2008 General Social Survey Panel Validation.” GSS Methodological Report No. 111.

Stein, Robert M., Stephanie Shirley Post, and Allison L. Rinden. 2000. “Reconciling Context and Contact Effects on Racial Attitudes.” *Political Research Quarterly* 53: 285-303.

Speare, Alden, Sidney Goldstein, and William H. Frey. 1974. *Residential Mobility, Migration, and Metropolitan Change*. Cambridge: Ballinger.

Swaroop, Sapna, and Maria Krysan. 2011. "The Determinants of Neighborhood Satisfaction: Racial Proxy Revisited." *Demography* 48(3): 1203-1229.

Tolbert, Caroline J., and John A. Grummel. 2003. “Revisiting the Racial Threat Hypothesis: White Voter Support for California’s Proposition 209.” *State Politics and Policy Quarterly* 3(2): 183-202.

White, Michael J., and Zai Liang. 1998. "The Effect of Immigration on the Internal Migration of the Native-born Population, 1981–1990." *Population Research and Policy Review* 17(2): 141-166.

Williams, Robin M. 1947. *The Reduction of Intergroup Tensions*. New York: Social Science Research Council.

Wooldridge, Jeffrey M. 2010. *Econometric Analysis of Cross Sectional and Panel Data, Second Edition.* Boston: MIT Press.

**Endnotes**

1. Race/ethnicity fundamentally structure everyday life and the formation of many political attitudes, including attitudes about immigration, requiring separate analyses by race (Masuoka and Junn 2013). Given the limited sample size of non-White respondents in the data, this paper is restricted to White Americans.

2. Oliver and Wong (2003) find more evidence for selection effects among Whites than minorities, suggesting that accounting for neighborhood selection may be particularly important in an analysis of Whites' attitudes.

3. A few studies have found no evidence of a 'flight' response from immigrants, but they use data from the 1990s or earlier (Card and DiNardo 2000; Kritz and Gurak 2001).

4. While research indicates that racial identification is not a fixed characteristic (Saperstein and Penner 2012), only 15 respondents in the analytic sample change their racial identification between survey waves. This is too small of a sample to differentiate real changes in racial identification from random measurement error (Smith 2009); thus, race/ethnicity is treated as time-invariant, and for the 15 respondents with changes in racial identification, the modal race reported across the three survey waves is used. Excluding these 15 respondents from all reported analyses does not change the findings. These results are available from the author upon request.

5. Smith and Son (2010) analyze the first two waves of the GSS panel and find only small differences by attrition status, such that less educated, younger, and non-married respondents—people with fewer social connections—are more likely to drop out of the study. These characteristics commonly predict attrition or non-response and indicate that the attrition in the GSS panel data is common to all panel studies.

6. I use 2010 instead of 2008 to avoid election-year effects, given work showing the importance of politicization for the relationship between the immigrant population and immigration attitudes (Hopkins 2010).

7. I use 2000 - 2008, instead of 2008 - 2010 as in the analysis of changing attitudes, in order to allow for a longer lag-time between the change in the immigrant population and the respondent's response (move or not move), based on the assumption that moving likely takes more time than does changing one's attitude, which requires no advance planning.

8. These results are replicated in ordered logit models (see Appendix Table A5).

9. I tested additional models that added county-level controls; none of these variables had significant effects, nor did they improve the model R-squared.

10. These models meet the IIA assumption (using Small-Hsiao tests). I also conducted a Wald test for combining alternatives to test the collapsibility assumption; these results indicated that within and between-county moves could be combined (p=.728). However, given both theoretical and empirical differences between shorter and longer-distance moves, I treat the two categories as distinct. The Wald test results are likely driven by the small number of within-county movers (n=40), which make it difficult to obtain statistically significant results.

11. The most intractable data issue may be the ability to precisely measure changes in local demographic context. The current design of the ACS makes it difficult to capture changing immigrant population levels from year to year because only the pooled five-year estimates are available for local/neighborhood level geographies. Given current funding battles, this situation is unlikely to improve.

