Why Partisans Don't Sort: How Neighborhood Quality Concerns Limit Americans' Pursuit of Like-Minded Neighbors

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Abstract

In experimental and observational survey research, partisans tend to express a preference for politically like-minded neighbors, and to prefer neighborhood traits correlated with party. Yet observational studies searching for the existence of partisan residential sorting have yielded mixed results. Using survey experiments and observational data, we explain these divergent findings: preferences that would yield partisan sorting are widespread, but the means to activate them are not. Our experiments show that while members of both parties prioritize "valence" issues–home price, school quality, and crime–when rating neighborhoods, they split sharply over urbanism, racial and partisan composition, and indicators of social values. But observational data on the moving behavior of the same respondents show that such preferences are, on average, irrelevant. Most Americans who live in high-quality communities often choose to stay there, and those seeking to relocate will find few communities dominated by co-partisans once valence considerations have been satisfied. Americans rarely have the resources or opportunities to incorporate partisan affect into residential choices.

1 Introduction

Several observations have led scholars to hypothesize that partisans are sorting themselves into communities of politically like-minded neighbors. On average, Democrats and Republicans both live in, and state a preference to live in places that happen to be occupied by copartisans (Public Policy Polling, 2012; Pew Research Center, N.d.). Partisans diverge in their preferences over place characteristics that are usually correlated with partisanship: population density, "traditional" neighborhood design (), racial composition, and their neighbors' social attitudes (Cho, Gimpel and Hui, N.d.*b*; Hui, 2013; Lewis and Baldassare, 2010). People do care about the social composition of their neighborhoods, and this social composition often is closely related to the neighborhoods' partisanship. These preferences are often thought to parallel other examples of partisan homophily in social relations (e.g., Alford et al. 2011; Huber and Malhotra 2012 and partisan affect (Iyengar, Sood and Lelkes, 2012).

But despite divergent preferences, minimal evidence exists that partisan geographic segregation worsened substantially in recent years or that it is more severe than in earlier periods in American history (Glaeser and Ward, 2006). As a result, most political scientists are dismissive of politics' influence on residential sorting (Abrams and Fiorina, 2012), agreeing with the adage that politics is, for most Americans, a "sideshow in the great circus of life" (Dahl, 2005, 305). In this paper we show that partisans do differ meaningfully in their preferences for different types of neighborhoods, and explain why partisans' different residential tastes rarely translate in partisan residential segregation (Glaeser and Ward, 2006; Abrams and Fiorina, 2012). We explain this mismatch by characterizing the residential choice problem as one of elimination by aspects (Tversky, 1972), with partisans' preferences trumped by constraints on available choices. Though partisans differ sharply on several residential characteristics, there are broad bipartisan preferences for a host of "valence" traits such as low crime, short commute times and quality schools. Furthermore, Americans on both sides of the aisle tend to rank these community traits higher than the positional traits on which partisans disagree. If movers first prioritize on these valence characteristics, and have a meaningful household budget constraint, the number of communities in the available choice set is likely to suffer from a curse of dimensionality, leaving voters few opportunities to sort by party. As a result, preferences to live among people like us, while real, are unlikely to translate into substantial migration or to increase partisan sorting except

in the most extreme circumstances.

Departing from prior studies on geographic sorting that typically utilize only observational or experimental data, we support our claim with a study of experimental survey data on the residential preferences of 2,521 Democrats and 2,271 Republicans, observational data on the residential choices made by those same individuals, and a macro analysis of housing choices available in major metropolitan areas. We first report the results of three survey experiments: a full factorial design that varies community race and partisanship, a paired-comparison test that elicits the relative importance of 62 important community traits, and a fully randomized conjoint design that pits partisanship, neighborhood density, and racial composition against "valence" issues such as home prices, commuting, crime, and school quality. Across all three experiments, we find that when individuals are invited to incorporate partisanship into their evaluations of places, they tend to favor communities occupied by larger proportions of copartisans and strongly oppose communities filled with out-party members. Just as significantly, partisans also differ in their preferences for racial heterogeneity and markers of urbanism. These differences are tethered to political ideology, with most inter-party differences explained by attitudes among ideologically consistent partisans.

Despite the attitudinal differences, however, we find little evidence that experimental subjects' preferences translate into real sorting. An analysis of the partisan and demographic composition of survey respondents' zip codes during the previous five years contains few signs that partisan affect influences residential choice, even among ideological partisans whose responses denote a preference for sorting. Americans' dominant tendency is not to move, and except for the few Republicans who live in and migrate from urbanized, Democratic areas, people either stay in place or move to places that are very similar politically to their residential *status quo ante*. Where people do move to new political environments, it typically takes the form of "regression to the mean," with individuals at the partisan extremes moving to more balanced neighborhoods.

To explain this disconnect between preferences and behavior, we provide an empirical examination of the distribution of housing units that are owner-occupied—a viable proxy for neighborhoods that are desirable on a host of valence characteristics (Glaeser and Shapiro, 2003)—in metropolitan areas across the U.S.[1] We show that in most metropolitan areas, restricting the home search to neighborhoods with higher

[1]Owner-occupied housing information is collected in the Census and American Community Survey. Hedonic pricing theory

owner-occupancy rates dramatically limits the number of available zip codes that solidly vote for one party or the other.

Taken together, these results demonstrate that though many Americans prefer to live among people who share their political and social values, they often lack the choice to do so after satisfying bipartisan interests in neighborhood and public service quality. The salience of neighborhood valence characteristics and the limited range of community choices have, in recent years, kept partisan sorting to a minimum.

2 Partisan Differences in Residential Preference and Migration

Current partisan geographic segregation (the severity of which is debated (Bishop and Cushing, 2008; Glaeser and Ward, 2006; Abrams and Fiorina, 2012)) is centered largely along urban-rural lines—rural Democrats have either realigned into the Republican Party, especially in the South, or moved into cities (McKee, 2008). This pattern has resulted from a complex, decades-long process. A wave of white flight that accompanied postwar suburbanization, urban school desegregation, and urban deindustrialization, along with massive public programs such as the Interstate Highway System that facilitated outward migration and suburban development have all contributed to current residential patterns (Jackson, 1985; McGirr, 2001; Sugrue, 2005; Kruse, 2005; Nall, 2012). Often, these changes involved large, exogenous, shocks, such as the post-World War II GIs purchasing suburban homes, or the imposition of school desegregation orders in the 1970s.

Despite these structural antecedents, the existence of compelling attitudinal gaps between the parties has led several scholars to attribute partisan segregation, at least in part, to a combination of inter-party hostility and other partisan attitudinal differences. Partisans are now more likely to embrace negative stereotypes when asked to evaluate the other party (Iyengar, Sood and Lelkes, 2012). When directly asked, partisan survey respondents often state a preference to live with copartisans, and when given information about the partisan composition of communities, they tend to more negatively evaluate communities with more opposite-party members (Hui, 2013). Partisans differ on other traits correlated with partisanship. While only a minority of both parties prefer to live in central cities, Democrats have over the last four decades been 10 to 20 points more likely than Republicans to prefer urban areas, while Republicans are 10 to 20

points to home ownership as a signal of neighborhood quality. People buying similar houses pay a premium to live in neighborhoods with higher home ownership rates (Glaeser and Shapiro, 2003).

points more likely than Democrats to prefer rural communities (see, e.g., Gallup Organization 1983*a*,*b*; Pew Research Center N.d.; Belden, Russonello & Stewart 2011).

Partisans also adhere to stereotypes in their evaluation of real-world cities, states, and generic places. Recent public opinion surveys by the Pew Research Center and Public Policy Polling show that Democrats' and Republicans' attitudes towards cities and states tightly correlate with the partisan composition of places. Pew respondents were randomly presented with a city drawn from a list of 30 and asked, "Would you be willing to live in [city]?".[2] We calculate the Democratic-minus-Republican difference in the proportion answering in the affirmative, plotted against the Democratic presidential vote share in the city's metropolitan statistical area. As the left panel of Figure 1 shows, relative to Republicans, Democrats favor Democratic cities like San Francisco and New York, while disliking Dallas, Salt Lake City, Phoenix, and other commercial capitals of Republican-leaning states. The PPP studies, which ask whether individuals have a favorable or unfavorable impression of a city or state (middle and right panels, Figure 1), confirm these results.

But those that argue for the existence of sorting based on these preference gaps often ignore the extent to which the two parties commonly value a set of important community traits. As with the evaluation of political candidates, members of both parties embrace a set of considerations with respect to housing choices—"valence issues"—that are universally seen as indicators of quality (Stokes, 1963; Green, 2007), while disagreeing on a set of "position" issues explained by differences in ideology. For example, previous survey research suggests that while preferences for neighborhood racial, religious, and political composition split the two parties, common preferences exist for privacy, low-crime, short commuting times, and good schools. Importantly, valence community traits tend to be ranked higher than positional ones, suggesting that they take priority in housing decisions.

The prioritization of valence traits would impose significant constraints on the ability of partisans to select into politically like-minded communities. Communities that are considered more desirable on these valence traits are typically more costly, limiting residential options of lower- and middle-income families (Clark and Cadwallader, 1973). Despite wide preference for communities with good public schools, many families are priced out of housing in the best districts, and such districts maintain policies to preserve their

[2] A list of 30 cities was divided into three random groups of 10, which were each assigned to a third of the panel. Within each third, respondents were randomly presented with a single city each. Respondents were allowed to answer "not sure" (Pew Research Center, N.d.).

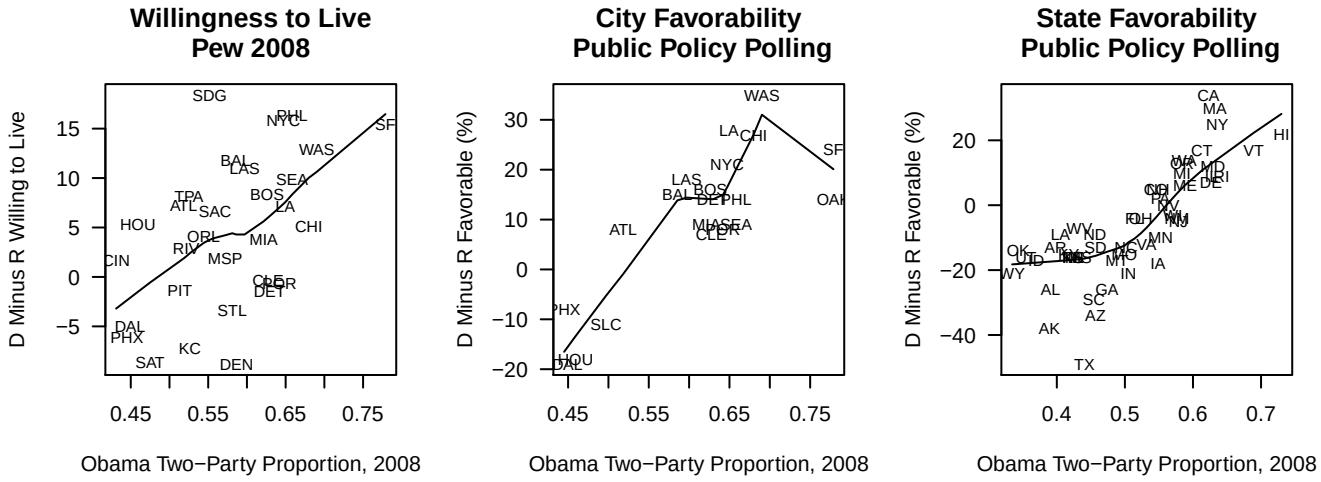

Figure 1: Partisans like metropolitan areas and states that more closely match their partisanship. Left: Pew Mobility Study, October 2008. Center: Public Policy Polling, April 2012. Right: Public Policy Polling, October 2011 and February 2012.

tax bases and prevent an influx of low-and-middle-income residents (Levine, 2006). Individuals must follow jobs, balancing preferences for place and private housing characteristics against employment and career advancement. In addition, they must accommodate the preferences of others in their households, including spouses and children. In light of these obstacles, it is perhaps unsurprising that recent research on residential choices has shown that partisans have only a slight tendency to move to neighborhoods containing their fellow partisans, (effects are typically on the order of a few percentage points in the average partisanship of one's context), and rarely appear in simple difference-in-means analyses of the politics of movers' origin and destination communities (McDonald, 2011; Cho, Gimpel and Hui, N.d.*a*).

Given the unclear link between stated residential preferences and observed residential choice (Jansen, Coolen and Goetgeluk, 2011), we hypothesize that only an unusual subset of individuals are likely to sort according to partisanship or to satisfy their social preferences. These are likely to be groups whose personal utility depends less heavily on valence considerations and is more heavily driven by social concerns, or individuals such as affluent urban professionals whose wealth insulates them from valence considerations by permitting them to purchase goods such as education and security on the private market (Gans, 1991).

Sorting would, also, we expect, be more likely among those with sufficient resources to purchase substitutes for public services and accept "post-materialist" considerations such as partisanship and local culture when deciding where to live (Inglehart, 1981). For social and political concerns to have consequences for residential choice, they must outweigh marginal utility gained from valence characteristics when a tradeoff between the valence considerations and their other preferences is required. Even for these groups, however, enough neighborhoods must exist within respondents' feasible choice set for sorting to be a possibility.

3 Engaging Experimental and Observational Evidence to Test the "Big Sort" Hypothesis

Given the above observations, scholars have adopted various methodological approaches while investigating partisan geographic sorting, each with advantages and limitations. Observational studies on this question have faced several limitations. These studies usually focus on the behavior of movers only. Studies reliant on observational data also suffer a fundamental problem in modeling choice using observational data: many factors considered most important in residential preferences (or any other discrete choice problem) are

highly correlated in the real world. It therefore makes little sense to control for factors such as community racial and income composition that are sometimes highly correlated with a place's partisanship (Alexander and Becker, 1978). Attempting to control for these factors can lead to models that extrapolate to unrealistic counterfactual scenarios that may be well outside the range of the data (King and Zeng, 2006).

Surveys that directly ask individuals what factors figured most prominently in their moving and staying decisions also potentially introduces bias. Respondents in these studies likely understate the importance of homophily, especially with respect to racial composition, due to social desirability concerns.[3] Even when respondents do not aim to deliberately conceal that race is a primary reason for moving, however, they may offer up a proximate cause of the move that conceals their original racial motivation. For example, neighborhood racial change may prompt concerns about school quality, which then becomes the stated rationale for moving out of the neighborhood.

Survey experiments alleviate many of these concerns while introducing others. List experiments and factorial designs can limit bias induced by social desirability. Random assignment to treatment conditions can assist in making valid causal inferences, at least as far as the impact of various treatments on *attitudes* is concerned. And the ability to randomize over several factors correlated in the real world, such as home prices and racial composition, can allow researchers to tease apart the marginal effects of neighborhood traits that are difficult to distinguish in observational work. However, experimental changes in stated residential preferences may be artifacts of an unrealistic choice and decision venue. Even if externally validity is assured, such attitudinal measures do not allow researchers to fully address the behavioral question at hand: are partisans sorting geographically? The pros and cons of these various methods led us to pursue a multifaceted methodological approach when tackling this question, combining the leverage for attitudinal measurement and causal inference granted by experimental surveys with the validity checks permitted by observational data on residential behavior and the distribution of desirable neighborhoods. We turn now to the details of our empirical analysis.

To test for partisan differences in residential preference, we present a series of experiments covering a range of residential preference scenarios. In each of these designs, we test the relative importance of various

[3]For example, Pew Research Center (N.d.) found broad support for living in a racially diverse locality, with support from 76% of Democrats and 55% of Republicans, but blinded experimental research and observational data suggest that the true number may be lower.

issues in residential preference. Unlike surveys that randomize just one neighborhood attribute, such as partisanship (Hui, 2013) or race (Farley et al., 1978, 1994), which do not account for the heuristic use of such traits to guess community correlates of partisanship, we present three survey experiments designed to isolate the marginal effect of different community attributes, including partisanship, racial composition, and valence considerations. These three experiments are intended to experimentally control for, and estimate the marginal effect of, "valence" issues versus "position" issues in residential sorting. Each of the designs aims to identify the marginal contribution of these attributes without priming respondents unintentionally.

