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SCHOOL RACIAL SEGREGATION AND HOMESCHOOLING

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ABSTRACT

Homeschooling is an increasingly popular educational option, yet research linking this school choice to patterns of school racial segregation remains scarce. Research on "white flight" from public to private and charter schools has demonstrated parents' racial concerns and preferences when selecting schools, and the present research seeks to explore the relationship between school racial segregation and homeschooling. Using data collected from 15 states primarily from the 2012-13 school year, I perform a series of ordinary least squares regressions and fixed effects regressions to estimate the effect of school segregation in a county upon a county's homeschool student ratio. Results indicate that there is a statistically significant, negative relationship such that as school racial segregation increases, homeschooling decreases in that county. I discuss how these results support racial threat theory as well as how they can be used to further understand the theory of color-blind racism.

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Introduction

Homeschooling is a growing trend in the US. It is one item on the growing menu of school choices, among other options such as charter schools and private schools. While these more popular school choices have received much scholastic attention, there remains a dearth of research on homeschooling. The research that has been conducted on homeschooling largely consists of qualitative studies that probe individuals' motivations for choosing to homeschool, the curriculum and methods they use, and the pedagogy that underlies their choices. What is missing is quantitative research that views homeschooling as a larger societal pattern and how it relates to other societal patterns such as school racial segregation.

Research on more popular school choices has thoroughly explored how individuals' own race, neighborhood racial composition, and public schools' student body racial composition all contribute to and influence parents' school choices. School segregation is easily observed, studied, and explained through residential segregation, policies, and preferences. The existence, prevalence, and consequences of white flight—meaning the removal of white students from public schools corresponding with or in response to increasing percentages of black or minority students—has been debated and studied, yet there may be another mechanism by which parents are removing their children from schools seen as undesirable because of their racial composition.

Homeschooling is an educational option that has traditionally been dominated by white families and is currently estimated to be composed of about 68% white participants and about 8% black participants (Noel et al. 2013). Homeschooling is another way that parents are removing their children from the public school system, and because the majority of homeschool parents are white, homeschooling may be a new, largely unexplored form of white flight. The present study seeks to understand the link between homeschooling—a school choice

predominately exercised by white families—and school segregation—the persistent pattern that has sought remedy beginning with *Brown vs. Board of Education* in 1957. To do this, I look at homeschooling and school segregation at the county level, moving the discussion beyond individual choice in order to identify patterns in the larger society. Some patterns and attitudes, like segregation or racial prejudice, are more fully understood at the group level because individuals are positioned within and act as part of groups (Blumer 1958). These relationships are important for understanding the context in which individuals make their choices.

Background

Homeschooling is an increasingly popular educational option. The percentage of school-aged children being homeschooled almost doubled between 1999 and 2012 to 3.4% (Bielick 2008; Noel et al. 2013). Parents state that they choose to homeschool for varied and complex reasons, but they can be grouped into several broad categories. First, parents homeschool because they are concerned with the environment—sometimes including the influence of peers—of their local public schools. Second, parents homeschool because they are dissatisfied with the academic instruction or quality at other schools, or they believe that they can provide better quality instruction themselves (Collom 2005; Noel et al. 2013; Van Galen 1987). Third, parents homeschool because they want to provide moral or religious instruction that they consider to be lacking in public schools (Collom 2005; Noel et al. 2013). Fourth, parents homeschool because they want to foster familial intimacy and build or strengthen the family unit (Merry and Howell 2009; Van Galen 1987; Wyatt 2008). Finally, some parents homeschool because of their child's special academic or physical needs (Kunzman and Gaither 2013).

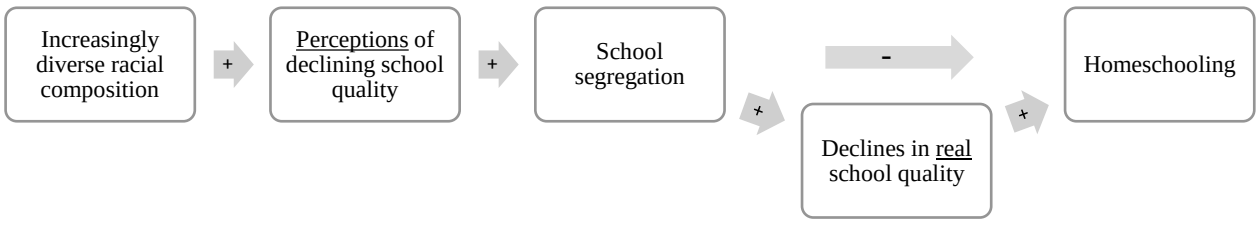
Research on other forms of school choice such as private and charter schools has looked at the role of race in school choice, mostly by examining how race at the individual or

community level influences an individual's choice of schools. White students who live in counties with larger concentrations of minority students were more likely to attend private schools and less likely to switch from a private to a public school between 8th and 10th grade (Fairlie and Resch 2002). Research has shown that blacks are the group from which white parents most want to remove their children (Li 2009; Sander 2015). Furthermore, whites are more likely to flee to private schools in the presence of poor rather than non-poor minorities, blacks rather than other minorities, and especially poor blacks (Conlon and Kimenyi 1991; Fairlie and Resch 2002; Li 2009). But the tendency of groups to prefer racial homogeneity extends beyond whites. When choosing charter schools, whites, blacks, and Latinos in Texas tend to choose schools with higher percentages of their own race compared to the local public schools that they are leaving (Weiher and Tedin 2002).

The research on school choice has used two main theories to explain the role of race in school choice. These theories may be applied to the choice to homeschool as well. The first theory views homeschooling and school racial segregation as responses to increasingly diverse racial composition, and it predicts a negative relationship between school racial segregation and homeschooling. Racial threat or competition theory (Goyette, Farrie, and Freely 2012; Johnston 2015; Renzulli and Evans 2005) describes how racial prejudice is based upon group position. Blumer (1958) asserts that racial prejudice is based upon group identity and position relative to a subordinate group. It involves four feelings: first, the dominant group (whites, in this case) feels that they are superior. Second, whites feel that the subordinate group (blacks, in this case) are inferior or alien. Third, whites feel that they are entitled to exclusive access to institutions such as schools. Finally, whites feel threatened by blacks, whom they perceive as trying to remove their status and privileged position (Blumer 1958). Dominant group members feel that their

status and resources are being threatened as the racial composition of a school increases in favor of the subordinate group (Goyette et al. 2012).

Figure 1: Racial Threat/Competition Theory



School segregation is one example of how the dominant group manages feeling threatened vis-à-vis subordinate group members (Roithmayr 2014). Increased school segregation accomplishes a racial composition with fewer minorities, meaning that the majority group would be able to alleviate the perceived threat towards their status and resources. Families would be less likely to choose to homeschool their children if they reside in a segregated school environment because they would not perceive their resources and status to be threatened. Here, the levels of homeschooling should be lower because segregation has alleviated feelings of threat by altering the increasingly diverse racial composition of an area.

Dominant group members perceive that the subordinate group is taking their resources, damaging their status, or lessening school quality. The racial proxy hypothesis expands upon the racial threat theory and suggests that school racial composition acts as a signal for school quality (Johnston 2015). White, dominant group members perceive a threat to their status and resources through an increasing minority racial composition because of racial proxies. Racial proxies are social conditions such as crime or poverty that are often present in highly segregated minority areas but are not directly caused by race or changes in racial composition (Harris 1999; Johnston 2015; Taub 1984). People use race as a proxy when evaluating a school or neighborhood's

conditions and use high concentrations of minorities as a mental shortcut for undesirable environments. In response to feeling threatened, white, dominant group members may enact school segregation, justifying their actions by drawing upon racial proxy narratives. For example, in Saporito and Lareau's (1999) research, white parents' first step in selecting a school is to exclude schools with too high a percentage of black students, and the authors speculate that parents might be using race as an indicator of school quality or status. Just as white residents choose to move out of increasingly black neighborhoods for race-associated reasons such as fear of neighborhood deterioration (Krysan 2002), parents might choose to homeschool their children for race-associated reasons, such as poor school environments (Belfield 2011). As in the case of racial threat theory, racial segregation decreases the need for homeschooling in the racial proxy hypothesis.

Homeschool families share many of the same concerns as families who choose other alternatives to public schools. Many parents who choose other options, such as charter schools or private schools, cite academic concerns as an important reason that they want to change schools (Saporito and Lareau 1999; Weiher and Tedin 2002). Homeschool families are concerned with the same issues (Collom 2005; Noel et al. 2013; Van Galen 1988). Homeschool families do not often list race as an explicit reason for why they choose to homeschool; however, race is a factor in families' choices to enroll in conventional public school alternatives, either explicitly (Saporito and Lareau 1999) or through proxy reasons (Saporito 2003). The reasons that homeschooling families give for their choice can be considered from a similar perspective, as race proxies.

Rezulli and Evans (2005) show support for the racial threat or competition theory in their study of charter schools by showing that racial integration in public schools positively predicts

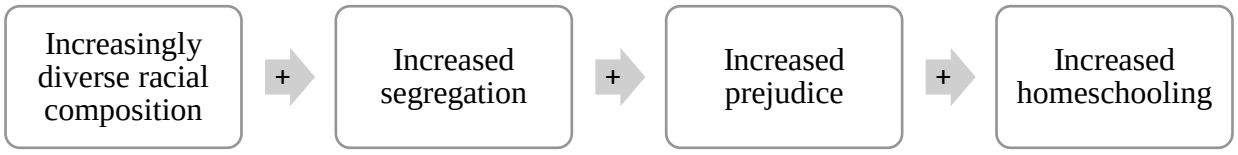
white enrollment in charter schools. Goyette and colleagues (2012) also find support for racial threat theory when white residents in the Philadelphia area perceive declining school quality as the percentage of black students increases. The racial proxy hypothesis is used in residential segregation research. Harris (1999) tests the racial proxy hypothesis to determine whether property values decreased as the percent of black residents increased. He found support for the racial proxy hypothesis when he controlled for neighborhood traits that are inherently nonracial but commonly associated with higher concentrations of blacks, such as having less education and lower income, and the relationship between racial composition and housing prices became insignificant. In sum, based upon research that shows that areas with more students of color are associated with greater selection into public school alternatives, racial threat and racial proxy theories suggest that levels of homeschooling should decrease as school segregation increases.

The second theory about school choice and racial segregation predicts a positive relationship between school segregation and homeschooling. Racial contact theory (Allport 1979; Goyette et al. 2012; Johnston 2015) suggests that greater proportions of minorities in close contact with whites should result in greater trust between the groups under the right circumstances. Goyette and colleagues (2012) found support for this assertion when they found that white Philadelphia residents did not evaluate school environment poorly for schools that already had larger percentages of black students to begin with; these white residents may have been more comfortable with racial diversity and not interpreted increasing percentages of black students as a threat. The racial composition of a place is important because as the proportion of minorities increases, the likelihood of conflict between whites and minorities also increases. The ideal solution would be to intersperse minorities among whites so that there are not areas with large concentrations of minorities, but existing patterns and preferences for segregation make

this difficult. As housing and job opportunities for minorities become clustered together, breaking away from segregated areas becomes more difficult (Allport 1979). For example, in rural and non-metropolitan areas, segregation increases as the share of minorities in a population increases (Lichter et al. 2007). Increased segregation would lead to less frequent and beneficial interracial contact and less trust between whites and minorities. This decreased contact, according to racial contact theory, maintains or increases prejudice (Allport 1979).

