

Homeschooling and Racism

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This article examines the diffusion of homeschooling legislation throughout the 50 states. Event history analysis is used to assess why certain states adopted homeschooling legislation and why some states adopted such legislation earlier than others. Results show that several state-level characteristics are associated with higher odds of enacting homeschooling legislation of which the most noted is state school segregation levels. The data suggest a correlation between racism and the geotemporal diffusion of homeschooling legislation.

Keywords: *homeschooling; racism; diffusion studies; event history analysis; segregation*

There is substantial criticism of the American public school system, and such criticism is not new. Since the 1950s, in response to the increasing censure of the public school system, the educational establishment began to initiate reforms. Those included a variety of school restructuring programs, teacher accountability programs, and new management practices. The reforms, however, failed to ameliorate the concerns of some parents who felt that the system was failing to educate their children with their philosophical and moral upbringings. By the mid-1980s, an increased number of parents began to take their children out of public schools and enroll them in alternative schools. Among the alternatives were magnet and charter schools. More controversial alternatives also emerged, such as voucher-based education and homeschooling (Van Galen & Pitman, 1991).

The focus of this article is on home education. I will explore the diffusion of home education statutes across the United States, the politics behind it, and the degree of implementation success at the state level. Diffusion research seeks to explain how and why innovative societal developments

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spread. It also provides the necessary background for understanding how some aspects of democratic politics operate by highlighting some of the intricacies of lobbying, interest group politics, and how laws are passed in state legislatures. Diffusion research explains why certain policies are adopted at a certain time period, the manner of adoption, and the frequency of adoption (Savage, 1985).

It should be noted that educational alternatives such as charter schools and vouchers are less popular than homeschooling. In 2001, about half a million students attended charter schools; a total of 65,000 students received vouchers (Cloud & Morse, 2001). The number of homeschooled students in the United States is far larger, estimated to be in the range of 1.1 million to 2.1 million (National Center for Education Statistics [NCES], 2003a; Ray, 2003).

Event History Analysis

To assess the diffusion of homeschooling statutes across the states, the statistical method of event history analysis (EHA) is used. The EHA analyzes time intervals between successive state transitions or events (Blossfeld, Hamerle, & Mayer, 1989). EHA evolved as the preferred method of analysis because of the limitations of other techniques used for time interval analysis (Berry, 1994; Berry & Berry, 1990; Walker, 1969).

Hypotheses Regarding Demographic Variables

In my study, I will use a series of 13 hypotheses to assess the motivations of states to pass homeschooling legislations:

Hypothesis 1: The higher the level of per capita income in a state, the higher the probability that the state will adopt a homeschooling statute, controlling for the effects of other independent variables.

The rationale is that per capita income is a good measure of the wealth of a state. According to statistical data provided by Ray (2003), about 95% of homeschooling families are headed by a married couple with the mother doing about 90% of the formal teaching. The typical homeschooling parents (on average) are more educated—with about 50% of parents having completed a bachelor's degree or higher. Is the median household income of homeschooling families higher than the total average nationwide? According to an NCES 1999 study, the median household income of homeschooling

families is higher than the household income of nonhomeschooling families. The data suggest that states that are wealthier than average might contain a larger number of homeschooling families, indicating a possible stronger popular support in wealthier states for state enactment of a homeschooling statute (NCES, 2001b).

Hypothesis 2: The less urbanized a state, the lower the probability that the state will adopt a homeschooling statute, controlling for the effects of other independent variables.

The rationale is that according to a 1999 NCES survey, the percentage of homeschooling families living in an urban area (cities or metro areas) is about 9 points lower than that for nonhomeschooling families (53% and 62%, respectively). Homeschooling families are more likely to live in small towns or rural areas. These figures therefore suggest that states that are less urban are more likely to have a higher percentage of homeschooling families, generating additional pressure for enacting a homeschooling statute (NCES, 2001a).

Hypothesis 3: The higher the population density per square mile in a state, the lower the probability that the state will adopt a homeschooling statute, controlling for the effects of other independent variables.