The three experiments present respondents a mix of choices and options. While we are concerned with partisan differences for different community traits, we deliberately avoid highlighting explicit political and social considerations in our designs in order to mask our intentions. The first experiment is a full factorial design, which presents individuals with into treatment arms that interact two competing explanations for partisan sorting into like-minded neighborhoods. The second experiment is a paired comparison design in which individuals are asked to explain which traits matter most when they are deciding where to live, providing a relative ranking of the importance of different traits. Third, we apply a fully randomized conjoint design, in which respondents are presented with multiple composite profiles randomly generated to estimate the marginal contribution of different factors towards community preferences (Hainmueller, Hopkins and Yamamoto, 2012).[4]

After conducting these survey experiments, we then measured respondents' actual behavior. While survey experiments capture stated preferences, they do not reveal the limitations on residential choice arising due to income constraints, housing prices, employment options, and transportation mobility. In addition, except in single-person households the interests of multiple household members, are often taken into account.

[4]While there are various approaches to conjoint analysis, in this design individuals are randomly assigned pairs of composite community profiles randomly generated from a list of seven different attributes, including valence considerations and social factors (race and partisanship). Such designs have taken on various guises and names in marketing research, especially in real estate and residential preference research (E Molin, 1999; Molin, 2011), and in sociology, where composite profiles have often been presented in the form of narrative "vignettes" designed to elicit preferences over a full range of plausible neighborhoods (Alves and Rossi, 1978; Faia, 1980; Rossi, 1980). This method has been applied in recent studies evaluating preferences over public opinion over the composition of public policies (e.g.,Bechtel and Scheve 2013; Hainmueller and Hopkins 2012; Bechtel, Hainmueller and Margalit 2012).

3.1 Data

Both the experiments and observational studies were conducted on a sample of 2,520 Democrats and 2,270 Republicans collected by Survey Sampling International between June 4 and June 14, 2013 via a quota-based, online panel with targets of 50% Republicans and 50% Democrats. Partisans were sampled with the aim of matching the sample to Census targets for age, race, and gender. Since the sample was not randomly drawn, we assess the extent of selection bias by comparing it to the unweighted National Election Study data for 2012. Democrats in the SSI sample were about the same age, had about one year more education on average, and were more likely to be female, homeowners, and voters. They were more likely to identify as white and less likely to be from the South. Republicans in the SSI sample were about the same age and had about the same years of education. They were about equally likely to own their own home and had the same same average ideology and interest in politics. They were more likely to be white and female and to report voting in the previous presidential election than Republicans on the ANES. A methodological note on sampling procedures and summary statistics on data quality and potential selection bias associated with the quality checks, as well as the summary statistics from the comparison with the ANES, appears in the Online Appendix.

4 Experiments on Partisanship and Residential Preference

4.1 Full-Factorial Test of Community Preferences

We employed a three-by-three full-factorial design to test the strength of partisan affect on residential preference, holding major contributors to residential preference decisions constant. Respondents were presented a randomly generated community profile which varied the community's racial/ethnic composition and political composition. In the baseline/control condition, respondents were presented a composite neighborhood profile designed to be desirable on a variety of salient traits. The set of valence characteristics including property tax rates, total daily driving time; violent crime rate; and public school quality. All attributes were set at values that could be construed as better than average. On top of this baseline condition, respondents were presented information about the community's racial composition, the community's partisan composition, or both. The racial/ethnic composition attribute was randomized across three levels: no racial/ethnic information item; 70% White, 20% Black, and 10% Hispanic; and 96% White, 2% Black, and 2% His-

panic.[5] The political composition attribute was also randomized across three levels: no political information item; 70% Democratic and 30% Republican; and 70% Republican and 30% Democratic.[6].

Respondents were then asked two questions: "Would you be willing to move to this community?" and "On a scale of 1 to 7, how attractive do you find this neighborhood?"

The mean responses and associated 95% confidence intervals for Democratic and Republican respondents on willingness to move to the described community in each treatment arm appear in Figure 2. Republicans and Democrats liked the community described in the control condition in about equal measure, with 79% of respondents in both parties stating a willingness to move there. Among groups that saw different treatment conditions, the proportion stating a willingness to move to the community varied substantially. Living in a zip code dominated by the opposite party severely drives down reported desire to live in a neighborhood, slightly more for Republicans than for Democrats. Just by adding information that a neighborhood is dominated by the opposite party reduces Republican interest by 24 points and Democratic interest by 16 points. Republicans were 9 points more likely, and Democrats 6 points more likely, to state a preference for a neighborhood dominated by their party. Information on racial composition had a much smaller effect, whether or not it was combined with partisan information. Republicans were about 8 points more likely to prefer the white/control neighborhood to the baseline condition while the racial information had only a minimal effect on Democrats' neighborhood preference.

These results show that when basic neighborhood quality criteria such as school quality, home prices, taxes, and driving time are held at desirable levels, racial heterogeneity has minimal effect on community preference, while political signals substantially shape evaluations. This result is consistent with several psychological mechanisms. Partisans may be using information on the partisan makeup of a community as a heuristic for neighborhood quality (Ellen, 2000; Harris, 2001; Krysan, 2002; Rodden, 2010), an explanation we find unlikely given the desirable baseline community traits we provided across conditions. Alternatively, partisans may be responding reflexively and negatively to the opposite-party label in the partisan-treatment condition (Iyengar, Sood and Lelkes, 2012). Regardless, these results suggest that partisans with a choice over otherwise desirable communities should still be moving to the ones that share their politics.

[5]For simplicity, the race/ethnicity item was labeled "race" on the survey instrument.

[6]An example from the survey instrument appears in Figure A-2 in the Online Appendix

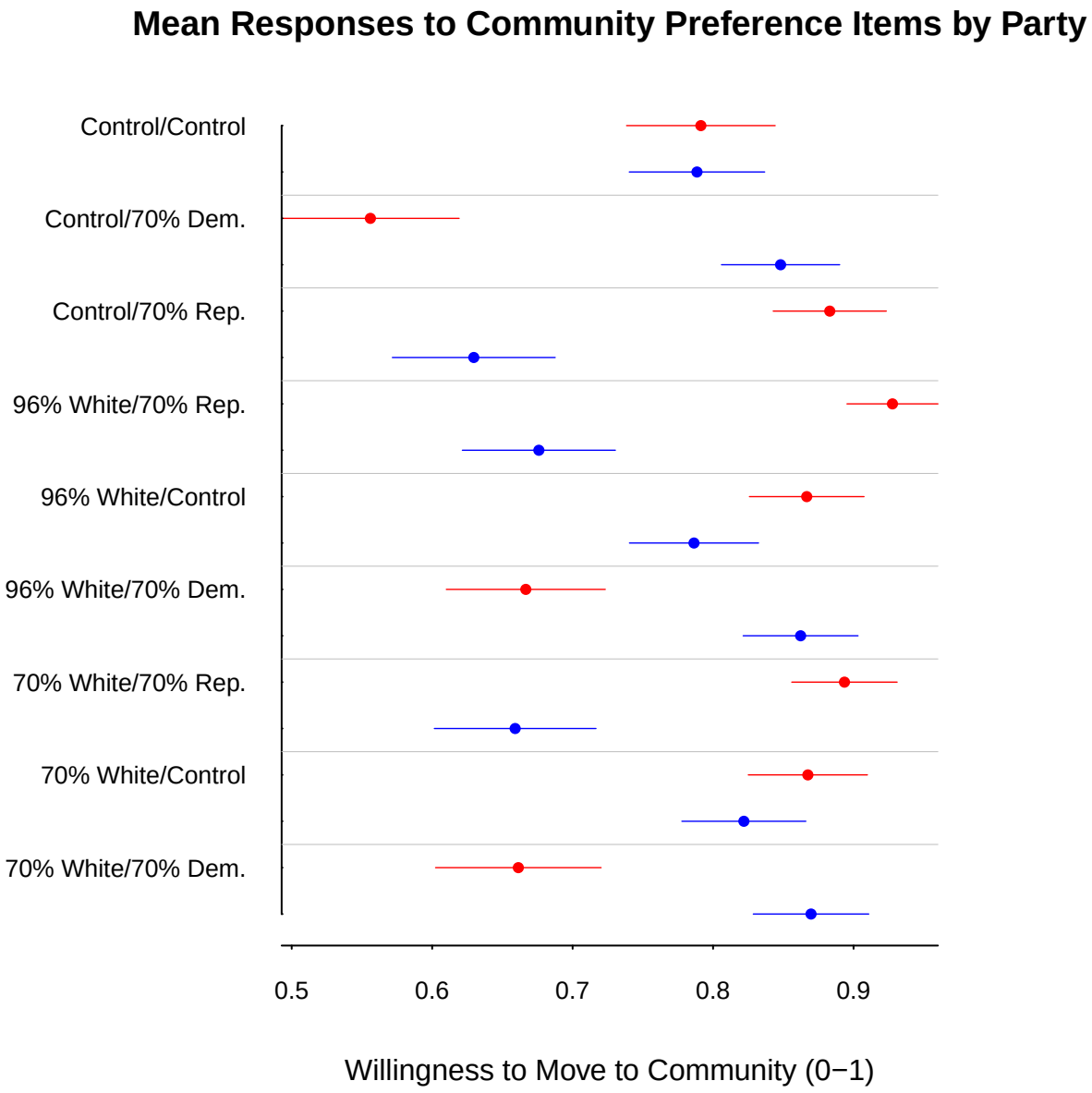

Figure 2: Democrats (blue) and Republicans (red) respond strongly to partisan information, but not to racial information. Self-reported willingness to move to an otherwise desirable zip code, with randomly assigned racial and partisan composition conditions.

4.2 Paired-Comparison Tests on Significant Factors in Residential Sorting

The results of the first experiment indicate that partisans respond sharply to information on neighborhood partisanship, but how much do people typically rely on these traits when deciding where to live? Rather than directly asking respondents to rank their preferred residential traits, we use an alternative, randomized approach, presenting respondents a set of paired comparison tests to evaluate the relative importance of various community-specific traits that people might consider when deciding where to live (Thurstone, 1927; David, 1969; Salganik and Levy, N.d.). This design has some advantages of a list experiment or other designs that aim to enable respondents to rate the importance of different traits, because individuals are only asked to rate the relative *importance* of two different factors in pairwise comparisons, not to provide direct information on traits' *desirability*. In addition, because respondents do not see all 62 categories, they cannot strategically give cardinal ratings to some characteristics that are higher than others, or click through the survey questionnaire by picking all neutral responses on Likert-scale questions. The design permits respondents to abstain, but they are not permitted to give a neutral response.

Under paired comparison tests, respondents are presented with series of pairs of attribute labels drawn from the choice set $(i, j) \in (i = 1, ..., t) \times (j = 1, ..., t), i \neq j$, a space containing $\binom{}{t2}$ unique comparisons. Individuals are presented with a random draw of k paired comparisons from this set, from which they choose one option. An advantage of this design is that it provides a plausible ordering of the average relative importance of different traits while avoiding social desirability effects. Respondents are often given the additional option to decline making a forced choice, which permits them not to hazard an opinion on unfamiliar topic, but also allows them to sidestep controversial or socially undesirable choices (Salganik and Levy, N.d.).

In our design, respondents were presented nine paired comparisons in which respondents were presented randomly drawn pairs of community characteristics from a list of 62 characteristics, and asked, "Which of the following is a more significant factor when you are deciding where to live?"[7] The relative importance of each residential characteristic was then estimated by calculating the proportion of times each option is chosen among all times it appears. The 62 community characteristics were adapted from previous research on

[7] Due to a survey coding error, the first of the nine questions presented was, "Which of the following is more important to your decision about where to live?" The results are robust to omission of responses to the differently worded question.

residential preference, partisan homophily, and ideological sorting.[8] They are grouped into categories to aid presentation, but respondents were presented with each option without the additional category information.[9] Categories include:

- **Blight and Crime:** Problems typically identified as urban problems, including crime, gang activity, public drug use, homelessness, and air pollution.
- **Geography/Location:** Region, location near a major metropolitan area, and warm or cold climate
- **Friends/Family:** Whether friends live nearby and family live nearby
- **Neighborhood Income:** Home prices, home values, wealthy versus nonwealthy community
- **Government:** Local property and sales tax rates, police quality, parks quality, corruption, government employment, business-friendly, low-income services.
- **Transportation:** Amount of daily driving, commuting time, ease of access to highways or transit, road and transit quality, bike-friendliness
- **Smart Growth Vs. Sprawl:** Amount of privacy, big houses and yards, low-density versus high density housing, ability to walk to work or school or to shopping, parking capacity, and sidewalk quality
- **Children:** School quality, "kid-friendly," and whether children are bused to school

[8] Previous surveys used to identify categories include those Cho, Gimpel and Hui (N.d.*b*),Hui (2013), Los Angeles Times (1999), Belden, Russonello & Stewart (2004), and Belden, Russonello & Stewart (2011).

[9] Because the survey aims to assess the *importance* of different traits in residential preference, as opposed to the *desirability* of the traits, the questions and choices were worded to allow each factor to be important as a negative or positive consideration, though some of the traits had a clearer direction than others. For example, "Number of drug users on the street, " which Republicans identified as a significant factor in more than 60 percent of random pairings, was clearly chosen because it was a community demerit, while the neighborhood trait, "How Muslim the neighborhood is" could have been chosen because the respondent wishes to live near other Muslims, or because the respondent is anti-Muslim and does not wish to live near them. Traits such as "How many Republicans live there," "How many Democrats live there," and "How 'gay-friendly' the neighborhood is" appear to have been interpreted directionally, with people more likely to identify the trait as "significant" if a greater prevalence matched their personal preference. Fortunately, the design permits testing of different question wording alternatives. For example, as an alternative to the statements about the two parties, one of the listed traits was the more balanced statement, "Whether people share my politics."

- **Social life:** Quality of restaurants, retiree-friendly, number of retirees, active street life
- **Neighborhood social composition and attitudes:** Having a lot in common with neighbors; how Christian, Judeo-Christian, Democratic, Republican, Muslim, atheist, Jewish, or gay-friendly the community is, whether neighbors share politics and religious values, distance to one's church
- **Neighborhood race:** How white, black, Hispanic, and Asian the community is.

We adopt an intuitive method for reporting preference orderings from paired comparison tests: the proportion of the time each answer choice was chosen by respondents from each party, conditional on having been seen. These estimates, with 95% confidence intervals constructed using standard random sampling assumptions, appear in Figure 3.[10] These graphs demonstrate that Republicans and Democrats agree on the major issues when deciding where to live. Both Democrats and Republicans list region of the country, home prices and values, property tax rates, crime levels, personal privacy, and "having a lot in common with neighbors" near the top of their list of considerations. Even as such considerations appear near the top of individuals' self-reported concerns, lower-ranked considerations can still have an important effect on sorting, particularly if higher-order concerns are satisfied. If such concerns can be satisfied, the partisan divide over other neighborhood issues is quite large. Both Democrats and Republicans identify living in a neighborhood with people who share their politics as the more significant factor in 30% of head-to-head matchups.

The two parties also split on neighborhood traits correlated with partisanship, notably on questions of religious composition and moral attitudes. Republicans identify "How Christian the community is" as a significant factor 46% the time versus 29% for Democrats. Similar gaps between the two parties exist on social issues, including how many neighbors share the respondent's religious values or are "Judeo-Christian." This survey appears to reveal a sharp partisan split in religiosity versus secularism, with "how atheist-friendly the neighborhood is" identified as a significant factor about as often as "distance to church" is chosen by Republicans. Another factor that distinguishes the two parties is race. While the paired comparison design gives people latitude to downplay the significance of racial composition, the parties still separate substantially in the significance they assign to racial composition. Forty percent of the time,

[10] Within each category, responses are plotted in descending order according to the proportion of times each option was selected in the full bipartisan sample.

Republicans identified "The share of the community that is white" as a significant factor, versus only 28% of the time among Democrats.

On almost every dimension in this design in which partisans separate, ideologically "sorted" partisans (liberal Democrats and conservative Republicans) drive the partisan differences in attitudes towards community social and political composition. Subsetting respondents according to their self-reported ideology has larger effects on questions related to social and partisan homophily but has relatively little effect on valence considerations. In addition to demonstrating that residential preferences are linked to political ideology, they also reinforce the validity of the paired comparison design by varying in the expected direction. These results appear in the Online Appendix (Figures A-3 and A-4).