Families considering homeschooling in a racially segregated school environment might be more likely to do so because their prejudice towards minorities would be heightened. According to this theory, segregation is not only a reaction against increasingly diverse racial composition. Segregation is a preexisting condition that self-perpetuates, sustaining and intensifying interracial prejudice. Homeschooling, then, is not prevented by segregation, but rather it is a hyper-sensitive reaction to interracial contact made possible by the segregation.

Figure 2: Racial Contact Theory



School and residential segregation, although conceptually and practically different, are highly correlated (Denton 1995; Frankenberg 2008, 2013). School segregation is driven by residential segregation, government policies regarding school desegregation strategies, and white private school enrollments (Reardon and Yun 2002). Not only does residential segregation influence school segregation through the racial composition of neighborhoods and thereby schools due to catchment zones, but school segregation influences residential segregation because schools that are desegregating attract more diverse families into neighborhoods

(Frankenberg 2013). School and neighborhood segregation are not perfectly correlated (Reardon and Yun 2001), however, because of differential government policies regarding the dissolution of residential and school segregation (Frankenberg 2013).

Nevertheless, school segregation, rather than residential segregation, is important to consider when looking at patterns of homeschooling. School segregation tends to be higher than residential segregation for most racial minorities in metropolitan areas (Frankenberg 2008). Levels of school segregation may be indicative of the sociopolitical environment of an area, which may include trends towards white flight. For example, Reardon and Yun (2002) found evidence that increases in school segregation in the South were largely driven by white private school enrollment rather than increases in residential segregation. Parents might be more sensitive to levels of school segregation because it is easier to choose a different school option than to move to a different neighborhood. In sum, racial contact theory suggests that as segregation increases, homeschooling should also increase due to heightened prejudice and sensitivity towards any interracial contact.

Confounding Processes

When looking at the relationship between school segregation and the choice to homeschool, it is important to consider confounding risks that could affect residential, and by extension, school segregation as well as homeschool student ratios. These potentially confounding risks are usually considered in the context of residential segregation, but they are also important to consider in school segregation because the two are highly correlated (Denton 1995; Frankenberg 2008, 2013).

Residential segregation, a driving force behind school segregation, is a social condition with deep historical roots. The circular nature of segregation—poor neighborhoods beget poor

schools beget poor employment opportunities, and the cycle continues—as well as its long history, make it nearly impossible to isolate factors that now contribute to the perpetuation of residential segregation (Goldberg 1998). The "white racial cartel" began consciously implementing segregation after slavery was abolished through efforts that included racism, violence, biased employment practices, discriminatory housing and lending policies, and unequal educational opportunities (Roithmayr 2014). Today, residential segregation continues, but has declined slightly between blacks and whites since the 1980s (Denton 1995; Frankenberg 2013).

Religion has been associated with residential segregation. Certain religious groups such as white, evangelical Protestants tend to prefer racial homogeneity in their neighborhoods compared to Catholics, Jews, unaffiliated, and "other" religions (Merino 2011), and areas with higher levels of white, conservative Protestants also have higher levels of racial segregation (Blanchard 2007). Personal preferences, especially those of whites, continue to drive contemporary residential segregation (Farley and Krysan 2002; Krysan 2002; Schuman et al. 1998), despite its historical roots in economic issues such as deindustrialization (Massey and Denton 1993; Roithmayr 2014), and patterns of whites' religious views in an area could, thus, contribute to levels of school segregation.

The religious composition of an area, particularly the level of evangelical or conservative Protestants, could positively or negatively change the homeschooling levels of that area. Larger concentrations of evangelical Protestant adherents could increase the homeschool student ratio in an area because conservative Christians are one of the most vocal and often-studied groups of homeschool families (Kunzman 2009). Some research has shown that an increase in a Census region's percentage of both Catholic and Protestant affiliates increased the probability of being homeschooled (Bhatt 2014). Furthermore, one of the strategies that the Religious Right uses to

combat areligious public schools is to deinstitutionalize schools through school choice, including homeschooling (Lugg 2000). The larger the concentration of evangelical Protestants in an area, the larger the pool of residents who may be willing to homeschool.

On the other hand, areas with more evangelical Protestant adherents are likely to influence the public school curriculum and atmosphere towards having a more religious bias. Another strategy used by the Religious Right is to re-Christianize schools through reestablishing school prayer, posting the Ten Commandments, and teaching creationism (Lugg 2000). Religious parents may challenge public schools for religious reasons, influencing the textbooks and other educational resources available to all students (Adler 1996). If the public school curriculum already includes religious themes or excludes what religious parents consider to be offensive material, then families may not feel the need to homeschool their children in order to instill preferred religious values. In rural areas, as the concentration of evangelical Protestants increases, the likelihood of homeschooling decreases with no change in the likelihood to choose private school. This finding indicates that, at least in rural settings, having a religiously like-minded public school population makes homeschooling less likely (Isenberg 2003).

Crime, especially violent crime like homicide, is linked to segregation and is often considered an outcome as well as a perpetuator of residential racial segregation. Residential segregation is linked to increasing violent crime rates among blacks (Massey 1995; Shihadeh and Flynn 1996), Latinos (Feldmeyer 2010), and even whites (Krivo, Peterson, and Kuhl 2009). On the other hand, some research suggests that neighborhoods with racial and ethnic heterogeneity are likely to have more crime because of the social distance created by different types of people living together (Hipp 2007). Areas that have more violent crime are also often associated with higher levels of private schooling because school safety becomes more important to parents

under these circumstances (Figlio and Stone 2001), and parents tend to prefer more strict and racially homogenous environments in high crime areas (Fairlie and Resch 2002). Higher crime rates are associated with residential racial segregation, but it is unclear whether they contribute to heightened segregation or are the result of it. Regardless of whether they are cause or effect, higher crime rates might boost the homeschool student ratio insomuch as homeschooling is an alternative for private schools and parents desire to keep their children under close supervision.

The economy has an important relationship to both segregation and the choice to homeschool. As income levels in an area increase, racial segregation levels generally decrease, even if only moderately (Iceland, Sharpe, and Steinmetz 2005; Massey and Fischer 1999). As parents' concerns about school environment and quality are assuaged, levels of homeschooling may drop in areas with higher average household incomes in part because they tend to have better funded public school systems (Unnever, Kerckhoff, and Robinson 2000) and higher per-pupil expenditures (Corcoran and Evans 2010).

The decline in cities' manufacturing industries with the advent of globalization in the 1950s through the 1980s created unemployment, white flight, and areas of intensified racial segregation as minorities less able to find new work elsewhere were left behind (Goldberg 1998). Areas with high levels of black-white segregation historically (Glasgow 1980; Massey and Denton 1993) and currently (Dickerson 2007) are characterized by high black unemployment rates. Today, areas with fewer adults in the work force are likely to have weaker economies and fewer job opportunities. Research has shown that areas with higher levels of racial segregation tend to have slower rates of economic growth (Li, Campbell, and Fernandez 2013). High unemployment, as a sign of a weak economy, may be associated with a lower homeschool

student ratio because a strong economy is necessary for the often single earners in homeschool families to make enough to support their families.

The predominance of certain economic sectors in an area, particularly the levels of manufacturing, is important when considering homeschool and segregation. Areas with higher levels of manufacturing are more segregated, due to whites' reaction to the black migration north after slavery in response to increasing industrialization (Massey and Denton 1993). Children who are homeschooled are less likely to experience a high opportunity cost for opting out of public school if they live in areas with higher concentrations of manufacturing industries. If children do not learn the skills taught in public schools—such as more advanced science, math, and critical thinking skills—their economic consequences will be less severe because the areas' dominant industries do not require these skills. Additionally, areas with lower skilled jobs are not as likely to encourage high educational aspirations (Israel, Beaulieu, and Hartless 2001), making formalized school less important.

The educational climate of an area is important in the perpetuation of segregation, as well as in school choice. First, when there is a higher proportion of the population that is enrolled in college, levels of segregation tend to be lower due to unique housing arrangements and more liberal attitudes (Farley and Frey 1994). Second, areas with a greater percentage of adults who have higher education are more likely to value childhood education, and support local schools and educational opportunities (Corcoran and Evans 2010), since personal educational attainment is positively related to willingness to fund public education (Chew 1992). Such an environment of learning and community resources might make homeschooling easier and more desirable for parents who desire to tailor educational experiences to their unique children. Houston and Toma (2003) find that the percentage of females over 16 whose educational attainment was high school

or at least some college but no degree, and the percentage of males over 16 whose educational attainment was at least a bachelor's degree negatively predict public school enrollment compared to homeschool enrollment in the school districts of ten select states.

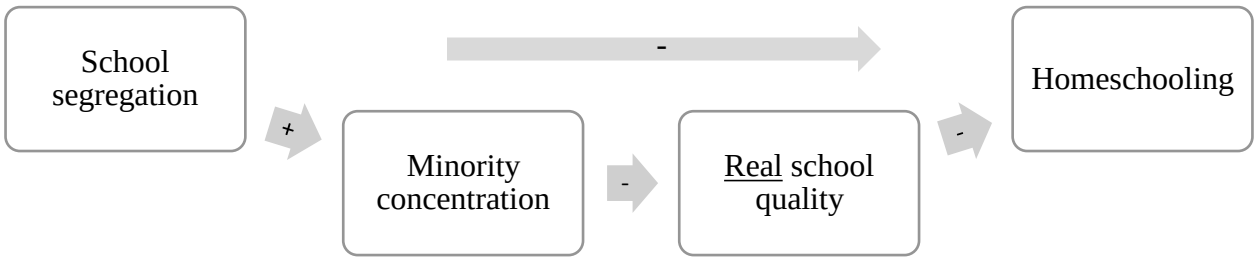
Finally, there are important differences among states regarding homeschooling historically and currently. First, states adopted homeschool legislation at different times during the 1980s and 1990s (Gaither 2008; Stevens 2003). The degree of difficulty with which a state legalized homeschooling could represent a variety of exogenous variables that may also be influencing the current levels of homeschooling, such as attitudes towards parental responsibility and the interpretation of their constitutional rights (Gaither 2008), as well as the demand for homeschooling and the organizational strength of these families. Other potential exogenous variables may include isomorphism with adjacent states' acceptance of legalization, states' public school segregation, control by the Republican party, and Census region (Levy 2009). Second, states currently place different regulations upon homeschool families (Home School Legal Defense Association 2015) that could influence homeschool rates within a state. Differences include the requirements for declaring intent to homeschool, annual testing or evaluation requirements, required instruction time and subjects, record keeping requirements, teacher requirements, as well as organizational differences such as cooperative homeschooling or homeschooling as a religious exemption (Home School Legal Defense Association 2015). See Table 6 for more detailed information about state differences in homeschooling regulation.

Mediating Process

According to racial threat and racial proxy theories, *perceptions* of declining school quality lead to increases in school segregation. School segregation, through enacting higher concentrations of minority students, helps to facilitate *actual* declines in school quality: school

segregation leads to higher concentration of minority students within a school, which is often associated with poor school quality including larger class sizes (Hanushek, Kain, and Rivkin 2002). Although the relationship between school racial segregation and homeschooling is predicted to be negative, the actual declines in school quality may change this negative relationship, making the predicted negative association between segregation and homeschooling weaker. Measures of *actual* school quality, such as the pupil-to-teacher ratio and eligibility for free and reduced-price lunch programs, should mediate the relationship between school segregation and homeschooling.

