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Fertile Soil? How Information Does (and Does Not) Shape Attitudes toward School Choice in Rural America

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Abstract

The role of political factors, specifically of public opinion, in the relatively low penetration of charter schools into rural America remains unclear. We use eight years of national survey data to demonstrate that rural residents express less support for charter schools than residents of other locales do. We attribute this gap to differences in familiarity with charter schools across these locales rather than to differences in satisfaction with local schools or to differences in demographics, party affiliation, or political ideology. However, using a survey experiment and an oversample of districts with charter schools, we show that increased exposure to these schools or information about them does not boost support in rural communities. Lastly, we demonstrate a similar urban-rural gap in support for private school choice policies such as vouchers and tax credits for private school scholarships.

Keywords: rural; school choice; public opinion; survey; politics

In recent decades, many of America's larger cities have seen an expansion of school choice policies, including charter schools, private school vouchers, and tax credits for donations to private school scholarship programs. Meanwhile, the variety of forms of school choice remain relatively rare in rural locales throughout the United States. For example, only 700 (or about 11 percent) of the approximately 7,000 charter schools in America operate in rural locales even as 29 percent of the country's traditional public schools (i.e., non-charter schools) operate there (Musu 2018; Squire 2018). Similarly, just two percent of rural students attend charter schools compared to approximately ten percent of urban students (Squire 2018).

Examinations of the difference in charter school penetration across rural and urban locales tend to focus on operational explanations. For example, tight budgets and lack of economies of scale limit capacity of rural districts to fund charter schools alongside traditional public schools (Batdorff et al 2014; Collins 1999; Bryant 2010; Smarick 2014; Shuls 2018). Similarly, sparsely populated rural locales often have fewer qualified teachers to staff both traditional public schools and charter schools (Sealander et al 2001, Brownell et al 2004; Brownell et al 2005; Player & Husain 2018; Rude & Miller 2018). Greater travel distances in less densely populated rural locales present logistical challenges for transporting students to and from these schools (Araujo 2009; Rude & Miller 2018).

Although existing scholarship has thoroughly explicated these *operational* challenges, the *political* challenges that rural contexts pose for charter schools and school choice – specifically the role of public opinion – remain less clear. We address this omission by examining variation in public opinion toward charter schools across rural, urban, and suburban contexts. Specifically, we leverage nearly a decade of survey data measuring attitudes toward charter schools, including more than 3,800 responses from residents of rural locales, to answer four research questions:

First, does support for charter schools and other forms of school choice in rural contexts lag support in urban or suburban contexts? Second, do differences in perceptions of local public school quality between these contexts account for differences in support for school choice? Third, does lack of familiarity with charter schools in rural America depress support there? Fourth, we use an oversample of respondents in districts with charter schools as well as a survey experiment to identify whether greater exposure to charter schools or to information about them boosts support for them in rural locales.

We demonstrate lower levels of support for charter schools in rural areas and attribute this to local context effects rather than differences in demographics, party affiliation, or political ideology. We find no evidence that satisfaction with the quality of local public schools accounts for this gap in support, but we do find evidence that lack of knowledge about charter schools undercuts support. However, neither exposure to charter schools in one's local district nor exposure to more information about charter schools increases support for these schools in rural America. Finally, we demonstrate a similar urban-rural gap in support for private school choice policies such as vouchers and tax credits for private school scholarships. Taken together, our results indicate that the level of opposition to school choice in rural locales is rooted in attitudes that go beyond higher levels of satisfaction with local schools or unfamiliarity with choice programs and will prove more resistant to persuasion.

In representative democracies, such as the United States, public opinion plays an important, if indirect, role in shaping policy. Indeed, a wealth of evidence shows that public policy at federal, state, and local levels tends to reflect public opinion (Page & Shapiro 1992; Erikson et al 1994; Stimson et al 1995; Erikson et al 2002; Berkman &

Plutzer 2005). There is, of course, important heterogeneity across issues as well as other political factors beyond public opinion that shape the extent of policy responsiveness. Nevertheless, public opinion remains an important force in policy-making and can prove vital to sustaining policies once implemented. Therefore, understanding the ways in which rural contexts uniquely shape public opinion toward charter schools is important for evaluating their political feasibility in these locales. Our evidence highlights a key political challenge that charter school supporters face in galvanizing public support in rural America.

1. Rural Context and Charter Schools

Existing research on public opinion toward education issues provides little guidance about how rural contexts may shape attitudes about school choice policies. Instead, studies of choice tend to either focus on urban and suburban contexts (e.g., Schneider et al 1998; Schneider et al 2000; Moe 2001) or examine national samples breaking out respondents across urban, suburban, and rural contexts for comparison (e.g., Moe 2001; Peterson et al 2014).[1] As a result, the study of public attitudes toward school choice tends to emphasize individual-level characteristics such as race or ethnicity, socio-economic status, and party identification or ideology rather than characteristics of their geographic context. For example, school choice tends to find its strongest public support among racial and ethnic minorities as well as among whites

[1] Similarly, the two most prominent annual surveys of public attitudes on education issues – the *Phi Delta Kappan* survey and the *Education Next* survey – rarely, if ever, report results by geographic locale. Over 50 years from 1969 through 2018, the publicly released reports from the *Phi Delta Kappan* survey include analysis of responses by rural, urban or suburban locale for 13 years (1979, 1980, 1982, 1989, 1994-1998, 2002, and 2016-2018). Even in these instances, the reports frequently report responses by geographic locale for just one or two questions on the survey, including rural responses to questions about school choice in only 1996 and 1998. Publicly released reports on the *Education Next* survey, which has been in existence since 2007, have never included results by geographic locale for any questions.

with higher levels of education and household income (Moe 2001; Peterson et al 2014; West et al 2018).

In general, individual-level traits – particularly political orientations such as party identification – often provide the strongest foundations for attitudes about specific policy issues (Stokes 1966; Green at al 2002; Achen & Bartels 2016). The influence of these predispositions frequently exceeds that of material self-interest (Sears & Citrin 1982; Bartels 2008) or local experience (Hopkins 2018). For example, Hopkins (2018) demonstrates that party identification exerts greater influence than local conditions on support for military spending, fear of crime, perceived economic performance, support for environmental spending, perceived importance of climate change, and support for tax cuts.

A clear implication for our present study is that lower levels of charter school support in rural America may simply reflect differences in the distribution of these individual-level traits across these contexts rather than an influence unique to the contexts themselves. If traits associated with support for charter schools are under-represented in rural America while traits associated with less support for charter schools are over-represented, then the differences in overall levels of support between rural America and other locales is an artifact of an *aggregation effect* (Hopkins 2018). However, there are two reasons for skepticism that individual-level traits alone account for lower levels of support for school choice in rural locales. First, although the demographics of rural America, on average, differ from the rest of the country along dimensions associated with public opinion about charter schools, it is not always in a direction that would produce less support if these individual-level traits alone accounted for opinion. For example, racial and ethnic minorities are under-represented among rural America overall (Galston

2017; Sawhill 2018; Malkus 2018). With fewer members of the constituencies that support school choice living in rural America, average support for policies like charter schools should fare relatively poorly there. However, Republicans and conservatives tend to express higher levels of support for school choice and charter schools, and these groups are *over-represented* in rural locales – suggesting that rural locales would express more support for charters and choice if individual-level factors alone shape opinion. Indeed, observers question whether national Republican support for charters even manifests in rural communities, citing laws that limit the expansion of charter schools in many Republican-controlled states with relatively larger rural populations (Squire 2018).

Second, the influence of local contexts on issue attitudes is weakest when those issues appear more prominently in the national political discourse, which helps to produce starker divides in opinion between the parties as individuals move toward the positions of their party leaders (Hopkins 2018). Although party identification sometimes plays an important role in attitudes about education issues, the gaps between Democrats and Republicans among the public and among party leaders over these issues are typically less clear and consistent than over issues such as abortion, healthcare, or military spending (Howell et al 2011; Peterson et al 2014; Henderson et al 2015). This lack of nationalized polarization on most education issues opens the door for local conditions potentially to shape how people think about school policy, and prior scholarship indicates that these conditions shape opinion on education finance and quality of public schools (Berkman & Plutzer 2005; Chingos et al 2012).

How might local contexts shape attitudes toward charter schools? We draw upon two broad theories of opinion formation and change, as well as upon recent research on school choice in rural America, to develop observable expectations that we will test below. The first of these

theories arises from a literature that characterizes opinion formation as essentially a psychological referendum on the status quo. In short, people evaluate political objects, such as leaders or policies, based on their satisfaction with the status quo (e.g., Downs 1957). Individuals support policy change when they are dissatisfied with current conditions and oppose policy change when they are satisfied. In terms of school choice, this theory predicts residents of rural locales will express less enthusiasm for charter schools than residents of urban locales do if they are more satisfied with their local public schools. While the average scores on the National Assessment of Education Progress (NAEP) of rural locales are lower than suburban locales, they are significantly higher than in urban locales (Malkus 2018). Rural schools also have higher graduation rates than other locales. However, college going rates were lesser for rural students than students in other areas (Player 2015). Overall, then, this theory predicts higher evaluations of local public school quality in rural locales and lower levels of support for charter schools in rural locales as a function of these evaluations.

The second theory of local context shaping charter school opinion concerns familiarity with charter schools and school choice in rural areas. In general, uncertainty undercuts support for political objects (Alvarez & Brehm 2002). Scholars have proposed this idea as a factor in rural opinion toward charter schools, suggesting that a lack of exposure to these institutions and a lack of knowledge about them keep a low ceiling on support (Squire 2018). This theory predicts less familiarity with charter schools in rural locales and lower levels of support for charter schools in these rural locales as a function of this unfamiliarity.

There is a third implication of this theory for opinion change. Importantly, this theory emphasizes information (knowledge or familiarity) rooted in local conditions (low levels of charter school penetration) that can conceivably change; that is, it allows for opinion change as the underlying contextual feature changes. Opinion often follows a process of learning such that exposure to a policy or experience with it can boost support (Lerman 2019). In short, more exposure to charter schools or to information about them may boost support.

Whether positive evaluations of local traditional public schools or lack of exposure to charter schools depresses support for charter schools in rural locales remain open questions. Although theories justify each as a potential explanation for differences between rural and non-rural opinions, there is also reason for skepticism. Whereas these theories emphasize aspects of conditions in rural America related to education, other recent scholarship highlights the importance of 'rural consciousness' as a political predisposition and social identity that shapes attitudes toward policy and government more generally (Cramer Walsh 2012; Cramer 2016). Most important for our purposes, rural consciousness is associated with a sense of disconnection from and resentment toward cities as well as distrust of urban elites and state or federal policy-makers, whom they view as doing more for cities than for rural locales. Applying this view to school choice, Dahill-Brown & Jochim (2018) and Squire (2018) note that rural residents are especially likely to distrust school choice policies that appear designed for urban contexts and ignore the needs of their own contexts. To the extent that the expansion of school choice policies has largely been an urban phenomenon, rural Americans may resist charter schools as outsider-led policy poorly tailored to local needs. The clear implication of this school of thought is that greater exposure to charter schools or information about charter schools will do little to move opinions of rural Americans because those opinions are deeply-rooted in symbolic attitudes

rather than a lack of knowledge about the nuances of charter schooling. Thus, open questions remain not only about whether rural Americans support charter schools less than other Americans, but also whether more information can change their opinions.

2. Data

To test these competing theoretical expectations, we use nearly a decade (2011 to 2018) of data from the Harvard University Program on Education Policy and Governance's *Education Next* survey.[2] These surveys pose questions about school policy to nationally representative samples of American adults as well as to occasional oversamples of specific populations hard to reach in large numbers in general population surveys (e.g., African Americans, teachers, residents who live in school districts with charter schools). These surveys offer several advantages for analyzing opinion across rural and non-rural contexts. First, pooling across these years of data collection provides 4,376 rural respondents to questions about charter schools (and similar number for other forms of choice). Second, the surveys contain several experiments in which different versions of questions are randomly assigned to respondents, allowing us to test sensitivity to information or framing across respondents in rural and non-rural contexts. Third, the 2011 survey includes an oversample of residents of districts with charter schools, allowing us

[2] The poll is administered online via the KnowledgePanel® of Ipsos, a polling firm. The KnowledgePanel® maintains a national probability panel of more than 50,000 adults that agree to participate in various surveys. The adults are recruited through address-based sampling from a frame of residential addresses. To avoid coverage error, the necessary hardware or internet connection are provided to any participants who lack them. The KnowledgePanel® was originally a program of the polling firm Knowledge Networks and later the firm GfK. Ipsos acquired the KnowledgePanel® in 2018 after the last survey used in this analysis. The data used in this article were collected when Knowledge Networks and then Gfk operated the KnowledgePanel®. More information on survey methodology are available at https://www.ipsos.com/en-us/solution/knowledgepanel

to explore differences within rural areas across districts that already have charter schools and those that do not.

Most importantly, the surveys include geographic identifiers that allows us to link respondents to their geographic locale. Of course, doing so is complicated by the fact that there are no universal designations for rural, urban, or suburban. The National Center for Education Statistics classifies schools and districts as city, suburban, town, or rural based on U.S. Census designations. The U.S. Census designates a geographic area as an "urbanized area" if it is seamlessly developed and contains a population of at least 50,000. In the NCES designations, these areas are split between those that fall within the principal cities of the "urbanized area" (cities) and those that remain in the "urbanized area" but fall outside the boundaries of the principal cities within them (suburbs). The U.S. Census further designates territory as an "urban cluster" if it falls outside of an "urbanized area" but contains 2,500 to 49,999 people. These clusters are classified as towns in the NCES designations. Finally, all remaining areas are classified as "rural."

Linking survey respondents to these designations requires a census-based geographic identifier, such as a census block, census tract, or school district identifier. We have such identifiers only for surveys since 2015. Therefore, to make full use of all surveys since the last decennial census, we primarily rely on county-based designations of locale type used by the National Center for Health Statistics (NCHS). NCHS has six points on its classification scale, but it allows for a more direct break out of urban ("Large central metro") versus suburban ("Large fringe metro") versus rural ("Micropolitan" and "Non-core"). Other categories are "Medium metro" and "Small metro", which we will describe as towns. The downside to the NCHS designations is that it is only at the county level, which potentially misclassifies an individual

who lives in a county that might have some urban areas and some suburban or rural areas. However, this approach allows us to incorporate surveys from 2011 through 2014. We have respondent zip codes for these years of the survey, which we can link to counties. For respondents from 2015 to 2018 we can link to counties via census block identifiers. To match the 2011-2014 respondents to counties, we used the U.S. Department of Housing and Urban Development (HUD)'s crosswalk file to link zip codes to counties based on the 2010 U.S. Census boundaries. Although most zip codes are fully contained within a single county, some overlap county boundaries. Fortunately, HUD provides the proportion of residential addresses in a zip code that lie in each county for these zip codes. Because we do not know where in the zip code the respondent lives, we went with the county that had the highest share of residents in the respondent's zip code. Generally, we can match 99.7% to 99.9% of the sample in each survey to a county in this way.[3]

We analyze responses to questions related to school choice across these types of geographic locales. Respondents were asked to rate their support for charter schools, targeted private school vouchers (i.e., for low-income families), universal private school vouchers and support for tax credits to fund private school scholarships on a five-point Likert scale ranging from "completely oppose" to "completely support" categories. We coded the variables in an increasing order of support.[4]

[3] As a robustness check, we provide analyses for the 2015-2018 surveys using the NCES designations instead in the appendix. Results are consistent across both approaches.