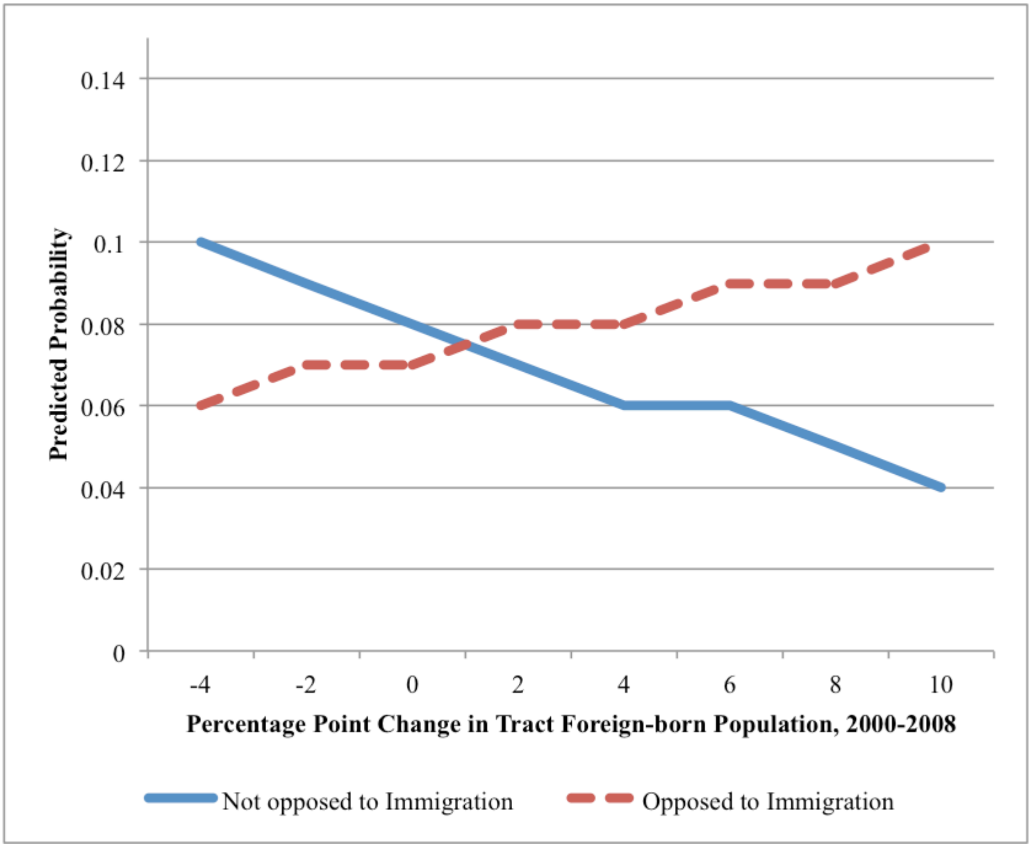

Figure 1. Predicted Probability of a Between-County Move.

Note: Based on Model 3, Table 5.

**Table 1. Descriptive Statistics of the Sample in 2010, Means and (SDs)**

| | |
|---|---|
| Dependent Variable | |
| Level of opposition to immigration (1-5) | 3.76 (1.03) |
| Immigrant Influx | |
| % Foreign-born in county | 9.23 (8.05) |
| Individual-Level Controls | |
| Household income (in $10,000s) | 7.15 (6.28) |
| Currently unemployed (ref=no) | .05 |
| College graduate (ref=no) | .36 |
| Female (ref=male) | .52 |
| Age (years) | 50.49 (16.52) |
| Republican (ref=Democrat or Other) | .43 |
| County-Level Controls | |
| Log (Median Household Income) | 10.84 (.24) |
| Unemployment Rate | 7.81 (2.83) |
| Log (Total population) | 12.48 (1.33) |

N=974. Source: General Social Survey 2006 & 2008 Panels, restricted to 2010 wave. County-level data comes from the 2008-2010 ACS. Native-born White respondents only.