Figure 3: School Quality as Mediating Pathway in Racial Threat and Racial Proxy Theories



School quality is a one reason that homeschool parents often give for why they decided to homeschool. When parents consider their local public schools to be of low quality, they should be more likely to choose homeschooling. Isenberg (2006) finds that as public school quality decreases as measured by test scores, the likelihood of homeschooling increases. Similarly, the percentage of the population who dropped out of high school negatively predicts private school enrollment compared to homeschool enrollment (Houston and Toma 2003). The pupil-to-teacher ratio, available from the Common Core of Data (National Center for Education Statistics 2014), can be considered a simpler indicator of school quality because smaller class sizes generally lead

to a better learning environment, more effective teaching, and are expensive, which indicates monetary investment in the school (Schanzenbach 2014).

Eligibility for free and reduced-price lunch programs is an indicator of school poverty (Goyette et al. 2012), another racial proxy. Individuals use racial composition as a mental shortcut to judge whether a school is prestigious, poor, or of low quality. Schools with larger minority compositions tend to be poorer because of segregation, so the free and reduced-price lunch program becomes a racial proxy. Parents want to keep their children out of public schools in poor places (Saporito and Lareau 1999), one indicator of which is the ratio of students who are eligible for the free and reduced lunch programs.

Prior Research on Homeschooling and Race

Race has been studied as an important component of school choice for public school alternatives like private and charter schools; however, most homeschooling studies have not studied race in the same way. Homeschool research, which tends to use qualitative methods to study individuals' choices and experiences (Kapitulik 2011; Kunzman 2009; Lois 2012; Stevens 2003), has looked at how race influences certain subpopulations' choice to homeschool (Lundy and Mazama 2014; Mazama and Lundy 2012, 2013, 2014, 2015), and touched upon how people of color perceive racism within the homeschool movement (Gaither 2008; Kunzman 2009; Llewellyn 1996; McDowell, Sanchez, and Jones 2000; Taylor 2013). Other studies have simply included race as a control variable (Belfield 2004; Bhatt 2014; Houston and Toma 2003; Isenberg 2006), or looked at how public school segregation is positively related to the legalization of homeschooling (Levy 2009).

Although the present study is not able to differentiate the race of homeschool families, it is worth nothing that some research has begun to explore the racial motivations for

homeschooling, particularly among black homeschool families. Mazama and Lundy (Lundy and Mazama 2014; Mazama and Lundy 2012, 2013a, 2013b, 2014) have conducted some of the only research examining black homeschool families' motivations to homeschool and found that many choose to homeschool based on what they term "racial protectionism," a strategy used to avoid racism in schools and provide an education that includes more black history and culture. Since race is important in deciding whether to homeschool for some black families, it is possible that white families also have implicitly racialized motives for homeschooling.

There have been few quantitative studies of homeschooling that include race and even fewer that examine race or racism as motivations for homeschooling. Race is sometimes included as an individual-level control variable when modeling determinants for school attendance among public, private, and home schools (Belfield 2004; Bhatt 2014; Isenberg 2006) and being a minority is found to be an insignificant or slightly negative predictor of the choice to homeschool (Belfield 2004; Bhatt 2014). Race beyond the individual level has also been included in models of school choice. For example, when race at the district level is included in models of school choice in Kentucky, having a higher percentage of blacks in a district increased the likelihood of choosing homeschool instead of public school (Houston and Toma 2003). Finally, when looking at race at the state level, having higher levels of school segregation is associated with lower odds of a state adopting homeschooling legislation. Similarly, the percentage of blacks living in a state is negatively related to the likelihood of a state adopting homeschool legislation, although this relationship failed to reach statistical significance (Levy 2009).

Some research has briefly mentioned how homeschooling may perpetuate racism on a micro-level. Two of the most notable examples of the subtle racism within the homeschool

movement are the absence of people of color in homeschool texts and curricula and the overwhelming whiteness of homeschool support groups. One of the mothers in Llewellyn's (1996) collection of essays from African American homeschool families tells of the frustration of trying to find curricula that adequately and accurately portray African Americans. Other homeschool families report that they found it common for textbooks to downplay or even disparage people of color within history (Gaither 2008; Taylor 2013). In an unpublished thesis by Romm (1993), as cited by McDowell, Sanchez, and Jones (2000), respondents reported a subtle form of racism in the assumptions of whiteness within the homeschooling community and textbooks. Taylor (2013) reports that her respondents found it common for people of color to be absent or excluded from homeschool support groups, and Kunzman (2009) mentions a Latina mother's discomfort with fitting into local homeschool support groups partially because of differences in ethnicity.

I have drawn the inspiration for the present research primarily from three studies that look at school choice, two of which identify several community-level factors that affect the likelihood of choosing to homeschool. First, Houston and Toma (2003) use data from a set of 10 states (Colorado, Delaware, Florida, Kentucky, Nevada, New Mexico, North Carolina, Rhode Island, Washington, and Wisconsin) to look at the likelihood of choosing to homeschool. They include the proportion of a school district's population that is black and find that this negatively predicts public school enrollment compared to homeschool enrollment, but only in Kentucky. Second, Belfield (2004) uses data from the National Household Expenditure Survey and includes a control for individual race and the percentage of the ZIP code that is Hispanic and black. The authors finds that the percentage of black and Hispanic residents in a ZIP code is positively related to the likelihood of choosing homeschooling versus public school. Finally, Isenberg

(2006) uses household-level data from the National Household Education Survey to estimate the likelihood of choosing to homeschool, using a variety of individual, household, school district, and state level predictors. However, he only uses mother's race as a control variable and reports no findings related to race.

Even though researchers have begun to study homeschooling alongside public and private school options as a form of school choice, more research is needed because homeschooling is growing and previous research has primarily focused on homeschooling as an individual's choice. Here, I combine racial segregation with homeschooling research in a new way to further understand the demographic processes that shape this school choice at the county level. The present study uses cross-sectional data from 15 states to look at how a county's school segregation is related to homeschooling as a pattern of school choice. I seek to answer whether school segregation at the county level is related to county levels of homeschooling. I hypothesize that increased levels of school segregation should lead to a decrease in the homeschool student ratio in a county because, in line with racial threat and proxy theories, students already have limited interracial contact. Furthermore, I predict that the quality of school environments will mediate this relationship such that the relationship between segregation and homeschooling will become weaker in counties with higher pupil-to-teacher ratios and higher proportions of students eligible for the free and reduced-price lunch programs.

Data

The present research is a county-level analysis of fifteen states: Arkansas, Colorado, Delaware, Florida, Maine, Maryland, North Carolina, Oregon, Pennsylvania, South Dakota, Utah, Virginia, Washington, Wisconsin, and West Virginia. I gathered data from multiple sources and built a single data set that consists of pooled data from multiple years focusing on

the 2012-13 school year, but also including two earlier years, 2001-02 and 2006-07. Data were available predominantly from the 2012-13 school year, but I also use two earlier years of homeschooling data—2001-02 and 2006-07—because these are the most recent years for which Maine and Maryland and Pennsylvania's departments of education provide county-level counts of homeschool students. Data for my dependent variable—the ratio of school-aged homeschooled students to public school students—come from individual states' department of education websites. For Utah and Oregon, counts of homeschool students were given by district rather than by county, but I was able to group districts according to county and aggregate homeschool counts by county. I could not include all fifty states in my analysis because county-level counts of homeschool students are not available from each state's department of education, largely due to the differing homeschooling regulations and reporting requirements (Home School Legal Defense Association 2015). The original sample size of counties from the fifteen states is 839. After listwise deletion, my final sample size is 772 counties.

Data for the independent variable, school segregation, and the mediating variable, pupil-to-teacher ratio, and eligibility for free and reduced-price lunch come from Common Core of Data from the National Center for Education Statistics (National Center for Education Statistics 2014) and were gathered from the National Center for Education Statistics' (NCES) Elementary/Secondary Information System website. Data for most of the demographic control variables come from the 2005-2009 and 2009-2013 5-year estimates of the American Community Survey (ACS) (U.S. Census Bureau 2009, 2013) and the 2000 Decennial Census (U.S. Census Bureau 2000). Data for the other two control variables, proportion of evangelical Protestant religious adherents in a county and county-level crime rates, come from the Religious Congregations and Membership Study (Grammich et al. 2012; Jones et al. 2002) and the FBI's

Uniform Crime Reporting Data (United States Department of Justice. Federal Bureau of Investigation 2006, 2008, 2014), respectively. See Table 7 for more detailed information about the data sources.

Dependent Variable: Homeschool Student Ratio

The homeschool data were originally provided as counts of homeschool students, but I transformed my dependent variable into a ratio of homeschool students in a county to public school students in a county (hereafter referred to as the "homeschool student ratio"). The numerator is the count of homeschool students of school-age in a county in 2012-13[1] based on data from each state's department of education website. The denominator is the count of public school students of school-age in a county in 2012-13 based on data from the National Center for Education Statistics (National Center for Education Statistics 2014). Homeschoolers are not included in the denominator because they are not enrolled as public school students.

Independent Variable: School Segregation

The level of school segregation per county was calculated using the index of dissimilarity with enrollment data disaggregated by race using the following formula:

$$(1/2)\ \text{SUM}\ |(b_i/B - w_i/W)|$$

in which b = the number of black students in a school; B = the number of black students in a county; w = the number of white students in a school; and W = the number of white students in a county. The index of dissimilarity measures the clumping of black students compared to white students in schools within a county, measuring the extent to which black and white students attend different schools. The higher the score on the index, the more uneven—or clumped—is the distribution of blacks compared to whites across schools, and therefore the more segregation

[1] It should be noted that the 2012-13 is the primary year around which the analyses are focused. However, because some of the homeschool counts are available only in earlier years (2001-02 and 2006-07), these earlier years will be used in the analysis in combination with 2012-13 when appropriate.

is present. The scores on the index range from 0 (complete integration, completely evenly distributed) to 1 (complete segregation, completely unevenly distributed) and represent the proportion of blacks (or whites) who would have to change schools in order to achieve evenness and complete integration (Massey and Denton 1988). I also created an index of dissimilarity for minorities and whites in which I used the same formula but instead of blacks, I grouped Native Americans, Asians, Hispanics, blacks, and Hawaiian Natives together.

Mediating Variables

I include two variables that I hypothesize will mediate the relationship of school segregation and level of homeschooling in a county: a county's mean pupil-to-teacher ratio and a county's proportion of students eligible the free and reduced-price lunch programs. The pupil-to-teacher ratio is the sum of students in a school divided by the sum of full-time equivalent (FTE) teachers in a school. I calculated the mean pupil-to-teacher ratio of all schools within a county. The proportion of students who are eligible for the free and reduced-price lunch programs (hereafter referred to as "free/reduced-price lunch") is only available for schools who report the number of students eligible for both the free and reduced-price lunch programs. For this variable, I summed the number of students eligible for the programs in a county and divided this number by the total number of enrolled public school students in a county. It is important to note that, while these two variables are simple and easy representations of school quality, they do not capture every aspect of school quality that parents may consider important when making enrollment decisions.