[4] The exact wording of some question varied across years, or, in some years, multiple versions were used with respondents randomly assigned to a version. For charter schools, we focus on the version of the question with consistent wording across all years. We then incorporate alternative wording into additional analyses when it is relevant for testing our theoretical expectations about the role of rural context. Appendix Table A3 contains estimates for the average effects of variations in wording across each version of the charter school question used in the surveys from

The surveys also collect data on respondent age, gender, education levels, race and ethnicity, household size, household income, homeownership, region of country, party identification, political ideology, whether a minor child lives in the home, and whether the respondent is a teacher. Table 1 shows how residents of rural and non-rural locales differ on several background characteristics, on average.[5] For example, rural residents are more Republican and more conservative. Racial and ethnic minorities make up smaller shares of the rural population. Residents of rural locales are also less likely to have a bachelor or higher level of educational attainment. Finally, residents of rural areas are much less likely to live in a school district where a charter school operates (indicated by the row labelled "charter district"). Because several of these characteristics, such as political orientations and race or ethnicity, are associated with attitudes toward school choice (Moe 2001; Peterson et al 2011), identifying the role of rural context on these attitudes will require accounting for these differences in demographic and political background characteristics.

3. Results

3.1 Context or Aggregation?

We begin with estimates of responses across geographic locale types to the question about charter schools: "As you may know, many states permit the formation of charter schools, which are publicly funded but are not managed by the local school board. These schools are expected to meet promised objectives but are exempt from many state regulations. Do you

2011 to 2018. For the other forms of choice, we use the most frequently asked versions and break them out separately for analysis.

[5] Appendix Table A1 displays summary statistics for the entire sample without breaking out by rural and non-rural settings. Appendix Table A2 parallels table 1 but uses NCES locale designations rather than the NCHS designations.

support or oppose the formation of charter schools?" Because the outcome variable has five categories (from "completely oppose" to "completely support"), we employ ordered probit regressions with fixed effects for survey year.

To present the results from these regressions, we rely on graphical displays of estimated probabilities of each response option for a given set of respondent characteristics and present the full regression results in appendix tables. For example, figure 1A displays the estimated probability of each of the five response options (along with a 95% confidence interval of the estimate) for three cases of interest – individuals living in rural locales, individuals living in urban locales, and individuals living in suburban locales. We generate these estimated response probabilities from a model that includes indicators for locale type (urban, suburban, town, or rural) and year fixed effects only, without demographic and political attitude controls. Although the model includes indicators for suburb, town, and rural (with urban as the baseline), for simplicity of presentation we plot estimates for urban, suburban, and rural only.[6]

Like American opinion in general, rural opinion tilts toward support for charter schools. The probability that a rural resident strongly supports charter schools is 0.162 and the probability they somewhat support charter schools is 0.313. The probability that a rural resident strongly opposes charter schools is 0.131 and the probability they somewhat support charter schools is 0.198. Taken together the total probability of support for charter schools among rural residents is 0.475 and the total probability of opposing charter schools is 0.329. Nevertheless, respondents in rural areas, on average, express less support for charter schools than residents of urban and suburban communities. For example, the estimated probability of a "strongly support" response is 0.035 and 0.014 lower for rural respondents than for urban and suburban respondents,

[6] Full model results are available in Appendix Table A4.

respectively. Likewise, the estimated probability of answering "somewhat support" is 0.018 and 0.008 lower for rural respondents relative to urban and suburban respondents. Instead, the probabilities of answering "strongly oppose" or "somewhat oppose" are 0.026 and 0.020 higher among rural residents than among urban residents; these probabilities for rural residents are also 0.011 and 0.008 higher than for suburban residents. All these differences are statistically significant at the α=0.05 level.

To distinguish between an aggregation effect based upon differences in demographic or political background characteristics and a context effect, we run an empirical model for charter school support with demographic and political attitude controls as well as geographic indicators and year fixed effects. Specifically, we control for respondent age with a series of binary indicators for ages in the ranges of 30-44 years, 45-59 years, and 60 or more years (with 18-29 years as the baseline category). We control for educational attainment with a series of binary indicators for graduating high school but no higher education, some college or a two-year degree, and a four-year bachelor's degree or higher (with no-high school diploma as the baseline). We control for race/ethnicity with binary indicators non-Hispanic black, Hispanic, and other non-Hispanic non-white respondents (with non-Hispanic white as the baseline). We control for household income with a series of indicators for incomes of at least $25,000 but less than $50,000, at least $50,000 but less than $75,000, at least $75,000 but less than $125,000, and $125,000 or more (with less than $25,000 as the baseline). We control for region of the United States with indicators for the Midwest, the south, and the west (with the northeast as the baseline). We also include binary indicators for gender, for home ownership, for parents of minor children, and for teachers. Finally, we control for political attitudes with a seven-point

measure of party identification (from strong Democrat to strong Republican) and a seven-point measure of political ideology (from extremely liberal to extremely conservative).

If the gap between rural and urban or suburban residents persists even after controlling for individual-level characteristics known to correlate with opinion toward school choice, then we can conclude that those characteristics (such as racial and ethnic or partisan makeup of rural areas) do not alone underlie the division. Panel B of figure 1 provides evidence that these gaps are not simply aggregation effects; that is, after controlling for characteristics related to charter school opinion such as race and party identification, rural respondents remain less supportive of charter schools.[7] We compute the estimated probabilities presented in this figure by using the regression model estimates (presented in the second column of appendix table A4) and setting the values of the locale indicators to reflect urban, suburban, and rural residents respectively while holding all other covariates in the model (including binary indicators) at mean values for the total sample. We use the same approach for all the multivariate models throughout the remainder of this article.

The differences in the predicted probabilities of rural and urban residents (i.e., the response probability for rural minus the response probability for urban) are +0.022 for "strongly oppose", +0.020 for "somewhat oppose", +0.006 for "neither favor nor oppose", -0.018 for "somewhat support", and -0.031 for "strongly support." All these differences are statistically significant at the α=0.05 level. The differences between rural and suburban residents are +0.014 for "strongly oppose", +0.012 for "somewhat oppose", +0.004 for "neither favor nor oppose", -

[7] Appendix Figure A1 replicates Figure 1 but uses the NCES definitions for geographic locale rather than the NCHS definitions. Results are consistent across the two identifications.

0.011 for "somewhat support", and -0.018 for "strongly support" (all differences statistically significant at the α=0.05 level).[8]

It appears, then, that rural residents like charter schools less than urban and suburban residents, and this difference is not simply because rural areas happen to contain fewer of the various types of people who support charter schools generally. Instead, there is something about the rural context associated with less support for charter schools even after controlling for these demographic and political differences. Next, we test two potential explanations for this context effect.

3.2 Is it Satisfaction?

One potential explanation for the results in the previous section is that residents in rural areas are more satisfied with their public schools than residents of other areas are and see little need for policy change. To test this hypothesis, we first examine evaluations of public schools by geographic locale type. Then, we incorporate these evaluations into models of charter school opinion.

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[8] The estimates for relationships between the remaining covariates and support for charter schools are consistent with past literature. For example, non-Hispanic blacks are +0.058 more likely to support charter schools than non-Hispanic whites (summing the estimated probabilities for "strongly support" and "somewhat support"), and Hispanics are +0.020 more likely to support them than non-Hispanic whites. Parents also are more likely to support charter schools than non-parents (+0.026), but homeowners are less likely to support charters (-0.040) as are teachers (-0.188). Republicans are more supportive than Democrats (+0.110), and conservative are more supportive than liberals (+0.126). Each of these results is consistent with findings about support for school choice either in Moe (2001) or in Peterson et al (2014). Additionally, the model reveals that men support charters less than women (-0.012). The support for charter schools varies by region. Support is highest in the western United States (0.548) and lowest in the Midwest (0.443). The northeast (0.508) and south (0.516) fall between and are statistically indistinguishable from each other. We do not observe a relationship between either age or household income and attitudes toward charter schools. These patterns are substantively and statistically consistent across all remaining models of attitudes toward charter schools or other forms of school choice presented in this article.

Figure 2 shows the predicted probability of a respondent assessing his or her local public schools with each grade, A through F.[9] Rural residents, on average, have more positive views of their local public schools than residents of urban areas do (although they remain less positive than respondents in suburban areas do). Rural residents are more likely to grade their local schools with an "A" (+0.015) or "B" (+0.018) than urban residents and less likely to grade them with a "C" (-0.014), "D" (-0.012), or "F" (-0.008). All these differences are statistically significant at the α=0.05 level.

Furthermore, beliefs about the quality of local schools matter for support for charter schools. Figure 3A shows the estimated probabilities of opposition and support for charter schools among rural respondents who grade their local schools with an "A" and rural respondents who grade their local schools with an "F". The estimates for figures 3A and 3B rely on a similar model as the one used for figure 1B but also include the measure of perceived school quality (i.e., the grade the respondent gave his local schools) and interactions between each locale indicator and the grade the respondent gives her local school district.[10] We compute the estimated probabilities of each response by setting the locale indicators to represent rural residents and adjusting the value of the grade for local schools while holding all other covariates at their means.

Respondents who believe their local schools are of a higher quality are more likely to oppose charter schools and less likely to support them. The difference in probability of answering "strongly oppose" between a rural resident who grades their local schools with an "A" and a rural resident who grades their local schools with an "F" is +0.086. The difference is +0.075 for "somewhat oppose", +0.021 for "neither support nor oppose", -0.067 for "somewhat

[9] Full results are available in Appendix Table A5.
[10] Full results are available in Appendix Table A4 column 5.

support", and -0.114 for "strongly support." Each difference is statistically significant at the α=0.05 level.

Thus, the relative antipathy for charter schools in rural areas may be due simply to greater satisfaction with current offerings. Figure 3B, however, indicates that this is not the case. This figure uses the same model as the one used for figure 3A, which includes a control for perceptions of the quality of local schools, but instead displays the probability of charter opinions by locale type instead of by grade given to local schools. In other words, we take the same approach as in figure 1B, but are now controlling for the grades given to local schools, which we set at mean values for the purposes of generating the estimated probabilities by locale type. Rural residents are more likely to say they "strongly oppose" charter schools than urban residents (+0.021) or suburban residents (+0.017) and more likely to say they "somewhat oppose" charter schools than urban residents (+0.019) or suburban residents (+0.015). Likewise, they are less likely to say they "strongly support" charter schools than urban residents (-0.029) or suburban residents (-0.022) and less likely to say they "somewhat support" charter schools than urban residents (-0.017) and suburban residents (-0.013). Once again, all these differences are statistically significant at the α=0.05 level.

In other words, even after controlling for perceptions of local public school quality, rural respondents express less support for charter schools – to much the same degree as in figure 1B which did not control for perceptions of local school quality. Rural residents evaluate their local public schools more highly than urban residents do, but the difference in perceptions of quality fails to account for the difference in their opinions of charter schools.

3.3 Is It Lack of Familiarity?

Another potential explanation for lower levels of support in rural communities is their lack of exposure to charter schools. The 2012 survey included five factual items about charter schools: 1) Whether charter schools can hold religious services; 2) Whether charter schools may charge tuition; 3) Whether charter schools may select students when oversubscribed or rely on a lottery to determine admissions; 4) Whether charter schools receive the same funding as local non-charter public schools; and 5) Whether there is a charter school in the respondent's school district. The 2013 survey repeated the first three of these items. Each question explicitly allowed a "don't know" response. These questions allow for a test of whether rural respondents are less familiar with charter schools based on the frequency of "don't know" responses.

Additionally, the 2011 survey included an alternate version of the question measuring charter school opinion to which a subset of respondents was randomly assigned. Rather than the five-point response scale from "strongly support" to "strongly oppose" without a "don't know" option, these respondents selected a response from just three options: "support," "oppose," or "don't know." This question provides an additional test of familiarity with charter schools based on the frequency of "don't know" response when asked for an opinion.

We model responses to these six items with multinomial logit models including the same covariates as in the models above (locale type, age, education, race, household income, region, gender, homeownership, parent, teacher, partisanship, ideology, and year of survey). For each question, the model includes all potential responses as outcome (e.g., "yes," "no," and "don't know"). Our focus, however, is on the probability a respondent selects the "don't know" response.[11]

[11] Results for the six multinomial logit models used for figure 4 appear in Appendix Table A6.

The estimated probability of a "don't know" response for each item appears in figure 4. The probability that rural residents say they don't know whether charter schools can hold religious services is 0.062 higher than for urban residents; however, there is no statistically significant difference between rural and suburban residents in their probabilities of saying "don't know" to this item. Rural residents are also more likely than urban residents (+0.069) and suburban residents (+0.052) to say they do not know whether charter schools can charge tuition; both differences are statistically significant at the α=0.05 level. Rural residents are more likely than urban residents (+0.127) and suburban residents (+0.090) to say they do not know whether charter schools can use selective admissions; these differences are also statistically significant at the α=0.05 level. In one respect, rural residents are less likely than others to say they do not know the answer to a factual question about charter schools. Rural residents are less likely than urban residents (-0.073) and suburban residents (-0.139) to say they do not know whether a charter school exists in their own district; these differences are also statistically significant at the α=0.05 level. There is no difference between rural, urban, and suburban residents in their probability of answering "don't know" when asked whether charter schools receive the same funding as other public schools. Finally, rural residents are more likely than urban residents (+0.104) and suburban residents (+0.098) to say "don't know" when asked whether they support or oppose charter schools; the difference between rural and urban residents is statistically significant at the α=0.05 level, but the difference between rural and suburban residents is not (p=0.054).

Next, we consider whether lack of knowledge relates to opinion in figure 5. The model used to generate the estimated probabilities in figures 5A and 5B follow the model used for figure 1B above but includes a measure for the number of "don't know" responses the

respondent gave to the five factual questions charter schools and interactions between this measure and each indicator for locale type.[12] Because the full battery of five factual items appeared in 2012 only, the model includes respondents from that single year. Figure 5A plots the estimated response probabilities for those who are more certain about how charter schools operate (i.e., no "don't know" responses to the five factual items) and for those who are less certain (i.e., five "don't know" responses) among rural residents. Certainty, or familiarity, is associated with opinion. Those who say they do not know the answer to more factual questions about charter schools are more likely to oppose them and less likely to support them. Individuals who answer "don't know" to all five factual items are less likely to strongly support charter schools (-0.102) and less likely to somewhat support charter schools (-0.083) than someone who does not answer "don't know" to any of these items. Instead, they are more likely to say they strongly oppose these schools (+0.073) or somewhat oppose these schools (+0.071). All four of these differences are statistically significant the α=0.05 level.

So far, we have established 1) lack of familiarity with charter schools is associated with less support for charter schools and 2) rural residents, on average, are less familiar with charter schools. These two pieces of evidence raise the prospect that lack of familiarity explains the lower level of support for charter schools we observe in rural communities. To test this hypothesis, we examine whether the differences in support between rural residents and residents of other areas persist while controlling for their levels of familiarity with these schools. We do this with the same model used for figure 5A. In this case, however, we use the model to compute the estimated probabilities for each response option for rural residents, urban residents, and suburban residents while holding the measure of familiarity constant across locale types at its

[12] Full results are available in column 6 of Appendix Table A4.

mean for the total sample. Figure 5B plots these estimates. Unlike what we found when testing the hypothesis that differences in perceptions of school quality accounts for differences in opinions across locale types (in figure 3B), controlling for familiarity with charter schools does close the gap in support across rural and non-rural locales. Whereas, locale exhibited different probabilities of support and opposition in figure 1B before accounting for familiarity, none of the differences between the estimates presented in figure 5B are statistically significant at customary thresholds. This finding indicates that lack of familiarity with charter schools in rural areas plays an important role in the lower levels of support in those locales relative to cities and suburbs.

3.4 Does exposure to charter schools boost support?

If lack of familiarity with charter schools harms their support in rural America, would exposure to charter schools or to more information about charter schools boost support? We conduct two tests to answer this question. First, we exploit a variation in question wording from the 2015 and 2016 surveys. In those years, the survey randomly assigned respondents to either the standard version of the question, which includes some minimal background information about what charter schools are ("As you may know, many states permit the formation of charter schools, which are publicly funded but are not managed by the local school board. These schools are expected to meet promised objectives but are exempt from many regulations. Do you support or oppose the formation of charter schools?"), or a shortened version of the question without the explanation of how charter schools operate ("Do you support or oppose the formation of charter schools?"). If more familiarity with charter schools can boost support, then respondents exposed to the longer version of the question with more information describing these schools should express more support than respondents exposed to the shorter version without the supplemental information. We test these differences using an ordinal probit model of response like the

previous models presented in this article, but we also include an indicator for question version and interactions between this indicator and each indicator of locale type. We use these results to compute estimated probabilities for each response option among rural residents receiving each version.