The rationale is that in addition to the "percent urban" measure, a second measure, "population density per square mile," also will be used to assess whether population density (not necessarily higher urban score) has an effect on the adoption of homeschooling. For example, both of the states of Nevada and New Jersey have about the same urban score (88% and 89%, respectively), but the population density per square mile of each state is vastly different. In the case of the more sparsely populated states, spatial isolation in nonurban communities can be more extreme. Geographical isolation may mean an isolationist mentality of self-reliance and lack of public schools nearby. Such factors can encourage more families to choose homeschooling.

Hypothesis 4: The higher the percentage of Christian fundamentalists in a state's population, the higher the probability that the state will adopt homeschooling legislation, controlling for the effects of other independent variables.

The rationale is that state politicians must be sensitive to the interests of their constituents if they want to be reelected. Because the Christian Right

strongly supports the movement to legalize homeschooling throughout the states, it is reasonable to hypothesize that states with a larger percentage of Christian fundamentalists will be more likely to enact homeschooling legislation.

Hypothesis 5: The higher the percentage of African Americans in a state, the higher the probability that the state will adopt a homeschooling legislation, controlling for the effects of other independent variables.

The rationale is that in states where the percentage of African Americans is high, racial interaction and multicultural education at schools are more likely. The NCES for the year 1999 estimates that a greater percentage of homeschooled families were White in comparison to the general population—75% versus 65% (NCES, 2001a). Ray (2003) provides a higher number—90% White. It is conceivable that many White parents choose to homeschool their children to avoid the race interaction or multicultural teachings in public schools.

Hypothesis 6: The higher the racial segregation levels in public schools in a state, the lower the probability that the state will adopt a homeschooling statute, controlling for the effects of other independent variables.

The rationale is that racial segregation in public schools can also have an effect on the inclination of some states to adopt homeschooling statutes. According to Orfield and Lee (2004) of the Civil Rights Project at Harvard University, the desegregation process in public schools continued unabated until 1988 for all the regions of the United States except the Northeast.

The level of public school integration reached its peak for most regions in the 1980s—the same time period that most states (29 of them) enacted homeschooling laws. Because the overwhelming majority of homeschooling families are White (Ray, 2003), it is conceivable that homeschooling began to flourish in the 1980s in reaction to increased school integration. Thus, the increased number of homeschooled families might have compelled many states to pass homeschooling laws.

Hypothesis Regarding Political Variables

Hypothesis 7: When the Republican Party controls the governorship and both houses of the legislature, the probability that the state will adopt homeschooling legislation is higher than when the government is under Democratic or divided control, controlling for the effects of other independent variables.

The rationale is that according to Hansen (1983, pp. 153-154) and Berry and Berry (1990, p. 403), states in which the governor and the legislature are controlled by the same political party are more likely to adopt controversial legislation because there are no roadblocks created by the party in opposition. In the case of homeschooling, the Republican Party would probably support homeschooling legislation. The most influential lobby group for homeschooling legislation (HSLDA) is backed by the Christian Right—a faction known for its strong ties to the Republican Party.

Hypothesis 8: The higher the National Education Association (NEA) membership in a state, the lower the probability that the state will adopt a homeschooling statute, controlling for the effects of other independent variables.¹

The rationale is that teachers unions are more likely to oppose the legalization of homeschooling in a state because it will undermine their control over education. Every student that leaves the public school system means less state monies for public schools and the teachers they employ (Klicka, 2002). According to HSLDA, the NEA has taken a position against homeschooling every year since 1988 (Somerville, 2001). In 1999, for example, the NEA passed a resolution stating that “the National Education Association believes that home schooling programs cannot provide the student with a comprehensive education experience” (Klicka, 2002, p. 209). The NEA also continuously lobbies state legislatures to add restrictions to homeschooling statutes. Among these are teacher certification requirements for homeschooling parents and a provision that students should have the option of attending public school part-time so they can be counted in the average daily membership without proration for full per pupil funding (Zysk, 2000).

As a measure of teachers unions’ level of opposition in a state schooling to homeschooling, I use the percentage of teachers in a state who are NEA members. The higher the union’s membership in a state, the more powerful the opposition will be against the legalization of homeschooling.

Investments in Education Among States

Hypothesis 9: The higher the expenditures per pupil in a state, the lower the probability that a state will adopt a homeschooling statute, controlling for the effects of other independent variables.