Control Variables

I aggregated a series of demographic variables from the American Community Survey (ACS) and the 2000 Census to the county level from Census tracts by taking the mean of all tracts within a county. These variables include: mean of the median household income; the proportion of unemployed civilians over 16; the proportion of employed adults over 16 who work in agriculture, forestry, fishing and hunting, and mining (referred to as "agriculture"); the proportion of employed adults over 16 who work in manufacturing; the proportion of adults over 25 with at least a bachelor's degree; the proportion of the population enrolled in college; the mean population density; the mean median age; and the proportion of children under 18 who live in married family households. County-level crime rates from the FBI's Uniform Crime Reporting Data include arrests for the following crimes: murders, forcible rapes, robberies, aggravated assaults, burglaries, larcenies, motor vehicle thefts, and arsons. The crime rate is the total number of arrests in a county per 1000 county residents in 2012 according to the ACS data. Finally, the percentage of the county's population who are evangelical Protestant adherents is the percent of the population that adheres to evangelical Protestantism.

I generated a correlation matrix among all the control variables and the dependent and independent variables to determine whether I should include all of the control variables in my regressions. Because of the limited degrees of freedom that come with only 772 cases, I want to ensure that I do not have excess variables in my equations. I considered adding the following confounding variables, but given the weak correlations with the independent and dependent variables, the following variables were dropped from the analysis: the proportion of employed adults over 16 who work in agriculture, the mean median age, and the proportion of children under 18 who live in married family households. See Tables 8 and 9 for the correlation matrices.

Missing Data

Schools are automatically dropped from the analysis when they do not report the number of black, white, or total students because I cannot calculate the index of dissimilarity for black and white students without this information. If a school has missing data for one of the race variables, including any of the minority race variables, it is not included in the county's total calculations for the index of dissimilarity because I cannot calculate the index of dissimilarity for minorities without this information. However, the county to which either of these hypothetical schools belongs may remain in the analysis. I dropped counties from the analysis when 25% or more of their schools were missing due to missingness of race variables. After performing listwise deletion, 5.05% of counties in my sample had 25% or more of their schools missing due to incomplete race data and were thus dropped from the sample. A disproportionate percentage of missing counties come from the South (about 90% of the 41 dropped counties), the region which comprises 54% of the final sample. The remaining 10% of dropped counties come from the Northeast, Midwest, and West, regions which comprise 9%, 17%, and 19% of the final sample respectively. See Table 10 for the descriptives for counties with 57%, 25%, and less than 25% of their schools missing.

Analytic Strategy

I begin my analysis with descriptive statistics of the dependent variable, the key independent variable, the alternative independent variable, and the county-level mediating and control variables. I conduct a series of ordinary least squares (OLS) regressions, beginning with a bivariate regression between school segregation and the homeschool student ratio. Next, I add a series of control variables for crime rate, religious composition, unemployment rate, mean county income, manufacturing industries, the percentage of adults with a college education, and the proportion of the population that is enrolled in college. Finally, I add two mediating

variables to represent school quality. I perform this sequence of OLS models first for school segregation between black and white students, and then I repeat it for school segregation among all minority and white students to ensure that my results are robust. I adjust the standard errors to account for the clustering of counties within states using the "vce(cluster)" command in Stata14. Because my analysis uses a counties-within-states nested sample, I also used a fixed effects model to control for unobserved differences between states, such as differences in homeschool regulation laws, and to account for the dependence of county observations within states. I replicate my analyses with fixed effects regression using the "xtreg" command in Stata14 in order to compare the results with the OLS and clustered standard errors.

I conduct three supplemental analyses to check for robustness. First, because three states in my sample provided homeschool data for earlier years, I want to ensure that my results are not negatively impacted by the inclusion of these states whose homeschool data came from 2006-07 or earlier. To do this, I first create a flag variable to mark the counties with data from 2006-07 or earlier. I include this flag variable in a series of three OLS regressions—bivariate, control variable, and mediating variable models—to see whether the inclusion of these counties significantly predict the homeschool student ratio in a county. I then exclude the 95 counties with earlier data from the series of three OLS regressions in order to see if the results differ substantially. Second, I conduct supplemental analyses to test the impact of missingness on my results. I add the counties with 25% of their schools missing back into my analysis to see whether results differ significantly. Third, I transform the dependent and key independent variables to correct for right-skewness and repeat the three OLS regressions.

Results

My final sample consists of 772 counties across fifteen states. Table 1 shows that within these 772 counties, the maximum homeschool student ratio ranges from .00 to .30 with a mean of .03. The school index of dissimilarity for black and white students in the final sample ranged from .00 to .99 with a mean of .35. The counties with zeros on the index of dissimilarity for black and white students often had higher scores for the index of dissimilarity between all minority and white students. This means that these counties primarily have minority students who are not black. Only three counties have zeros on indices of dissimilarity, both for blacks and whites and for minorities and whites. Because of the skewed nature of both the homeschool student ratio and school segregation, I will conduct supplemental analysis with transformed versions of both of these variables.

Table 1 about here

Black and White Students

To test whether homeschooling is linked with school segregation at the county level, I regressed the homeschool student ratio upon school segregation as measured by the index of dissimilarity. Model 1 in Table 2 reports the bivariate regression results for black and white students. The bivariate relationship is statistically significant and negative, implying that as the level of school segregation in a county increases, the rate of homeschooling in the county will fall. The relationship between school segregation in a county and the level of homeschooling in that county is such that as a county moves from complete integration to complete segregation, for every 100 public school students there will be about 3 fewer homeschool students in the county.

Table 2 about here

Next I added a series of county-level control variables in Table 2, Model 2 including the proportion of religious adherents, the proportion of employed adults in the manufacturing sector,

mean household income, and educational characteristics. Two control variables reached statistical significance. First, the proportion of a county's residents who are evangelical Protestant adherents reached marginal statistical significance. As the percentage of residents who are evangelical Protestant adherents increases by one point, for every 1000 public school students there will be about 1 more homeschool student in the county. This aligns with the argument that this religious group may use school choice and deinstitutionalization to combat areligious public schools. Additionally, the proportion of a county's population enrolled in college was also statistically significant: as the percentage enrolled in college in a county increases by one point, for every 1000 public school students there will be about 5 more homeschool students in the county (.050*100=.005). This relationship could reflect an environment of learning and increased community resources that prompt parents to educate their children themselves.

To test whether school quality mediates the relationship between homeschooling and school segregation, I added the mean pupil-to-teacher ratio within a county and the free/reduced-price lunch variable as indicators of school environment quality. Model 3 in Table 2 shows that adding the two indicators of school quality does not significantly weaken the original bivariate relationship between school segregation and the homeschool student ratio, despite the free/reduced price lunch reaching marginal statistical significance. The relationship between school segregation and the homeschool student ratio remains virtually unchanged between blacks and whites: there remains a significant, negative relationship between the two such that as a county moves from complete integration to complete segregation, for every 100 public school students there will be about 3 fewer homeschool students in the county. The pupil-to-teacher ratio has an unexpectedly negative relationship with the homeschool student ratio, but the

coefficient is so small as to be substantively meaningless. On the other hand, as the proportion of students eligible for free and reduced-price lunch programs in a county changes from complete ineligibility to complete eligibility, for every 100 public school students there will be about 3 more homeschool students in the county. So far, this analysis fails to provide evidence for mediation, although the relationship between free/reduced lunch and homeschooling is in the anticipated direction. Part of the reason why the school quality mediating variables fail to attenuate the focal relationship could be that the pupil-to-teacher ratio and the free/reduced lunch variables insufficiently capture school quality as it is important to parents.

Even after controlling for counties' demographic and other characteristics, the relationship between school racial segregation and the homeschool student ratio remains statistically significant and negative. Although the coefficient decreased from -0.025 to -0.018, the interpretation remains essentially the same: as a county moves from complete integration to complete segregation, for every 100 public school students there will be about 2 fewer homeschool students in the county.

Minority and White Students

To check for the robustness of my findings, I expand my analysis to include other minority students besides blacks. The pattern of results is similar, but the association between segregation and the homeschooling ratio is stronger when considering segregation between all minorities and whites. Table 3 shows that the bivariate relationship between school segregation and the homeschool ratio is statistically significant at -.035, and persists—although slightly decreased to -.026—even when controlling for county-level characteristics like evangelical Protestant adherents and percent of the population enrolled in college. Finally, I added the mean pupil-to-teacher ratio within a county and the free/reduced-price lunch as indicators of school

environment quality. Unlike in Table 2, both of these potential mediators slightly increased the coefficient of minority-white school segregation upon the homeschool ratio, from -.026 in Model 2 to -.027 in Model 3. Although this is only a small increase in the coefficient, it suggests that indicators of school quality may be confounding the relationship rather than mediating the school segregation-homeschool relationship.

Table 3 about here

Fixed Effects

My data are comprised of counties nested within fifteen states, each with its own unique approach to homeschooling regulation that may affect the likelihood of choosing this educational option (Home School Legal Defense Association 2015). In order to control for these differences between states, I repeated my regressions using a fixed-effects approach. Table 4 shows the regressions for school segregation between black and white students. The relationships across all three models closely resemble the relationships in the earlier OLS models in Table 2. The bivariate relationship between school segregation and the homeschool student ratio is statistically significant and negative: as school segregation in a county moves from complete integration to complete segregation, for every 100 public school students there will be about 2 fewer homeschool students in that county. This focal relationship remains essentially the same across Models 2 and 3. Model 2 shows that evangelical Protestant adherents and the proportion of the population enrolled in college remain significant, positive predictors of homeschooling. Although not functioning as a mediator in Model 3, the free/reduced-price lunch has switched from a positive predictor of homeschooling to a negative predictor: as the proportion of students eligible for free and reduced-price lunch programs in a county changes from complete

ineligibility to complete eligibility, for every 100 public school students there will be about 2 fewer homeschool students in the county.

Table 4 about here

Table 5 shows the fixed-effects regressions for school segregation between minority and white students. Overall, the results are similar to the previous OLS models for segregation between minority and white students in Table 3. The bivariate relationship in Model 1 reveals a statistically significant, negative relationship between school segregation and the homeschool student ratio such that as school segregation in a county moves from complete integration to complete segregation, for every 100 public school students there will be 3 fewer homeschool students in the county. The magnitude of this relationship remains stable across all three models in Table 6. The mediating hypothesis receives some support from Model 3, unlike in OLS models, because the focal relationship slightly attenuates with the addition of school quality variables.

Table 5 about here

Supplemental Analyses: Missingness

Although I have so far found a persistent, negative relationship between school racial segregation and the homeschool student ratio, I want to be sure that this relationship is not an artifact of choices I have made regarding my sample. To test the durability of the relationship, I first look more closely at my choice to drop counties that were missing racial information in 25% or more of their schools. I conducted supplemental analysis in which I retained the 41 counties that were missing 25% or more of their schools. Tables 10 and 11 show that the results differed substantially when I retained the counties with high levels of school missingness. The coefficients were over ten times as large, no coefficients reached statistical significance, and the

direction of the focal relationship changed from negative to positive when I examined segregation between minorities and whites. Further investigation revealed that the inclusion of three counties with school missingness above 57% was driving these different results. These three counties had exceptionally high homeschooling ratios (ranging from .22 to 16.87), and no black-white school segregation. Analyses that excluded these three counties yet included other counties with school missingness over 25% continued to yield significant, negative relationships between homeschooling and school segregation. Because I was able to isolate the counties which changed the results so dramatically, I feel confident that my previous findings were not negatively influenced by the inclusion of biased counties.