**Table 2. Descriptive Statistics of Native-born White Respondents by Moving Status, Means and (SDs)**

| | No Move | Move within County | Move between Counties |
|---|---|---|---|
| Immigration Attitude | | | |
| Opposed to immigration (dichotomized) | .58 | .40 | .49 |
| Immigrant Influx | | | |
| % Foreign-born in Census Tract, 2008 | 7.18 (8.11) | 10.28 (9.76) | 11.20 (1.32) |
| Change in % FB in tract, 2000-2008 | 1.25 (.54) | 1.51 (3.17) | 1.21 (4.03) |
| % Foreign-born in County, 2008 | 8.83 (7.62) | 10.24 (7.03) | 11.39 (9.05) |
| Individual-Level Controls | | | |
| Age | 49.29 (15.84) | 40.23 (15.69) | 40.05 (17.31) |
| Female (ref= male) | .54 | .50 | .47 |
| Married (ref= no) | .54 | .33 | .39 |
| Children in household (ref= no) | .75 | .55 | .5 |
| Homeowner (ref= no) | .78 | .35 | .42 |
| College graduate (ref= less than BA) | .32 | .33 | .50 |
| Household income (in $10,000) | 7.30 (6.28) | 5.92 (6.37) | 7.20 (6.97) |
| Unemployed (ref= no) | .02 | .10 | .07 |
| Republican (ref= no) | .44 | .30 | .39 |
| Political conservatism | 4.16 (1.43) | 3.65 (1.53) | 3.50 (1.48) |
| County-level Controls | | | |
| Poverty Rate, 2008 | 12.48 (4.86) | 12.41 (4.39) | 11.56 (4.88) |
| Median Rent, 2008 | 792 (198) | 841 (194) | 860 (222) |
| Unemployment Rate, 2008 | 7.30 (2.15) | 7.15 (1.55) | 6.76 (1.71) |
| Median household income, 2008 | 52, 607 (13,532) | 53,263 (11,454) | 57,285 (14,867) |
| Proportion of Total Sample | .88 | .04 | .08 |
| Sample size | 857 | 40 | 74 |

Source: General Social Survey 2006 & 2008 Panels, restricted to 2008 wave. County-level data comes from 2006-2008 ACS. Tract-level data comes from the 2000 Census and 2005-2009 ACS. Native-born White respondents only.

**Table 3. Individual Fixed-Effect Models for Native-born White Respondents, Predicting Change in Opposition to Immigration, Coefficients and [SEs]**

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| Immigrant Influx | | | | |
| Δ in % Foreign-born in county | .005 [.07] | .01 [.07] | .03 [.07] | .03 [.07] |
| Individual-Level | | | | |
| Became unemployed | | .36 [.22] | | .38 [.22]† |
| Δ in Household income (in $10,000s) | | -.01 [.01] | | -.01 [.01] |
| County-Level | | | | |
| Δ in Logged median household income | | | -.66 [.80] | -.64 [.79] |
| Δ in Unemployment Rate | | | -.04 [.02]* | -.04 [.02]* |
| Δ in Logged total population | | | .36 [1.87] | .29 [1.86] |
| Constant | -.02 | -.03 | .02 | .01 |
| R-squared | .00 | .01 | .004 | .01 |

N=892. Source: General Social Survey 2006 & 2008 Panels, restricted to 2008-2010 waves and native-born White respondents. County-level data comes from the 2006-2008 ACS and the 2008-2010 ACS. NOTE: All models include clustered standard errors by county. All models exclude respondents who moved between 2008 and 2010. † $p \leq .10$, *$p \leq .05$, ** $p \leq .01$, ***$p \leq .001$ (two-tailed test)

**Table 4. Cross-Sectional OLS Models for Native-born White Respondents, Predicting Opposition to Immigration, Coefficients and [SEs]**

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---|---|---|---|---|---|---|
| Immigrant Influx | | | | | | |
| % Foreign-born in county | -.02*** | -.01** | -.01** | -.01* | -.01* | -.01† |
| | [.005] | [.005] | [.005] | [.005] | [.005] | [.005] |
| Individual-Level Controls | | | | | | |
| Household income (in $10,000s) | | -.02*** | -.02** | -.004 | -.003 | -.005 |
| | | [.005] | [.005] | [.005] | [.006] | [.005] |
| Currently unemployed (ref=no) | | | .12 | .05 | .07 | .08 |
| | | | [.16] | [.15] | [.15] | [.15] |
| College graduate (ref=no) | | | | -.54*** | -.54*** | -.54*** |
| | | | | [.07] | [.07] | [.07] |
| Female (ref=male) | | | | | .04 | .06 |
| | | | | | [.05] | [.06] |
| Age | | | | | .003 | .002 |
| | | | | | [.002] | [.002] |
| Republican | | | | | | .31*** |
| | | | | | | [.06] |
| Constant | 3.92 | 4.01 | 4.00 | 4.07 | 3.92 | 3.77 |
| R-squared | .02 | .03 | .03 | .08 | .09 | .11 |

N= 974. Source: General Social Survey 2006 & 2008 Panels, restricted to 2010 wave. County-level data comes from 2008-2010 ACS. Native-born White respondents only. NOTE: All models include clustered standard errors by county. † p ≤ .10, *p ≤ .05, ** p ≤ .01, ***p ≤ .001 (two-tailed test)