The rationale is that public education in the United States is a joint enterprise between local, state, and federal governments. The level of investments in education in a state can be a catalyst for a surge in the number of

homeschooled students. Economic, demographic, and political issues can all affect the level of spending in a state on education. In some states, spending on education may be low, encouraging more parents to turn to homeschooling.

Hypothesis 10: The higher the ratio of the number of teachers to state population, the lower the probability that the state will pass a homeschooling statute, controlling for the effects of other independent variables.

The rationale is that another way to judge the level of a state's dedication to education is to compare the number of teachers against the total state population. This variable reflects a commitment to hire teachers and reduce class size in public schools. It is likely that parents will be more satisfied when they perceive that there are more teachers per student. Greater attention given to each student may convince more parents that individualized teaching at home may not be necessary.

Hypothesis 11: The higher the high school graduation rate in a state, the lower the probability that the state will pass a homeschooling statute, controlling for the effects of other independent variables.²

The rationale is that another way to judge the quality of education is to measure the average high school graduation rate in a state. States with poor graduation rates because of lack of financial investments or other reasons are more likely to experience a higher degree of homeschooling.

Geopolitical Variables

Hypothesis 12: The probability that a state will adopt a homeschooling statute is directly related to the number of neighboring states (with whom a given state shares a border) that have passed a homeschooling statute, controlling for the effects of other independent variables.

The rationale is that research into geopolitical influences on policy diffusion shows that states are affected politically by the legislative actions of their immediate neighbors (Grupp & Richards, 1975; Menzel & Feller, 1977). According to Walker (1969), "state decision makers are constantly looking to each other for guides in many areas of policy. . . . This process determines in large part the pace and direction of . . . political change in the American states" (p. 890). According to Mintron (1997), policy entrepreneurs (i.e., people who seek to promote policy innovations) play an essential

role in the diffusion of innovations to neighboring states. Within their own states, policy entrepreneurs identify problems, network in policy circles, shape the terms of debate, and build coalitions to promote their ideas. They also network on an interstate level, strengthening connections to promote their innovations in other states (Mintron, 1997, p. 739).

Hypothesis 13: The probability that a state will adopt a homeschooling statute is directly related to the number of states in the larger region that have passed homeschooling statutes, controlling for the effects of other independent variables.

The rationale is that regional culture and politics can also have a role in predisposition of certain states to adopt homeschooling statutes. Although dividing the United States into regions is subjective (Berry & Berry, 1990), there are theoretical grounds for defining regions (Elazar, 1972). A definition of regions for educational policy purposes is provided by the Civil Rights Project at Harvard University. (Check the appendix for a complete list of states for each region.)

The series of hypotheses are used for the EHA analysis. The 13 hypotheses are amalgamated to produce the following EHA model equation:

$$\hat{L}(\text{ADOPT } i,t) = b_0 (b_1\text{PCI2000 } i,t + b_2\text{URBAN } i,t + b_3\text{POPDENSI } i,t + b_4\text{FUNDAMEN } i,t + b_5\text{AAPER } i,t + b_6\text{SEGREGAT } i,t + b_7\text{PTYCONTR } i,t + b_8\text{NEA } i,t + b_9\text{EXPP000 } i,t + b_{10}\text{PERTEACH } i,t + b_{11}\text{HSGRADRTI } i,t + b_{12}\text{ADJACENT } i,t + b_{13}\text{REGION } i,t).$$

(Please check the appendix for further discussion of the variables.)

Results

Table 1 shows the results of a logistic regression analysis of the 13 independent variables that were hypothesized as possible explanations for the enactment of a homeschooling statute in a particular state in a particular year. The table includes columns for the estimated coefficient “*b*”—its standard error; Wald, which determines if “*b*” is significantly different from zero and therefore is making a significant contribution to the prediction of the outcome; the two-tailed significance level of the estimated coefficient; and $\exp(b)$ or the odds ratio. The dependent variable, \hat{L} , is the log odds of the dependent variable ($Y = 1$)—that is, the log odds that a particular state will adopt homeschooling in a particular year, given its values on the independent variables.