Supplemental Analyses: Early Years

To further test the choices I made regarding my sample, I also conducted supplemental analysis to ensure that my results were not negatively impacted by the inclusion of the three states whose homeschool data came from 2006-07 or earlier. Table 13 shows that the flag for counties with data from earlier years is marginally significant and negatively predicts homeschooling rates in the bivariate model for black and white segregation. This finding fits with external reports indicating that homeschooling has dramatically increased over time. The coefficient signaling that the data come from these earlier years becomes insignificant once the control variables and mediating variables are added in Table 13 Models 2 and 3. To further ensure that my results are not negatively affected by the inclusion of earlier years of data, I repeat my original analysis excluding the three years of earlier data. Table 14 shows that when excluding the 95 counties with earlier homeschool data, the focal relationship between school segregation and homeschooling is comparable to my original findings in Table 2. Similar to when all 772 cases were included, as school segregation in a county moves from complete

integration to complete segregation, for every 100 public school students there are 2 fewer homeschool students in the county, even after accounting for indicators of school quality and controlling for county-level confounders.

For minority and white school segregation, Table 15 shows that the early data flag variable does not reach statistical significance in any of the three models. Nevertheless, I also repeated my analysis excluding the early years of data. Table 16 shows that when excluding the 95 counties with earlier homeschool data, results are comparable to my original findings in Table 3. Similar to when all 772 cases were included, as school segregation in a county moves from complete integration to complete segregation, for every 100 public school students there are 3 fewer homeschool students in the county, even after accounting for indicators of school quality and controlling for county-level confounders. Given the similarity between these supplemental analysis that exclude counties with early homeschool data and my original analysis, I feel confident that the original analysis is not biased by the inclusion of these counties.

Supplemental Analysis: Transformations

Because the distribution of both the school segregation index of dissimilarity and the homeschool student ratio are right-skewed, I transformed both variables using the square root function. I repeated my analysis using the transformed versions of black and white school segregation and the homeschool student ratio and found that the pattern of findings is similar, although the strength of the relationship has increased due to a more linear relationship between the variables. Table 17, Model 1 shows that the bivariate relationship between school segregation and homeschooling is negative and significant, with a one unit increase in the square root of the school index of dissimilarity resulting in a .05 unit decrease in the square root of the

homeschool student ratio. Model 3 shows that this relationship maintains its significance but decreases to -.03 when accounting for county-level confounders and school quality mediators.

I repeat these analysis for minority and white segregation and homeschooling in Table 18. Results show that again, the general pattern between school segregation and homeschooling is significant and negative, but the relationship is stronger when the key variables are transformed. Model 1 shows that for a one unit increase in the square root of school segregation there is a .08 unit decrease in the square root of the homeschool student ratio. This relationship remains statistically significant even when adding potentially confounding county-level variables and school quality mediators, although it decreases to -.06 by Model 3.

Limitations

Although the present study makes several important contributions to the homeschool literature, it also has limitations. First, data about homeschoolers are inherently limited because homeschoolers are often hesitant to participate in surveys or standardized testing (Collom 2005; Kunzman 2009; Lubienski, Puckett, and Brewer 2013); therefore, I expect that the data I gathered from states' departments of education also suffer from selectivity because some homeschool families fail to register with their local departments of education (Kunzman 2009). If only some homeschool families are willing to register with their departments of education, the estimates should be biased downward.

Second, although some research that has looked at the effect of segregation and race on school choice has used counties as the unit of analysis (Conlon and Kimenyi 1991; Fairlie and Resch 2002; Li 2009; Wrinkle, Stewart, and Polinard 1999), counties are not the only unit of measurement for studying educational institutions. School districts (Bankston III and Caldas 2000; Baum-Snow and Lutz 2011; Goyette 2008; Hess and Leal 2001; Reardon and Yun 2001;

Renzulli and Evans 2005; Saporito and Sohoni 2006) or schools (Goyette et al. 2012; Lauen 2007; Saporito 2003) are also widely used and may be preferable. The fifteen states that provide detailed homeschool counts do so only at the county level, and I match these counts with a county-level measure of school segregation. Because I must use counties as my unit of analysis, covariation in school segregation and homeschooling may be relatively weaker than if I were able to study patterns in schools and school districts. There may be variability in the levels of school segregation among school districts within a county that I am not able to capture; instead, this variation will be lost because the mean level of segregation is examined in relation to the homeschool student ratio. If this is true, my estimates here are a lower bound of the relationship between school segregation and homeschooling.

Third, because of inconsistent reporting requirements for homeschool families across states, only fifteen states are represented in this study. However, each of the four main Census regions are represented, and together the fifteen states represent approximately 30% of homeschoolers in the U.S., based on the 2011 National Survey of Children's Health (Centers for Disease Control and Prevention 2013). See Table 19 for each state's estimated share of the U.S.'s national homeschool population.

Finally, although I am able to examine the relationship between county-level homeschool student ratio and school racial segregation, I cannot draw conclusions about individuals' decisions to homeschool because the data are aggregated. More specifically, I do not know the racial characteristics of homeschool students and families within counties. Although the national statistics of homeschool families suggest that the majority of homeschool students and families are white (Noel et al. 2013), there is no way to know for certain the racial composition of homeschool families in each county of my analysis, and recent research has suggested that there

is an increasing proportion of homeschool families of color (Gaither 2008). Therefore, while my results suggest that homeschooling may be acting similarly to white flight, I cannot conclude that this is the case because I do not know the race of the homeschoolers in my analysis.

Discussion and Conclusion

Higher levels of school segregation are associated with lower levels of homeschooling at the county level, for segregation between black and white students and segregation between minority and white students. This relationship, though small in magnitude, is stable even when controlling for county-level confounders such as crime, economic and educational characteristics, and the percentage of the county's population who are evangelical Protestant adherents, and remains essentially unchanged after including hypothesized school quality mediators. Furthermore, this relationship persists even when accounting for unobserved between-state variation through the use of a fixed-effects approach.

The findings are consistent with the racial threat, or racial competition, theory that says that majority group members perceive threats to their resources and status as minority presence increases (Blumer 1958). I predicted that the homeschool student ratio would be lower in the presence of school segregation because segregation is a way to manage minority threats to resources. The finding that as school segregation increases the homeschool student ratio decreases is in alignment with the racial threat theory and supports the idea that school segregation decreases the need for homeschooling in response to an increasingly diverse racial composition. However, I did not find support for the contact hypothesis, which would suggest higher levels of homeschooling in segregated areas because of the distrust fostered by limited interracial contact. In this case, homeschooling would be a hyper-sensitive response based on the increased prejudice fostered by reactionary segregation. To more thoroughly test how

homeschooling fits with both the racial threat and racial contact theories, however, more research is needed.

These results have interesting implications for Bonilla-Silva's (2009) theory of color-blind racism. Bonilla-Silva posits that color-blind racism is a system of racial oppression maintained apart from individuals' personal prejudices, discrimination, and defenses. The theory does not focus on how whites feel towards people of color, but rather it is primarily concerned about how whites are positioned in relation to people of color.

We may gain a deeper understanding of color-blind racism by looking at homeschooling not as an individual's choice but as a societal pattern that reveals a variant of the racist system. Homeschooling is usually thought of as a personal decision that families make in order to follow their convictions about religion, morality, pedagogy, or their children's unique needs. It also takes resources, both monetary and temporal, to homeschool. However, the ability of some families to choose homeschooling while others cannot reveals the racist system that features wealth and income inequality between blacks and whites, as well as differences in family structure and labor force participation between them. As Bonilla-Silva explains, the ideal of individual treatment and choice ignores the reality of inequalities and different starting points among racial groups: "Because whites have more power, their unfettered, so-called individual choices help reproduce a form of white supremacy in neighborhoods, schools, and society in general" (Bonilla-Silva 2009:36).

Individualism is a driving force in parents' decision to homeschool their children. Prior research has demonstrated that parents often choose to homeschool their children so that they can provide individualized educational experiences for their unique children (Kapitulik 2011). This individualism has implications for the broader society, however. As Kapitulik (2011) points out

in his discussion of secular (i.e., non-religiously motivated) homeschool parents as quasi activist parents, activist parents reshape their identities as parents in order to be politically active, but quasi activist parents do this to a limited extent for the benefit of their family rather than the community or society. Homeschool quasi activist parents act out of the obligation they feel as parents, but they emphasize working towards the betterment of one's individual family or children rather than the larger community. He further notes that secular homeschool parents choose to withdraw their children for their own protection, leaving the other children in the community to deal with the flawed educational institution: "…[H]omeschoolers are not interested in reforming the rules of any game to make them more fair or effective. Rather, they want to do what is best for themselves and their own families" (Kapitulik 2011:112).

This reluctance to reform the rules of the game resembles how respondents from Bonilla-Silva's (2009) study thought about modern racial issues such as intermarriage and segregation. Rather than acknowledge their participation in or ability to resist the racially corrupt system, they offered culturally-based or fatalistic explanations for the state of race relations in the US. In both cases, individuals recognize that current social conditions are unjust—poor quality schools, prejudice towards interracial marriage, concentrated poverty in segregated neighborhoods—but Kapitulik's quasi activist homeschool parents and Bonilla-Silva's respondents think only about how these issues affect them and their families personally rather than working to change the rules of the game for the benefit of others.

The decision to homeschool is not necessarily driven by explicitly racialized motivations; however, similar attitudes of individualism superseding the common good have been used to explain both the choice to homeschool as a form of intensive parenting and to justify and maintain racially unequal social conditions such as segregation. Adherents of both color-blind

racism and homeschooling use the language of individualism to justify their choices, behaviors, and ideologies. Because of similar underlying ideologies of abstract liberalism and individualism, it is worth asking whether modern, color-blind racism may be at work in the decision to homeschool.

Further research is needed to more fully understand how race impacts homeschooling. First, it would be useful to look at how the relationship between school segregation and homeschooling changes over time. Many of the fifteen states that I used in the present study also provide homeschool data for earlier years, making a longitudinal analysis possible. Looking at how homeschooling changes over time in response to changes in segregation would shed more light on the racial proxy hypothesis and the racial contact hypothesis, allowing researchers to see whether changes in segregation impacts homeschooling differently than segregation at a single point in time.

Second, replicating the present study with more states or different geographic areas would allow researchers to see different aspects of the relationship between segregation and homeschooling. One option would be to take a smaller subset of the fifteen states that provide homeschool counts by school district and perform a more detailed analysis to gain a deeper understanding of the pattern of school segregation and homeschooling. Using data from more states as they become available would provide a more nationally representative picture of the relationship between school segregation and homeschooling. Since conducting the initial data collection for this study, at least one other state has provided homeschool counts by county on its department of education website. With more investigation and personal correspondence, perhaps more states could provide the necessary data to expand the current study. The current analysis could also be replicated at a larger geographic area, such as at the state level. More states

provide homeschool counts or estimates at the state level than at the county level. A more representative sample of states, although at a less detailed scale, could provide more information about the regional variation in patterns of race and homeschooling.