**Table 5. Multinomial Logit Models Predicting Geographic Mobility, Log-Odds and [SEs]**

| | Model 1 | | Model 2 | | Model 3 | |
|---|---|---|---|---|---|---|
| Ref: No Move | Within-County Move | Between-County Move | Within-County Move | Between-County Move | Within-County Move | Between-County Move |
| Immigrant Influx | | | | | | |
| % Foreign-born in Census Tract, 2008 | .05 [.02]* | .05 [.02]** | .02 [.02] | .03 [.02] | .02 [.02] | .03 [.02] |
| Δ in % FB in tract, 2000-2008 | -.03 [.04] | -.04 [.03] | .001 [.04] | -.03 [.04] | .01 [.05] | -.07 [.05]† |
| % Foreign-born in County, 2008 | -.01 [.03] | -.002 [.02] | -.02 [.03] | .0004 [.03] | -.01 [.03] | -.01 [.03] |
| Opposition to Immigration | | | | | | |
| Decrease immigration (ref=no) | | | | | -.49 [.40] | -.18 [.28] |
| Opposition* Immigrant Influx | | | | | | |
| Decrease immigration* Δ in % FB in tract | | | | | -.04 [.07] | .11 [.06]† |
| Individual-Level Controls | | | | | | |
| Age | | | -.06 [.06] | -.15 [.04]*** | -.06 [.07] | -.15 [.04]*** |
| $Age^2$ | | | .0005 [.001] | .001 [.004]** | .0004 [.001] | .001 [.0004]** |
| Female (ref= male) | | | -.18 [.34] | -.29 [.28] | -.15 [.36] | -.27 [.28] |
| Married (ref= no) | | | .26 [.40] | .05 [.30] | -.23 [.46] | .07 [.31] |
| Children in household (ref= no) | | | -.08 [.42] | -.23 [.32] | -.07 [.42] | -.23 [.32] |
| Homeowner (ref= no) | | | -1.50 [.42]*** | -1.31 [.31]*** | -1.48 [.43]*** | -1.33 [.31]*** |
| College graduate (ref= less than BA) | | | .26 [.40] | .92 [.29]** | .15 [.43] | .90 [.28]** |
| Household income (in $10,000) | | | .01 [.04] | .01 [.02] | .01 [.04] | .01 [.02] |
| Unemployed (ref= no) | | | 1.20 [.60]* | 1.02 [.55]† | 1.15 [.59]* | 1.01 [.54]† |
| Republican (ref= no) | | | -.21 [.44] | .51 [.33] | -.14 [.46] | .51 [.32] |
| Political conservatism | | | -.08 [.14] | -.28 [.10]** | -.05 [.15] | -.27 [.10]** |
| County-level Controls | | | | | | |
| Poverty Rate, 2008 | | | -.02 [.06] | .01 [.04] | -.02 [.06] | .01 [.04] |
| Median Rent, 2008 | | | .003 [.002] | -.001 [.002] | .002 [.002] | -.001 [.002] |
| Unemployment Rate, 2008 | | | -.05 [.09] | -.13 [.12] | -.05 [.09] | -.13 [.12] |
| Median household income, 2008 | | | -.00 [.00] | .00 [.00] | -.00 [.00] | .00 [.00] |
| Constant | -3.29 | -2.80 | .53 | 2.95 | .62 | 2.95 |
| Psuedo R-squared | | .02 | | .16 | | .17 |

N=971. Source: General Social Survey 2006 & 2008 Panels, restricted to 2008 wave and native-born White respondents. County-level data comes from 2006-2008 ACS. Tract-level data comes from 2000 Census and 2005-2009 ACS. NOTE: All models include clustered standard errors by Census Tract. † $p \leq .10$, *$p \leq .05$, ** $p \leq .01$, ***$p \leq .001$ (two-tailed test)

**Table 6. Change in Immigrant Population by Moving Status 2008-2010, Means and (SDs)**

| | No Move between Counties (reference) | Move between Counties |
|---|---|---|
| Change in % Foreign-born in county, 2008-2010 | .11 (.52) | -1.31 (10.27)*** |
| Sample size | 895 | 72 |

Source: General Social Survey 2006 & 2008 Panels, restricted to 2008 and 2010 waves. County-level data comes from 2006-2008 ACS and 2008-2010 ACS. Native-born White respondents only. † $p \leq .10$, *$p \leq .05$, ** $p \leq .01$, ***$p \leq .001$ (two-tailed test)