The results in figure 6 provide no evidence that more information about charter schools increases their support, on average, in rural America.[13] This figure plots the predicted probability of each response option for rural residents exposed to the low information version of the question and for rural residents exposed to the high information version. There are no statistically significant differences between the two groups of respondents for any of the response options. For example, the estimated difference in the probability of a "strongly support" response between those answering the longer version and the shorter version is -0.013 (about one percentage point), but the *p*-value of this estimated difference is 0.374. Differences of similarly small magnitude appear for "somewhat support" (-0.010, *p*-value 0.374), "somewhat oppose" (+0.009, *p*-value 0.373), and "strongly oppose" (+0.010, *p*-value 0.374); all fail to reach customary thresholds of statistical significance. The direction of the estimated differences are opposite from what a theory about exposure boosting support would predict – that is, those exposed to more information have slightly lower estimated levels of support. More important, none of these differences are statistically significant. In short, there is no evidence that providing more information about charter schools to rural residents increases support.

Second, we examine whether charter support is higher in rural communities that already have charter schools. In 2011, the survey included an oversample of residents of school districts that contain at least one charter school. We can compare opinion across respondents in districts

[13] Full results are available in column 1 of Appendix Table A7.

with and without charter schools nationally and within rural areas specifically. Although this evidence is not experimental and, therefore, disallows identification of the causal effect of opening a charter school on local opinion, we may nevertheless test whether the observational evidence is consistent with the hypothesis that exposure to such schools will win over local communities in rural areas. As above, we use an ordinal probit model of response but include an indicator for whether the respondent lives in a school district where at least one charter school exists and interactions between this indicator and each indicator of locale type. We use these results to compute estimated probabilities for each response option among rural residents living in districts with charter schools and rural residents living in districts without charter schools.

Figure 7 displays the estimated probabilities.[14] Again, there is no evidence that exposure to charter schools boosts support. Residents of rural districts with charter schools are indistinguishable from residents of rural districts without charter schools in their opinions toward those schools. The differences between rural respondents in districts with charter schools and rural respondents in districts without charter schools in their probabilities of responses are -0.016 for "strongly support" (p-value 0.751), -0.013 for "somewhat support" (p-value 0.763), +0.010 for "somewhat oppose" (p-value 0.758), and +0.013 for "strongly oppose" (p-value 0.766). Once again, the point estimates have the opposite sign than what a theory about exposure boosting support would predict. However, we emphasize that there are no statistically significant differences. Thus, even as a lack of familiarity with charter schools in rural locales plays a role in lower levels of support, these results indicate that more exposure to these schools does not boost their support.

[14] Full results are available in column 2 of Appendix Table A7.

3.5 Choice beyond Charters

Finally, we examine support for private school vouchers and tax credits to fund scholarships that pay private school tuition. From 2011 to 2018, the *Education Next* surveys included ten versions of questions about school vouchers. In our analysis, we focus on six versions of the question. The first four of these are the most frequently used over this period of the survey. These four versions vary in terms of the targeted voucher recipient (all students versus students from low-income families) and in overall framing. The first pair of these is: "A proposal has been made that would use government funds to pay the tuition of [all / low-income] students who choose to attend private schools." The second pair emphasizes choice: "A proposal has been made that would give [all / low-income] families with children in public schools a wider choice, by allowing them to enroll their children in private schools instead, with government helping to pay the tuition." Finally, we consider two additional versions asked in 2018 and explicitly invoke the term voucher: "A proposal has been made that would give [all / low-income] families with children in public schools a voucher allowing them to enroll their children in private schools instead, with government helping to pay the tuition."

Results appear in figures 8 through 10.[15] Rural residents express less support than urban residents for vouchers when asked about "government funds to pay the tuition of low-income students who choose to attend private schools" (figure 8A) but not when asked about "all students" (figure 8B). For example, the difference between rural and urban respondents' probability of strongly opposing this policy for low-income students is +0.027 and the difference in their probability of strong support is -0.017, not large differences, to be sure, but nonetheless statistically significant at the customary threshold. Similarly, when framed in terms of a "wider

[15] Full results are available in Appendix Table A8.

choice," rural residents offer less support than other respondents if the proposal targets low-income families (figure 9A) but are no different from other respondents if the proposal targets all families (figure 9B). When asked specifically about "vouchers," rural opinion is no different from others (figure 10). Finally, in 2011, 2012, and 2014-2018, the survey included a question asking about support for providing tax credits for individual and corporate donations to scholarships to pay for students to attend private schools. Once again, rural residents are more skeptical of a choice proposal (figure 11).[16]

4. Discussion

In summary, our results reveal that rural Americans support charter schools less than their suburban and urban peers and that the demographic and partisan differences between these locales do not explain this gap. Similarly, even though rural residents tend to hold their local public schools in higher esteem than urban residents do (but lower esteem than suburban residents do), the relative difference in satisfaction with current quality does not account for lower levels of support for charter schools in rural America. Instead, the gap in support for charter schools between rural and urban (or suburban) locales appears to have more to do with unfamiliarity with charter schools in rural areas. Rural residents have less exposure to charter schools and know less about them. We find similar gaps between rural and urban residents in support for other forms of school choice as well, though our data for additional choice policies do not allow us to identify what role (if any) information plays in these opinions.

An implication of the association between knowledge and support is that charter advocates could advance penetration in rural communities by better informing those communities about charter schools. This information-based model of opinion change, however,

[16] Full results are available in column 4 of Appendix Table A8.

contrasts with the decades of public opinion research demonstrating the power of political predispositions in shaping opinions more so than factual information, material interest, or personal experience. Charter schools appear to be no exception. Neither more information about charter schools nor greater exposure to charter schools in individuals' own communities increases support for these schools.

Our tests are, of course, limited. There is significant heterogeneity in the educational needs and contexts within rural America. For example, rural areas vary in population density, with some far more sparsely populated than other rural areas. These characteristics are likely related to other features of schools and districts that can impact attitudes toward school choice, such as resources and market size. The nature of our analysis averages across this heterogeneity within rural America. Our results speak only to average differences between these locales together and urban or suburban locales.

Additionally, the survey data do not contain measures that allow us to excavate what exactly causes new information to fail to move opinions. Our results indicate that more exposure to choice programs and more information about them will not go far in changing minds. An implication is that these opinions are rooted in a broader set of political attitudes and experiences connected to the rural experience. For example, the results may reflect stronger trust in local governing institutions relative to state or national institutions among rural America than in other areas. A strain in American political thought dating back to the founding contends local governments are best suited to address particular needs of a community (Ketcham 1986). In modern scholarship, this notion has broadened to encompass non-government actors working at the local level as well (Ostrom 1990). In the realm of education, some authors point to choice policies as an alternate form of local control in the face of rising state and federal influence (e.g.,

Franciosi 2004). Perhaps rural Americans are expressing a greater fidelity to the classic version of this theory that places local government in higher esteem, particularly if choice programs are seen as an urban-oriented policy promulgated by state government. Such a view would be consistent with scholarship on rural political attitudes (Kramer 2016).

Nevertheless, our results are consistent with work suggesting that rural communities are deeply skeptical of policies that appear-geared to the needs of urban communities. At the very least, they indicate that advocates must go further in demonstrating how school choice proposals would work to the benefit of rural communities – rather than just how they work generally – if they are to find greater support there.

References

Achen, C.H. & Bartels, L.M. (2016). *Democracy for Realists: Why Elections Do Not Produce Responsive Government*. Princeton University Press.

Alvarez, R.M. & Brehm, J. (2002). *Hard Choices, Easy Answers: Values, Information, and American Public Opinion.* Princeton University Press.

Araujo, B. (2009). Best practices in working with linguistically diverse families. *Intervention in School and Clinic, 45*(2), 116-123

Bartels, L.M. (2008). *Unequal Democracy: The Political Economy of the New Gilded Age*. Princeton University Press.

Batdorff, M., Maloney, L., May, J., Speakman, S., Wolf, P.J., & Cheng, A. (2014). *Charter school funding: Inequity expands*. School Choice Demonstration Project, University of Arkansas, Fayetteville, AR.

Berkman, M.B. & Plutzer, E. (2005). *Ten Thousand Democracies: Politics and Public opinion in America's School Districts*. Georgetown University Press.

Brownell, M. T., Bishop, A. M., & Sindelar, P. T. (2005). NCLB and the demand for highly qualified teachers: Challenges and solutions for rural schools. *Rural Special Education Quarterly, 24*(1), 9-15.

Brownell, M. T., Rosenberg, M. S., Sindelar, P. T., & Smith, D. D. (2004). Teacher education: Toward a qualified teacher for every classroom. *Critical issues in special education*, 243-257.

Bryant, J. A. (2010). Dismantling Rural Stereotypes. *Educational Leadership, 68*(3), 54-58.

Chingos, M.M., Henderson, M., & West, M.R. (2012). Citizen Perceptions of Government Service Quality: Evidence from Public Schools. *Quarterly Journal of Political Science*, 7(4), 411-445.

Collins, T. (1999). Attracting and retaining teachers in rural areas. Charleston, WV: ERIC Clearinghouse on Rural and Small Schools.

Cramer, K.T. (2016). *The Politics of Resentment: Rural Consciousness in Wisconsin and the Rise of Scott Walker*. University of Chicago Press.

Cramer Walsh, K.T. (2012). Putting Inequality in Its Place: Rural Consciousness and the Power of Perspective. *American Political Science Review*, 106(3): 517-532.

Dahill-Brown, S. & Jochim, A. (2018). The Power of Place: Rural Identity and the Politics of Rural School Reform. In McShane, M. Q., & Smarick, A. (Eds.). *No Longer Forgotten:*

The Triumphs and Struggles of Rural Education in America, (p. 59-80). Rowman & Littlefield.

Downs, A. (1957). *An Economic Theory of Democracy*. Harper.

Erikson, R.S., Wright, G.C. & McIver, J.P. (1994). *Statehouse Democracy*. Cambridge University Press.

Erikson, R.S., MacKuen, M.B., & Stimson, J.A. (2002). *The Macro Polity*. Cambridge University Press.

Franciosi, R.J. (2004). *The Rise and Fall of American Public Schools: The Political Economy of Public Education in the Twentieth Century*. Praeger.

Galston, W. A. (2017). *Anti-Pluralism: The Populist Threat to Liberal Democracy*. Yale University Press.

Green, D., Palmquist, B., & Schickler, E. (2002). *Partisan Hearts and Minds: Political Parties and the Social Identities of Voters*. Yale University Press.

Henderson, M., Peterson, P.E., & West, M.R. (2015). No Common Opinion on the Common Core: Also Teacher Grades, School choices, and Other Findings from the 2014 *Education Next* Poll. *Education Next*, 15(1): 8-19.

Hopkins, D.J. (2018). *The Increasingly United States: How and Why American Political Behavior Nationalized*. University of Chicago Press.

Howell, W.G., Peterson, P.E., & West, M.R. (2011). Meeting of the Minds: The 2010 *Education Next*–PEPG Survey Shows That, on Many Education Reform Issues, Democrats and Republicans Hardly Disagree. *Education Next*, 11(4): 10-22.

Ketcham, R. (1986). *The Anti-Federalist Papers and the Constitutional Convention Debates*. Signet.

Lerman, A.E. (2019). *Good Enough for Government Work: The Public Reputation Crisis in America (and What We Can Do About It).* University of Chicago Press.

Malkus, N. (2018). A Statistical Portrait of Rural Education in America. In McShane, M. Q., & Smarick, A. (Eds.). *No Longer Forgotten: The Triumphs and Struggles of Rural Education in America*, (p. 9-28). Rowman & Littlefield.

Moe, T.M. (2001). *Schools, Vouchers, and the American Public*. Brookings Institution Press.

Musu, L. (2018). A Closer Look at Charter School Characteristics. NCES Blog. Retrieved from https://nces.ed.gov/blogs/nces/post/a-closer-look-at-charter-school-characteristics.

Ostrom, E. (1990). *Governing the Commons: The Evolution of Institutions for Collective Action*. Cambridge University Press.

Page, B.I. & Shapiro R.Y. (1992). *The Rational Public: Fifty Years of Trends in Americans' Policy Preferences*. University of Chicago Press.

Peterson, P.E., Henderson, M., & West, M.R. (2014). *Teachers vs the Public: What Americans Think about Schools and How to Fix Them*. Brookings Institution Press.

Player, D. (2015). Take Me Home Country Roads? Exploring the College Attendance Patterns of Rural Youth. Available at: http://www.rociidaho.org/wp-content/uploads/2015/07/ROCI_Rural-College-Patterns_Final.pdf

Player, D., & Husain, A. (2018). Staffing America's Rural Schools. In McShane, M. Q., & Smarick, A. (Eds.). *No Longer Forgotten: The Triumphs and Struggles of Rural Education in America,* (p. 117-134). Rowman & Littlefield.

Rude, H., & Miller, K. J. (2018). Policy challenges and opportunities for rural special education. *Rural Special Education Quarterly, 37*(1), 21-29.

Sawhill, I. (2018). *Forgotten Americans: An Economic Agenda for a Divided Nation*. Yale University Press.

Schneider, M., Teske, P., Roch, C., & Marschall, M. (1998). Shopping for Schools: In the Land of the Blind, the One-eyed Parent May Be Enough. American Political Science Review, 42: 769-793.

Schneider, M., Teske, P., & Marschall, M. (2000). *Choosing Schools: Consumer Choice and the Quality of American Schools*. Princeton University Press.

Sealander, K., Eigenberger, M., Peterson, P., Shellady, S., & Prager, G. (2001). Challenges facing teacher educators in rural, remote, and isolated areas: Using what we know and what we have learned. *Rural Special Education Quarterly, 20*(1), 13-23.

Sears, D.O. & Citrin, J. (1982). *Tax Revolt: Something for Nothing in California*. Harvard University Press.

Shuls J.V. (2018). School Finance in Rural America. In McShane, M. Q., & Smarick, A. (Eds.). *No Longer Forgotten: The Triumphs and Struggles of Rural Education in America,* (p. 99-116). Rowman & Littlefield.

Smarick, A. (2014). *A New Frontier: Utilizing Charter Schooling to Strengthen Rural Education*. Bellwether Education Partners.

Squire, J. (2018). Right Place, Right Time. In McShane, M. Q., & Smarick, A. (Eds.). *No Longer Forgotten: The Triumphs and Struggles of Rural Education in America,* (p. 135-154). Rowman & Littlefield.

Stimson, J.A., MacKuen, M.B., & Erikson, R.S. (1995). Dynamic representation. *American Political Science Review*, 89: 543-565.

Stokes, D.E. (1966). Party loyalty and the likelihood of deviating elections. In Campbell, A, Converse, P.E., Miller, W.E., & Stokes, D.E. (Eds.). *Elections and the Political Order*, (125-135). Wiley.

West, M.R., Henderson, M., Peterson, P.E., & Barrows S. (2018). The 2017 *Education Next* Poll on School Reform: Public Thinking on School Choice, Common Core, Higher Ed, and More. *Education Next*, 18(1): 32-52.