Finally, it would be useful to replicate the current study using different measurements of segregation in different settings. It would be valuable to expand the measurement of segregation beyond the index of dissimilarity, which measures evenness, to include the other four aspects of segregation mentioned by Massey and Denton (1988): exposure, concentration, centralization, and clustering. It is also important to look at other spheres in which segregation exists, such as residential neighborhoods. Although school segregation is linked to residential segregation because school attendance is based upon local catchment areas, the growth of school choice has made it possible for children to attend schools outside of their residential neighborhoods. Perhaps having neighbors of other races is just as, if not more, important for the decision to homeschool than having classmates of other races.

Homeschooling is less likely to occur as school segregation increases. The implication of this finding is that counties with integrated public school student bodies are more likely to have more homeschool students in them. Homeschool families tend to be highly concerned and involved with their children's education and development. Parents who are invested in their children's education are also likely to contribute directly and indirectly to the learning environment of their children's classmates through fund-raising, volunteering, and other avenues (Bankston III and Caldas 2000). The loss of these families from the public school system is likely detrimental for the students who remain in the public school system (Apple 2000; Lubienski 2003), just as the loss of "white flight" parents who enroll their children in charter or

private schools is detrimental for the public school students they leave behind (Bankston III and Caldas 2000; Condron et al. 2013).

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APPENDIX

Table 1. Descriptive Statistics

Variable	N	Mean	Std. Dev	Min	Max
Dependent Variable					
Proportion of Students Homeschooled	772	0.033	0.030	0.000	0.303
Dependent Variable by Region					
Proportion of Students Homeschooled: Northeast	72	0.017	0.009	0.002	0.042
Proportion of Students Homeschooled: Midwest	135	0.025	0.021	0.000	0.171
Proportion of Students Homeschooled: South	418	0.042	0.034	0.001	0.303
Proportion of Students Homeschooled: West	147	0.022	0.019	0.000	0.141
Independent Variables					
School Index of Dissimilarity (Blacks)	772	0.345	0.176	0.000	0.993
School Index of Dissimilarity (Minorities)	772	0.265	0.141	0.000	0.788
Mediating Variables					
Mean Pupil-to-Teacher Ratio	772	15.185	3.369	5.595	37.389
Proportion of Free/Reduced-Price Lunch Students	772	0.506	0.167	0.087	0.993
Control Variables					
Crime Rate	772	2.744	8.258	0.000	58.750
Mean Population Density	772	4459.351	5229.058	35.819	31442.210
Proportion of Evangelical Protestant Adherents	772	19.594	13.619	0.360	103.566
Unemployment Rate	772	0.097	0.013	0.037	0.204
Mean of Median Household Income	772	54454.860	8229.359	26303.330	120088.000
Proportion of Employed Adults 16+ in Agriculture	772	0.021	0.011	0.000	0.091
Proportion of Employed Adults 16+ in Manufacturing	772	0.108	0.023	0.024	0.274
Proportion of Adults 25+ with at Least Bachelor's Degree	772	0.281	0.053	0.083	0.744
Proportion of Population Enrolled in College	772	0.077	0.031	0.034	0.538
Mean of Median Age	772	38.905	1.926	21.600	47.233
Proportion of Children<18 in Married Family Households	772	0.661	0.048	0.358	0.810

Table 2. Ordinary Least Squares Regression Coefficients Predicting Homeschool Student Ratio: Black and White Students (N=772)

	Model 1		Model 2		Model 3	
	Coef.		Coef.		Coef.	
School Index of Dissimilarity	-0.025	**	-0.018	***	-0.018	***
	(0.007)		(0.004)		(0.004)	
Crime Rate			<-0.001		<-0.001	
			(<0.001)		(<0.001)	
Proportions of Evangelical Protestant Adherents			0.001	+	0.001	+
			(<0.001)		(<0.001)	
Mean Population Density			<0.001		<0.001	
			(<0.001)		(<0.001)	
Economy						
Unemployment Rate			-0.028		-0.049	
			(0.159)		(0.156)	
Proportion of Employed Adults 16+ in Manufacturing			0.057		0.062	
			(0.044)		(0.042)	
Mean of Median Household Income			<0.001		<0.001	
			(<0.001)		(<0.001)	
Educational Environment						
Proportion of Adults 25+ with at Least Bachelor's Degree			-0.004		<0.001	
			(0.061)		(0.062)	
Proportion of Population Enrolled in College			0.050	*	0.052	*
			(0.021)		(0.021)	
School Quality						
Mean Pupil-to-Teacher Ratio					<0.001	
					(<0.001)	
Proportion of Free/Reduced-Price Lunch Students					0.016	+
					(0.008)	
Constant	0.042	***	0.026		0.025	
	(0.007)		(0.021)		(0.021)	

+p.10; *p<.05; **p<.01; ***p<.001

Note: Clustered Standard Errors in Parentheses

Table 3. Ordinary Least Squares Regression Coefficients Predicting Homeschool Student Ratio: Minority and White Students (N=772)

	Model 1		Model 2		Model 3	
	Coef.		Coef.		Coef.	
School Index of Dissimilarity	-0.035	***	-0.026	***	-0.027	***
	(0.008)		(0.006)		(0.006)	
Crime Rate			<-0.001		<-0.001	
			(<0.001)		(<0.001)	
Proportions of Evangelical Protestant Adherents			0.001	+	0.001	
			(<0.001)		(<0.001)	
Mean Population Density			<0.001		<0.001	
			(<0.001)		(<0.001)	
Economy						
Unemployment Rate			-0.005		-0.025	
			(0.154)		(0.150)	
Mean of Median Household Income			<0.001		<0.001	
			(<0.001)		(<0.001)	
Proportion of Employed Adults 16+ in Manufacturing			0.058		0.063	
			(0.045)		(0.044)	
Educational Environment						
Proportion of Adults 25+ with at Least Bachelor's Degree			-0.008		-0.003	
			(0.060)		(0.061)	
Proportion of Population Enrolled in College			0.052	*	0.054	*
			(0.020)		(0.020)	
School Quality						
Mean Pupil-to-Teacher Ratio					<0.001	
					(<0.001)	
Proportion of Free/Reduced-Price Lunch Students					0.017	*
					(0.008)	
Constant	0.042	***	0.024		0.022	
	(0.007)		(0.020)		(0.020)	

+p.10; *p<.05; **p<.01; ***p<.001

Note: Clustered Standard Errors in Parentheses

Table 4. Fixed Effects Regression Coefficients Predicting Homeschool Student Ratio: Black and White Students (N=772)

	Model 1		Model 2		Model 3	
	Coef.		Coef.		Coef.	
School Index of Dissimilarity	-0.018	***	-0.017	**	-0.017	**
	(0.005)		(0.005)		(0.005)	
Crime Rate			<-0.001		<-0.001	
			(<0.001)		(<0.001)	
Proportions of Evangelical Protestant Adherents			<0.001	*	<0.001	*
			(<0.001)		(<0.001)	
Mean Population Density			<0.001		<0.001	
			(<0.001)		(<0.001)	
Economy						
Unemployment Rate			0.015		0.028	
			(0.086)		(0.086)	
Proportion of Employed Adults 16+ in Manufacturing			0.033		0.026	
			(0.050)		(0.050)	
Mean of Median Household Income			<0.001		<0.001	
			(<0.001)		(<0.001)	
Educational Environment						
Proportion of Adults 25+ with at Least Bachelor's Degree			0.014		0.010	
			(0.037)		(0.037)	
Proportion of Population Enrolled in College			0.070	+	0.068	+
			(0.040)		(0.040)	
School Quality						
Mean Pupil-to-Teacher Ratio					-0.001	**
					(<0.001)	
Proportion of Free/Reduced-Price Lunch Students					-0.016	*
					(0.007)	
Constant	0.039	***	0.028		0.051	**
	(0.002)		(0.018)		(0.019)	

+p.10; *p<.05; **p<.01; ***p<.001

Note: Standard Errors in Parentheses

Table 5. Fixed Effects Regression Coefficients Predicting Homeschool Student Ratio: Minority and White Students (N=772)

	Model 1		Model 2		Model 3	
	Coef.		Coef.		Coef.	
School Index of Dissimilarity	-0.033	***	-0.032	***	-0.029	***
	(0.007)		(0.007)		(0.007)	
Crime Rate			<0.001		<0.001	
			(<0.001)		(<0.001)	
Proportions of Evangelical Protestant Adherents			<0.001	+	<0.001	+
			(<0.001)		(<0.001)	
Mean Population Density			<0.001		<0.001	
			(<0.001)		(<0.001)	
Economy						
Unemployment Rate			0.043		0.049	
			(0.086)		(0.086)	
Proportion of Employed Adults 16+ in Manufacturing			0.032		0.026	
			(0.049)		(0.049)	
Mean of Median Household Income			<0.001		<0.001	
			(<0.001)		(<0.001)	
Educational Environment						
Proportion of Adults 25+ with at Least Bachelor's Degree			0.012		0.009	
			(0.037)		(0.037)	
Proportion of Population Enrolled in College			0.071	+	0.070	+
			(0.040)		(0.040)	
School Quality						
Mean Pupil-to-Teacher Ratio					-0.001	**
					(<0.001)	
Proportion of Free/Reduced-Price Lunch Students					-0.012	+
					(0.007)	
Constant	0.042	***	0.027		0.046	**
	(0.002)		(0.017)		(0.019)	

+p.10; *p<.05; **p<.01; ***p<.001

Note: Standard Errors in Parentheses

Table 6. Homeschool Laws (Source: www.hslda.org/laws)

State	Whom to Notify	Teacher Requirements	Requirements for Subjects/Curriculum	Required Record Keeping	Testing or Evaluation Required	Homeschool as Private School
Arkansas	Local public school superintendent	No	No	No	No	
Colorado	School district	No	172 days of instructions, averaging 4 hours per day in specified subjects	Yes	Yes	
Delaware	Department of education	No	If homeschooling as single-family in coordination with local school district	Yes	No	
Florida	County superintendent	No	No	Yes	Yes	
Maine	State commissioner of education	No	Yes	No	Yes	Available
Maryland	Superintendent	No	Yes	Yes	No	
North Carolina	North Carolina division of non-public education	Yes: High school diploma	No	Yes: Regular schedule, attendance, immunization records	Yes	
Oregon	Education service district	No	No	No	Yes	
Pennsylvania	Local superintendent	Yes: High school diploma or equivalent	180 days of instruction with required subjects	Yes	Yes	
South Dakota	Local school officials	No	Yes	Yes	Yes	No: A single individual cannot homeschool more than 22 children
Utah	Local school board	No	No	No	No	Available
Virginia	School superintendent	Yes: High school diploma, current Virginia teacher's license	Yes	No	Yes	
Washington	Local superintendent	Yes	180 days of instruction with required subjects	No	Yes	Available
West Virginia	School board	Yes: High school diploma	No	No	Yes	