Liberal Democrats differ little from moderate and conservative Democrats on a host of valence issues. They are, however, much more likely to assign significance to partisanship and traditional markers of social liberalism, while non-liberal (moderate and conservative) Democrats look much more like Republicans. Liberal Democrats are 15 points more likely than other Democrats to identify "How many of my neighbors share my politics" and "How many Democrats there are" as significant factors. They also identify traits associated with social-values liberalism as significant, especially, as previous research would suggest, on issues of social equality (Haidt, 2013). For example, they are 16 points more likely than non-liberal Democrats to identify "How gay-friendly the community is" as a significant factor when deciding where to live. Non-liberal Democrats look much more like Republicans.

Similar ideological splits appear on the Republican side, with substantial within-party agreement on valence issues but division on social and government policy issues. In addition to placing less emphasis on social issues, non-conservatives are about five points more likely to assign more significance to local governance factors. They are 9 points points more likely than conservatives to identify "quality of services for low-income people" as a significant factor, and 10 points more likely than conservatives to identify school bus services as important. Moderate Republicans look very much like moderate Democrats in the self-reported importance that they apply to a community's social and religious composition. They are 14 points less likely than conservative Republicans to identify "How Christian the community is" as significant factors. They are also 19 points less likely than conservative Republicans to consider "How Republican the

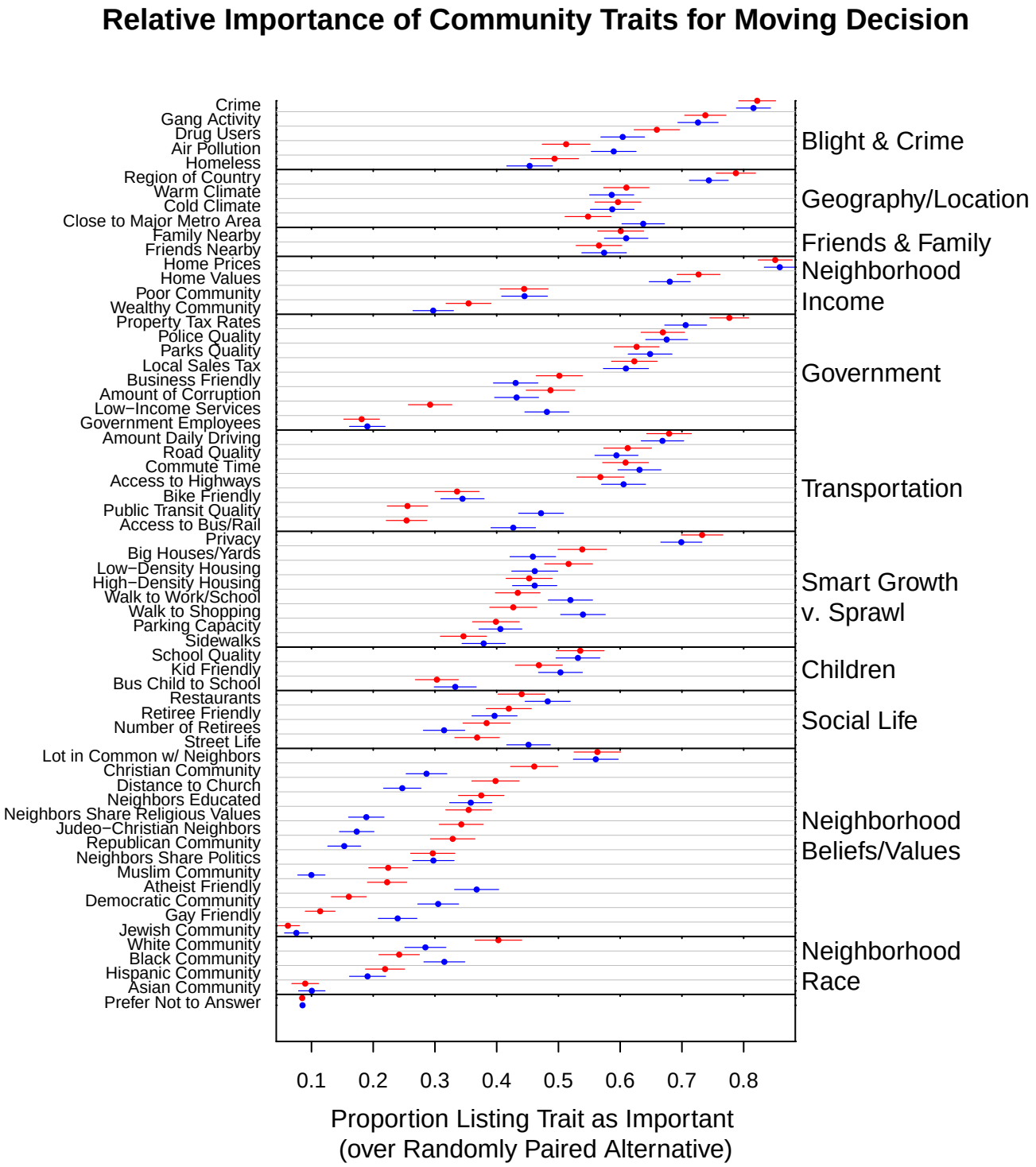

Figure 3: Relative ranking of significance of community factors used to guide residential preference, by respondent partisanship. Proportion of pairwise matchups against a random selection of other traits won outright.

community is" a significant factor.[11]

4.3 Conjoint Design

The full factorial design indicated that partisans presented with both partisan and racial information about an otherwise desirable community are likely to rely very heavily on partisan information. The paired comparison test provides evidence that Democrats and Republicans assign similar importance to a common set of valence considerations when deciding where to live, but that liberals and conservatives differ substantially in their preferences. While social composition questions are of low importance, Republicans and Democrats split substantially on these issues, with most of the split being driven by ideologically consistent partisans.

A fully randomized conjoint design, which we present here, mixes advantages of the full-factorial and paired-comparison designs. Like the paired-comparison design, this approach forces choices between pairs of options, except respondents in this design view composite community profiles permitting comparisons on a combination of pre-selected attributes. To capture the effect of a "concatenation" of factors that influence preferences (Luce and Tukey, 1964, 2), respondents are presented a series of pairwise comparisons of composite community profiles in which the levels of categorical attribute variables are varied. The conjoint design allows estimation of the marginal influence of any attribute (or its "part-worth utility") in any discrete choice exercise that requires an individual to evaluate competing congeries of goods.

Adopting the notation of Hainmueller, Hopkins and Yamamoto (2012), the conjoint design prompts respondents to choose between two communities labeled "Community A" and "Community B". In our design, each of the N respondents were presented with $K = 5$ "choice tasks" between these $J = 2$ community alternatives. For each task, respondents were asked to make their decision based on information provided on $L = 7$ attributes with D_L options per attribute.

The attribute levels used in to assemble composite community profiles appear in Table 1. The design includes "valence" traits known to influence residential preference and believed to be shared by Democrats

[11] As an additional validity check on this design, we examine results for groups with household-specific interests in particular valence considerations that are distinct from partisanship or political ideology. For example, do individuals with children assign greater importance to school quality and "kid-friendly" neighborhoods than those who are childless? Are owners more concerned with property taxes than renters (who bear the costs only indirectly and rarely think about property taxes)? Are senior citizens (those over 65 years of age) more likely to assign importance to retiree-friendly communities? Within each of these subgroups, respondents respond in expected manners. These results also appear in the Online Appendix.

Parameter	Description	Value
N	Respondents	4,792
K	Choice Tasks Per Respondent	5
J	Community Options Per Choice Task	2
L	Traits Presented for Each Community Option	7
$\mathbf{D_L}$	**Levels Per Trait** l	
D_1	Commute time (levels)	4
D_2	Housing cost (levels)	3
D_3	Community presidential vote (levels)	3
D_4	Percentage white, non-white (levels)	4
D_5	School quality (levels)	2
D_6	Type of place, city-suburb (levels)	6
D_7	Crime (levels)	2

Table 1: Description of the fully randomized conjoint design for residential preferences, following notation in Hainmueller, Hopkins and Yamamoto (2012).

and Republicans, as well as descriptions of neighborhood traits believed to be linked to partisanship, such as population density, preferences over commuting time, and neighborhood racial and partisan composition. The first of these factors is housing cost, which is randomized across three levels (as a fraction of respondent's pre-tax income): 15%, 25%, and 40%. In the paired comparison test, this was the top concern. In previous observational studies, people who have moved recently, especially in urban environments, often cite neighborhood crime as a major concern (Los Angeles Times, 1999). This factor is expressed in terms of the violent crime rate. Because few individuals have an intuitive understanding of the true crime rate, the violent crime is presented in two categories: 20% above the national average and 20% below the national average. School quality is expressed by reference to a "school quality score" similar to ratings that appear in community real estate profiles (Neighborhood Scout, 2013). This value is randomized between two levels: 5 out of 10 (a mediocre school) and 9 out of 10 (one of the top schools). The degree of urbanism, presented as the "type of place," is randomized across 6 levels used elsewhere in the literature: city downtown with a mix of shops, businesses, and homes; city residential area; mixed-use suburban neighborhood; a suburban neighborhood with houses only; small town; and rural area (Belden, Russonello & Stewart, 2011). Two additional variables address responsiveness to a community's partisanship and correlates of partisanship. The first is a variable expressed in terms of the white/nonwhite racial composition of the neighborhood, randomized across four levels: 50% white/50% nonwhite, 75% white/25% nonwhite, 90% white/10% nonwhite, and 96% white/4% nonwhite. The partisanship variable is expressed in terms of the 2012 presidential

vote, randomized across three levels: 30% Democratic/70% Republican, 50% Democrat/50% Republican, and 70% Democrat/30% Republican.[12]

Each respondent saw five side-by-side community pairs. A representative example of such community traits appears in Figure 4. For each pair of profiles, respondents were asked, "Which community would you be more satisfied living in?" We used responses to these questions to estimate the marginal effect of each trait on neighborhood preference. The primary estimand of interest in the fully randomized conjoint design is the *average marginal component-specific effect (AMCE)*, estimated separately for Democrats and Republicans (Hainmueller, Hopkins and Yamamoto, 2012).[13] This effect is estimated using a least squares regression with the binary preference outcome as the outcome variable and all attribute levels as dummy variables (omitting a reference category). The coefficient on each treatment level represents that attribute-level's marginal impact on the probability of community selection, controlling for all other combinations of traits randomized across the profiles (Hainmueller, Hopkins and Yamamoto, 2012, 11).[14]

Results of this design appear in Figure 5. As in the paired comparison tests, the results here indicate that partisans behave similarly on a range of valence attributes but separate substantially with respect to neighborhood social composition. We had expected that both parties would respond about the same to housing costs, school quality, and crime levels. It had been expected, based on previous research on the relationship between "sprawl" characteristics and partisanship (Williamson, 2008, 2010) that Republicans, who tend to come from counties with higher proportions of long-distance commuters, would be more tolerant of daily driving time to enjoy private goods and to live away from cities. However, the experiment indicates that Republicans and Democrats have the same marginal response to commuting time when evaluating

[12]One might note that the quantitative examples presented here are possible but improbable. A qualitative version of the above test using non-quantitative descriptions was bench-tested. Pre-test respondents had difficulty using the subjective ratings, and were likely to interpret statements such as "mostly Democratic" or "mostly non-white" as representing more extreme values than intended. Presenting community attributes in numeric terms permits clearer interpretation.

[13]In the conjoint estimation literature, this quantity is also known as a "part-worth utility" since it represents the marginal contribution of a change in attribute level to a person's overall utility. See, e.g., Molin (2011).

[14]Specifically, these coefficients are estimated by combining the $J\dot{K}$ choices for each respondent into a columnar data set, then running a categorical regression using least squares regression with standard errors clustered by respondent (Arai, 2011). Each element of the outcome variable, Y_{jk} is coded 1 if the community described in profile jk was selected, and zero otherwise. The explanatory variables included in each row, jk, are the randomized values of the L categorical variables used as traits for community option jk.

COMMUNITY TRAIT	COMMUNITY A	COMMUNITY B
Daily Commuting Time	25 min	45 min
Type of Place	City - more residential area	City - more residential area
Violent Crime Rate (Vs National Rate)	10% More Crime	10% Less Crime
Race	90% White, 10% Nonwhite	90% White, 10% Nonwhite
Housing Cost	25 percent of pre-tax income	15 percent of pre-tax income
Presidential Vote in 2012	70% Democrat, 30% Republican	70% Democrat, 30% Republican
School Quality Rating (1=Worst, 10=best)	7	7

Figure 4: Example of a conjoint profile presented in the online survey.

neighborhoods, after controlling for other attributes. Increasing commuting from 10 minutes to 45 minutes reduced preference for a community by 12 points in both parties, and an increase from 10 to 75 minutes cuts preference for the community by 23 points among Democrats and 21.6 points among Republicans. Republicans and Democrats also respond about equally to housing costs. Doubling housing costs from 15% to 30% of pre-tax income cut preference for the community by 7 points among Democrats, 8 points among Republicans, and an increase to 40% of pre-tax income reduced preference by an additional 5 points among Democrats and 6 points among Republicans. School quality had about the same effect in both parties. A shift from 5 to 9 on a ten-point scale increased preference for a community by 10 points among Democrats, 9 points among Republicans. Shifting crime levels from 20% below the national average to 20% above Democrats' probability of selecting the community by 14 points, Republicans' by 15.

On remaining characteristics, partisans report very different preferences. As in the full factorial design, partisans penalized communities dominated by the opposite party while giving a smaller bonus to communities dominated by their own party, in this case relative to an evenly split community. Both parties were 8 points less likely to favor a community dominated 70%-30% by the opposite party, while giving only half as large a bonus to communities that were dominated 70%-30% by their own party. Even after accounting for school quality, crime rate, and type of place, all of which have been discussed as reasons for use of race as a residential heuristic, partisans differed in their community racial preferences. Compared to a baseline community that is half white and half non-white, Republicans are 6 points more likely to choose a

community that is 75% white, 10 points more likely to choose one that is 90% white, and 11 points more likely to choose a community that is 96% white. Democrats, by contrast, are barely more likely to prefer homogeneously white communities to those that are half white. They favor communities that are only 25% nonwhite by about 4 points, relative to the 50% white condition. These differences are not entirely explained by differences in the racial composition of the two parties. Even after discarding respondents who do not report white as a race on a multi-choice survey response, white Democrats derive less marginal utility from homogeneously white neighborhoods than white Republicans do (see Online Appendix Figure A-11).

Unsurprisingly, the same factors that were more important to ideologically sorted partisans in the 62-item paired comparison tests also moved respondents on the conjoint design, reinforcing the importance of partisan intensity and conservative versus liberal ideology as an explanation of the residential sorting that does occur. Moderate-to-conservative Democrats and moderate-to-liberal Republicans look quite similar on many dimensions of residential choice, while conservative Republicans and liberal Democrats explain most of the inter-party variance. On three valence issues, including housing costs, daily driving time, and the violent crime rate, preferences among sorted and unsorted Democrats and Republicans are indistinguishable. Conservative Republicans are slightly less likely to place a premium on school quality and are only slightly more adverse to higher crime levels than non-sorted Republicans. Ideology drives partisan differences over type of place, racial composition, and neighborhood partisan competition. On all of these variables, conservative Republicans place a higher premium on more homogeneously white, more Republican, and rural areas and small towns than non-conservative Republicans do. Liberal Democrats give a higher rating to more Democratic, more racially diverse, and higher-density places than non-liberal Democrats do, though the differences are not as large as those between conservative and non-conservative Republicans. Results broken down by partisan-ideology category appear in Figure 6.