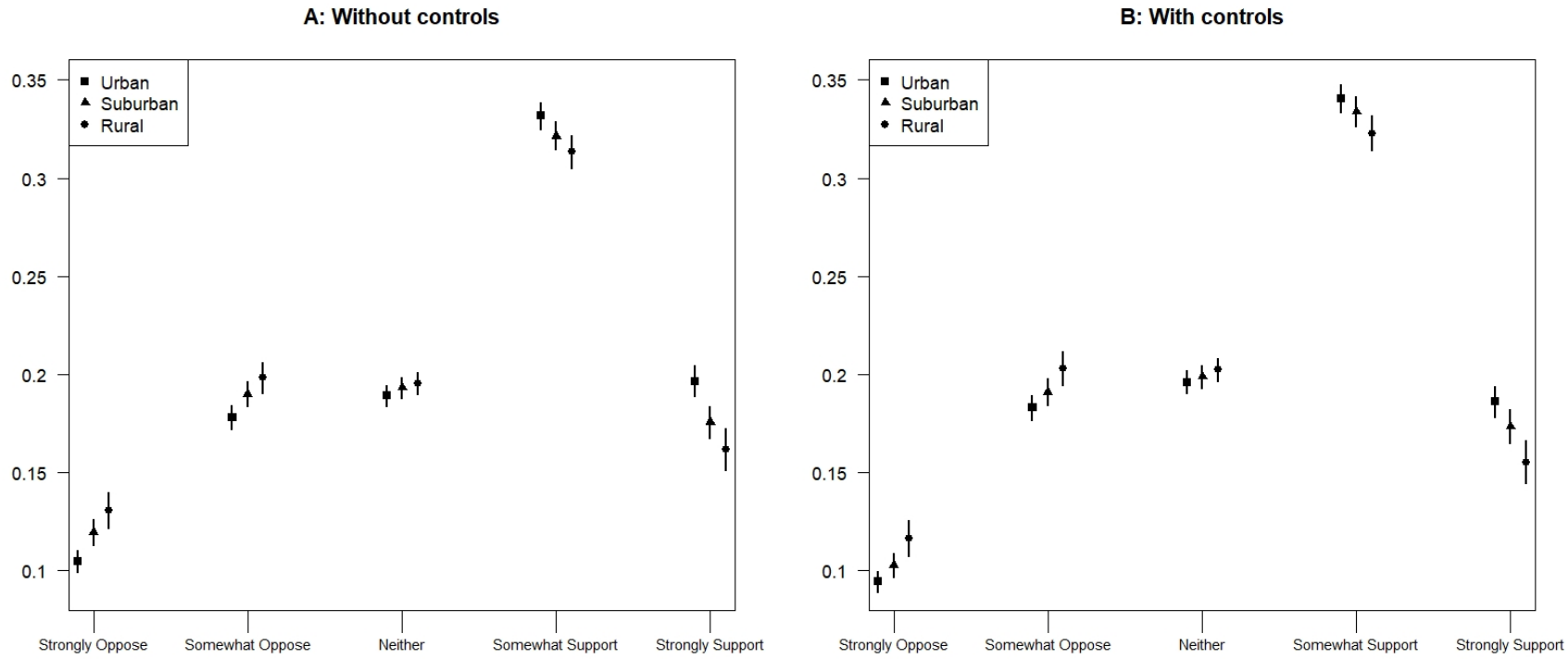


Figure 1: Estimated Probability of Charter School Opinion for Urban, Suburban, and Rural Locales.

Note: Estimated response probabilities are from ordinal probit models of responses to charter school question including year fixed effects. The model for panel B also includes controls for age, education, race and ethnicity, household income, region of country, gender, homeownership, whether the respondent is a teacher, whether the respondent is a parent of a minor child, party identification, and political ideology. For figure 1B, we estimate response probabilities for each locale type while holding all other covariates at mean values. Estimates from these models appear in Appendix Table A4 columns 1 and 2. N = 21,172 (panel A) and 20,382 (panel B).

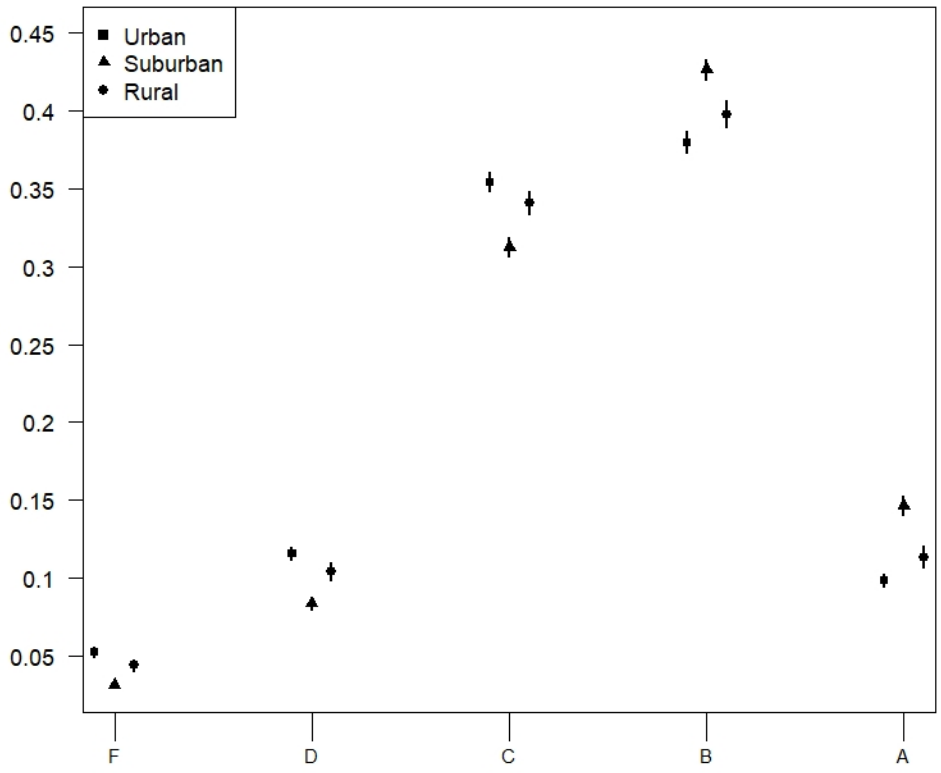


Figure 2: Estimated Probability of Grade Evaluations of Local Public Schools for Urban, Suburban, and Rural Locales.

Note: Estimated response probabilities are from an ordinal probit model of responses to question asking respondents to grade the public schools in their local community and includes indicators for locale type as well as controls for age, education, race and ethnicity, household income, region of country, gender, homeownership, whether the respondent is a teacher, whether the respondent is a parent of a minor child, party identification, and political ideology, and year fixed effects. We estimate response probabilities for each locale type while holding all other covariates at mean values. Estimates from this model appear in Appendix Table A5. N = 32,100.

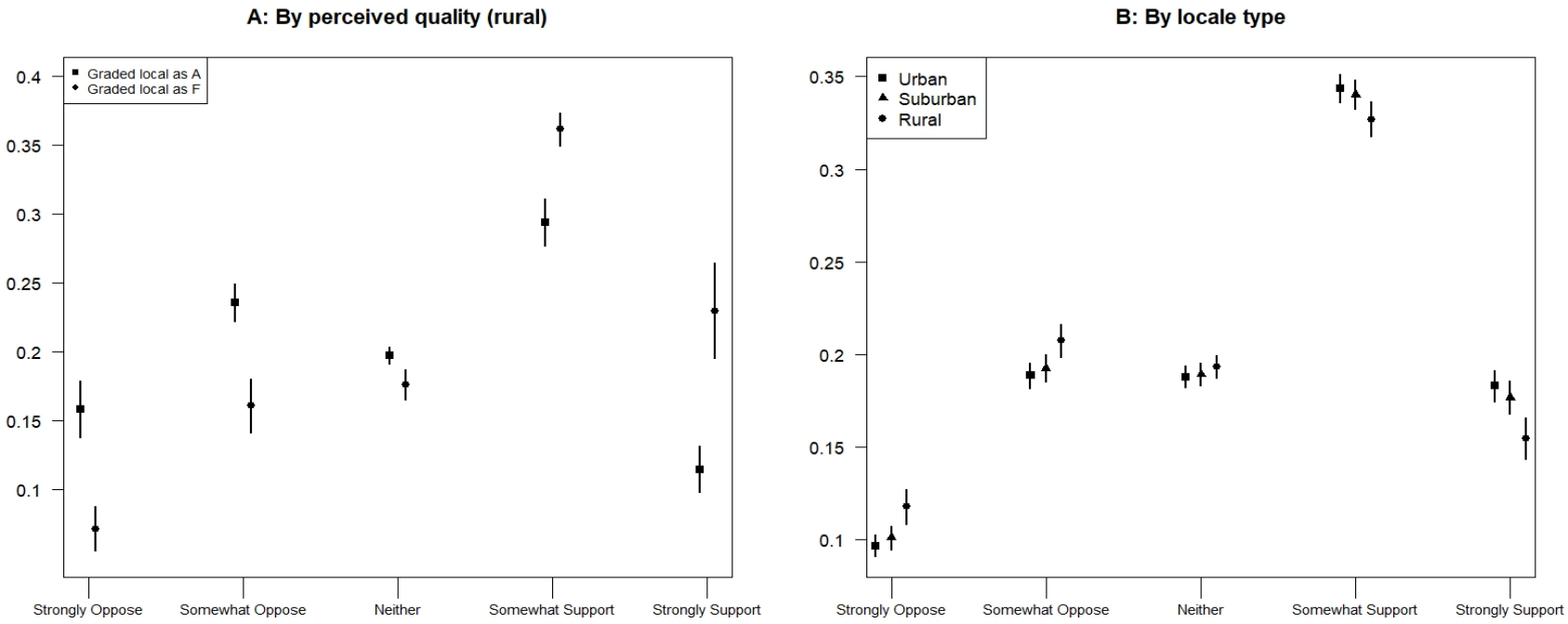


Figure 3: Estimated Probability of Charter School Opinion by Evaluations of Local Schools (A) and by Urban, Suburban, and Rural Locales (B).

Note: Estimated response probabilities are from an ordinal probit model of responses to charter school question that include covariates for perceived quality of local public schools, indicators for locale type, and interactions between the measure of perceived quality and each of the locale type indicators. The model also includes controls for age, education, race and ethnicity, household income, region of country, gender, homeownership, whether the respondent is a teacher, whether the respondent is a parent of a minor child, party identification, political ideology, and year fixed effects. For figure 3A, locale type is set to rural and we estimate probabilities for those who grade their local schools with an "A" and those who grade them with an "F", while holding all other covariates at mean values. For figure 3B, we estimate probabilities for each locale type while holding all other covariates, including perceived school quality, at mean values. Estimates from this model, which we used to construct both panels of this figure, appear in Appendix Table A4 column 5. N = 19,035.

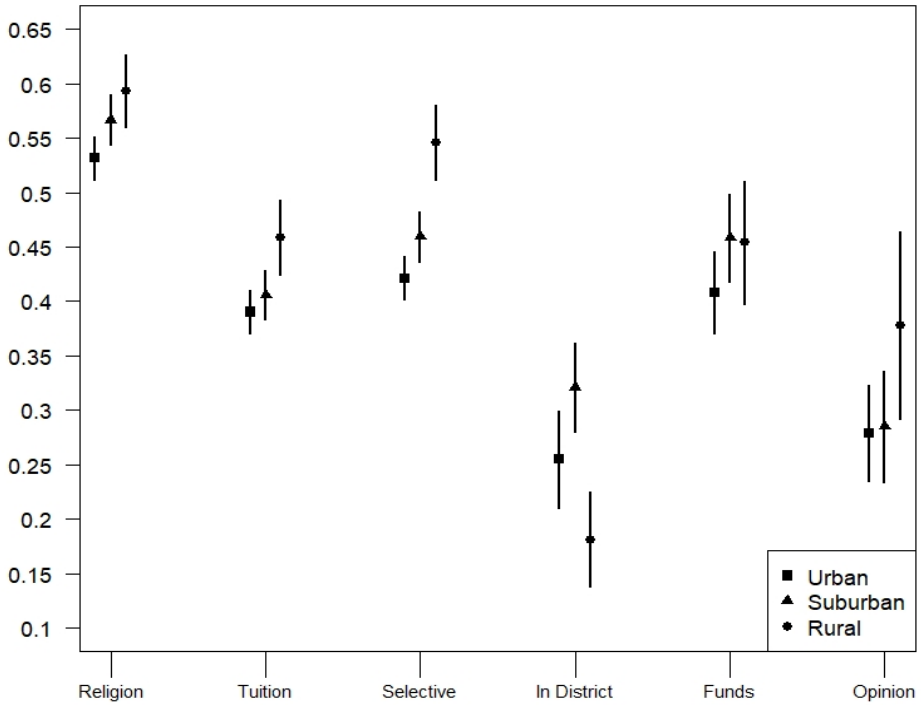


Figure 4: Estimated Probability of Answering "Don't Know" to Factual Questions about Charter Schools and to an Opinion Question by Urban, Suburban, and Rural Locales (B).

Note: Estimated response probabilities are from multinomial logit models and include includes covariates for indicators for locale type, age, education, race and ethnicity, household income, region of country, gender, homeownership, whether the respondent is a teacher, whether the respondent is a parent of a minor child, party identification, political ideology, and year fixed effects. For each question included in the figure, we estimate the probability of a "don't know" response for each locale type while holding all other covariates at mean values. Estimates from these models appear in Appendix Table A6. N = 7,954 (Religion), 7,916 (Tuition), 7,944 (Selective), 2,853 (In District), 2,850 (Funds) and 1,294 (Opinion).

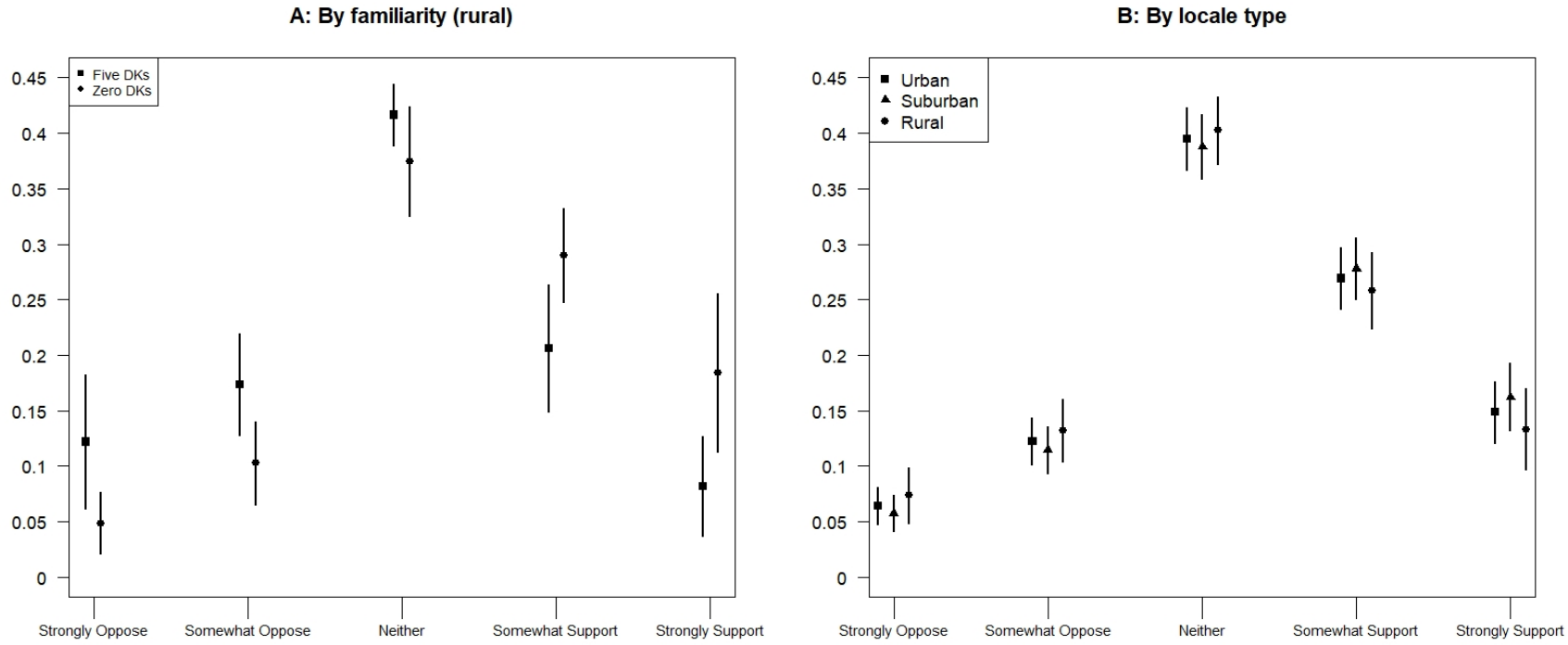


Figure 5: Estimated Probability of Charter School Opinion by Familiarity with Charter Schools (A) and by Urban, Suburban, and Rural Locales (B).