Table 7. Data Sources

	Year	Source
Dependent Variable: Homeschooling Ratio		
State		
Arkansas	2012-13	www.arkansased.gov/divisions/learning-services/home-schools/home-school-reports
Colorado	2012-13	www.cde.state.co.us/cdereval/pupilcurrenthomebased
Delaware	2012-13	http://profiles.doe.k12.de.us/SchoolProfiles/State/Account.aspx
Florida	2012-13	www.fldoe.org/schools/school-choice/facts-figures.stml
		www.floridaschoolchoice.org/pdf/Home_Ed_Fast_Facts.pdf
Maine	2001-02	www.maine.gov/education/enroll/homesch/homeschool.htm
Maryland	2006-07	www.marylandpublicschools.org/MSDE/divisions/studentschoolsvcs/student_services_alt/home_schooling/
North Carolina	2012-13	www.ncdnpe.org/homeschool2.aspx
Oregon	2012-13	www.ode.state.or.us/search/page/?id=2081
Pennsylvania	2006-07	www.portal.state.pa.us/portal/server.pt/community/home_school_education/7428
South Dakota	2012-13	http://doe.sd.gov/ofm/statdigest.aspx
Utah	2012-13	www.schools.utah.gov/data/Reports/Enrollment-Demographics.aspx
Virginia	2012-13	www.doe.virginia.gov/statistics_reports/enrollment/home_school_religious_exempt/index.shtml
Washington	2012-13	www.k12.wa.us/PrivateEd/HomeBasedEd/AnnualReports.aspx
West Virginia	2012-13	http://wveis.k12.wv.us/ses/StatSum/index.cfm
		http://wveis.k12.wv.us/ses/StatSum/NonPub_enroll.cfm
Wisconsin	2012-13	http://sms.dpi.wi.gov/sms_hbstats
Independent and Mediating Variables		
	2001-02 2006-07 2012-13	Common Core of Data, National Center for Education Statistics (NCES) Elementary/Secondary Information System
Confounding Variables		
	2000	Decennial Census
	2005-09 2009-13	5-year Estimates of the American Community Survey (ACS)
Confounding Variables: Religion		
	2000 2010	Religious Congregations and Membership Study 2000
Confounding Variables: Crime		
	2001 2006 2012	FBI's Uniform Crime Reporting Data: County-Level Detailed Arrest and Offense Data

Table 8. Correlation Matrix for Black and White Students

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15
V1	1.000														
V2	-0.149	1.000													
V3	-0.109	0.032	1.000												
V4	0.170	-0.036	-0.072	1.000											
V5	-0.072	0.040	0.042	-0.163	1.000										
V6	-0.030	0.032	-0.006	0.130	-0.448	1.000									
V7	0.032	**0.006**	-0.034	0.081	-0.376	0.116	1.000								
V8	0.100	-0.044	-0.094	0.041	-0.279	-0.042	0.256	1.000							
V9	-0.051	0.044	0.051	-0.154	0.766	-0.414	-0.531	-0.480	1.000						
V10	0.058	-0.063	0.009	-0.027	-0.112	-0.157	-0.233	-0.234	0.320	1.000					
V11	-0.070	0.086	0.084	-0.015	0.145	0.137	-0.257	-0.409	0.273	0.039	1.000				
V12	0.043	**0.005**	-0.040	-0.024	0.053	-0.025	0.197	0.308	-0.288	-0.656	-0.249	1.000			
V13	**0.002**	0.027	0.003	-0.168	0.627	-0.597	0.038	0.171	0.343	-0.136	-0.194	0.242	1.000		
V14	0.300	-0.127	-0.184	0.310	-0.128	-0.038	-0.030	0.132	-0.068	0.083	-0.043	-0.012	-0.063	1.000	
V15	0.017	-0.044	0.052	0.063	-0.234	0.047	-0.181	-0.085	-0.081	0.273	-0.060	-0.204	-0.505	0.174	1.000

V1 = Homeschool Student Ratio

V2 = School Index of Dissimilarity

V3 = Mean Pupil-to-Teacher Ratio

V4 = Proportion of Free/Reduced-Price Lunch Students

V5 = Mean of Median Household Income

V6 = Unemployment Rate

V7 = Proportion of Employed Adults 16+ in Agriculture

V8 = Proportion of Employed Adults 16+ in Manufacturing

V9 = Proportion of Adults 25+ with at Least Bachelor's Degree

V10 = Proportion of Population Enrolled in College

V11 = Mean Population Density

V12 = Mean Median Age

V13 = Proportion of Children<18 in Married Family Households

V14 = Percentage of Evangelical Protestant Adherents

V15 = Crime Rate

Table 9. Correlation Matrix for Minority and White Students

	V1	V2	V3	V4	V5	V6	V7	V8	V9	V10	V11	V12	V13	V14	V15
V1	1.000														
V2	-0.165	1.000													
V3	-0.109	0.016	1.000												
V4	0.170	0.025	-0.072	1.000											
V5	-0.072	0.025	0.042	-0.163	1.000										
V6	-0.030	0.094	-0.006	0.130	-0.448	1.000									
V7	0.032	**0.004**	-0.034	0.081	-0.376	0.116	1.000								
V8	0.100	-0.052	-0.094	0.041	-0.279	-0.042	0.256	1.000							
V9	-0.051	0.018	0.051	-0.154	0.766	-0.414	-0.531	-0.480	1.000						
V10	0.058	-0.055	0.009	-0.027	-0.112	-0.157	-0.233	-0.234	0.320	1.000					
V11	-0.070	0.076	0.084	-0.015	0.145	0.137	-0.257	-0.409	0.273	0.039	1.000				
V12	0.043	-0.049	-0.040	-0.024	0.053	-0.025	0.197	0.308	-0.288	-0.656	-0.249	1.000			
V13	**0.002**	-0.050	0.003	-0.168	0.627	-0.597	0.038	0.171	0.343	-0.136	-0.194	0.242	1.000		
V14	0.300	-0.114	-0.184	0.310	-0.128	-0.038	-0.030	0.132	-0.068	0.083	-0.043	-0.012	-0.063	1.000	
V15	0.017	0.043	0.052	0.063	-0.234	0.047	-0.181	-0.085	-0.081	0.273	-0.060	-0.204	-0.505	0.174	1.000

V1	=	Homeschool Student Ratio	V15	=	Crime Rate
V2	=	School Index of Dissimilarity			
V3	=	Mean Pupil-to-Teacher Ratio			
V4	=	Proportion of Free/Reduced-Price Lunch Students			
V5	=	Mean of Median Household Income			
V6	=	Unemployment Rate			
V7	=	Proportion of Employed Adults 16+ in Agriculture			
V8	=	Proportion of Employed Adults 16+ in Manufacturing			
V9	=	Proportion of Adults 25+ with at Least Bachelor's Degree			
V10	=	Proportion of Population Enrolled in College			
V11	=	Mean Population Density			
V12	=	Mean Median Age			
V13	=	Proportion of Children<18 in Married Family Households			
V14	=	Percentage of Evangelical Protestant Adherents			

Table 10. Comparative Descriptive Statistics for Counties Based on Missingness

	Counties with >57% Missingness				**Counties with >25% Missingness**				**Counties with <25% Missingness**			
Variable	N	Mean	Min	Max	N	Mean	Min	Max	N	Mean	Min	Max
Proportion of Students Homeschooled	3	6.23	0.22	16.87	41	0.49	0.01	16.87	779	0.03	0.00	0.30
Index of Dissimilarity (Blacks)	3	0.00	0.00	0.00	41	0.14	0.00	0.78	779	0.34	0.00	0.99
Index of Dissimilarity (Minorities)	3	0.47	0.47	0.47	41	0.14	0.00	0.47	779	0.26	0.00	0.79
Mean Pupil-to-Teacher Ratio	3	12.65	12.65	12.65	41	14.10	11.28	17.33	779	15.17	5.60	37.39
Proportion of Free/Reduced-Price Lunch Students	3	0.67	0.67	0.67	41	0.58	0.18	0.99	779	0.51	0.09	0.99
Mean of Median Household Income	3	53002.39	47244.29	60270.08	41	51058.44	31794.00	65028.21	779	54403.66	26303.33	120088.00
Unemployment Rate	3	0.10	0.10	0.10	41	0.10	0.07	0.17	779	0.10	0.04	0.20
Proportion of Employed Adults 16+ in Agriculture	3	0.02	0.01	0.02	41	0.02	0.00	0.07	779	0.02	0.00	0.09
Proportion of Employed Adults 16+ in Manufacturing	3	0.09	0.08	0.10	41	0.11	0.08	0.24	779	0.11	0.02	0.27
Proportion of Adults 25+ with at Least Bachelor's Degree	3	0.29	0.27	0.32	41	0.26	0.10	0.38	779	0.28	0.08	0.74
Proportion of Population Enrolled in College	3	0.08	0.07	0.08	41	0.07	0.04	0.09	779	0.08	0.03	0.54
Proportion of Evangelical Protestant Adherents	3	7.21	3.76	9.63	41	23.11	3.76	54.69	779	19.61	0.36	103.57
Crime Rate	3	0.50	0.02	1.12	41	5.34	0.01	50.42	779	2.84	0.00	58.75
Mean Population Density	3	4005.68	3127.24	4972.60	41	3497.03	290.23	18639.44	779	4445.04	35.82	31442.21
Mean of Median Age	3	37.73	36.43	38.84	41	38.89	35.12	41.90	779	38.90	21.60	47.23
Proportion of Children <18 in Married Family Households	3	0.63	0.62	0.65	41	0.64	0.30	0.71	779	0.66	0.34	0.81

Table 11. Ordinary Least Squares Regression Coefficients Predicting Homeschool Student Ratio, Including Counties with High Missingness: Black and White Students (N=813)

	Model 1	Model 2	Model 3
	Coef.	Coef.	Coef.
School Index of Dissimilarity	-0.261	-0.280	-0.273
	(0.233)	(0.258)	(0.250)
Crime Rate		-.001 +	<-0.001
		(<0.001)	(<0.001)
Proportions of Evangelical Protestant Adherents		-0.001	-0.002
		(0.001)	(0.002)
Mean Population Density		<0.001	<0.001
		(<0.001)	(<0.001)
Economy			
Unemployment Rate		0.004	-0.258
		(0.390)	(0.475)
Proportion of Employed Adults 16+ in Manufacturing		-0.927	-0.892
		(0.974)	(0.930)
Mean of Median Household Income		<0.001	<0.001
		(<0.001)	(<0.001)
Educational Environment			
Proportion of Adults 25+ with at Least Bachelor's Degree		0.148	0.179
		(0.147)	(0.159)
Proportion of Population Enrolled in College		-0.189	-0.160
		(0.227)	(0.199)
School Quality			
Mean Pupil-to-Teacher Ratio			-0.007
			(0.006)
Proportion of Free/Reduced-Price Lunch Students			0.193
			(0.177)
Constant	0.144	0.256	0.272
	(0.101)	(0.202)	(0.221)

+p.10; *p<.05; **p<.01; ***p<.001

Note: Clustered Standard Errors in Parentheses

Table 12. Ordinary Least Squares Regression Coefficients Predicting Homeschool Student Ratio, Including Counties with High Missingness: Minority and White Students (N=813)