Table 1
Logistic Regression Analysis of the Adoption of
Homeschooling Legislation

Variable	<i>b</i>	<i>SE</i>	Wald	Two-Tailed Significance	Exp(<i>b</i>)
Constant	-.014	7.894	.000	.999	
Adjacent states ^a	-.448	.172	6.826	.009*	.639
% Christian fundamentalist	.084	.032	6.997	.008*	1.087
% urban in state	-.043	.027	2.534	.111	.958
Expenditures per pupil	1.193	.300	15.756	.000*	3.296
Union membership (NEA)	-.010	.007	2.220	.136	.990
Per capita income	.000	.000	.556	.456	1.000
Population density	-1.278	.463	7.618	.006*	.279
High school graduation rate	.114	.149	.583	.445	1.121
Political party in control	1.567	.817	3.679	.055 [†]	4.794
# of teachers per capita	.079	.024	10.546	.001*	1.083
% African American in state	-.019	.043	.195	.659	.981
Segregation level	-.206	.092	5.007	.025 [†]	.814
Region: ^b South	-.176	1.150	.023	.879	.839
Region: Border	-.904	1.117	.655	.418	.405
Region: Northeast	1.628	.923	3.112	.078 [†]	5.094
Region: West	.082	.773	.011	.916	1.085

Note: NEA = National Education Association.

a. To reduce the number of "at risk" years in the data set and thereby to obtain more robust estimates of coefficients (i.e., coefficients not dependent on the inclusion or exclusion of particular states), the early adopting states of Oklahoma, Nevada, and Utah were assumed to have adopted homeschooling in 1980, just 2 years before the trend toward adoption of homeschooling began.

b. There are four regional dummy variables given. I deleted one dummy variable (Midwest) to avoid a perfect linear dependency between the constant term (= 1) and the five dummy regional variables—their sum will always be equal to 1 unless I delete a region. The intercept for the Midwest is the constant term. The intercept for the other regions is the constant term plus the coefficient on the region.

* $p \leq .01$, two-tailed. [†] $p \leq .05$, one-tailed.

Table 1 shows that 8 of the 13 independent variables were statistically significant. A coefficient without a negative sign has a positive effect on the log odds of the dependent variable, controlling for the effects of other independent variables. A coefficient with a negative sign has a negative effect. The column exp(*b*) shows the odds ratios. For independent variables that are dummy variables, their value can be viewed as a multiplier of the odds of the dependent variable. An odds ratio less than 1.0 means that the independent variable diminishes the odds of the dependent variable; an odds

ratio greater than 1.0 means that the independent variable increases the odds of the dependent variable.

Discussion

The results from the event history analysis provide an interesting picture of why certain states enacted homeschooling laws whereas others did not.

Demographic Variables

The population density variable shows that states that are more rural are more likely to pass homeschooling laws. Because rural communities usually experience spatial isolation, transportation of rural students to a regional public school may not be a viable solution. In addition, the culture of social isolation where small communities rely on their own resources for a living can also contribute to the evolution of homeschooling. Other reasons include the fact that rates of church attendance are higher in rural areas. It has been established that homeschooling is more likely to be practiced by conservative Christian families. Also, rural schools are consistently underfunded; rural and small-town schools educate nearly 40% of America's students while receiving less than 22% of the total federal, state, and local spending on public education (Luloff & Swanson, 1990). Lack of financial resources can also contribute to an increase in homeschooling. The given assessments may help explain why population density is associated with a propensity to encourage homeschooling. It should be noted, however, that my hypothesis regarding the percentage urban was not confirmed. States with a lower spatial population density, regardless of a high level or low level of urbanity, are more likely to pass homeschooling laws.

The magnitude and statistical significance of the coefficient on religious fundamentalism supports the argument that the presence of Christian fundamentalists, who are sympathetic to homeschooling, increases the likelihood that a state's policy makers will enact a homeschooling law. Up until the 1990s, Christian parents were responsible for the surge in the number of homeschooling families (Van Galen & Pitman, 1991). Christian-based organizations such as HSLDA were also active in efforts to legalize homeschooling (Klicka, 2002).