Note: Estimated response probabilities are from an ordinal probit model of responses to charter school question that includes indicators for locale type, the number of "don't know" responses to factual questions about charter schools (up to five), interactions between the measure of familiarity and each indicator of locale type, age, education, race and ethnicity, household income, region of country, gender, homeownership, whether the respondent is a teacher, whether the respondent is a parent of a minor child, party identification, and political ideology. For figure 5A, locale type is set to rural and we estimate probabilities for those who answered five factual questions without any "don't know" responses and those who answered them with five "don't know" responses, while holding all other covariates at mean values. For figure 5B, we estimate probabilities for each locale type while holding all other covariates, including frequency of "don't know" responses, at mean values. Estimates from this model, which we used to construct both panels of this figure, appear in Appendix Table A4 column 6. N = 1,427.

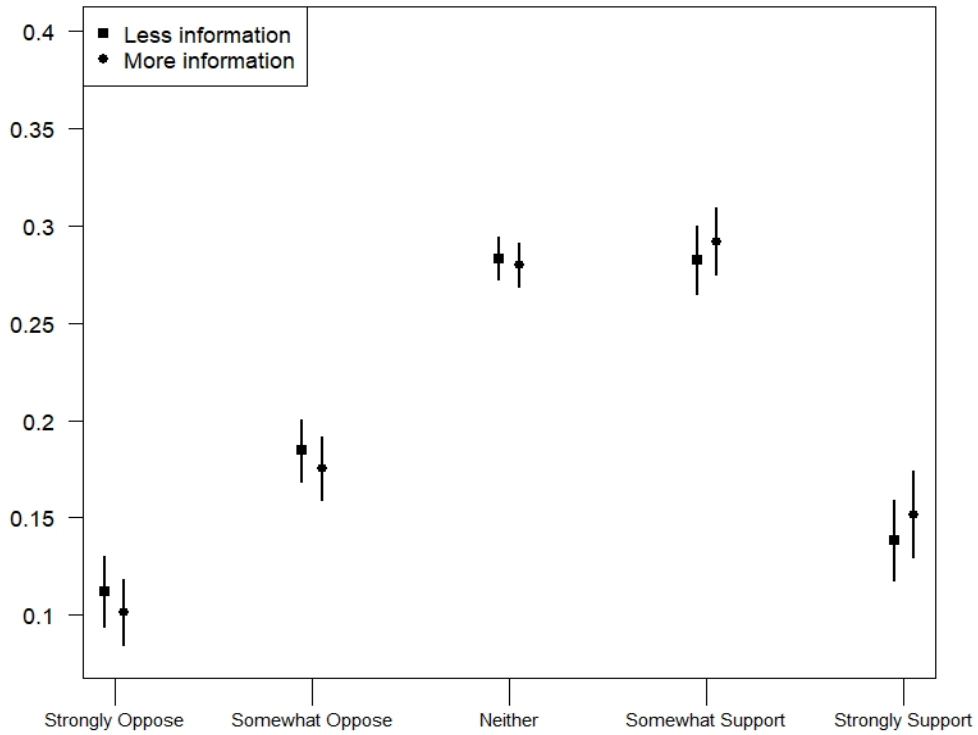


Figure 6: Estimated Probability of Charter School Opinion by Experimental Condition, More or Less Information about Charter Schools.

Note: Estimated response probabilities are from an ordinal probit model of responses to charter school questions that include covariates for locale type, the version of the question randomly assigned to respondent, interactions between question version indicator and each locale type indicators, age, education, race and ethnicity, household income, region of country, gender, homeownership, whether the respondent is a teacher, whether the respondent is a parent of a minor child, party identification, and political ideology. We estimate response probabilities for each question version while holding locale type at rural and all other covariates at mean values. Estimates from this model appear in Appendix Table A7 column 1. N = 8,153.

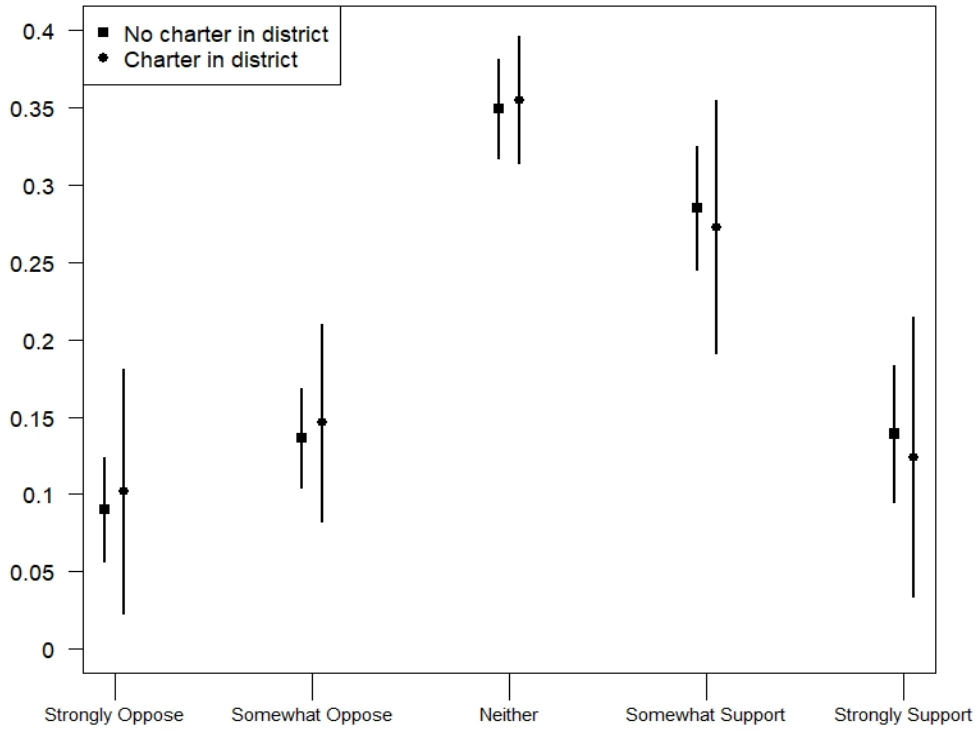


Figure 7: Estimated Probability of Charter School Opinion by Exposure to Charter Schools in District.

Note: Estimated response probabilities are from an ordinal probit model of responses to charter school questions that include covariates for locale type, whether the respondent lives in a district with a charter school, interactions between the indicator for presence of a charter school and each indicator for locale type, age, education, race and ethnicity, household income, region of country, gender, homeownership, whether the respondent is a teacher, whether the respondent is a parent of a minor child, party identification, and political ideology. We estimate response probabilities for each value of the indicator for presence of a charter school in the district while holding locale type at rural and all other covariates at mean values. Estimates from this model appear in Appendix Table A7 column 2. N = 1,252.

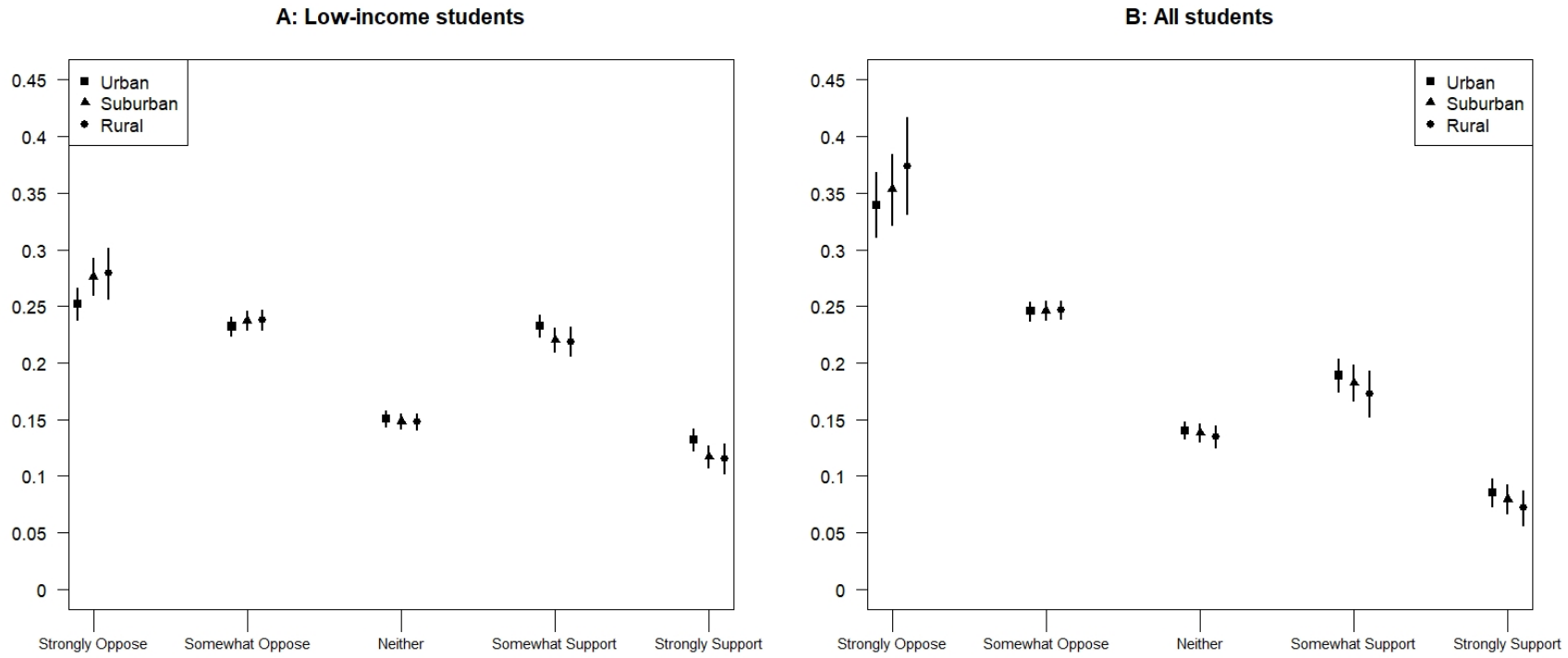


Figure 8: Estimated Probability of Opinions toward Voucher for Low-Income Students (A) and for All Students (B).

Note: Estimated response probabilities are from an ordinal probit model of responses to a question measuring support for using government funds to pay for private school tuition that includes covariates for locale type, version of the question (for low income students or for all students), interactions between version and locale type indicators, age, education, race and ethnicity, household income, region of country, gender, homeownership, whether the respondent is a teacher, whether the respondent is a parent of a minor child, party identification, political ideology, and year fixed effects. For figure 8A, we set the indicator for question version to the low-income wording and compute estimated probabilities for each locale type while holding all other covariates at mean values. For figure 8B, we set the indicator for question version to the universal wording and compute estimated probabilities for each locale type while holding all other covariates at mean values. Estimates from this model, which we used to construct both panels of this figure, appear in Appendix Table A8 column 1. N = 12,301.

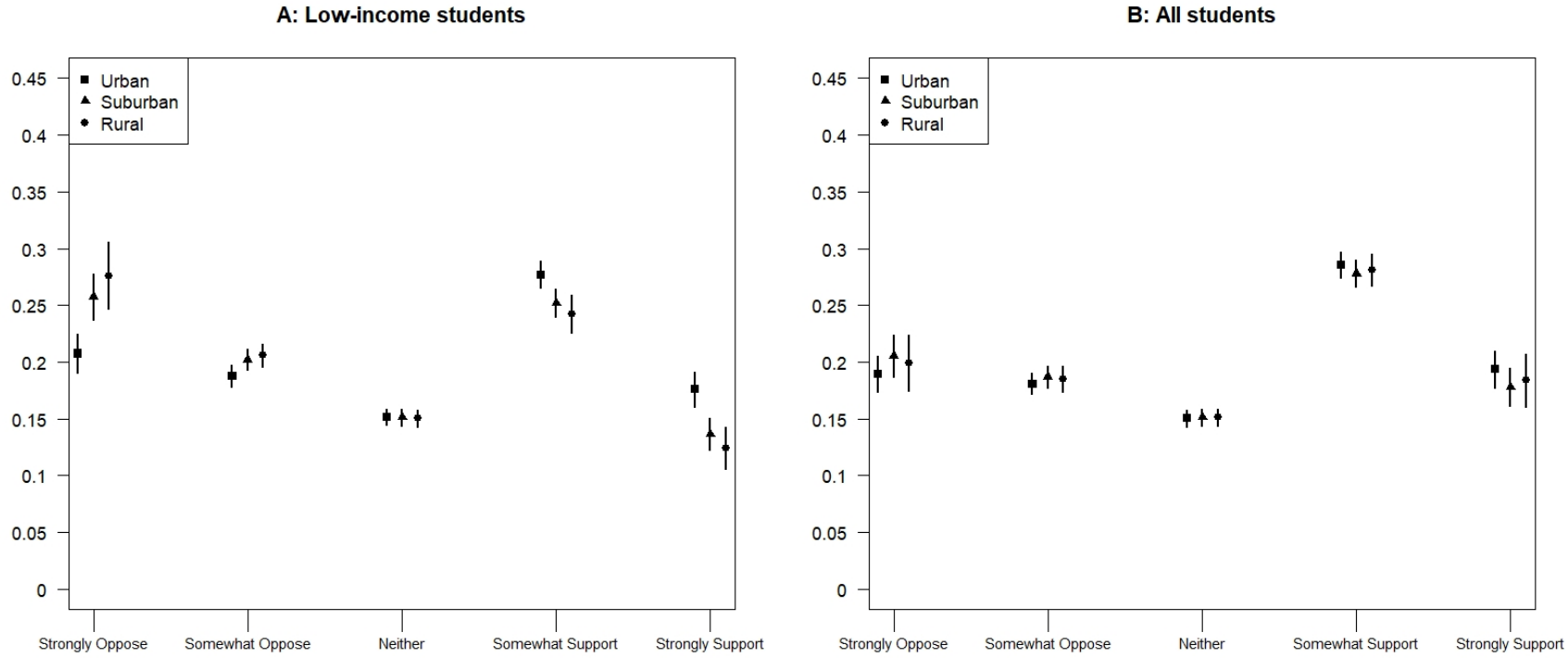


Figure 9: Estimated Probability of Opinions toward Voucher for Low-Income Students (A) and for All Students (B).

Note: Estimated response probabilities are from an ordinal probit model of responses to a question measuring support for the government providing "wider choice" for families by paying for private school tuition that includes covariates for locale type, version of the question (for low income students or for all students), interactions between version and locale type indicators, age, education, race and ethnicity, household income, region of country, gender, homeownership, whether the respondent is a teacher, whether the respondent is a parent of a minor child, party identification, political ideology, and year fixed effects. For figure 9A, we set the indicator for question version to the low-income wording and compute estimated probabilities for each locale type while holding all other covariates at mean values. For figure 9B, we set the indicator for question version to the universal wording and compute estimated probabilities for each locale type while holding all other covariates at mean values. Estimates from this model, which we used to construct both panels of this figure, appear in Appendix Table A8 column 2. N = 9,667.