From these results, we can, with some stronger modeling assumptions about linearity across categories, assess the tradeoffs across different attributes that would yield identical utilities in different subgroups. For example, conservative Republicans should, all else equal, be willing to drive 47 minutes longer each day not to live in a downtown area and 26 minutes longer to move from an area with 70% Democrats to one that was only 50% Democratic. By contrast, a liberal Democrat should be willing to drive 10 minutes longer to live in the downtown versus rural area, and 24 minutes longer each day to live in the more Democratic

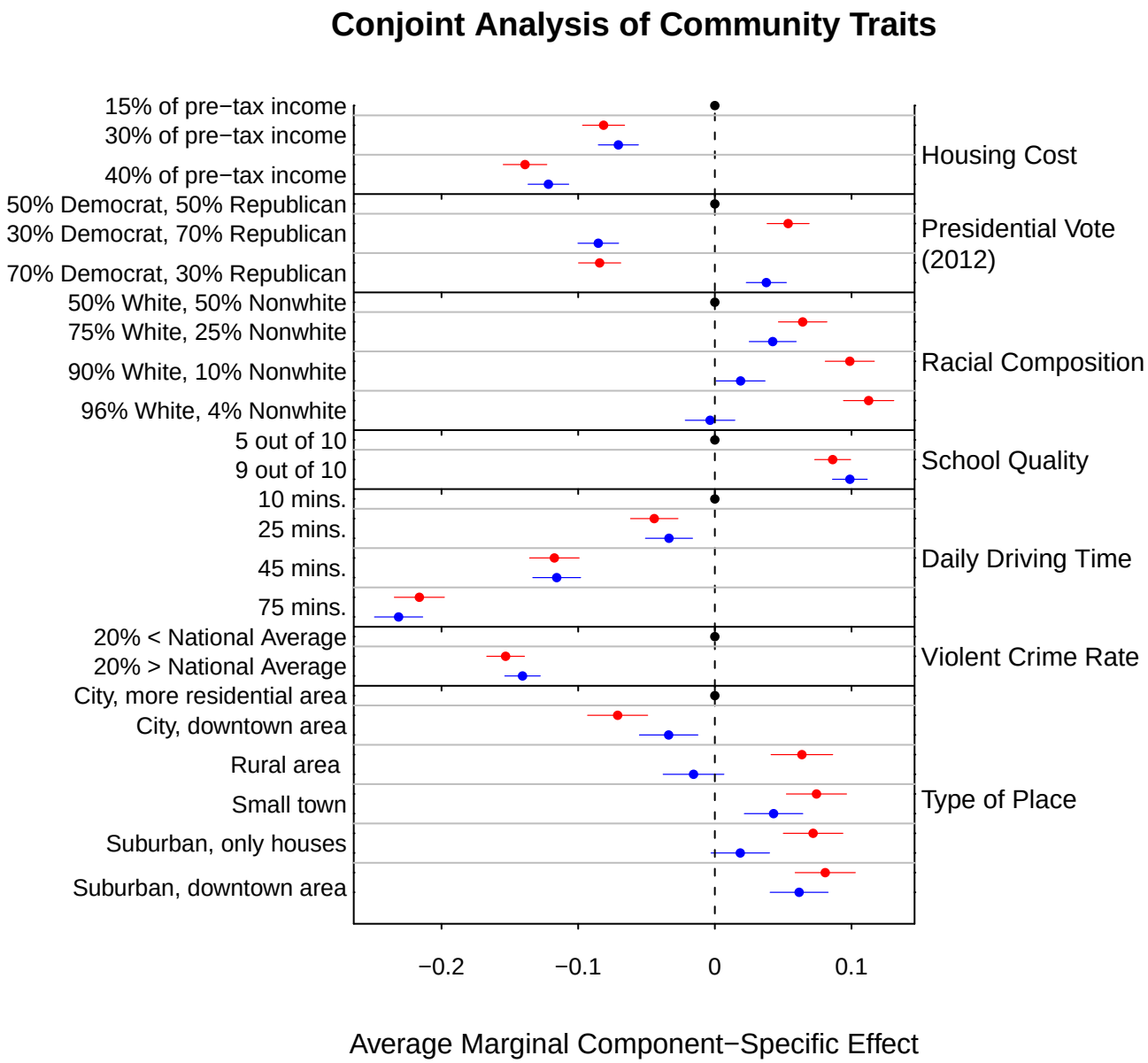

Figure 5: Fully randomized conjoint analysis results, for Democratic and Republican identifiers. Republicans and Democrats respond similarly to crime, school quality, housing cost, and commuting time. They split on racial composition, partisan composition, and the community's location on an urban-rural continuum.

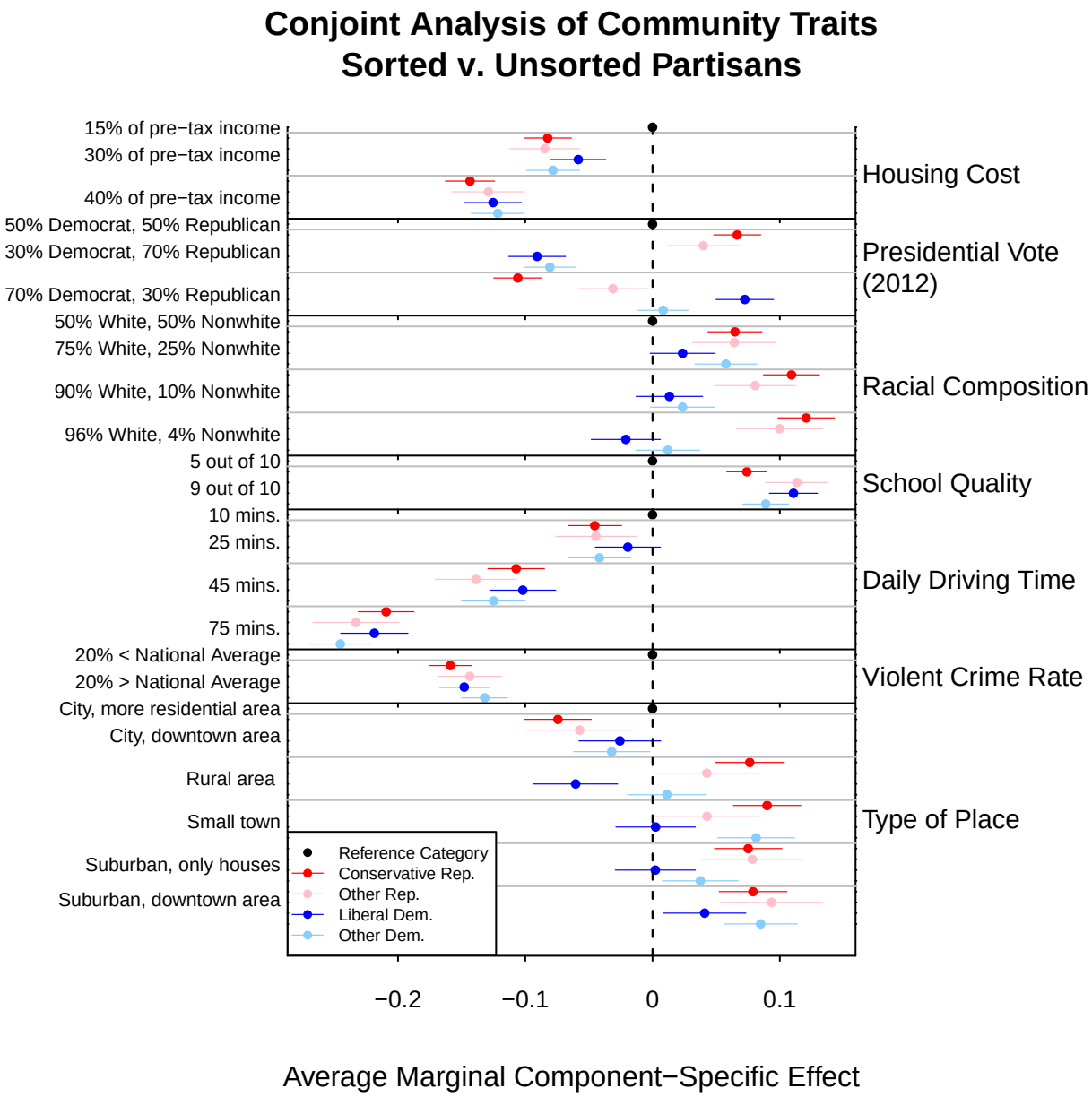

Figure 6: Fully randomized conjoint analysis results, for Democratic and Republican identifiers, by ideological consistency. Key partisan differences in stated preferences are explained in large measure by attitudes among conservative Republicans and liberal Democrats.

neighborhood.

5 Validating the Relationship Between Community Evaluations and Residential Sorting Behavior

Do the preferences expressed in these surveys have any relationship to actual moving behavior? Thirty-two percent of the sample reported moving during the last five years. We collected data on respondents' current and previous zip codes, geocoding the zip codes and merging them with precinct-level data (Ansolabehere and Rodden, 2012), aggregating data from precincts whose centroids fell inside the zip code. We also combined respondent data with 2010 Census data on zip-code income and racial composition and five-year American Community Survey data on homeownership and other social measures excluded from the decennial census (Fitch and Ruggles, 2003).[15] From these data, we can ascertain whether partisans are, in fact, moving into zip codes with larger proportions of co-partisans.[16]

Analysis of our observational data show that Democrats and Republicans are only modestly geographically sorted, at least in terms of the 2008 two-party presidential vote (see Figure 7). In our sample, the average Democrat's zip code is ten points less Republican than the average Republican's zip code (42% versus 52%). Only 12% of Republicans and 23% of Democrats live in a "landslide" zip code (one containing 70% of one's own party voters). From the experimental results, one might have expected that these party averages obscure ideological differences in partisan sorting, with liberal Democrats and conservative Republicans engaging in more of it, but the within-party differences by ideology are substantively meaningless. On average, liberal Democrats' context is only two points more Democratic than conservative and moderate Democrats'. Conservative and non-conservative Republicans' average political context differs by only about a point.

What explains the presence of partisan divisions on a range of questions, on one hand, and the modest split in the distributions in the types of places where partisans live? The most likely explanation is that information about partisanship and correlates of partisanship are likely to be used in "elimination by aspects"

[15] Because voting data are not organized by precinct in vote-by-mail Oregon, respondents from that state are omitted from this analysis.

[16] Previous work has used similar strategies, such as geocoded voter lists, marketing lists, and postal change-of-address data (McDonald, 2011; Cho, Gimpel and Hui, N.d.*b*).

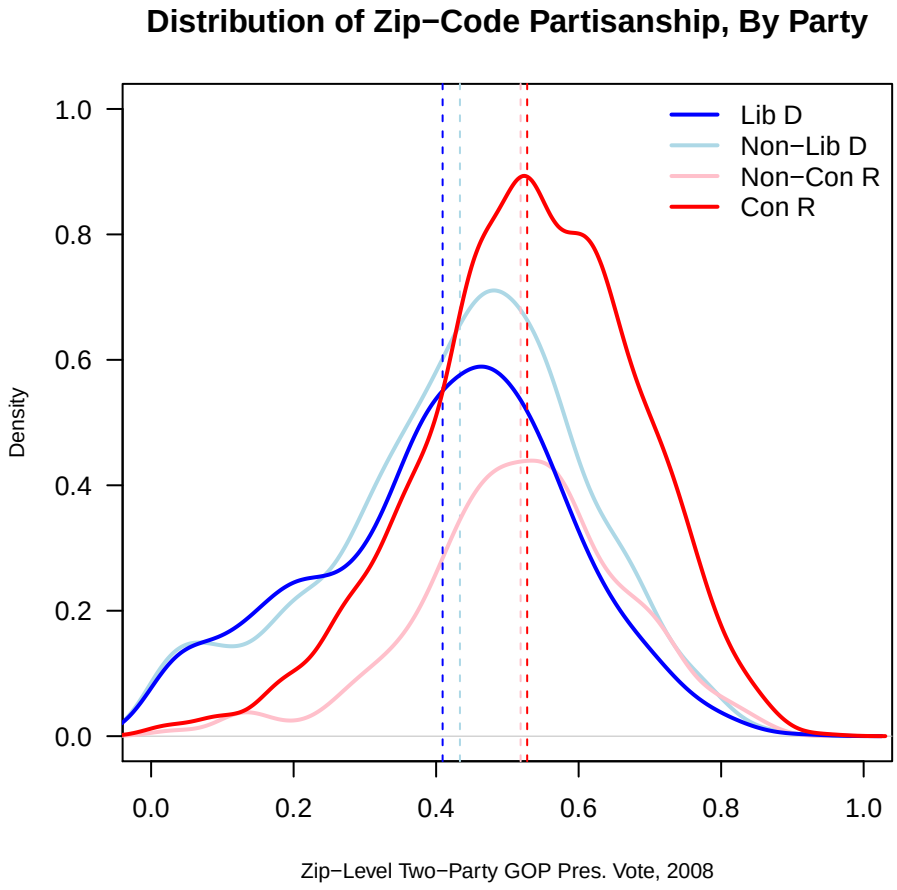

Figure 7: Partisans, ideologically sorted or not, mostly live in swing areas. Partisanship, by ideology, by zip-code level Republican two-party presidential vote, 2008.

(Tversky, 1972), but only after high-priority valence considerations have been satisfied. Partisan sorting will then be impeded when valence considerations are at odds with partisan homophily, and will be enhanced when such considerations are consistent with partisan homophily. For example, communities with high home ownership rates typically have low crime and high-quality schools. Though modest evidence exists that living among homeowners has large positive externalities for individuals, home buyers have been found to be willing to pay 1.5 percent more for a house for every 10 percent increase in the local homeownership rate (Glaeser and Shapiro, 2003).

To demonstrate how this shapes actual residential sorting, we examine the subgroup of survey respondents who moved to their current home from another zip code during the previous five years. We then coded each respondent with the traits of their previous zip code, with a focus on three markers of urbanism: proportion minority, proportion renting, and population density. These three traits were coded as three dichotomized variables: whether the proportion non-white was less than 70%, whether the proportion of owner-occupied housing units was less than 50% (below the median for all zip codes), and whether the zip code had a population density of greater than 5,000 persons per square mile.[17] Using these three urban indicators, we can assess how much partisan sorting is occurring among residents of urban and non-urban areas. If sorting driven with partisan homophily were occurring, we would expect it to occur for residents in all types of areas, not just those mismatched on neighborhood type.

Figure 8 shows that partisan residential sorting is defined, for the most part, by regression to the mean. The horizontal and vertical axes display the 2008 Republican two-party presidential vote share of the respondent's previous and current zip code. Each color-coded point represents a Democratic (blue) or Republican (red) respondent. The coded urbanism indicators of each respondent are coded using a set of overlapping symbols, with more complex symbols indicating more urban traits. We then plot a lowess curve through two groups in each party: respondents whose previous zip code had at least one of the three urbanism indicators, and those who originally lived in a place with zero of three urbanism indicators. A lowess curve above the $y = x$ line indicates that the group of partisans at the given previous zip code partisanship is moving into places that are more Republican, while a curve below the line indicates that they are moving to places that

[17]For reference, Miami, Florida and Washington, DC have population densities of approximately 10,000 persons per square mile.

are more Democratic. Even among these people who move out of their previous zip codes (55% of those who move), there is little partisan residential sorting, except for regression to the mean that takes place to a much greater extent among the few Republicans in strongly Democratic (and usually urban) areas. Over a five-year period, most people stay in place, and those who move tend to migrate around the status quo. This result is consistent with other studies of residential sorting that have observed regression to the mean (Clark and Morrison, 2012).

Though our survey experiments suggest that copartisans want to live with fellow partisans, these graphs show that if they desire to act on that preference, their options are limited by the characteristics of the communities in which they operate. When valence considerations are in line with partisan preferences, they can lead one group to migrate to places with more congruent partisanship, but when valence concerns and partisan homophily are inconsistent, partisan sorting is unlikely to take place even if respondents would like to live with co-partisans, all else equal.

Figure 8 further shows that partisanship and other considerations are difficult to disentangle. If individuals select neighborhoods through elimination by aspects, even modest restrictions on a single variable can greatly limit options for residential sorting. We demonstrate this by examining how a modest restriction on a neighborhood quality indicator can greatly influence the consequences of partisan homophily. As a demonstration, we calculate the proportion of the population in each of the 50 largest MSAs living in zipcodes that are considered desirable on a valence indicator, the proportion of housing units that are owner-occupied. For simplicity, we code each zip code according to whether or not 70% of housing units are owner-occupied.[18] Suppose that partisans who are attracted to neighborhoods that share their partisanship first establish this as their minimal acceptable level of home ownership. We can then calculate the total population of the zip codes in each metropolitan area that satisfy this limitation while delivering more than 60% of the two-party presidential vote to either party in 2008. For each metropolitan area we calculate a 2-by-3 cross-tabulation of neighborhood quality (homeowner-dominated or not) and landslide status: less than 40% Republican (Democratic landslide), 40 to 60% Republican (swing zip code), and 60% or more Republican (Republican landslide).

A graph of the frequencies in these crosstabs, by the 50 largest metropolitan areas, appears in Fig-

[18]This is approximately the 67th percentile of zip-code-level home ownership rates.