	Model 1	Model 2	Model 3
	Coef.	Coef.	Coef.
School Index of Dissimilarity	0.206	0.201	0.190
	(0.227)	(0.213)	(0.204)
Crime Rate		-0.001	-0.001
		(<0.001)	(0.001)
Proportions of Evangelical Protestant Adherents		<0.001	-0.001
		(0.001)	(0.002)
Mean Population Density		<0.001	<0.001
		(<0.001)	(<0.001)
Economy			
Unemployment Rate		-0.207	-0.461
		(0.403)	(0.606)
Proportion of Employed Adults 16+ in Manufacturing		-0.914	-0.881
		(0.985)	(0.932)
Mean of Median Household Income		<0.001	<0.001
		(<0.001)	(<0.001)
Educational Environment			
Proportion of Adults 25+ with at Least Bachelor's Degree		-0.009	0.027
		(0.107)	(0.110)
Proportion of Population Enrolled in College		0.019	0.041
		(0.070)	(0.075)
School Quality			
Mean Pupil-to-Teacher Ratio			-0.007
			(0.006)
Proportion of Free/Reduced-Price Lunch Students			0.194
			(0.183)
Constant	0.003	0.127	0.150
	(0.038)	(0.108)	(0.120)

+p.10; *p<.05; **p<.01; ***p<.001

Note: Clustered Standard Errors in Parentheses

Table 13. Ordinary Least Squares Regression Coefficients Predicting Homeschool Student Ratio with a Flag for Counties with Data Derived from Earlier Years: Black and White Students (N=772)

	Model 1		Model 2		Model 3	
	Coef.		Coef.		Coef.	
School Index of Dissimilarity	-0.022	**	-0.017	***	-0.017	***
	(0.006)		(0.004)		(0.004)	
Flag for Early Years	-0.013	+	-0.007		-0.005	
	(0.007)		(0.005)		(0.006)	
Crime Rate			<-0.001		<-0.001	
			(<0.001)		(<0.001)	
Proportions of Evangelical Protestant Adherents			0.001	+	0.001	
			(<0.001)		(<0.001)	
Mean Population Density			<0.001		<0.001	
			(<0.001)		(<0.001)	
Economy						
Unemployment Rate			-0.027		-0.044	
			(0.161)		(0.158)	
Proportion of Employed Adults 16+ in Manufacturing			0.056		0.059	
			(0.043)		(0.041)	
Mean of Median Household Income			<0.001		<0.001	
			(<0.001)		(<0.001)	
Educational Environment						
Proportion of Adults 25+ with at Least Bachelor's Degree			-0.004		-0.001	
			(0.062)		(0.063)	
Proportion of Population Enrolled in College			0.050	*	0.051	*
			(0.021)		(0.021)	
School Quality						
Mean Pupil-to-Teacher Ratio					<0.001	
					(<0.001)	
Proportion of Free/Reduced-Price Lunch Students					0.012	
					(0.009)	
Constant	0.042	***	0.028		0.029	
	(0.007)		(0.021)		(0.023)	

+p.10; *p<.05; **p<.01; ***p<.001

Note: Clustered Standard Errors in Parentheses

Table 14. Ordinary Least Squares Regression Coefficients Predicting Homeschool Student Ratio Excluding Counties with Data Derived from Earlier Years: Black and White Students (N=677)

	Model 1		Model 2		Model 3	
	Coef.		Coef.		Coef.	
School Index of Dissimilarity	-0.023	**	-0.018	**	-0.018	**
	(0.007)		(0.004)		(0.005)	
Crime Rate			<-0.001		<-0.001	
			(<0.001)		(<0.001)	
Proportions of Evangelical Protestant Adherents			0.001	+	0.001	
			(<0.001)		(<0.001)	
Mean Population Density			<0.001		<0.001	
			(<0.001)		(<0.001)	
Economy						
Unemployment Rate			-0.022		-0.040	
			(0.169)		(0.166)	
Proportion of Employed Adults 16+ in Manufacturing			0.064		0.067	
			(0.048)		(0.046)	
Mean of Median Household Income			<0.001		<0.001	
			(<0.001)		(<0.001)	
Educational Environment						
Proportion of Adults 25+ with at Least Bachelor's Degree			<0.001		0.003	
			(0.067)		(0.067)	
Proportion of Population Enrolled in College			0.050	*	0.051	*
			(0.022)		(0.023)	
School Quality						
Mean Pupil-to-Teacher Ratio					<0.001	
					(<0.001)	
Proportion of Free/Reduced-Price Lunch Students					0.014	
					(0.010)	
Constant	0.043	***	0.026		0.026	
	(0.007)		(0.022)		(0.023)	

+p.10; *p<.05; **p<.01; ***p<.001

Note: Clustered Standard Errors in Parentheses

Table 15. Ordinary Least Squares Regression Coefficients Predicting Homeschool Student Ratio with a Flag for Counties with Data Derived from Earlier Years: Minority and White Students (N=772)

	Model 1		Model 2		Model 3	
	Coef.		Coef.		Coef.	
School Index of Dissimilarity	-0.028	***	-0.023	***	-0.026	***
	(0.006)		(0.005)		(0.005)	
Flag for Early Years	-0.012		-0.005		-0.003	
	(0.007)		(0.005)		(0.006)	
Crime Rate			<-0.001		<-0.001	
			(<0.001)		(<0.001)	
Proportions of Evangelical Protestant Adherents			0.001	+	0.001	
			(<0.001)		(<0.001)	
Mean Population Density			<0.001		<0.001	
			(<0.001)		(<0.001)	
Economy						
Unemployment Rate			-0.006		-0.024	
			(0.156)		(0.151)	
Proportion of Employed Adults 16+ in Manufacturing			0.056		0.061	
			(0.044)		(0.042)	
Mean of Median Household Income			<0.001		<0.001	
			(<0.001)		(<0.001)	
Educational Environment						
Proportion of Adults 25+ with at Least Bachelor's Degree			-0.008		-0.004	
			(0.061)		(0.062)	
Proportion of Population Enrolled in College			0.052	*	0.053	*
			(0.020)		(0.020)	
School Quality						
Mean Pupil-to-Teacher Ratio					<0.001	
					(<0.001)	
Proportion of Free/Reduced-Price Lunch Students					0.015	
					(0.009)	
Constant	0.042	***	0.024		0.024	
	(0.007)		(0.020)		(0.021)	

+p.10; *p<.05; **p<.01; ***p<.001

Note: Clustered Standard Errors in Parentheses

Table 16. Ordinary Least Squares Regression Coefficients Predicting Homeschool Student Ratio Excluding Counties with Data Derived from Earlier Years: Minority and White Students (N=677)

	Model 1		Model 2		Model 3	
	Coef.		Coef.		Coef.	
School Index of Dissimilarity	-0.031	***	-0.026	***	-0.029	***
	(0.006)		(0.005)		(0.005)	
Crime Rate			<-0.001		<-0.001	
			(<0.001)		(<0.001)	
Proportions of Evangelical Protestant Adherents			0.001	+	<0.001	
			(<0.001)		(<0.001)	
Mean Population Density			<0.001		<0.001	
			(<0.001)		(<0.001)	
Economy						
Unemployment Rate			0.003		-0.015	
			(0.163)		(0.157)	
Proportion of Employed Adults 16+ in Manufacturing			0.064		0.069	
			(0.050)		(0.049)	
Mean of Median Household Income			<0.001		<0.001	
			(<0.001)		(<0.001)	
Educational Environment						
Proportion of Adults 25+ with at Least Bachelor's Degree			-0.005		<0.001	
			(0.065)		(0.065)	
Proportion of Population Enrolled in College			0.053	*	0.054	*
			(0.021)		(0.021)	
School Quality						
Mean Pupil-to-Teacher Ratio					<0.001	
					(<0.001)	
Proportion of Free/Reduced-Price Lunch Students					0.018	+
					(0.010)	
Constant	0.043	***	0.023		0.021	
	(0.007)		(0.021)		(0.022)	

+p.10; *p<.05; **p<.01; ***p<.001

Note: Clustered Standard Errors in Parentheses

Table 17. Ordinary Least Squares Regression Coefficients Predicting Homeschool Student Ratio with Transformed Independent and Dependent Variables: Black and White Students (N=772)

	Model 1		Model 2		Model 3	
	Coef.		Coef.		Coef.	
School Index of Dissimilarity	-0.046	**	-0.033	**	-0.031	**
	(0.015)		(0.010)		(0.010)	
Crime Rate			-0.001	*	-0.001	*
			(<0.001)		(<0.001)	
Proportions of Evangelical Protestant Adherents			0.002	*	0.001	*
			(0.001)		(0.001)	
Mean Population Density			<0.001		<0.001	
			(<0.001)		(<0.001)	
Economy						
Unemployment Rate			-0.228		-0.274	
			(0.325)		(0.326)	
Proportion of Employed Adults 16+ in Manufacturing			0.107		0.121	
			(0.111)		(0.108)	
Mean of Median Household Income			<0.001		<0.001	
			(<0.001)		(<0.001)	
Educational Environment						
Proportion of Adults 25+ with at Least Bachelor's Degree			-0.044		-0.034	
			(0.121)		(0.122)	
Proportion of Population Enrolled in College			0.039		0.045	
			(0.052)		(0.053)	
School Quality						
Mean Pupil-to-Teacher Ratio					<0.001	
					(0.001)	
Proportion of Free/Reduced-Price Lunch Students					0.039	
					(0.023)	
Constant	0.194	***	0.180	***	0.166	**
	(0.017)		(0.042)		(0.044)	

+p.10; *p<.05; **p<.01; ***p<.001

Note: Clustered Standard Errors in Parentheses

Table 18. Ordinary Least Squares Regression Coefficients Predicting Homeschool Student Ratio with Transformed Independent and Dependent Variables: Minority and White Students (N=772)

	Model 1		Model 2		Model 3	
	Coef.		Coef.		Coef.	
School Index of Dissimilarity	-0.075	***	-0.054	**	-0.056	***
	(0.018)		(0.016)		(0.016)	
Crime Rate			-0.001	*	-0.001	*
			(<0.001)		(<0.001)	
Proportions of Evangelical Protestant Adherents			0.002	*	0.001	*
			(0.001)		(0.001)	
Mean Population Density			<0.001		<0.001	
			(<0.001)		(<0.001)	
Economy						
Unemployment Rate			-0.174		-0.222	
			(0.314)		(0.312)	
Proportion of Employed Adults 16+ in Manufacturing			0.108		0.124	
			(0.112)		(0.111)	
Mean of Median Household Income			<0.001		<0.001	
			(<0.001)		(<0.001)	
Educational Environment						
Proportion of Adults 25+ with at Least Bachelor's Degree			-0.047		-0.036	
			(0.116)		(0.117)	
Proportion of Population Enrolled in College			0.037		0.042	
			(0.048)		(0.048)	
School Quality						
Mean Pupil-to-Teacher Ratio					-0.001	
					(0.001)	
Proportion of Free/Reduced-Price Lunch Students					0.043	+
					(0.022)	
Constant	0.205	***	0.180	***	0.169	***
	(0.019)		(0.041)		(0.041)	

+p.10; *p<.05; **p<.01; ***p<.001

Note: Clustered Standard Errors in Parentheses

Table 19. Share of US Homeschool Population from the National Survey of Children's Health 2011 (N=65,394)

State	Number of Homeschooled Children in Survey	Estimated Percentage of National Homeschool Population
Arkansas	44	2.69
Colorado	30	1.83
Delaware	24	1.47
Florida	47	2.87
Maine	42	2.56
Maryland	27	1.65
North Carolina	37	2.26
Oregon	40	2.44
Pennsylvania	23	1.40
South Dakota	28	1.71
Utah	21	1.28
Virginia	38	2.32
Washington	40	2.44
West Virginia	33	2.01
Wisconsin	23	1.40
Total	497	30.33