The coefficient on the segregation variable also proved to be significant. Yet the coefficient on the variable measuring the percentage of African Americans in each state was not significant. It is clear that in terms of

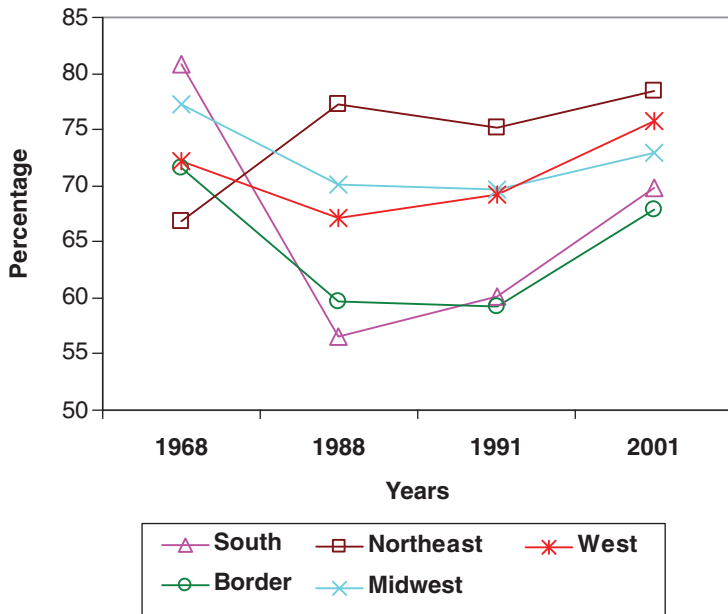
segregation, the higher the segregation index, the lower the odds of adopting homeschooling legislation. This result appears to run counter to research that has not found racial bias in homeschooling (Kraychir, 2003; Ray, 1999). The fact that the majority of homeschooling families are White may be because of the increased racial integration of public schools. As a consequence, the low percentage of racially underrepresented groups who choose to homeschool may be related to the issue of segregation within the homeschooling movement. According to Ray (1999), there are different plausible explanations for why such groups joined the homeschooling movement only recently. The first is the perception that homeschooling is mostly a White conservative movement that has low tolerance toward other racial groups. The second is that racially underrepresented groups believe that public schools are the best avenue for their children to get ahead. The third explanation involves the possibility that majority-group home educators may be discriminating against other racial groups. Ray notes, however, that there is no evidence that supports this line of reasoning. Finally, there might be pressure by peers and community leaders in certain racial groups to keep their children in public schools (Ray, 1999, pp. 76-77). Studies that measure the level of multicultural socialization among homeschooled students are currently unavailable (Kraychir, 2003).

It is important to note that the coefficient on the segregation variable proved to be statistically significant not based on the demographics of racially underrepresented groups but rather on the extent to which laws and other factors result in integration of the public schools. Data about public school integration (since the 1954 *Brown v. Board of Education* decision) show that the level of school integration in most regions of the country reached its highest level in the 1980s (see Figure 1). It is also the same decade that 29 of the 38 homeschooling laws were passed. Thus, there is a correlation between racial integration and the adoption of homeschooling laws. It is possible that as the level of school integration increased, more White parents decided to educate their children at home. As the number of homeschooled students swelled and the level of school integration reached its peak, a critical mass was reached whereby there was significant political pressure in most states to enact homeschooling legislation.

Political Variables

The coefficient on the party control variable was statistically significant. Conventional wisdom would suggest that Republican-controlled state

Figure 1
Percentage of Black Students in 50% to 100% Minority Schools



legislatures and governorships would be more likely to pass homeschooling laws. This should be true because the Republican Party is more sympathetic to the Christian Right and its conservative agenda that includes homeschooling. The party control variable, however, suggests that Democratic-dominated legislatures and governorships were actually more likely to enact homeschooling legislation.

Perhaps state governments controlled by the Democratic Party (despite possible internal opposition within the party) realized that the homeschooling movement was expanding and was here to stay. These state governments realized that to avoid mounting legal friction with homeschooling parents, homeschooling had to be managed through homeschooling statutes and regulations. Another explanation may be the Southern Democrats effect. The Democratic Party in the South used to be more sympathetic to the interests of the religious Right and was willing to cooperate on the homeschooling issue.