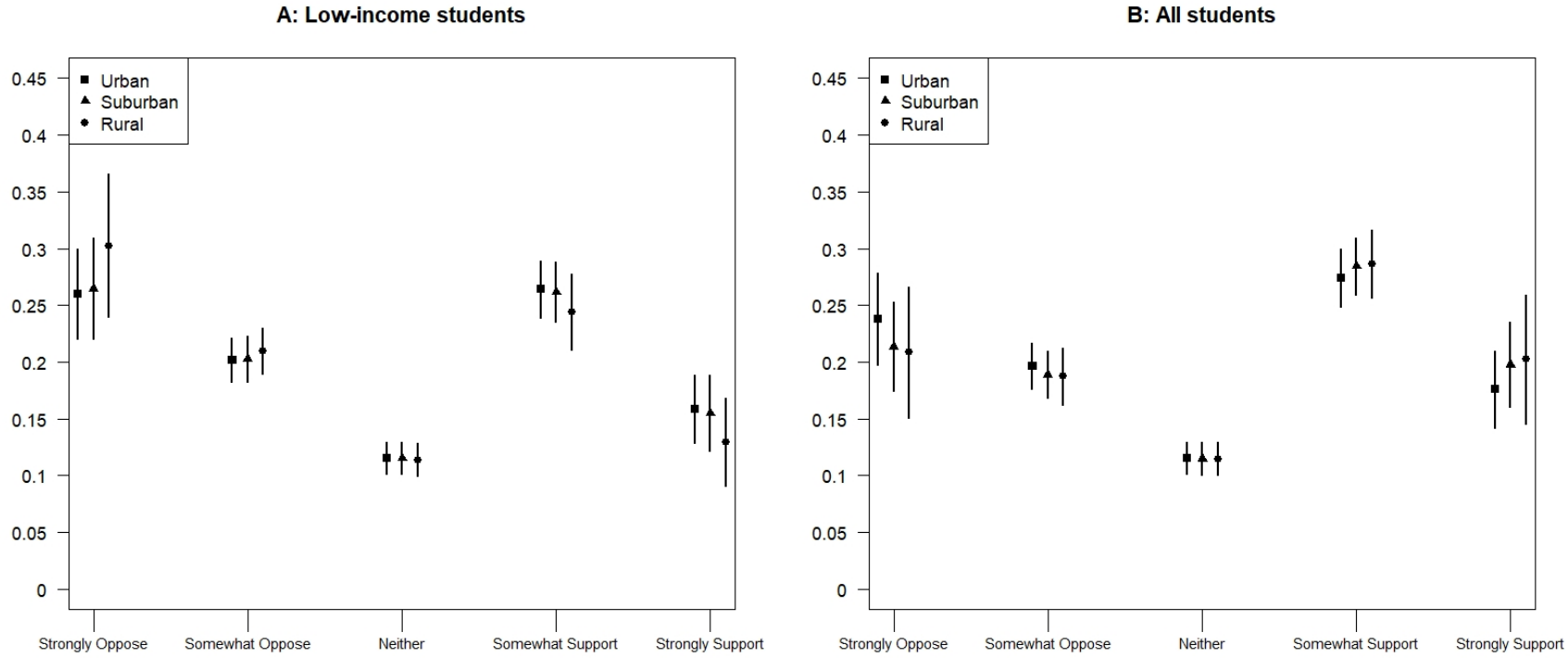


Figure 10: Estimated Probability of Opinions toward Voucher for Low-Income Students (A) and for All Students (B).

Note: Estimated response probabilities are from an ordinal probit model of responses to a question measuring support for "vouchers" to pay for private school tuition that includes covariates for locale type, version of the question (for low income students or for all students), interactions between version and locale type indicators, age, education, race and ethnicity, household income, region of country, gender, homeownership, whether the respondent is a teacher, whether the respondent is a parent of a minor child, party identification, political ideology, and year fixed effects. For figure 10A, we set the indicator for question version to the low-income wording and compute estimated probabilities for each locale type while holding all other covariates at mean values. For figure 10B, we set the indicator for question version to the universal wording and compute estimated probabilities for each locale type while holding all other covariates at mean values. Estimates from this model, which we used to construct both panels of this figure, appear in Appendix Table A8 column 3. N = 2,145.

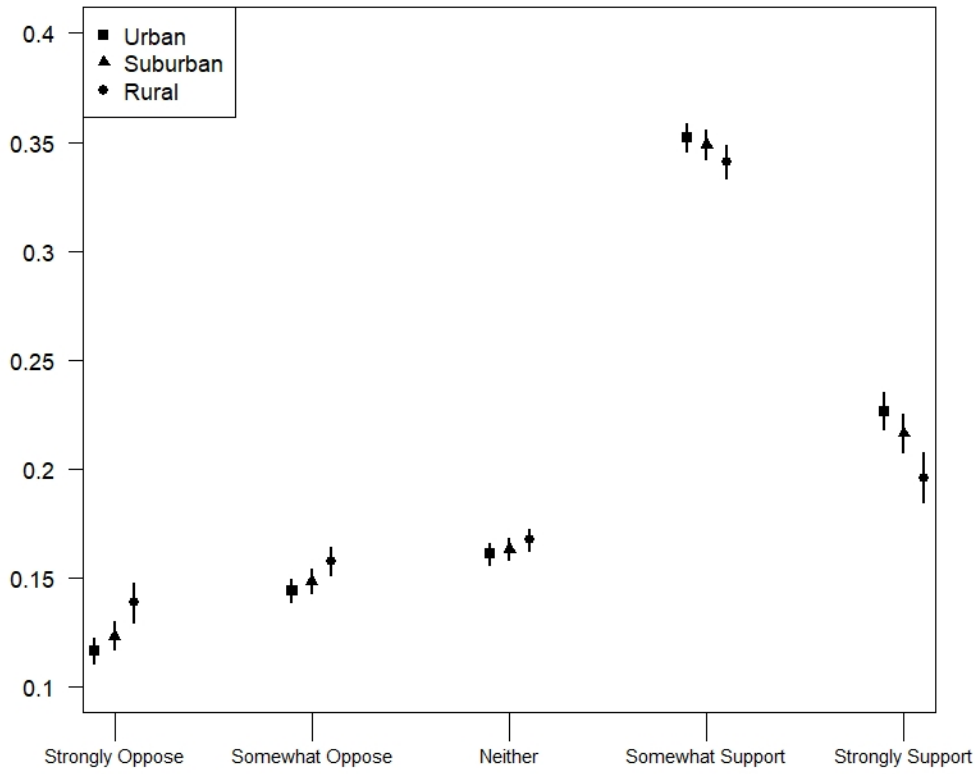


Figure 11: Estimated Probability of Opinions toward Tax Credits for Donations for Scholarships to Private Schools.

Note: Estimated response probabilities are from an ordinal probit model of responses to a question measuring support for tax credits for donations to scholarships for private school tuition and includes covariates for locale type, age, education, race and ethnicity, household income, region of country, gender, homeownership, whether the respondent is a teacher, whether the respondent is a parent of a minor child, party identification, political ideology, and year fixed effects. We compute estimated probabilities for each locale type while holding all other covariates at mean values. Estimates from this model appear in Appendix Table A8 column 4. N = 23,587.

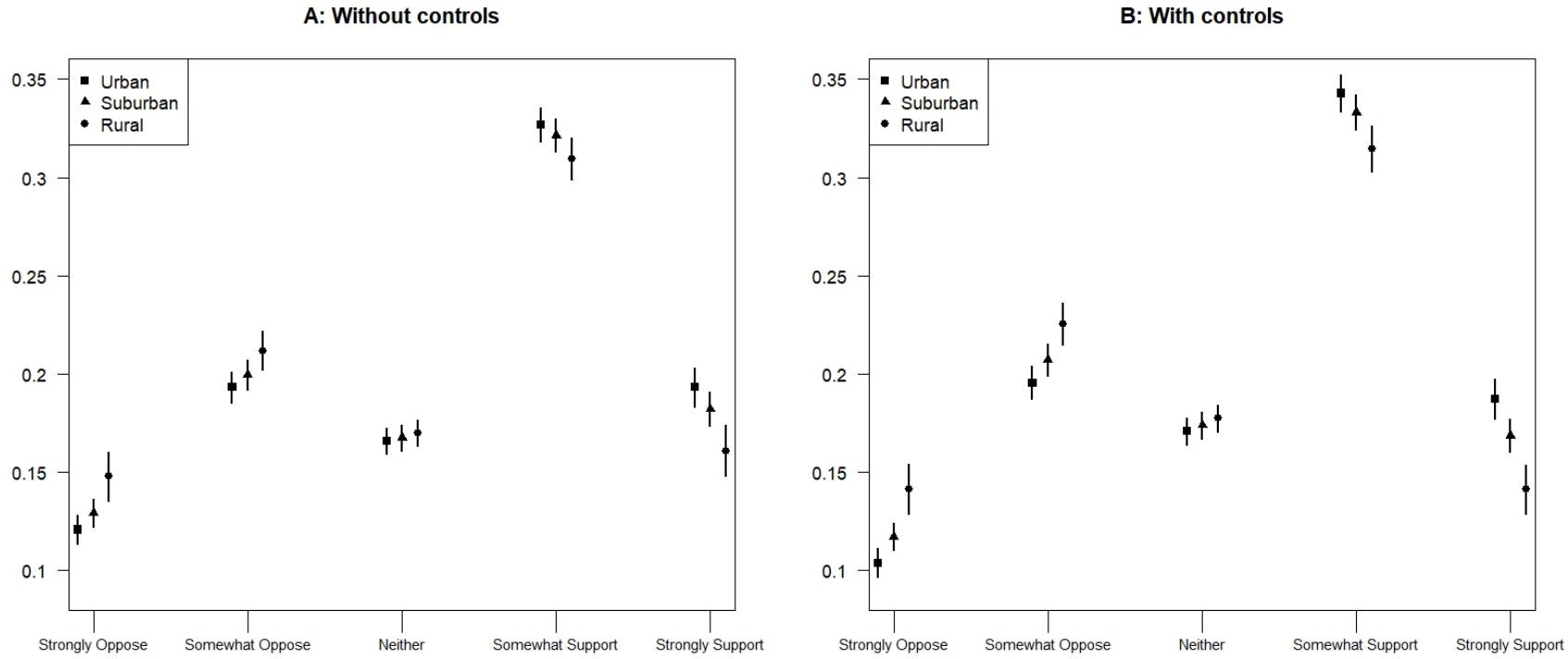
Table 1
Summary Statistics by Locale

	Urban		Suburban		Town		Rural		All non-Rural	
Variable	Proportion	S.E.	Proportion	S.E.	Proportion	S.E.	Proportion	S.E.	Proportion	S.E.
Male	45	0.46	45	0.53	44	0.47	42	0.75	45	0.28
Age (18-29)	12	0.30	9	0.31	11	0.30	10	0.45	11	0.17
(30-44)	30	0.42	30	0.48	29	0.43	29	0.69	29	0.26
(45-59)	32	0.43	33	0.50	31	0.44	31	0.70	32	0.26
(60+)	27	0.41	28	0.48	29	0.43	30	0.70	28	0.25
Less than High School	8	0.26	5	0.22	8	0.26	9	0.42	7	0.15
High School	20	0.37	20	0.42	21	0.39	28	0.68	20	0.23
Some college	27	0.41	24	0.45	28	0.42	28	0.68	27	0.25
Bachelor or more	45	0.46	52	0.53	43	0.47	36	0.72	46	0.28
Household income (<25k)	18	0.36	11	0.33	19	0.37	22	0.63	17	0.21
(25k-50k)	22	0.39	18	0.41	23	0.40	26	0.66	21	0.23
(50k-75k)	19	0.36	19	0.42	20	0.38	23	0.63	19	0.22
(75k-125k)	25	0.40	31	0.49	25	0.41	22	0.62	27	0.25
(>125k)	16	0.34	21	0.43	12	0.31	8	0.40	16	0.21
White	45	0.46	68	0.49	67	0.44	80	0.61	59	0.28
Black	22	0.38	14	0.36	11	0.30	8	0.42	16	0.20
Hispanic	27	0.41	13	0.36	18	0.36	8	0.42	20	0.22
Other race	6	0.23	5	0.23	4	0.19	4	0.28	5	0.12
Homeowner	65	0.44	80	0.42	76	0.41	80	0.61	73	0.25
Northeast	16	0.34	24	0.45	15	0.33	11	0.48	18	0.22
Midwest	18	0.36	23	0.45	21	0.38	36	0.73	20	0.23
South	31	0.43	40	0.52	41	0.46	39	0.74	37	0.27
West	35	0.44	13	0.36	24	0.40	14	0.52	25	0.24
Parent	35	0.44	38	0.51	38	0.46	35	0.72	37	0.27
Teacher	14	0.32	17	0.40	15	0.34	17	0.57	15	0.20
Charter district	48	1.14	23	1.18	34	1.25	17	1.58	37	0.71

Household size*	2.88	1.44	2.94	1.53	2.92	1.44	2.78	2.18	2.91	0.85
Political ideology*	3.88	1.41	4.12	1.65	4.25	1.45	4.47	2.26	4.08	0.87
Political affiliation*	3.23	1.89	3.73	2.27	3.85	1.98	4.17	3.19	3.59	1.18

Note: Standard error (S.E.) of the mean has been multiplied by 100 for ease of interpretation.
Means are displayed instead of proportions for variables marked with *.
N = 11,646 (Urban), 8,900 (Suburban), 11,221 (Town), 4,375 (Rural) and 31,767 (Non-Rural).
N slightly differs for Parent, Teacher, Political ideology and Political affiliation.
Charter district represents oversample of residents of school districts that contain at least one charter school for 2011 year of the EdNext survey. (N=1,934 (Urban), 1,296 (Suburban), 1,4561 (Town), 559(Rural) and 4,686 (Non-Rural)).

Appendix



Appendix Figure A1: Estimated Probability of Charter School Opinion for Urban, Suburban, and Rural Locales Using NCES Geographic Identifiers.

Note: Estimated response probabilities are from ordinal probit models of responses to charter school question including year fixed effects. The model for panel B also includes controls for age, education, race and ethnicity, household income, region of country, gender, homeownership, whether the respondent is a teacher, whether the respondent is a parent of a minor child, party identification, and political ideology. For figure A1B, we estimate response probabilities for each locale type while holding all other covariates at mean values. Estimates from these models appear in Appendix Table A4 columns 3 and 4.

Appendix Table A1

Summary Statistics for the total sample

Variable	Proportion	S.E.	Min	Max
Male	45	0.26	0	1
Age (18-29)	11	0.16	0	1
(30-44)	29	0.24	0	1
(45-59)	32	0.24	0	1
(60+)	28	0.24	0	1
Less than High School	7	0.14	0	1
High School	21	0.21	0	1
Some college	27	0.23	0	1
Bachelor or more	45	0.26	0	1
Household income (<25k)	17	0.20	0	1
(25k-50k)	22	0.22	0	1
(50k-75k)	20	0.21	0	1
(75k-125k)	26	0.23	0	1
(>125k)	15	0.19	0	1
White	62	0.26	0	1
Black	15	0.19	0	1
Hispanic	19	0.20	0	1
Other race	5	0.11	0	1
Homeowner	74	0.23	0	1
Northeast	17	0.20	0	1
Midwest	22	0.22	0	1
South	37	0.25	0	1
West	23	0.22	0	1
Parent (n= 36,173)	37	0.25	0	1
Teacher (n= 36,173)	16	0.19	0	1
Charter district (n = 5,251)	35	0.66	0	1
Household size* (n = 36,158)	2.89	0.79	1	15
Political ideology* (n = 34,892)	4.13	0.81	1	7
Political affiliation* (n = 35,788)	3.66	1.11	1	7

Note: Standard error (S.E.) of the mean has been multiplied by 100 for ease of interpretation.
Means are displayed instead of proportions for variables marked with *.
N = 36,158 unless noted otherwise.
Charter district represents oversample of residents of school districts that contain at least one charter school for 2011 year of the EdNext survey.