Appendix

**Table A1. Logistic Regression Models Predicting Attrition Between 2008 and 2010, Log-Odds and [SEs]**

| | Model 1 | Model 2 | Model 3 |
|---|---|---|---|
| Opposition to Immigration | | | |
| Decrease immigration (ref=no) | .10 [.06] | | .11 [.08] |
| Immigrant Influx | | | |
| % Foreign-born in Census Tract, 2008 | | .001 [.01] | .01 [.01] |
| Δ in % FB in tract, 2000-2008 | | -.003 [.02] | -.02 [.03] |
| % Foreign-born in County, 2008 | | -.001 [.01] | -.005 [.02] |
| Individual-Level Controls | | | |
| Age | | | -.05 [.03]† |
| $Age^2$ | | | .001 [.000]* |
| Female (ref= male) | | | .01 [.16] |
| Married (ref= no) | | | -.10 [.18] |
| Children in household (ref= no) | | | .44 [.22]* |
| Homeowner (ref= no) | | | -.34 [.20]† |
| College graduate (ref= less than BA) | | | -.18 [.18] |
| Household income (in $10,000) | | | .04 [.01]** |
| Unemployed (ref= no) | | | .25 [.44] |
| Republican (ref= no) | | | -.21 [.19] |
| Political conservatism | | | .16 [.07]* |
| County-level Controls | | | |
| Poverty Rate, 2008 | | | .06 [.03]* |
| Median Rent, 2008 | | | -.000 [.001] |
| Unemployment Rate, 2008 | | | -.10 [.05]* |
| Median household income, 2008 | | | .000 [.000] |
| Constant | -1.92 | -1.51 | -2.79 |
| Psuedo R-squared | .002 | .000 | .04 |
| N | 1482 | 2277 | 1282 |

Source: General Social Survey 2006 & 2008 Panels, restricted to 2008 wave and native-born White respondents. County-level data comes from 2006-2008 ACS. Tract-level data comes from 2000 Census and 2005-2009 ACS. NOTE: All models include clustered standard errors by Census Tract. † $p \leq .10$, *$p \leq .05$, ** $p \leq .01$, ***$p \leq .001$ (two-tailed test)

**Table A2. Individual Fixed-Effect Models for Native-born White Respondents, Predicting Change in Opposition to Immigration by Change in Percent FB, Coefficients and [SEs]**

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| Immigrant Influx | | | | |
| Δ in % Foreign-born in county | .005 [.06] | .01 [.06] | .03 [.06] | .03 [.06] |
| Individual-Level | | | | |
| Became unemployed | | .36 [.19]† | | .38 [.19]* |
| Δ in Household income (in $10,000s) | | -.01 [.01] | | -.01 [.01] |
| County-Level | | | | |
| Δ in Logged median household income | | | -.66 [.82] | -.64 [.82] |
| Δ in Unemployment Rate | | | -.04 [.02]† | -.04 [.02]† |
| Δ in Logged total population | | | .36 [1.50] | .29 [1.49] |
| Constant | -.02 | -.03 | .02 | .01 |
| R-squared | .00 | .01 | .004 | .01 |

N=892. Source: General Social Survey 2006 & 2008 Panels, restricted to 2008-2010 waves and native-born White respondents. County-level data comes from the 2006-2008 ACS and the 2008-2010 ACS. NOTE: No clustered standard errors. All models exclude respondents who moved between 2008 and 2010. † $p \leq .10$, *$p \leq .05$, ** $p \leq .01$, ***$p \leq .001$ (two-tailed test)

**Table A3. Individual Fixed-Effect Models for Native-born White Respondents, Predicting Change in Opposition to Immigration by Change in Percent Latino, Coefficients and [SEs]**

| | Model 1 | Model 2 | Model 3 | Model 4 |
|---|---|---|---|---|
| Immigrant Influx | | | | |
| Δ in % Latino in county | .01 [.05] | .005 [.05] | .04 [.07] | .04 [.07] |
| Individual-Level | | | | |
| Became unemployed | | .42 [.24]† | | .49 [.23]* |
| Δ in Household income (in $10,000s) | | -.01 [.01] | | -.01 [.01] |
| County-Level | | | | |
| Δ in Logged median household income | | | -3.14 [2.19]† | -3.49 [1.81]† |
| Δ in Unemployment Rate | | | -.07 [.03]* | -.08 [.03]* |
| Δ in Logged total population | | | 1.15 [2.19] | 1.04 [2.15] |
| Constant | -.02 [.05] | -.03 [.05] | .004 | -.004 |
| R-squared | .00 | .01 | .01 | .02 |