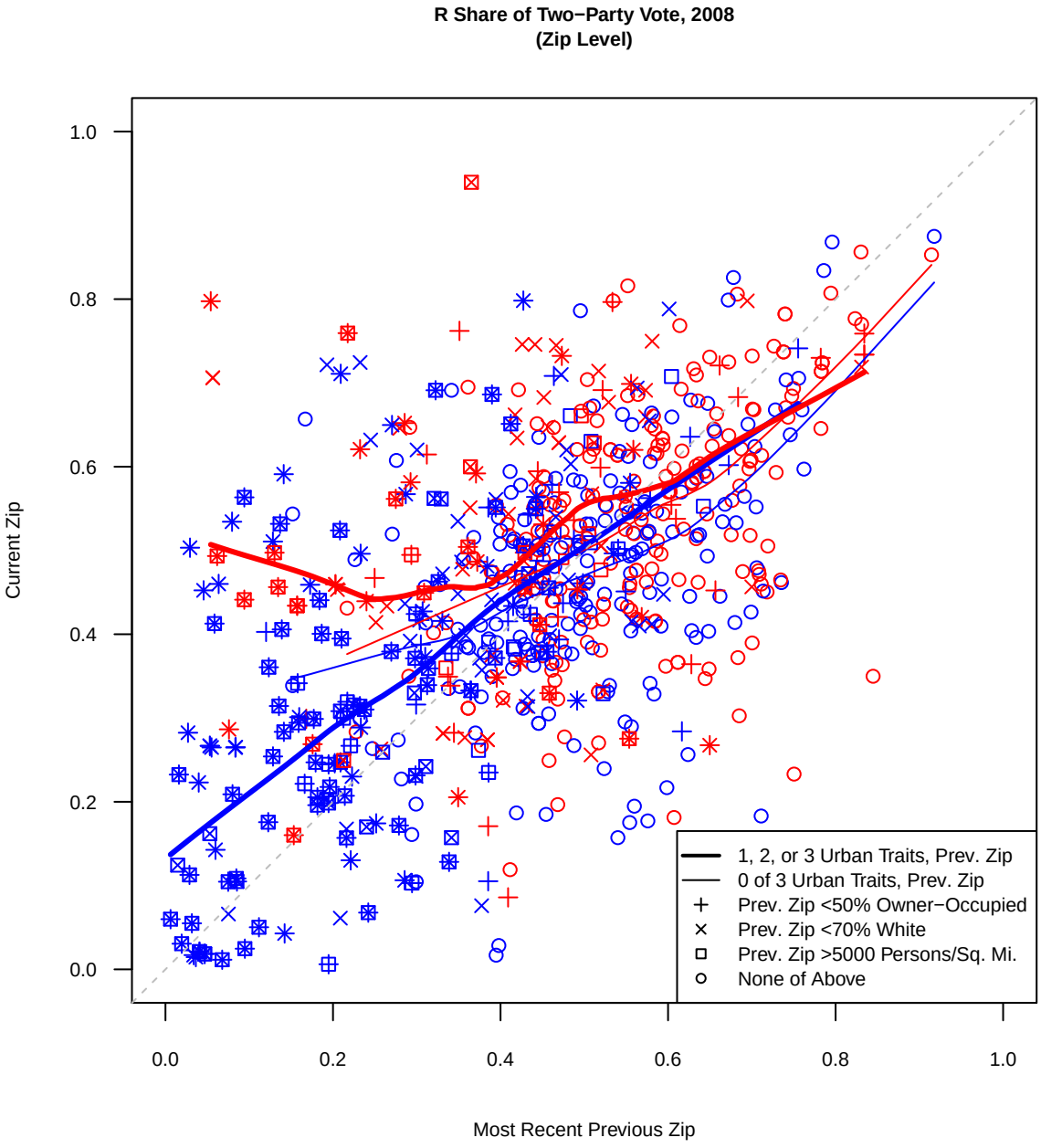

Figure 8: Previous and current partisanship of Democratic and Republican movers, with symbolic notation of the urbanism characteristics of original zip code.

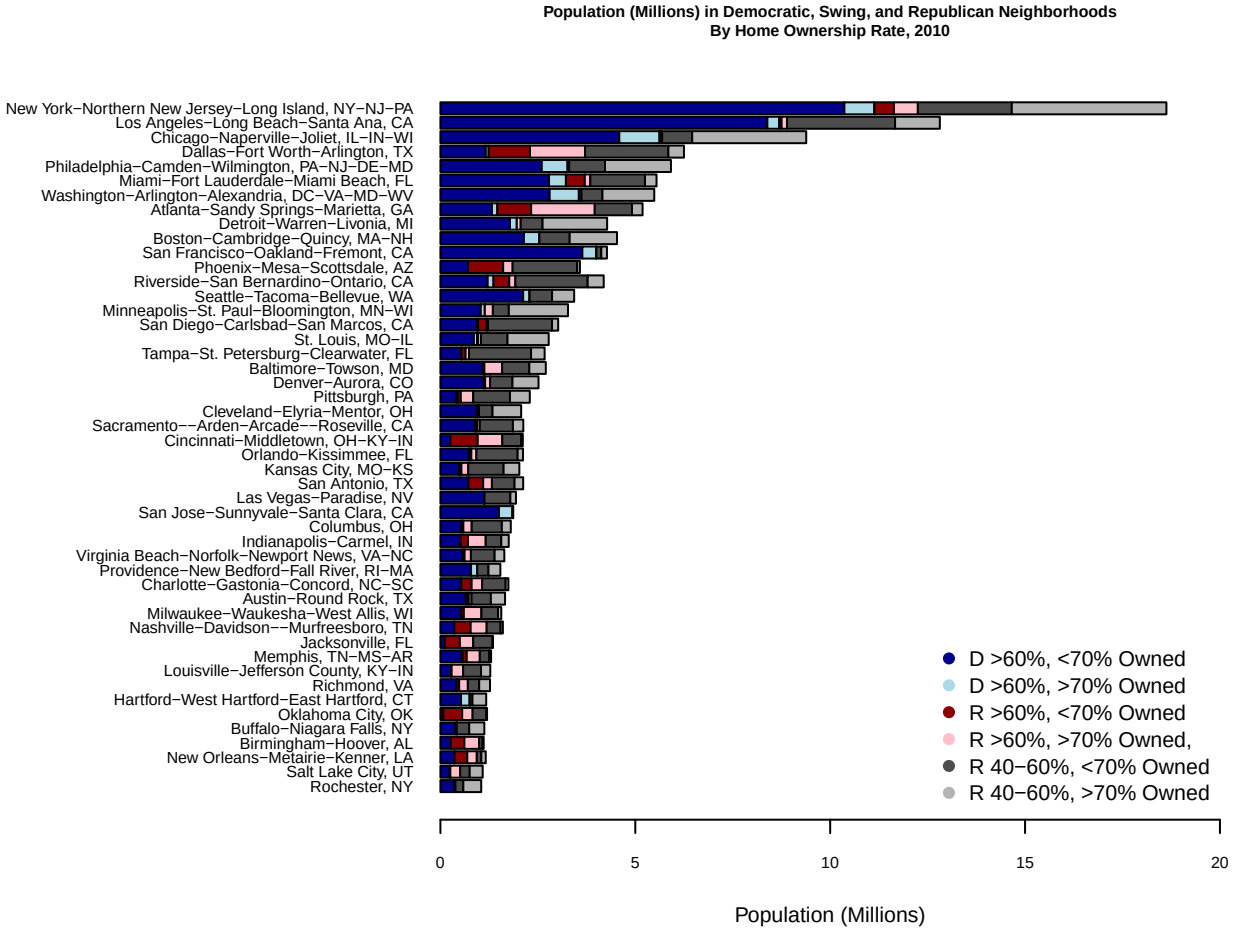

Figure 9: Partisans who want to sort have few high-quality options. Population in zip codes within landslide Democrat, landslide Republican and mixed zip codes, by zip code home ownership rate, by metropolitan area.

ure 9. In the figure, each of the cells of the pertinent population-weighted crosstab appears in a different color, showing the population, in millions, living in each type of neighborhood. Population in areas with less than 70% home ownership appear in darker colors, while the population in areas with more than 70% home ownership appear in lighter colors, with the usual red-blue color scheme for zip codes more than 60% Republican or Democratic. Regardless of the metropolitan area, landslide, homeowner-dominated zip codes are rare. In the New York area, for example, fewer than 1 million out of 18 million people live in homeowner-dominated, Democratic zip codes, while about 4 times as many New York area residents live in homeowner-dominated swing areas. Some metropolitan areas, such as Sacramento, Cleveland, and Austin, have *no* zip codes that are high in home ownership and dominated by one party or the other. Other metropolitan areas have high home ownership but are dominated only by one party or the other. Usually, this falls most heavily on Democrats who would care to live in quality, Democratic neighborhoods. The list of the largest metropolitan areas with no homeowner-dominated, Democratic zip codes is long: Phoenix, Tampa, Baltimore, Sacramento, Cincinnati, Orlando, San Antonio, Las Vegas, Columbus, Virginia Beach/Norfolk, Milwaukee, Nashville, Jacksonville, Louisville, Richmond, Birmingham, New Orleans, Salt Lake City, and Rochester (New York). For any Democrat living in these neighborhoods, demanding a quality neighborhood means giving up living near other Democrats, unless one caves and accepts a neighborhood with higher rental rates. Alternatively, they could move to a more Democratic metropolitan area, but even these areas have few Democratic, homeowner-dominated neighborhoods. In Silicon Valley's San Jose-Sunnyvale area, for example, just under 20% of the population lives in Democratic areas with home ownership rates over 70%. Perhaps not coincidentally, such neighborhoods are unaffordable to most middle-class Americans.

The combination of Figures 8 and 9 shows how partisan differences in preferences come up against resource constraints and limited options. Democrats are more likely to live in renter-dominated neighborhoods, but often do so out of necessity and preferences driven by life cycle, not by freedom of choice. Democrats with the resources to live in higher quality neighborhoods, but without the means to buy substitutes (such as private schooling) for low-quality public services, will find it difficult to find quality neighborhoods that match their politics. Those who move to find better pubic schools thus ending up in swing or Republican neighborhoods. Republicans, by contrast, are more likely to find owner-dominated neighborhoods that match their partisanship. However, even they are much more likely to find a larger fraction of

neighborhoods in swing areas, not in solidly Republican areas.

6 Discussion

Several plausible, alternative storylines could explain the apparent inconsistency between preferences stated in the survey experiments and actual moving behavior.

The first is that the response to partisan experimental cues is a result of its use as a heuristic for other traits, including valence considerations. Just as both white and non-white Americans use neighborhood race as a heuristic for neighborhood quality and social class (Ellen, 2000; Harris, 2001; Krysan, 2002), partisanship may be used as a heuristic for traits not included in the design but correlated with partisanship. A 70% Democratic neighborhood, for example, is unlikely to be populated by the extremely wealthy or be dominated by religious conservatives and is more likely to be urban, while the 70% Republican neighborhood is unlikely to be dominated by the working class or social liberals and is more likely to be in a suburban, high-density area (Rodden, 2010). Alternatively, partisans may be responding reflexively and negatively to the opposite-party label in the partisan-treatment condition, but on further deliberation, and when choosing among a narrow range of housing options, may not act on this affect. The presence of many members of the opposite party may also indicate that the neighborhood is ideologically and socially different, and partisanship may be used as a proxy for these differences. All of these explanations still suggest that actual partisan sorting should be a result of these partisan differences.

An alternative interpretation of the results is that people do not care enough about partisanship and neighborhood social composition for it to influence partisan composition. Partisanship does, in fact, marginally influence neighborhood evaluations when it is included in community-profile vignettes. However, there are less clearly political differences on which partisans separate and on which they are more likely to sort. Republicans and Democrats have different preferences over neighborhood racial composition and urbanism, both of which are tightly correlated with partisanship. So, even if neighborhood partisanship is a "sideshow" issue, if individuals could choose among the presented neighborhood profiles, we would expect these preference differences to contribute to additional partisan segregation. Conscious homophily for co-partisans is not a necessary condition for sorting.

Another concern is that the three experimental designs present unfamiliar residential options and scenar-

ios that prompt individuals to consider factors that they would not consider in real-life real estate decisions. While this is true, it is also the case that these multi-dimensional vignettes are useful because they permit exploration of hypotheticals and underlying preferences that we could not assess otherwise (Rossi and Alves, 1980). The experiments demonstrate how people would evaluate neighborhoods in the presence of minimal outside constraints, and show that the desire for safe, affordable housing with good schools is universal. If such traits could be held at acceptable levels, the experimental results suggest that ideological partisans, especially, would be likely to act on their preferences for like-minded neighbors.

Critics may also focus on the limits of the observational analysis, and that they are at odds with previous findings on partisan sorting (Bishop and Cushing, 2008). They may note that we do not explain long-term secular changes in partisan geography because we are only examining residential change over the last five years. The responses to this concern are two-fold. First, none of the results here are inconsistent with an account of partisan geographic sorting that focuses on the long period of white flight and suburbanization that occurred some sixty years before. Indeed, the tendency of movers to maintain the status quo suggests that such changes may be difficult to dispel. However, at least over a five-year time period there is little evidence to suggest that recent residential trends amount to an important change in the types of places where Republicans and Democrats choose to live. If all respondents (including non-movers) are included, the stability of the status quo is even more obvious. Partisan preference differences are real, but in the face of constrained choice the behavioral implications are minimal.

Another potential concern is that sorting is not happening at the zip code level, but at the metropolitan, county, or school district level, where important decisions are made about education, roads, transit, police services, and other public services. On the other hand, within even these areas, some zip codes are more preferred than others. Inter-county and inter-metropolitan moves are likely to be dictated by the availability of good neighborhoods and schools below the county level. To address concerns about choice of context, Online Appendix Figure A-12 replicates Figure 8 but using the 2008 county-level, two-party presidential vote as a measure of contextual partisanship.[19] While the range of the county-level vote is smaller than the zip-code vote, we find a similar pattern. On average, Republicans in heavily Democratic counties are likely to migrate to more balanced counties, while Democrats tend to be more likely to match the status

[19] We use the same sample of people who moved in the previous five years and changed zip codes since their previous residence.

quo. The partisan sorting behavior of Democrats and Republicans looks quite similar whether zip code or county voting data is used as the partisan social context.

7 Conclusion

In this article, we have sought to explain why experimental and survey evidence reveal major inter-party differences in residential preferences. Even as partisan affect has strengthened in the general population, its consequences for people's choice of residential context appears not to be providing an impetus for additional residential sorting. Using experimental methods, we find that Democrats and Republicans are divided in the types of places they prefer, and that these differences are especially pronounced for liberal Democrats and conservative Republicans. Observational results indicate that practical considerations prevent these preferences from translating into residential choice and influencing partisan segregation. Even though there are large differences between the parties when individuals are presented with hypothetical residential scenarios, the impacts of these partisan preferences are mitigated by reality. Communities that are generally considered desirable—with good schools, low crime, and suburban—are swing areas that members of both parties desire and move to, a fact supported by the generally high costs of real estate in these areas. If anything, partisan residential sorting appears to be governed, at least in the present, by mixing. A Democrat in the Dallas-Fort Worth area who wants to live in a nice neighborhood (even with a fairly loose definition of "nice" based only on home ownership rates) has no choice but to live in a mixed or Republican zip code, while a Republican hoping to live in a high-home-ownership neighborhood in the San Francisco-Oakland area has no options except to live in a mixed or Democratic zip code.

The history of residential segregation suggests that large shocks are necessary to upset the persistence of the partisan status quo in residential geography. Indeed, white flight and the growth of Republican suburbs in the postwar era were marked by substantial exogenous shocks. The construction of the Interstate Highway System changed the mobility of movers, influencing decisions based on tradeoffs between commute time and other preferences (Nall, 2012).

To be sure, what sorting continues to occur and that persists still has important implications for politics and policy. Our results show that in preferences and in migration behavior Republican voters continue a trend of divorcing themselves from all things urban, and hardly any live in counties containing large

cities. The results of these shifts appear in multi-decade analyses of residential segregation indices within metropolitan areas, which show an increase in average levels of partisan segregation and the centralization of Democrats in high-density areas (Nall, 2012). Similarly, major changes in local policy, such as desegregation orders Southern school districts, similarly changed how partisans viewed their residential choices. While we cannot be sure how partisans at the time evaluated the tradeoffs we present in our experiments, it is likely that the choice set that they faced prompted them to deviate from the status quo. Other recent accounts suggest a similar shock in the form of the foreclosure crisis and rising suburban poverty is driving conservative suburbanites out of sprawling areas and back into cities.[20] With real partisan differences in preferences, a change in residential opportunities may be enough to prompt a change in the degree of partisan geographic segregation.