Appendix Table A2
Summary Statistics by NCES Locale

	City		Suburb		Town		Rural		All non-Rural	
Variable	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.	Mean	S.E.
Male	45	0.59	46	0.50	39	1.01	42	0.91	45	0.36
Age (18-29)	11	0.37	10	0.30	9	0.61	9	0.51	10	0.22
(30-44)	29	0.54	29	0.46	28	0.93	29	0.83	29	0.33
(45-59)	30	0.54	31	0.47	30	0.95	31	0.85	31	0.33
(60+)	29	0.54	30	0.46	33	0.97	32	0.86	30	0.33
Less than High School	8	0.32	5	0.21	6	0.51	6	0.43	6	0.17
High School	18	0.45	19	0.40	26	0.91	25	0.79	20	0.29
Some college	28	0.53	26	0.45	31	0.96	29	0.83	28	0.32
Bachelor or more	46	0.59	50	0.51	37	1.00	41	0.90	47	0.36
Household income (<25k)	20	0.47	12	0.33	20	0.83	17	0.68	16	0.26
(25k-50k)	22	0.49	19	0.40	25	0.90	24	0.79	21	0.29
(50k-75k)	20	0.47	20	0.40	23	0.87	22	0.76	20	0.29
(75k-125k)	25	0.51	31	0.47	25	0.90	27	0.81	28	0.32
(>125k)	14	0.41	18	0.39	7	0.54	10	0.56	15	0.26
White	53	0.59	67	0.48	80	0.83	83	0.69	64	0.35
Black	16	0.44	11	0.31	6	0.49	6	0.43	12	0.24
Hispanic	24	0.51	16	0.37	11	0.65	8	0.49	19	0.28
Other race	6	0.28	6	0.23	3	0.36	3	0.33	5	0.16
Homeowner	65	0.56	77	0.42	79	0.84	84	0.68	73	0.32
Northeast	13	0.40	22	0.42	11	0.65	20	0.74	17	0.27
Midwest	20	0.47	21	0.41	38	1.01	28	0.82	22	0.30
South	34	0.56	38	0.49	31	0.96	44	0.91	35	0.34
West	33	0.56	20	0.41	20	0.84	8	0.50	25	0.31
Parent	40	0.58	42	0.50	38	1.01	40	0.90	41	0.35
Teacher	15	0.42	16	0.37	17	0.79	17	0.69	16	0.26
Household size*	2.82	1.79	2.92	1.50	2.73	2.95	2.83	2.65	2.86	1.07

Political ideology*	3.90	1.86	4.18	1.54	4.46	3.12	4.52	2.81	4.11	1.12
Political affiliation*	3.30	2.38	3.86	2.13	4.17	4.28	4.35	3.86	3.69	1.51

Note: Standard error (S.E.) of the mean has been multiplied by 100 for ease of interpretation.
Means are displayed instead of proportions for variables marked with *.
N = 7,186 (Large City), 9,749 (Suburb), 2,317 (Town), 2,975 (Rural) and 19,252 (Non-Rural).
N slightly differs for Parent, Teacher, Political ideology and Political affiliation.

Appendix Table A3

Estimates for the average effects of variations in wording across each version of the question for charter school opinion.

	(1)
Variables	Support
Charter school (asked about support "in your community")	0.054
	(0.041)
Charter (short version with no extra information)	-0.032
	(0.023)
Charter (referred as "schools")	-0.152***
	(0.038)
Charter (referred as "public charter schools")	-0.021
	(0.038)
Charter (information provided about Trump's support)	0.064**
	(0.032)
cut1	-1.242***
	(0.030)
cut2	-0.591***
	(0.030)
cut3	-0.023
	(0.029)
cut4	0.877***
	(0.030)
Observations	31,711

Note: Results are from ordered probit model containing a dummy for various wordings of the support for charter school question. The base category is the charter school question with the standard information known about charter schools. Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Models include year fixed effects.

Appendix Table A4

Estimates for the average effects of charter school opinion.

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Support	Support	Support	Support	Support	Support
Suburban	-0.078***	-0.048**			0.053	0.046
	(0.019)	(0.021)			(0.075)	(0.119)
Town	-0.061***	-0.083***			0.157**	0.086
	(0.018)	(0.019)			(0.068)	(0.119)
Rural	-0.133***	-0.121***			0.087	-0.033
	(0.024)	(0.026)			(0.092)	(0.157)
Suburban (NCES)			-0.041*	-0.071***		
			(0.021)	(0.022)		
Town (NCES)			-0.108***	-0.145***		
			(0.033)	(0.034)		
Rural (NCES)			-0.125***	-0.186***		
			(0.030)	(0.032)		
Local school grade					-0.057***	
					(0.013)	
Suburban#					-0.023	
Local school grade					(0.021)	
Town#					-0.068***	
Local school grade					(0.019)	
Rural#					-0.059**	
Local school grade					(0.026)	
DK (total)						-0.083***
						(0.031)
Suburban#						0.005
DK (total)						(0.045)
Town#						-0.055
DK (total)						(0.043)
Rural#						-0.016
DK (total)						(0.054)
Age (30-44)		-0.006		-0.009	-0.019	0.051
		(0.027)		(0.035)	(0.028)	(0.105)
Age (45-59)		-0.003		0.008	-0.007	-0.022
		(0.027)		(0.035)	(0.028)	(0.101)
Age (60+)		0.038		0.048	0.035	0.109
		(0.028)		(0.036)	(0.029)	(0.105)
High School		0.025		0.006	0.002	-0.005
		(0.032)		(0.044)	(0.034)	(0.122)
Some college		0.108***		0.081*	0.083**	0.176
		(0.032)		(0.044)	(0.033)	(0.123)
Bachelor or more		0.094***		0.075*	0.081**	-0.041
		(0.033)		(0.045)	(0.035)	(0.129)
Black		0.146***		0.109***	0.138***	0.106
		(0.024)		(0.033)	(0.025)	(0.086)

Appendix Table A4 (Cont'd)

	(1)	(2)	(3)	(4)	(5)	(6)
Variables	Support	Support	Support	Support	Support	Support
Hispanic		0.051**		0.025	0.056**	0.021
		(0.022)		(0.029)	(0.023)	(0.090)
Other race		0.001		-0.006	-0.031	-0.347**
		(0.036)		(0.044)	(0.037)	(0.145)
Household income		0.026		0.010	0.025	0.031
(25k-50k)		(0.024)		(0.032)	(0.025)	(0.093)
Household income		-0.010		-0.043	-0.018	0.017
(50k-75k)		(0.026)		(0.034)	(0.027)	(0.101)
Household income		-0.039		-0.055	-0.035	-0.095
(75k-125k)		(0.027)		(0.034)	(0.027)	(0.103)
Household income		-0.002		-0.044	-0.001	0.101
(>125k)		(0.031)		(0.040)	(0.033)	(0.124)
Midwest		-0.163***		-0.181***	-0.162***	-0.153*
		(0.024)		(0.030)	(0.025)	(0.091)
South		0.019		0.020	0.008	0.055
		(0.022)		(0.028)	(0.023)	(0.083)
West		0.102***		0.112***	0.086***	0.156*
		(0.024)		(0.031)	(0.025)	(0.092)
Male		-0.031**		-0.027	-0.041***	-0.074
		(0.015)		(0.020)	(0.016)	(0.058)
Homeowner		-0.101***		-0.082***	-0.106***	-0.150*
		(0.019)		(0.025)	(0.020)	(0.077)
Parent		0.064***		0.108***	0.084***	0.042
		(0.018)		(0.023)	(0.019)	(0.071)
Teacher		-0.479***		-0.480***	-0.460***	-0.474***
		(0.023)		(0.029)	(0.024)	(0.092)
Political affiliation		0.069***		0.072***	0.070***	0.091***
		(0.005)		(0.006)	(0.005)	(0.019)
Political ideology		0.079***		0.102***	0.079***	0.032
		(0.006)		(0.008)	(0.007)	(0.025)
cut1	-1.287***	-0.816***	-1.239***	-0.706***	-1.006***	-1.357***
	(0.032)	(0.057)	(0.023)	(0.065)	(0.072)	(0.206)
cut2	-0.607***	-0.093	-0.552***	0.027	-0.273***	-0.729***
	(0.031)	(0.057)	(0.021)	(0.065)	(0.072)	(0.204)
cut3	-0.102***	0.431***	-0.118***	0.478***	0.227***	0.368*
	(0.031)	(0.057)	(0.021)	(0.065)	(0.072)	(0.203)
cut4	0.823***	1.391***	0.798***	1.442***	1.198***	1.203***
	(0.032)	(0.058)	(0.021)	(0.066)	(0.072)	(0.205)
Observations	21,172	20,382	12,881	12,576	19,035	1,427

Note: Results are from ordered probit models. Models 3 and 4 include NCES locale identifiers rather than the NCHS identifiers used in all other models. Model 5 controls for grade evaluations (based on Likert scale 1=Fail, 2=D grade and 5=A grade) of local public schools. Interaction terms for local school grade and locale are included. Model 6 controls for familiarity with charter schools. DK (total) = Total for respondent saying don't know to familiarity with charter related questions. Interaction terms for familiarity with charter schools and locale are included. Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Models include year fixed effects.

Appendix Table A5

Estimates for the of grade evaluations of local public schools.

	(1)
Variables	Local school grade
Suburban	0.239***
	(0.017)
Town	0.093***
	(0.015)
Rural	0.083***
	(0.021)
Age (30-44)	0.058***
	(0.022)
Age (45-59)	0.005
	(0.022)
Age (60+)	0.053**
	(0.022)
High School	-0.115***
	(0.027)
Some college	-0.200***
	(0.026)
Bachelor or more	-0.034
	(0.027)
Black	-0.237***
	(0.020)
Hispanic	0.097***
	(0.018)
Other race	-0.084***
	(0.028)
Household income	-0.000
(25k-50k)	(0.020)
Household income	0.048**
(50k-75k)	(0.021)
Household income	0.155***
(75k-125k)	(0.021)
Household income	0.231***
(>125k)	(0.025)
Midwest	0.040**
	(0.019)
South	-0.085***
	(0.018)

Appendix Table A5 (Cont'd)

	(1)
Variables	Local school grade
West	-0.175***
	(0.019)
Male	-0.061***
	(0.012)
Homeowner	-0.006
	(0.015)
Parent	0.179***
	(0.015)
Teacher	0.249***
	(0.019)
Political affiliation	-0.005
	(0.004)
Political ideology	-0.028***
	(0.005)
cut1	-1.700***
	(0.045)
cut2	-1.038***
	(0.044)
cut3	-0.019
	(0.044)
cut4	1.217***
	(0.044)
Observations	32,100

Note: Results are from ordered probit models. Outcome variable is based on Likert scale (1=Fail, 2=D grade and 5=A grade). Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Models include year fixed effects.

Appendix Table A6

Estimates for answering "Don't know" to factual questions about charter schools and to an opinion question on charters.

	(1)	(2)	(3)	(4)	(5)	(6)
	Religious services		Charge Tuition		When oversubscribed	
VARIABLES	Yes	DK	Yes	DK	Pick students they want	DK
Suburban	0.055	0.167**	0.152*	0.141*	0.084	0.181**
	(0.093)	(0.075)	(0.082)	(0.077)	(0.086)	(0.072)
Town	0.260***	0.299***	0.158**	0.215***	0.181**	0.252***
	(0.088)	(0.073)	(0.078)	(0.072)	(0.082)	(0.068)
Rural	0.565***	0.532***	0.723***	0.678***	0.393***	0.670***
	(0.128)	(0.109)	(0.117)	(0.111)	(0.123)	(0.101)
Age (30-44)	0.137	0.261**	-0.326***	-0.093	-0.341***	-0.106
	(0.125)	(0.104)	(0.113)	(0.107)	(0.116)	(0.097)
Age (45-59)	0.202*	0.228**	-0.166	-0.060	-0.129	-0.031
	(0.121)	(0.101)	(0.110)	(0.105)	(0.113)	(0.094)
Age (60+)	-0.251**	-0.048	-0.483***	-0.316***	-0.133	-0.084
	(0.124)	(0.102)	(0.112)	(0.107)	(0.116)	(0.097)
High School	-0.018	-0.071	0.425***	0.048	-0.113	-0.274**
	(0.153)	(0.124)	(0.136)	(0.113)	(0.142)	(0.109)
Some college	-0.085	-0.352***	0.439***	-0.223**	-0.122	-0.506***
	(0.151)	(0.122)	(0.134)	(0.113)	(0.141)	(0.109)
Bachelor or more	-0.171	-0.758***	0.247*	-0.573***	-0.261*	-0.882***
	(0.156)	(0.127)	(0.139)	(0.119)	(0.146)	(0.115)
Black	0.191*	0.227***	-0.186**	-0.225***	-0.311***	-0.350***
	(0.106)	(0.087)	(0.091)	(0.086)	(0.098)	(0.079)
Hispanic	-0.082	-0.147*	-0.293***	-0.289***	-0.174*	-0.410***
	(0.101)	(0.082)	(0.090)	(0.083)	(0.094)	(0.078)
Other race	0.040	-0.180	0.131	-0.159	-0.083	-0.348***
	(0.163)	(0.138)	(0.147)	(0.148)	(0.154)	(0.135)
Household income (25k-50k)	-0.237**	-0.223**	-0.151	-0.258***	-0.100	-0.144*
	(0.117)	(0.097)	(0.104)	(0.093)	(0.107)	(0.085)
Household income (50k-75k)	-0.361***	-0.385***	-0.339***	-0.498***	-0.239**	-0.291***
	(0.126)	(0.104)	(0.111)	(0.102)	(0.117)	(0.093)

Appendix Table A6 (Cont'd)

	(1)	(2)	(3)	(4)	(5)	(6)
	Religious services		Charge Tuition		When oversubscribed	
Variables	Yes	DK	Yes	DK	Pick students they want	DK
Household income	-0.482***	-0.462***	-0.375***	-0.549***	-0.129	-0.349***
(75k-125k)	(0.127)	(0.105)	(0.112)	(0.103)	(0.117)	(0.095)
Household income	-0.680***	-0.499***	-0.582***	-0.805***	-0.148	-0.421***
(>125k)	(0.150)	(0.121)	(0.131)	(0.123)	(0.136)	(0.114)
Midwest	0.156	-0.012	0.266***	0.256***	0.445***	0.458***
	(0.114)	(0.091)	(0.100)	(0.095)	(0.104)	(0.088)
South	0.319***	0.075	-0.009	0.002	0.229**	0.266***
	(0.103)	(0.082)	(0.089)	(0.083)	(0.093)	(0.077)
West	0.136	0.015	-0.008	0.009	0.131	0.307***
	(0.114)	(0.090)	(0.099)	(0.092)	(0.104)	(0.086)
Male	-0.005	-0.237***	0.227***	-0.054	0.216***	0.031
	(0.070)	(0.058)	(0.062)	(0.058)	(0.066)	(0.054)
Homeowner	0.079	-0.026	-0.046	-0.122*	0.034	0.010
	(0.090)	(0.074)	(0.080)	(0.073)	(0.084)	(0.068)
Parent	-0.329***	-0.230***	-0.608***	-0.407***	-0.148*	-0.235***
	(0.085)	(0.069)	(0.075)	(0.069)	(0.078)	(0.065)
Teacher	-0.356***	-0.485***	-0.803***	-0.928***	0.056	-0.495***
	(0.104)	(0.086)	(0.094)	(0.092)	(0.096)	(0.087)
Political affiliation	0.029	0.007	0.040**	0.014	0.020	-0.008
	(0.022)	(0.018)	(0.020)	(0.018)	(0.021)	(0.017)
Political ideology	0.032	0.035	-0.014	0.052**	0.008	0.074***
	(0.030)	(0.024)	(0.026)	(0.024)	(0.027)	(0.022)
Constant	-0.238	1.331***	0.365*	1.125***	-0.324	0.755***
	(0.229)	(0.186)	(0.204)	(0.184)	(0.211)	(0.172)
Observations	7,954		7,916		7,944	

Note: Results are from multinomial logit models of responses to questions asking whether charter schools can hold religious services, whether they can charge tuition, and whether they may pick students they want or use a lottery when oversubscribed. The "No," "No," and "Must hold a lottery" outcomes are the base categories in these models, respectively. DK = don't know. Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Models include year fixed effects.