Education Variables

The coefficients on the amount of money spent per state on each pupil and number of teachers per capita also proved to be statistically significant. It seems that states that spend more on education are more likely to enact homeschooling laws. These results contradict my initial hypothesis that higher investments in education by states will reduce the incentives for parents to pull their children out of public schools and educate them at home. This possibly suggests that the resources devoted to public education are not an important consideration for parents who opt to homeschool. A survey by the NCES asked homeschooling parents why they preferred to educate their children at home. The top three responses were the following: "Can give child better education at home," "Religious reasons," and "Poor learning environment" (NCES, 2001a). Hence, increased state spending on education ("throwing money at schools") apparently has not convinced certain parents that public education is improving (Garrett & Summers, 2001). Those reasons can also explain why the coefficient on average per capita income in a state was not significant as well. It seems that parents who are convinced that they can do a better job educating their children at home will do so even if they are not relatively secure financially. Because the average homeschooling family spends only about \$500 a year to homeschool one child, and the average working mother has only marginally more disposable income (controlling for all expenses) than were she to stay at home, it is economically feasible for even low-income families to homeschool their children (Ray, 1991; Rich, 1990).

The coefficient on NEA membership was nonsignificant in my analysis. What accounts for this null finding? A possible explanation is that the homeschooling issue is not an NEA priority. As of July 2004, the NEA Web site did not include any discussion of or an official position statement on homeschooling. Other controversial issues such as vouchers, charter schools, and school privatization are discussed, and official positions are articulated.³ The NEA's apparent oversight of the homeschooling issue is puzzling considering that homeschooling is expanding rapidly and creating financial pressures on public schools that have lost students to homeschooling. Perhaps NEA leaders believe that homeschooling (unlike charter schools and privatization) is growing only among very specific segments of society, namely, White, two-parent Christian conservative families with mothers who are willing to stay home to teach their children. The NEA leaders may believe that such small segments of society are not a real threat to the public schools or to their union. It is also possible that NEA leaders

do not see homeschooling as leading to the growth of educational institutions that are viable alternatives to the public schools. The same is not true of vouchers, charter schools, and school privatization.

The coefficient on state high school graduation rates was not significant. This may imply that parents do not believe that a better graduation rate means better education environments. Stories about graduating seniors who cannot read or write and the practice of grade inflation might have deterred parents from considering graduation rates as a positive factor in their perceptions of public schools. Another possibility is that it is not educational attainment but values attainment that matters to parents more. Homeschooling parents may simply resent the curriculum that is promoted in high schools today. No biblical teachings are allowed, yet evolution is taught as a fact in science courses. Furthermore, some parents might resent the multicultural education that is promoted at public schools at the expense of Eurocentric education (Klicka, 2002; Zeise, 1999).

Geopolitical Variables

The coefficient on the adjacent states variable shows that a state's geographical proximity to other states that have already enacted homeschooling legislation has a negative effect on its propensity to pass a homeschooling law.

Although the majority of the states passed homeschooling legislation during the 1980s (29 of them) and can be largely clustered into three regions (West and South for the years 1982 to 1985 and the Northeast for the years 1986 to 1989), sharing a borderline with another state that has enacted homeschooling has, if anything, a negative effect on the odds of enacting a homeschooling law. Perhaps states adjacent to states that have already enacted homeschooling learned from the experiences of those states that they should not adopt this innovation (i.e., an immunization effect).

In terms of region as a factor, only the coefficient for the Northeast proved to be statistically significant. It seems that states in the Northeast had a greater propensity to enact homeschooling laws than any other region in the United States, even controlling for level of segregation. States in this region may be most reactive to attempts to integrate the public schools. One possible explanation is that the Northeast did not face the same federal pressures to integrate the public schools as the South region, for example.

Conclusion

Homeschooling continues to gain momentum. Dr. Brian Ray, the president of the National Home Education Research Institute, predicts continuous expansion of homeschooling throughout the states. According to his data, homeschooling has expanded by about 500% between 1990 and the year 2000. He predicts a continuous strong growth rate of between 7% and 15% annually for the foreseeable future (Ray, 2003). A partial explanation for this trend is the fact that more families from a variety of backgrounds are choosing to homeschool their children. According to Ted Feinberg of the National Association of School Psychologists, the “sense of anxiety—fueled by terrorism warnings, high profile school shootings and the desire to keep children safe—probably helped home schooling grow” (Feller, 2004).