Even with these possibilities in mind, these results should call into question alarmist accounts of Republicans and Democrats, liberals and conservatives sorting on a city and neighborhood basis. As Abrams and Fiorina (2012) note, ideological partisans may adopt strong attitudes, but as much as they may prefer to live among co-partisans (and even more strongly dislike living among the other party), the modal liberal Democrat and conservative Republican lives in a mixed neighborhood. Only among severely out-of-step subgroups who have superior residential opportunities do partisan differences translate into residential migration. To be sure, a historical legacy of white flight and economic sorting that has caused existing partisan segregation and the development of some enclaves dominated by one party or the other. Ironically, the very processes that contributed to spatial segregation in income, race, and school-district quality have also limited the range of choices available to partisans interested in picking neighborhoods in line with their partisanship and ideology.

[20] Our results are not inconsistent with this claim. We find that over the last five years, Republican movers moved, on average, to more population-dense zip codes.

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8 Online Appendix

A Online Sampling Procedures and Data Quality Checks

A.1 Sampling Procedure

Respondents entering the system were presented three screening questions to confirm that they were attentive respondents and had sufficient time to complete the survey.[21] If they failed this initial screen, they were directed to the end of the survey and other respondents were drawn to satisfy the quota. Each respondent who cleared the initial screen was presented a questionnaire that took approximately 15 minutes, on average. The survey began with three basic questions on general life satisfaction, respondent zip code, and respondent sex. Respondents then participated in three survey experiments, followed by a battery of questions on political attitudes and opinions and a series of questions on personal demographics, housing, and commuting behavior that rarely appear on political surveys.

As they completed the survey, respondents were presented a standard two-part "trap" question as an attention check. Respondents were instructed to answer the final multiple-choice question with "No Answer" and to fill in something in the blank in which they were invited to offer comments. Approximately [1,209] of the [4,792] respondents who entered the system initially and cleared the hurdle failed this check, compared to less than 10% of similar pre-test respondents on Mechanical Turk, many of whom have become familiar with the question-based screens. We checked the balance between respondents who passed and failed this attention check, and found minimal differences between the two groups (Appendix Table A-1). The sole major difference was with respect to the proportion of respondents who were non-native English speakers. Because the filter did not discriminate meaningfully except with respect to English language proficiency, and we found no systematic differences in survey responses between those who were screened and those who were not, we did not discard respondents who failed the final check.

A flowchart of the sampling procedure and final data set used in analysis appears in Figure A-1.

[21] The screen include the following three true or false questions. "4 plus 3 equals 8," "I am not US citizen," and "I do not have 30 minutes to take a survey."

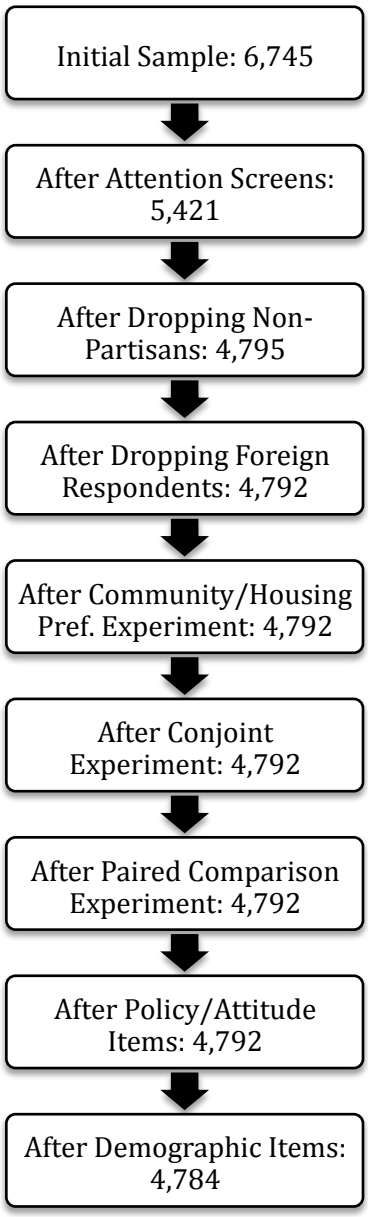

Figure A-1: Flow chart of the online sampling and quality-check procedure on SSI.

A.2 Comparison to the 2012 American National Election Studies

Tables A-2 and A-3 compare descriptive statistics for key variables between our sample, gathered by SSI, and the 2012 version of the ANES Time Series Study. The 2012 ANES includes both face-to-face and online interview and this analysis pools both samples. Responses of "Don't Know" and "Refused" were treated as missing data in both surveys unless otherwise noted. Question wording and measurement technique sometimes varied by survey. The following is a list of such discrepancies:

1. Age

SSI: Measured in years via year of birth.

ANES (2012): The public version of the ANES (2012) only contained age groupings in years, so group midpoints were calculated and assigned to each respondent.

2. Education

SSI: "What is the highest level of education you have completed?" Options: "Less than High School"; "High School / GED" ; "Some College";"2-year College Degree"; "4-year College Degree"; "Masters Degree"; "Doctoral Degree"; "Professional Degree (JD, MD)". These categories were then converted into years of education (8,12,13,14,16,18,19, and 21 years, respectively).

ANES (2012): The summary variable "dem_edugroup" included the following categories: "Less than high school credential"; "High school credential"; "Some post-high-school, no bachelor's degree"; "Bachelor's degree"; "Graduate degree". These categories were then converted into years of education (8,12,13, 16 and 18 years, respectively).

3. Married

SSI: "What is your current marital status?" Options: "Single"; "Married"; "Legal Domestic Partnership"; "Separated"; "Divorced"; "Widowed"; "Other". Responses of "Married" coded as 1, all other non-missing responses coded as 0.

ANES (2012): "Are you now married, widowed, divorced, separated or never married?" Responses of "Married: spouse present" and "Married: spouse absent" (with the latter only recorded in face-to-face interviews only) were coded as 1. All other non-missing responses coded as 0.

4. Homeowner

SAMPLE:	Full	Screened	Unscreened	Full	Screened	Unscreened	Screened v. Unscreened
Variable	N	N	N	Mean	Mean	Mean	t-stat (Diff. in Means)
Age	4792	1209	3581	52.46	54.20	51.88	4.30
Income	4778	1208	3568	55.25	56.17	54.95	0.90
Education	4788	1209	3577	0.38	0.39	0.38	0.87
Female	4783	1206	3575	0.68	0.69	0.67	1.62
Democrat	4792	1209	3581	0.53	0.54	0.52	0.73
Ideology	4617	1170	3445	1.86	1.90	1.85	1.89
Interest in Politics	4792	1209	3581	2.18	2.23	2.16	2.84
Native English Speaker	4792	1209	3581	0.96	0.98	0.95	4.02
White	4748	1199	3547	0.84	0.86	0.84	1.76
Black	4748	1199	3547	0.08	0.08	0.09	-0.62
Hispanic	4748	1199	3547	0.05	0.05	0.05	-1.09
Homeowner	4515	1156	3357	0.71	0.72	0.71	0.62
Moved in Last 5 years	4784	1209	3573	0.32	0.31	0.33	-1.46
Has Kids	4788	1209	3577	0.32	0.32	0.33	-0.59
City Resident	4784	1209	3573	0.23	0.21	0.23	-1.48
Daily Commute Time	1985	465	1520	21.33	20.58	21.56	-1.26
Total Survey Time	4792	1209	3581	19.32	20.76	18.84	3.67

Table A-1: Balance Tests for Key Variables w/ and w/out Attention Screens. "Full": All respondents int he bipartisan sample. "Screened": Respondents who passed both end-of-survey attention screens. "Unscreened": Respondents who failed at least one end-of-survey attention screen item. Age and Education in years; Income in dollars; Commute Time and Total Survey Time in minutes; Ideology and Interest in Politics on 1-3 scale, with 3 indicating "liberal" and agreement with the statement "I like reading and talking about politics," respectively. Other variables are indicators.

SSI: "Which of the following most closely describes you current home?" Options: "I own it"; "I rent it"; "I neither own nor rent"; "Other (Please briefly explain)". "I own it" coded as 1, all other non-missing responses coded as 0.

ANES (2012):"[Do you/Does your family] own your home, pay rent, or what?" Options: "Own home"; "Pay rent"; "Other (specify)". "Own home" coded as 1, all other non-missing responses coded as 0.

5. Ideology

SSI: "When it comes to politics, do you usually think of yourself as [Conservative;Moderate;Liberal/Don't Know/None of the Above]". "Liberal" coded as 3; "Moderate" coded as 2;"Conservative" coded as 1.

ANES (2012): First the standard seven-point ideology measure was asked. All those responding "Moderate"; "Don't Know" or "Haven't thought about it" were then asked, "If you had to choose, would you consider yourself a liberal or a conservative?" Those indicating any degree of "liberal" on either item were coded as 3, those indicating moderate on the second item were coded as 2 and those indicating conservative on either item were coded as 1.

6. Interest in Politics

SSI: "Agree or disagree: I like reading and talking about politics." "Disagree" coded as 1; "Neither agree nor Disagree" coded as 2; "Agree" coded as 3.

ANES (2012): "Some people don't pay much attention to political campaigns. How about you? Would you say that you have been very much interested , somewhat interested or not much interested in the political campaigns so far this year?" "Very" coded as 3; "Somewhat" coded as 2; "Not much" coded as 1.

7. Race variables

SSI: "What is your race/ethnicity? (Please select all that apply.)" Options: "White/Caucasian"; "Black/African American"; "Hispanic/Latino"; "Asian"; "Native American"; "Pacific Islander"; "Other". Indicator for "White" was coded as 1 if the respondent selected "White/Caucasian" but not "Hispanic/Latino" and all other non-missing responses were coded as 0; indicator for "Black" was coded in same fashion; indicator for "Hispanic" was coded as 1 if respondent selected "Hispanic/Latino" and all other non-missing responses were coded as 0.

ANES (2012): The summary variable "dem_raceeth" was used to make the same indicator variables.

Sample:	SSI	ANES (2012)	SSI	ANES (2012)		
Variable	N	N	Mean	Mean	Diff. in Means	t-statistic for Difference
Age	2521	3074	51.23	49.21	2.02	4.44
Education	2518	3078	14.26	13.25	1.01	15.02
Female	2516	3110	0.68	0.55	0.12	9.54
Married	2518	3106	0.48	0.42	0.07	5.08
Homeowner	2382	3052	0.65	0.61	0.04	3.41
Ideology	2396	2966	2.35	2.31	0.04	1.89
Interest in Politics	2521	3109	2.19	2.31	-0.12	-6.27
Voted (2012)	2521	2905	0.93	0.82	0.11	12.83
Non-Hispanic White	2496	3101	0.76	0.45	0.31	25.51
Non-Hispanic Black	2496	3101	0.15	0.29	-0.14	-12.66
Hispanic	2496	3101	0.06	0.20	-0.14	-16.14
Northeast	2520	3110	0.22	0.17	0.05	4.88
Midwest	2520	3110	0.26	0.20	0.06	5.15
South	2520	3110	0.32	0.39	-0.07	-5.78
West	2520	3110	0.20	0.24	-0.04	-3.28

Table A-2: Descriptive Statistics for Democrats, Comparison with ANES (2012)

Sample:	SSI	ANES (2012)	SSI	ANES (2012)		
Variable	N	N	Mean	Mean	Diff. in Means	t-statistic for Difference
Age	2271	1985	53.83	51.88	4.61	3.67
Education	2270	1984	14.32	13.83	1.06	6.72
Female	2267	1999	0.68	0.47	0.12	13.72
Married	2270	1996	0.63	0.64	0.21	-0.64
Homeowner	2133	1958	0.79	0.80	0.18	-1.27
Ideology	2221	1969	1.33	1.25	-0.98	5.09
Interest in Politics	2271	1998	2.17	2.39	-0.14	-9.81
Voted (2012)	2271	1868	0.94	0.85	0.12	9.41
Non-Hispanic White	2252	1991	0.93	0.82	0.48	11.10
Non-Hispanic Black	2252	1991	0.01	0.02	-0.28	-2.82
Hispanic	2252	1991	0.04	0.11	-0.17	-8.69
Northeast	2270	1999	0.16	0.15	-0.01	0.79
Midwest	2270	1999	0.25	0.23	0.05	1.78
South	2270	1999	0.38	0.38	-0.01	-0.39
West	2270	1999	0.21	0.24	-0.03	-2.06

Table A-3: Descriptive Statistics for Republicans, Comparison with ANES (2012)

	Atheists	Corporate Execs.	Unions	Obama
Atheists	1.000	0.119	0.302	0.375
Corporate Execs.	0.119	1.000	0.075	-0.028
Unions	0.302	0.075	1.000	0.549
Obama	0.375	-0.028	0.549	1.000

Table A-4: Correlation Matrix for Feeling Thermometers, SSI

	Atheists	Big Business	Unions	Obama
Atheists	1.000	-0.053	0.141	0.183
Big Business	-0.053	1.000	-0.050	-0.151
Unions	0.141	-0.050	1.000	0.552
Obama	0.183	-0.151	0.552	1.000

Table A-5: Correlation Matrix for Feeling Thermometers, ANES (2012)

B Example of Full-Factorial Experiment

Q6.1.
People consider many factors when deciding where to live. Imagine that you're considering whether to move into the following community. Assume that the community presented is a single zip code somewhere in your state.

Community Description:

Presidential Vote, 2012	70% Republican, 30% Democrat
Total Daily Driving Time for Commuting and Errands	20 minutes
Average Home Value	20% Higher Average Home Value Than State Average
Property Taxes	20% Lower Tax Rate Than State Average
Public School Quality Score (1=lowest, 10=highest)	7 out of 10
Race	96% White, 2% Black, 2% Hispanic
Violent Crime	2.5 crimes per 1,000 residents (National median: 4.0 per 1,000)

Q6.2. Would you be willing to move to this community?

- ○ Yes
- ○ No

Q6.3. On a scale of 1 to 7, how attractive do you find this neighborhood?

1 (not at all attractive)	2	3	4 (average)	5	6	7 (extremely attractive)
○	○	○	○	○	○	○

Figure A-2: Community profile and questions presented under the 3-by-3 factorial design, as presented on the online survey instrument.