Appendix Table A6 (Cont'd)

	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Charter school in district				Receive same funds		
Variables	Yes (I know)	No (I don't think so)	No (I know)	DK	More	Same	DK
Suburban	-0.268	0.558***	0.662***	0.457***	-0.063	-0.085	0.153
	(0.167)	(0.176)	(0.216)	(0.159)	(0.209)	(0.155)	(0.145)
Town	-0.021	0.272	0.605***	0.057	-0.131	-0.037	0.140
	(0.151)	(0.171)	(0.209)	(0.151)	(0.207)	(0.150)	(0.138)
Rural	-0.271	1.141***	1.718***	0.128	0.077	-0.256	0.088
	(0.242)	(0.228)	(0.256)	(0.224)	(0.264)	(0.201)	(0.180)
Age (30-44)	0.563**	0.166	0.717**	0.333	-0.306	0.236	-0.055
	(0.234)	(0.238)	(0.300)	(0.205)	(0.271)	(0.225)	(0.186)
Age (45-59)	0.363	-0.010	0.517*	-0.038	-0.370	0.508**	-0.112
	(0.222)	(0.224)	(0.288)	(0.192)	(0.262)	(0.216)	(0.179)
Age (60+)	0.590***	0.202	0.317	-0.386*	-0.148	0.770***	-0.098
	(0.224)	(0.225)	(0.296)	(0.198)	(0.267)	(0.220)	(0.184)
High School	-0.836***	-0.290	-0.344	-0.549**	-0.074	-0.109	-0.408*
	(0.275)	(0.297)	(0.369)	(0.244)	(0.367)	(0.288)	(0.225)
Some college	-0.552**	-0.321	-0.259	-0.753***	-0.150	-0.086	-0.653***
	(0.271)	(0.298)	(0.369)	(0.246)	(0.365)	(0.284)	(0.224)
Bachelor or more	-0.521*	-0.021	0.073	-1.096***	-0.243	0.144	-1.085***
	(0.282)	(0.306)	(0.377)	(0.263)	(0.377)	(0.289)	(0.236)
Black	0.133	-0.490**	-0.394*	-0.231	0.605***	0.138	0.297*
	(0.176)	(0.199)	(0.234)	(0.172)	(0.233)	(0.183)	(0.165)
Hispanic	-0.102	0.141	-0.247	0.122	0.040	-0.298*	-0.148
	(0.188)	(0.195)	(0.257)	(0.174)	(0.238)	(0.177)	(0.155)
Other race	0.064	0.232	-0.225	0.189	0.515	0.089	-0.024
	(0.290)	(0.298)	(0.380)	(0.282)	(0.340)	(0.263)	(0.254)
Household income	0.359*	0.105	0.070	0.111	0.317	0.143	-0.077
(25k-50k)	(0.201)	(0.210)	(0.262)	(0.175)	(0.260)	(0.206)	(0.165)
Household income	0.534**	0.053	0.396	-0.063	0.064	0.261	-0.272
(50k-75k)	(0.215)	(0.227)	(0.269)	(0.196)	(0.285)	(0.212)	(0.177)

Appendix Table A6 (Cont'd)

	(7)	(8)	(9)	(10)	(11)	(12)	(13)
	Charter school in district				Receive same funds		
Variables	Yes (I know)	No (I don't think so)	No (I know)	DK	More	Same	DK
Household income	0.572***	0.362	0.325	-0.054	0.235	0.476**	-0.263
(75k-125k)	(0.222)	(0.228)	(0.277)	(0.204)	(0.288)	(0.215)	(0.184)
Household income	0.405	0.022	0.181	-0.450*	0.650*	0.851***	0.065
(>125k)	(0.256)	(0.267)	(0.316)	(0.254)	(0.340)	(0.255)	(0.233)
Midwest	0.171	-0.175	0.035	-0.020	-0.348	0.079	-0.055
	(0.206)	(0.200)	(0.222)	(0.195)	(0.239)	(0.178)	(0.166)
South	0.189	-0.326*	-0.440**	0.005	-0.178	0.076	0.160
	(0.184)	(0.179)	(0.209)	(0.173)	(0.213)	(0.165)	(0.152)
West	0.450**	-0.772***	-0.893***	0.029	-0.331	0.314*	0.258
	(0.197)	(0.211)	(0.257)	(0.190)	(0.251)	(0.184)	(0.171)
Male	-0.075	-0.175	0.000	0.013	-0.131	-0.001	-0.200*
	(0.124)	(0.130)	(0.151)	(0.118)	(0.159)	(0.116)	(0.106)
Homeowner	-0.182	0.242	0.092	-0.248*	-0.009	-0.070	-0.146
	(0.159)	(0.175)	(0.208)	(0.148)	(0.204)	(0.156)	(0.136)
Parent	0.171	0.189	0.065	-0.502***	0.203	0.132	0.007
	(0.154)	(0.163)	(0.183)	(0.155)	(0.194)	(0.143)	(0.132)
Teacher	0.970***	0.325	1.014***	-0.647**	0.519**	0.648***	-0.151
	(0.201)	(0.217)	(0.228)	(0.261)	(0.240)	(0.172)	(0.185)
Political affiliation	0.003	-0.041	-0.019	-0.018	-0.035	0.004	-0.054
	(0.039)	(0.041)	(0.048)	(0.037)	(0.050)	(0.037)	(0.033)
Political ideology	0.025	0.050	0.060	0.050	-0.100	-0.143***	0.005
	(0.052)	(0.056)	(0.065)	(0.050)	(0.067)	(0.051)	(0.045)
Constant	-0.310	-0.293	-1.663***	1.275***	-0.085	-0.087	1.830***
	(0.408)	(0.428)	(0.530)	(0.373)	(0.518)	(0.406)	(0.340)
Observations	2,853				2,850		

Note: Results are from multinomial logit models of responses to questions asking whether charter schools can hold religious services, whether they can charge tuition, and whether they may pick students they want or use a lottery when oversubscribed. The "No," "No," and "Must hold a lottery" outcomes are the base categories in these models, respectively. DK = don't know. Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Models include year fixed effects.

Appendix Table A6 (Cont'd)

	(14)	(15)
	Opinion	
Variables	Oppose	DK
Suburban	0.437**	0.162
	(0.193)	(0.181)
Town	0.531***	0.392**
	(0.199)	(0.179)
Rural	0.700**	0.683***
	(0.274)	(0.241)
Age (30-44)	-0.114	0.334
	(0.276)	(0.235)
Age (45-59)	0.011	0.200
	(0.261)	(0.229)
Age (60+)	0.318	-0.128
	(0.270)	(0.249)
High School	-0.533	-0.346
	(0.337)	(0.270)
Some college	-0.392	-0.331
	(0.332)	(0.272)
Bachelor or more	-0.398	-0.613**
	(0.346)	(0.297)
Black	-0.291	-0.197
	(0.226)	(0.204)
Hispanic	0.166	-0.068
	(0.224)	(0.202)
Other race	0.316	0.335
	(0.333)	(0.315)
Household income	0.064	-0.063
(25k-50k)	(0.261)	(0.206)
Household income	-0.007	-0.221
(50k-75k)	(0.294)	(0.242)

Appendix Table A6 (Cont'd)

	(14)	(15)
	Opinion	
Variables	Oppose	DK
Household income	0.229	-0.647**
(75k-125k)	(0.288)	(0.263)
Household income	0.026	-0.515*
(>125k)	(0.314)	(0.282)
Midwest	0.036	-0.096
	(0.234)	(0.229)
South	-0.178	0.200
	(0.222)	(0.205)
West	-0.451*	-0.112
	(0.242)	(0.222)
Male	0.135	-0.204
	(0.154)	(0.139)
Homeowner	0.227	-0.158
	(0.211)	(0.175)
Parent	0.162	0.116
	(0.187)	(0.165)
Teacher	0.934***	-0.351
	(0.215)	(0.244)
Political affiliation	-0.193***	-0.049
	(0.048)	(0.042)
Political ideology	-0.132**	-0.011
	(0.061)	(0.054)
Constant	0.157	0.390
	(0.474)	(0.422)
Observations	1,294	

Note: Results are from multinomial logit models of responses to questions asking whether charter schools can hold religious services, whether they can charge tuition, and whether they may pick students they want or use a lottery when oversubscribed. The "No," "No," and "Must hold a lottery" outcomes are the base categories in these models, respectively. DK = don't know. Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Models include year fixed effects.

Appendix Table A7

Estimates for the average effects of charter school opinion.

	(1)	(2)
Variables	Support	Support
Suburban	-0.147***	-0.222**
	(0.046)	(0.102)
Town	-0.138***	-0.116
	(0.042)	(0.102)
Rural	-0.189***	-0.183
	(0.056)	(0.124)
Less information	-0.075*	
	(0.043)	
Suburban#	0.108*	
less information	(0.064)	
Town#	0.032	
less information	(0.059)	
Rural#	0.016	
less information	(0.077)	
District has charter		0.064
		(0.103)
Suburban#		0.209
district has charter		(0.174)
Town#		-0.154
district has charter		(0.157)
Rural#		-0.134
district has charter		(0.263)
Age (30-44)	0.084*	0.200*
	(0.046)	(0.111)
Age (45-59)	0.103**	0.040
	(0.045)	(0.108)
Age (60+)	0.123***	0.081
	(0.046)	(0.113)
High School	0.027	0.258**
	(0.056)	(0.121)
Some college	0.134**	0.236*
	(0.055)	(0.123)
Bachelor or more	0.103*	0.266**
	(0.057)	(0.130)
Black	0.097**	0.001
	(0.042)	(0.095)

Appendix Table A7 (Cont'd)

	(1)	(2)
Variables	Support	Support
Hispanic	0.051	0.085
	(0.037)	(0.094)
Other race	-0.017	0.284**
	(0.056)	(0.130)
Household income	0.059	0.069
(25k-50k)	(0.039)	(0.102)
Household income	-0.012	0.181
(50k-75k)	(0.041)	(0.111)
Household income	0.007	0.114
(75k-125k)	(0.042)	(0.116)
Household income	0.078	0.204
(>125k)	(0.050)	(0.129)
Midwest	-0.128***	-0.073
	(0.037)	(0.104)
South	0.077**	0.056
	(0.034)	(0.095)
West	0.168***	0.124
	(0.038)	(0.100)
Male	-0.010	0.092
	(0.024)	(0.063)
Homeowner	-0.161***	-0.045
	(0.031)	(0.080)
Parent	0.099***	-0.018
	(0.029)	(0.073)
Teacher	-0.516***	-0.519***
	(0.036)	(0.096)
Political affiliation	0.066***	0.041**
	(0.008)	(0.020)
Political ideology	0.091***	0.064**
	(0.010)	(0.027)

Appendix Table A7 (Cont'd)

	(1)	(2)
Variables	Support	Support
cut1	-0.767***	-0.682***
	(0.086)	(0.211)
cut2	-0.086	-0.092
	(0.085)	(0.209)
cut3	0.649***	0.850***
	(0.085)	(0.209)
cut4	1.537***	1.744***
	(0.086)	(0.213)
Observations	8,153	1,252

Note: Results are from ordered probit models. Model 1 controls for information about charter schools. Interaction terms for information about charter schools and locale are included. Model 2 controls for exposure to charter schools in district. Interaction terms for exposure to charter schools in district and locale are included. . Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Model 1 contains year fixed effects.

Appendix Table A8

Estimates of opinions towards support for other school choice proposals.

	(1)	(2)	(3)	(4)
Variables	Gov funds	Wider choice	Vouchers	Tax credits
Suburban	-0.037	-0.058	0.082	-0.034*
	(0.055)	(0.042)	(0.092)	(0.019)
Town	-0.038	-0.061	-0.087	-0.080***
	(0.051)	(0.039)	(0.088)	(0.018)
Rural	-0.092	-0.036	0.098	-0.106***
	(0.067)	(0.052)	(0.120)	(0.024)
Voucher (low income families)	0.255***	-0.066*	-0.069	
	(0.045)	(0.039)	(0.085)	
Suburban#	-0.038	-0.106*	-0.096	
voucher (low income families)	(0.062)	(0.059)	(0.126)	
Town#	-0.001	-0.095*	0.022	
voucher (low income families)	(0.058)	(0.055)	(0.119)	
Rural#	0.009	-0.185**	-0.225	
voucher (low income families)	(0.077)	(0.073)	(0.158)	
Age (30-44)	-0.026	-0.013	-0.078	0.026
	(0.036)	(0.041)	(0.088)	(0.026)
Age (45-59)	-0.027	-0.037	-0.070	0.001
	(0.035)	(0.041)	(0.088)	(0.026)
Age (60+)	-0.156***	-0.089**	-0.155*	-0.059**
	(0.037)	(0.043)	(0.092)	(0.026)
High School	-0.066	-0.064	0.008	0.010
	(0.042)	(0.053)	(0.126)	(0.033)
Some college	-0.121***	-0.045	-0.047	0.028
	(0.042)	(0.052)	(0.124)	(0.032)
Bachelor or more	-0.218***	-0.174***	-0.114	0.023
	(0.044)	(0.054)	(0.127)	(0.033)
Black	0.504***	0.454***	0.523***	0.339***
	(0.032)	(0.039)	(0.080)	(0.024)
Hispanic	0.396***	0.295***	0.426***	0.301***
	(0.029)	(0.033)	(0.073)	(0.021)
Other race	0.180***	0.139***	0.214**	0.112***
	(0.045)	(0.052)	(0.104)	(0.032)
Household income	-0.156***	-0.059	-0.158*	-0.054**
(25k-50k)	(0.032)	(0.037)	(0.083)	(0.023)
Household income	-0.238***	-0.220***	-0.287***	-0.168***
(50k-75k)	(0.034)	(0.039)	(0.087)	(0.025)

Appendix Table A8 (Cont'd)

	(1)	(2)	(3)	(4)
Variables	Gov funds	Wider choice	Vouchers	Tax credits
Household income	-0.343***	-0.259***	-0.391***	-0.206***
(75k-125k)	(0.035)	(0.039)	(0.086)	(0.025)
Household income	-0.344***	-0.348***	-0.392***	-0.202***
(>125k)	(0.041)	(0.046)	(0.099)	(0.029)
Midwest	-0.036	-0.085**	0.055	-0.074***
	(0.032)	(0.035)	(0.075)	(0.022)
South	-0.009	-0.081**	0.058	-0.016
	(0.029)	(0.032)	(0.069)	(0.020)
West	-0.078**	-0.063*	-0.004	-0.038*
	(0.032)	(0.036)	(0.076)	(0.023)
Male	-0.024	-0.007	-0.007	0.036**
	(0.020)	(0.023)	(0.049)	(0.014)
Homeowner	-0.219***	-0.165***	-0.123**	-0.145***
	(0.025)	(0.029)	(0.061)	(0.018)
Parent	0.119***	0.211***	0.147**	0.116***
	(0.024)	(0.028)	(0.062)	(0.017)
Teacher	-0.271***	-0.320***	-0.425***	-0.345***
	(0.031)	(0.034)	(0.076)	(0.022)
Political affiliation	-0.022***	0.018**	0.048***	0.014***
	(0.006)	(0.007)	(0.016)	(0.005)
Political ideology	0.021**	0.066***	0.107***	0.047***
	(0.008)	(0.009)	(0.021)	(0.006)
cut1	-0.981***	-0.929***	-0.424**	-1.063***
	(0.081)	(0.082)	(0.182)	(0.052)
cut2	-0.352***	-0.379***	0.123	-0.512***
	(0.080)	(0.082)	(0.182)	(0.051)
cut3	0.032	0.004	0.414**	-0.068
	(0.080)	(0.081)	(0.182)	(0.051)
cut4	0.803***	0.817***	1.220***	0.881***
	(0.081)	(0.082)	(0.183)	(0.052)
Observations	12,301	9,667	2,145	23,587

Note. Results are from ordered probit models. Controls include demographic and interactions among locale and dichotomous options for each voucher question. In model 1 respondents were asked about support for vouchers using government funds to pay for private school tuition. In model 2 respondents were asked about support for vouchers based on "wider choice" for families by paying for private school tuition. In model 3 respondents were asked about support for "vouchers" to pay for private school tuition. The three models include interaction terms for question versions in terms of the targeted voucher recipient (all students versus students from low-income families) and locale. Model 4 contains opinions towards support for tax credits for donations for scholarships to private schools. Standard errors in parentheses *** p<0.01, ** p<0.05, * p<0.1. Models contain year fixed effect.