N=662. Source: General Social Survey 2006 & 2008 Panels, restricted to 2008-2010 waves and native-born White respondents. County-level data comes from the 2006-2008 ACS and the 2008-2010 ACS. NOTE: All models include clustered standard errors by county. All models exclude respondents who moved between 2008 and 2010. † $p \leq .10$, *$p \leq .05$, ** $p \leq .01$, ***$p \leq .001$ (two-tailed test)

**Table A4. Cross-Sectional OLS Models for Native-born White Respondents, Excluding Movers, Predicting Opposition to Immigration, Coefficients and [SEs]**

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---|---|---|---|---|---|---|
| Immigrant Influx | | | | | | |
| % Foreign-born in county | -.02*** | -.02*** | -.02*** | -.01* | -.01* | -.01* |
| | [.005] | [.005] | [.005] | [.005] | [.005] | [.005] |
| Individual-Level Controls | | | | | | |
| Household income (in $10,000s) | | -.02*** | -.02*** | -.01 | -.01 | -.01 |
| | | [.006] | [.006] | [.006] | [.006] | [.006] |
| Currently unemployed (ref=no) | | | .38* | .32* | .34* | .31* |
| | | | [.15] | [.15] | [.15] | [.14] |
| College graduate (ref=no) | | | | -.48*** | -.48*** | -.48*** |
| | | | | [.07] | [.07] | [.07] |
| Female (ref=male) | | | | | .05 | .07 |
| | | | | | [.06] | [.06] |
| Age | | | | | .002 | .002 |
| | | | | | [.002] | [.002] |
| Republican | | | | | | .28*** |
| | | | | | | [.07] |
| Constant | 3.96 | 4.07 | 4.05 | 4.09 | 3.95 | 3.83 |
| R-squared | .02 | .04 | .04 | .09 | .09 | .11 |

N= 863. Source: General Social Survey 2006 & 2008 Panels, restricted to 2010 wave. Non-moving, native-born White respondents only. County-level data comes from 2008-2010 ACS. NOTE: All models include clustered standard errors by county. † p ≤ .10, *p ≤ .05, ** p ≤ .01, ***p ≤ .001 (two-tailed test)

**Table A5. Ordered Logit Models for Native-born White Respondents, Predicting Opposition to Immigration, Log-Odds and [SEs]**

| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 6 |
|---|---|---|---|---|---|---|
| Immigrant Influx | | | | | | |
| % Foreign-born in county | -.03*** | -.02* | -.02** | -.02† | -.02† | -.01 |
| | [.01] | [.01] | [.01] | [.01] | [.01] | [.01] |
| Individual-Level Controls | | | | | | |
| Household income (in $10,000s) | | -.03*** | -.03*** | -.01 | -.01 | -.01 |
| | | [.01] | [.01] | [.01] | [.01] | [.01] |
| Currently unemployed (ref=no) | | | .31 | .15 | .19 | .21 |
| | | | [.27] | [.27] | [.28] | [.27] |
| College graduate (ref=no) | | | | -1.01*** | -1.00*** | -1.03*** |
| | | | | [.14] | [.14] | [.14] |
| Female (ref=male) | | | | | .05 | .09 |
| | | | | | [.11] | [.11] |
| Age | | | | | .005 | .005 |
| | | | | | [.004] | [.004] |
| Republican | | | | | | .62*** |
| | | | | | | [.12] |
| Cut points | | | | | | |
| Cut 1 | -4.26 | -4.47 | -4.45 | -4.71 | -4.43 | -4.21 |
| | [.26] | [.28] | [.28] | [.28] | [.25] | [.36] |
| Cut 2 | -2.56 | -2.77 | -2.76 | -2.99 | -2.71 | -2.47 |
| | [.16] | [.17] | [.17] | [.17] | [.25] | [.26] |
| Cut 3 | -.51 | -.71 | -.69 | -.84 | -.56 | -.28 |
| | [.11] | [.12] | [.12] | [.12] | [.22] | [.24] |
| Cut 4 | .57 | .39 | .41 | .30 | .58 | .88 |
| | [.11] | [.12] | [.12] | [.12] | [.22] | [.24] |
| Psuedo-R-squared | .01 | .01 | .01 | .03 | .03 | .04 |

N= 974. Source: General Social Survey 2006 & 2008 Panels, restricted to 2010 wave. Non-moving, native-born White respondents only. County-level data comes from 2008-2010 ACS. NOTE: All models include clustered standard errors by county. † $p \leq .10$, *$p \leq .05$, ** $p \leq .01$, ***$p \leq .001$ (two-tailed test)