1	How easily I can afford a home in the community	35	Number of homeless people on street
2	Amount of air pollution	36	How many neighbors have Judeo-Christian values
3	Amount of automobile parking		
4	Amount of daily driving I would have to do	37	The Property tax rates
5	Amount of local political corruption	38	Quality of police services
6	Amount of privacy I have from neighbors	39	How good the sidewalks are
7	Amount of crime	40	Whether good restaurants are nearby
8	Being able to walk to shopping	41	School quality
9	Ease of access to local highways	42	Time spent commuting to work or school
10	Number of drug users on the street	43	Whether community has an active street life
11	Amount of high-density housing	44	Being able to walk to work or school
12	Home values in the community	45	Whether people share my politics
13	The share of the community that is Asian	46	Whether people share my religious values
14	The share of the community that is Black/African American	47	How "gay-friendly" the community is
		48	Whether the community is kid-friendly
15	How Christian the community is	49	How close it is to the house of worship I want to attend
16	Whether it's easy to ride a bike there		
17	How Jewish the community is	50	How welcoming the community is to religious non-believers
18	How Muslim the community is		
19	Whether the community is designed for retirees	51	The share of the community that is white
20	Whether most of neighbors are educated professionals	52	How many retirees are in the community
21	The share of the community that is Hispanic/Latino	53	How warm the climate is
22	How poor the community is	54	Whether children are bussed to school
23	How cold the climate is	55	Whether most of the people in the community work in government
24	Whether the community is business-friendly		
25	How wealthy the community is	56	Whether big houses with large yards are available
26	Whether friends are living nearby		
27	Whether I have a lot in common with my neighbors	57	Whether family is living nearby
28	How many Democrats live there	58	How many Republicans live there
29	Quality of services for low-income people	59	Whether local sales taxes are high
30	Quality of roads	60	Quality of public transit services
31	What region of the country it's in	61	Quality of parks and greenspace
32	Level of gang activity	62	Whether it's close to a major metropolitan area
33	Amount of low-density housing		
34	Nearness to bus lines or rail stations	63	Prefer Not to Answer

Table A-6: Traits used in paired comparison tests

C Details of the Paired Comparison Design

D Additional Paired Comparison Results

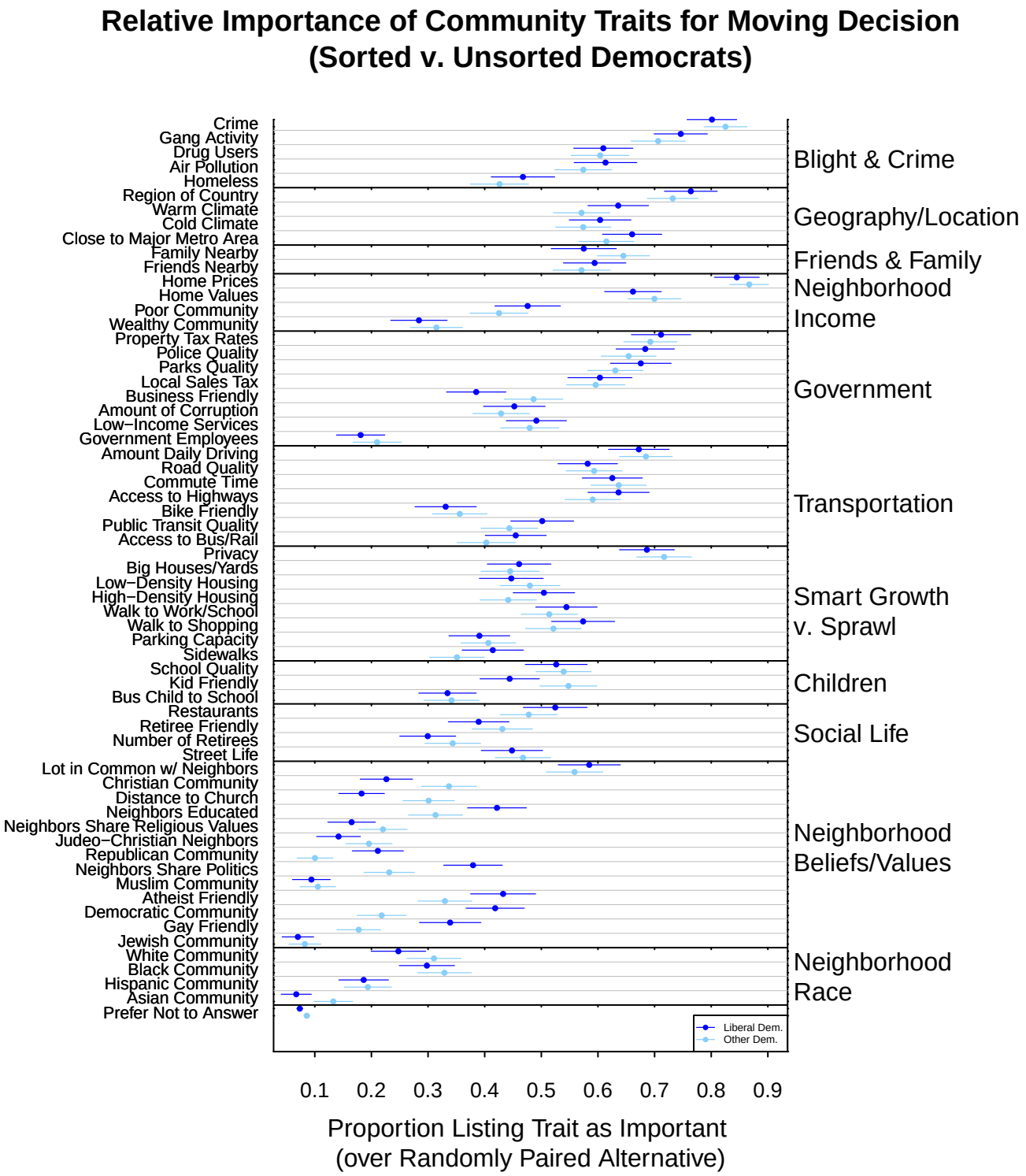

Figure A-3: Relative ranking of importance of community factors used to guide residential preference, liberal and non-liberal Democrats. Proportion of pairwise matchups against a random selection of other traits won outright.

Figure A-4: Relative ranking of importance of community factors used to guide residential preference, conservative and non-conservative Republicans. Proportion of pairwise matchups against a random selection of other traits won outright.

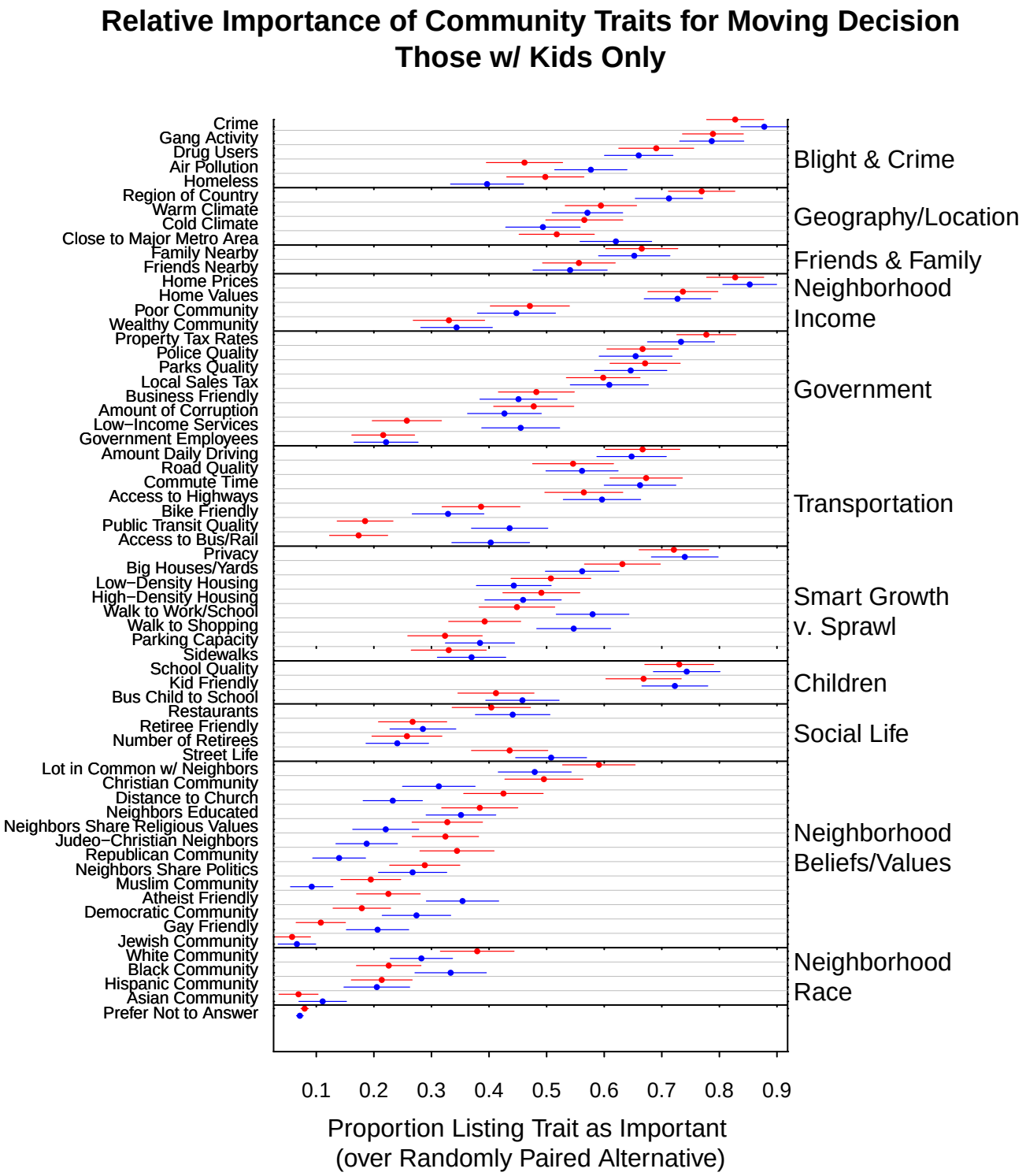

Figure A-5: Relative ranking of importance of community factors used to guide residential preference, among parents with children at home. Proportion of pairwise matchups against a random selection of other traits won outright.

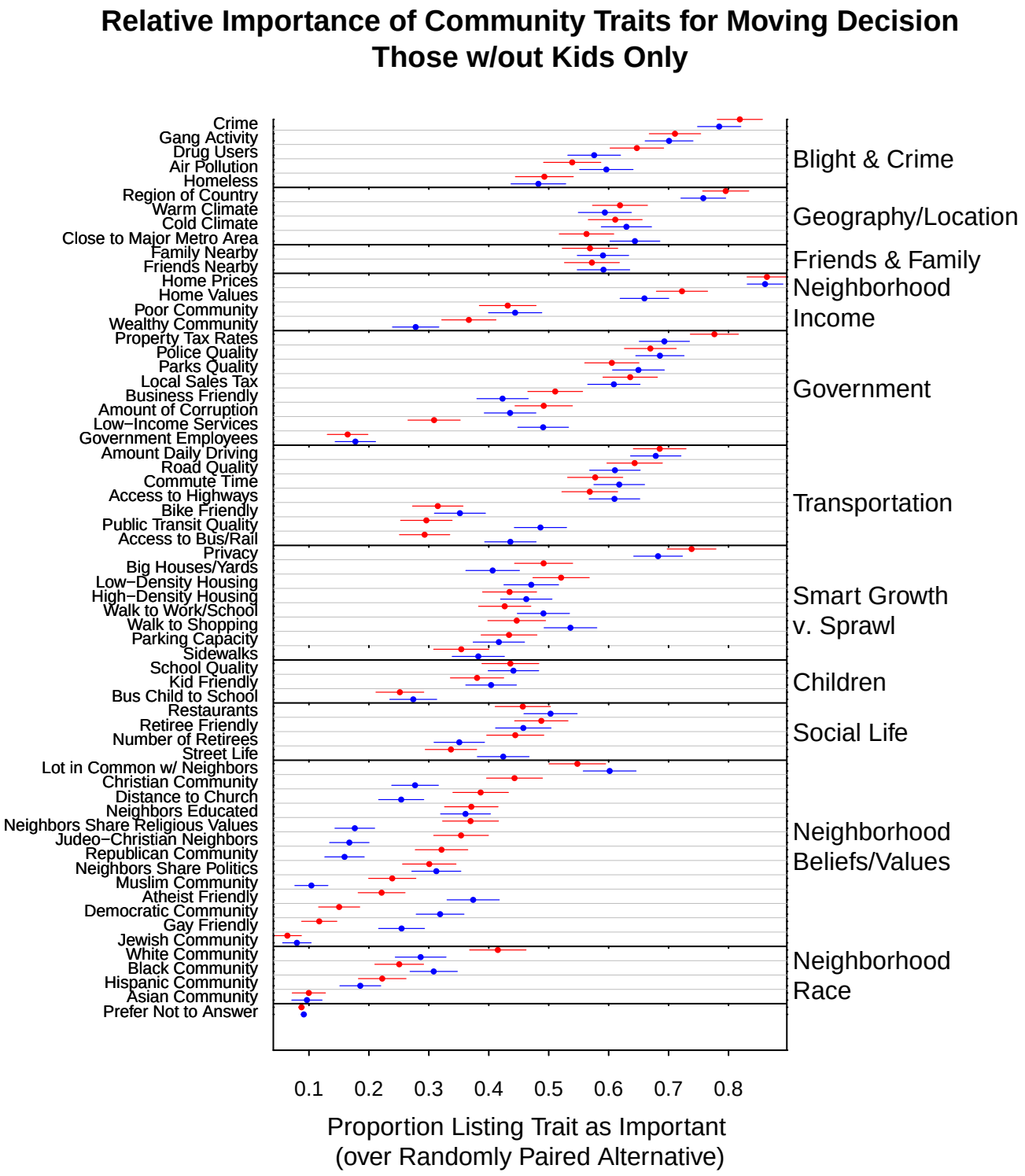

Figure A-6: Relative ranking of importance of community factors used to guide residential preference, among those without children at home. Proportion of pairwise matchups against a random selection of other traits won outright.

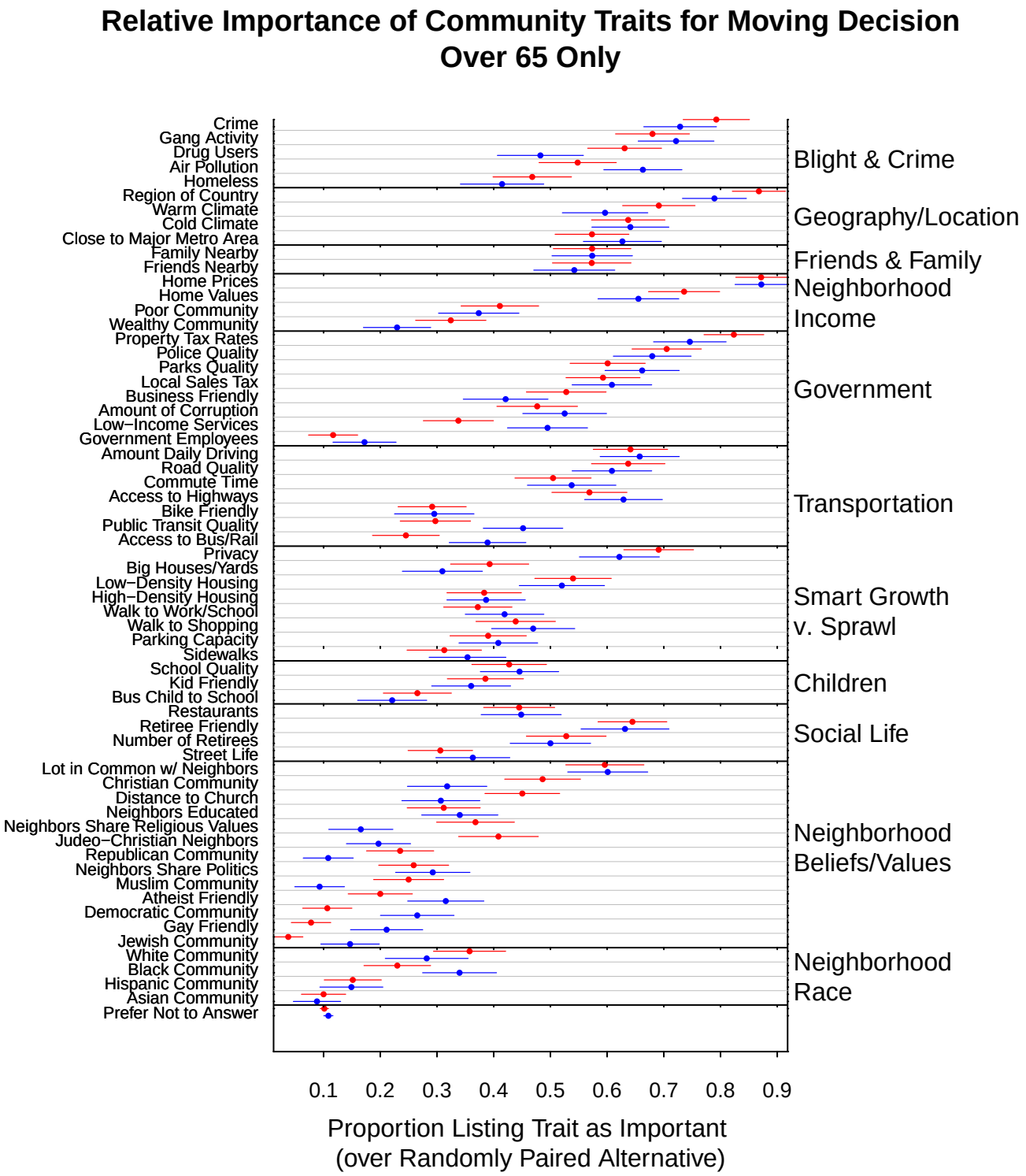

Figure A-7: Relative ranking of importance of community factors used to guide residential preference, among those 65 and older. Proportion of pairwise matchups against a random selection of other traits won outright.

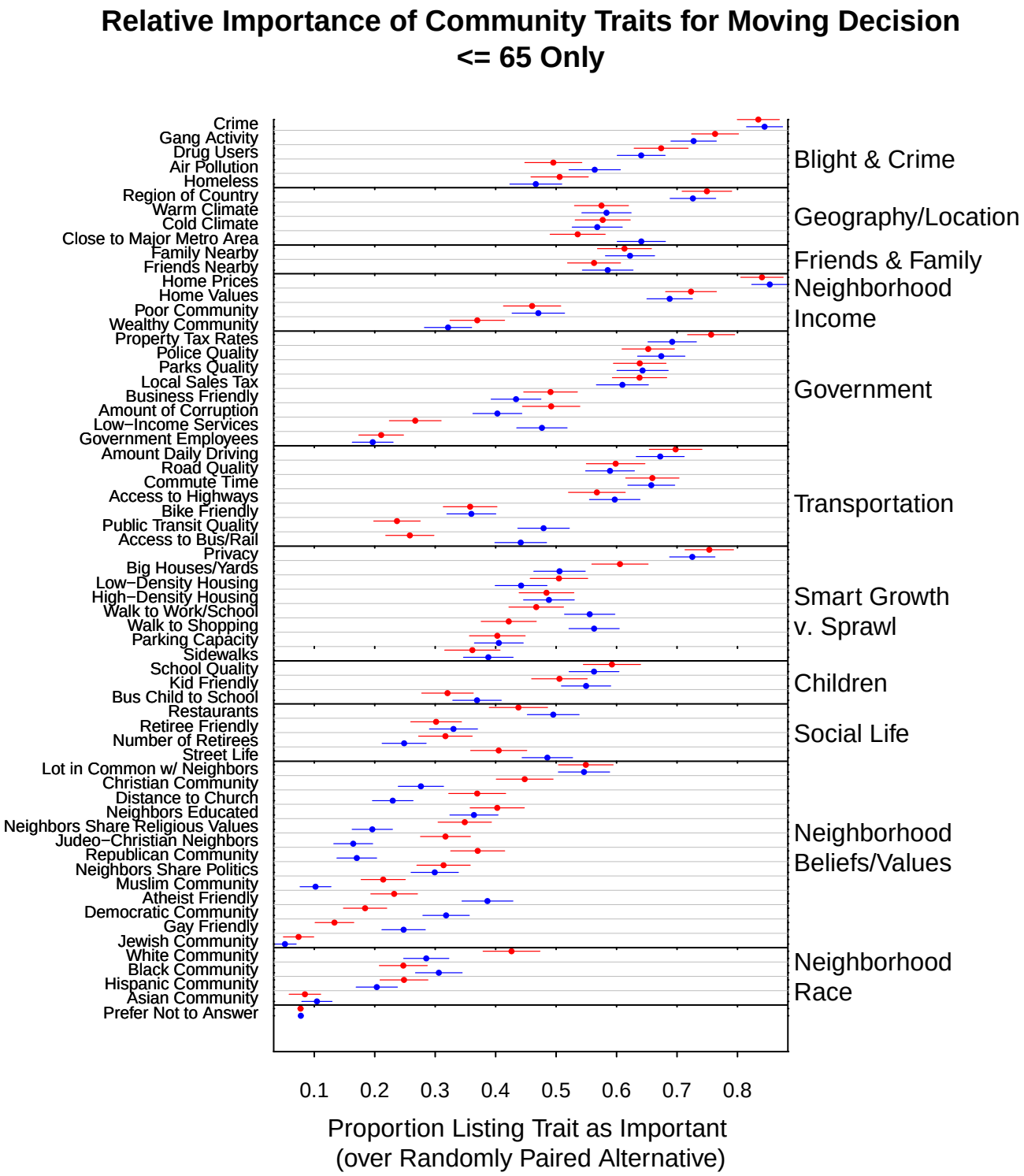

Figure A-8: Relative ranking of importance of community factors used to guide residential preference, among those 65 and older. Proportion of pairwise matchups against a random selection of other traits won outright.

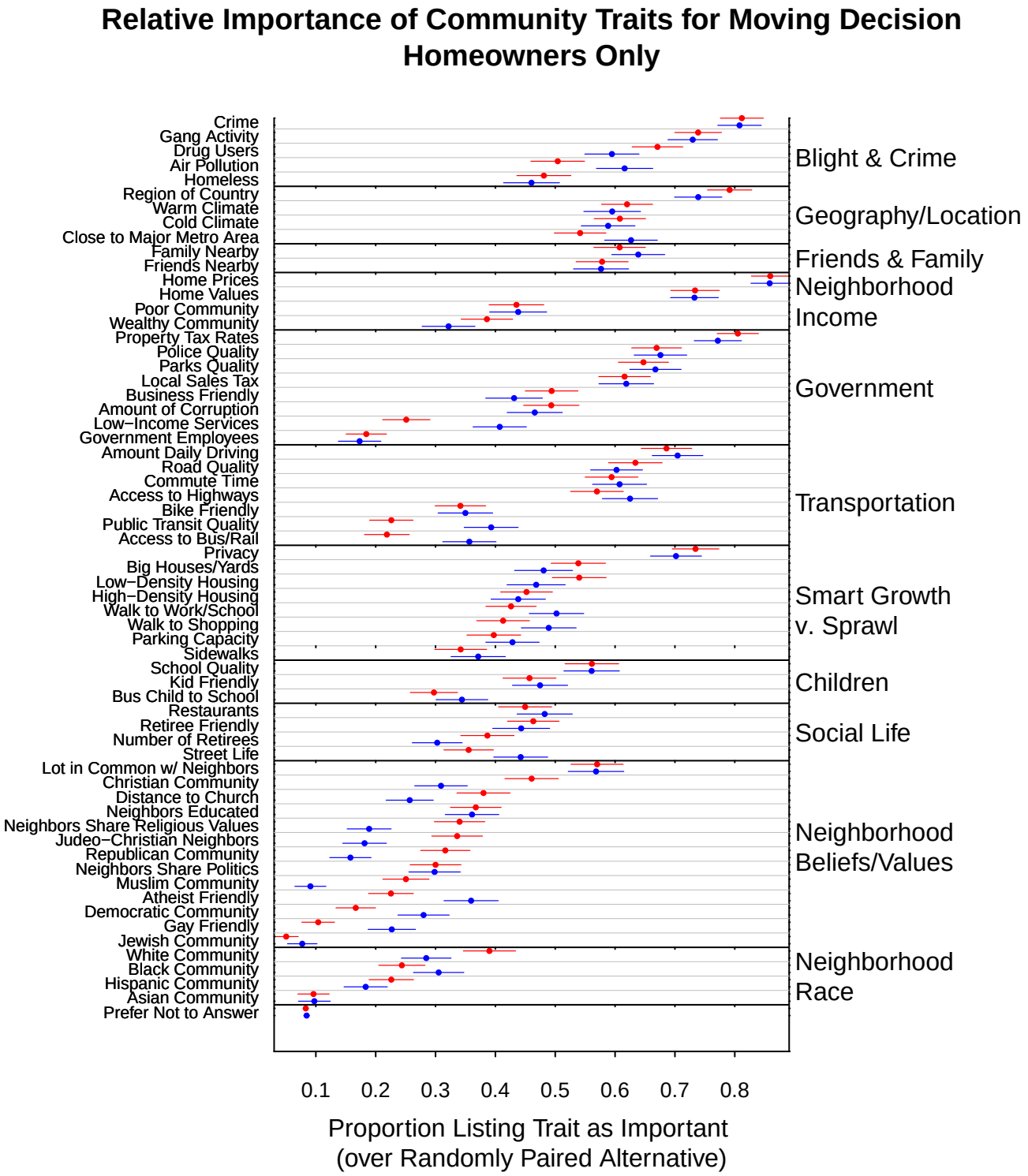

Figure A-9: Relative ranking of importance of community factors used to guide residential preference, among homeowners. Proportion of pairwise matchups against a random selection of other traits won outright.

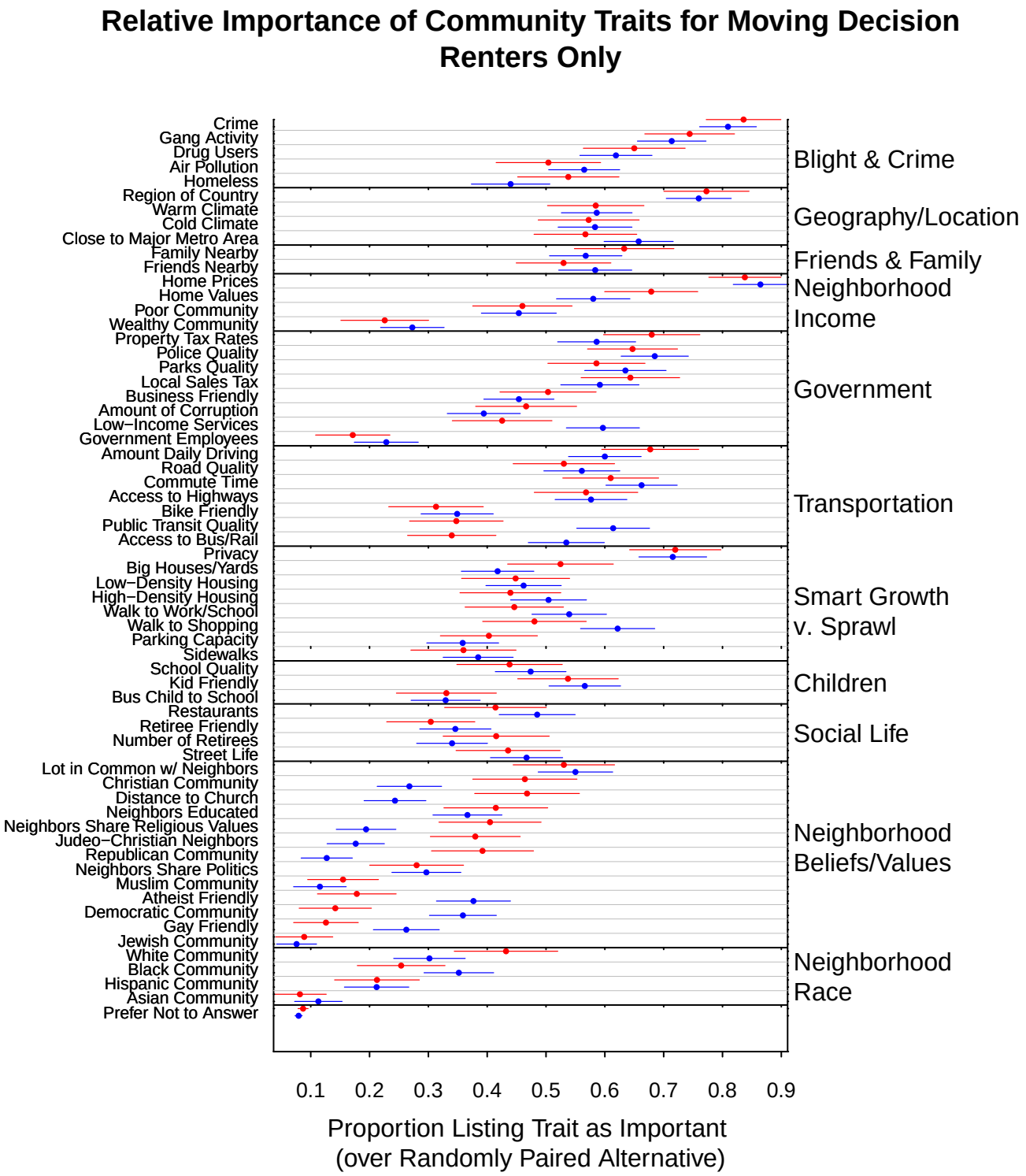

Figure A-10: Relative ranking of importance of community factors used to guide residential preference, among homeowners. Proportion of pairwise matchups against a random selection of other traits won outright.

E Robustness Checks on Conjoint Experiment

Figure A-11: Fully randomized conjoint analysis results, for Democratic and Republican identifiers, white respondents only. Republicans and Democrats respond similarly to crime, school quality, housing cost, and commuting time. They split on racial composition, partisan composition, and the community's location on an urban-rural continuum.

F Robustness Check on Use of Zip Codes as Sorting Geography

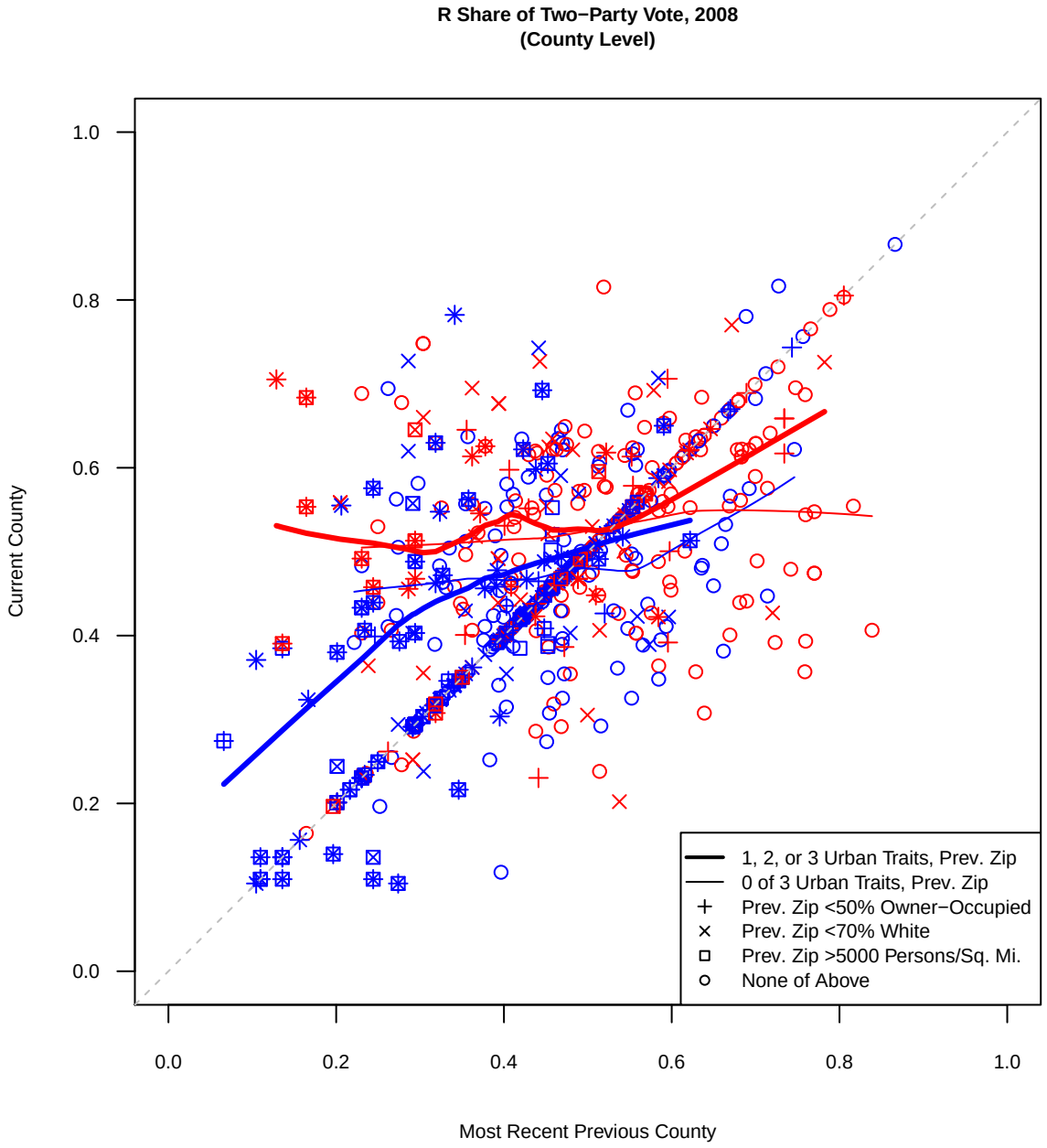

Figure A-12: Previous and current county-level partisan context of Democratic and Republican movers who crossed county lines, measured using 2008 two-party presidential vote, with symbolic notation of the urbanism characteristics of pre-move zip code.