The recent trend toward greater homeschooling participation among racially underrepresented groups seems to alleviate the perception of racism within the movement. Yet as the EHA shows, racial integration is a significant factor in stimulating the passage of homeschooling laws. It appears that the avoidance of the multicultural experience in public schools is one possible catalyst for the evolution and growth of homeschooling since the 1970s. Future research should be done to assess the impacts of racial segregation as well as ideological segregation on homeschooling and its impact on society as a whole.

Appendix

A. Measurement of Variables and Data Sources

Dependent Variable: The data for the years that states passed homeschooling statutes were obtained from a 2003 legal analysis publication by Jack Klicka, J.D., of the Home School Legal Defense Association. The adoption years are as follows: Nevada, 1956; Utah, 1957; Arizona and Mississippi, 1982; Wisconsin and Montana, 1983; Georgia, Louisiana, Rhode Island, and Virginia, 1984; Arkansas, Florida, New Mexico, Oregon, Tennessee, Washington, and Wyoming, 1985; Missouri, 1986; Maryland, Minnesota, Vermont, and West Virginia, 1987; Colorado, New York, South Carolina, North Carolina, and Pennsylvania, 1988; North Dakota, Hawaii, Maine, and Ohio, 1989; New Hampshire and Connecticut, 1990; Iowa, 1991; Michigan, 1996; Delaware and Arkansas, 1997.

Note: The state of Oklahoma passed a homeschooling law in 1907 as part of the Oklahoma Constitutional Convention. Inasmuch as event history analysis (EHA)

data for the independent variables could not be traced that far back, I decided to incorporate Oklahoma to the 1980 cohort—the earliest available date on my list.

Once I obtained the dates, I was able to translate the data into state years for my EHA. As an EHA measure (ADOPT i,t), I developed a dichotomous (0,1) consequence variable. I designated a state-year variable equal to 0 for every year before the passage of a homeschooling statute and 1 for the year of passage of the statute and the remaining years up to the year 2000.

Independent Variables: I obtained the per capita income (PCI2000 i,t) for each state for the years 1980 to 2000 from the Department of Commerce Web site (www.commerce.gov). I then adjusted the data to year 2000 dollars by multiplying the data by the consumer price index (CPI) for the year 2000. The data for the percentage of urban (URBAN i,t) population in each state from 1980 to 2000 were obtained from the Census Bureau. Data for the population density (POPDENSI i,t) for each state for the years 1980 to 2000 were also attained through the Census Bureau. The population of each state was divided by the size of each state in square miles. Data for the percentage of Christian fundamentalists (FUNDAMEN i,t) for each state were obtained from Professor Donald Miller of Saint Mary's College in Notre Dame, Indiana. The following original sources were used by Professor Miller to estimate the percentage of the population identified as belonging to a fundamentalist sect: Johnson, Picard, and Quinn (1974); Quinn, Anderson, Bradley, Goetting, and Shriver (1982); and Bradley, Green, Jones, Lynn, and McNeil (1992). Fundamentalist percentages varied so minimally over the time period that they were treated as constants for each state. This approach was also taken by Berry and Berry (1990) in their EHA analysis.

I used census data for the percentage of the population in each state that was classified as African American (AAPER i,t) for the years 1980 to 2000. Data for public school segregation levels (SEGREGAT i,t) for African Americans were obtained from the Civil Rights Project at Harvard University. I acquired data for party control (PTYCONTR i,t) in each state and governorship from the following sources: Tim Storey of The National Conference of State Legislators, Professor Donald Miller at St. Mary's College, and <http://politicalgraveyard.com> (a database of historic American political biography). To translate into an EHA variable, I developed the following coding scheme: Office of governor and control of the upper and lower chambers of the state legislature were coded 0 for Republican control, 1 for Democratic control, and 0.5 for evenly divided. The sum is then divided by 3 to produce a 0 to 1 range for the EHA.

Data on the National Education Association (NEA i,t) membership were collected from the *NEA Handbook* for the years 1980 to 2000. The NEA membership data include active teachers, retired, life-long, student, substitute, reserve, staff, and associate categories. The expanded membership can lead to an NEA membership in some states that is higher than the total active teachers in a state. Data on expenditures of each state on public education (EXPP000 i,t) were obtained from the *Statistical Abstract of the United States* for the years 1980 to 2000. The data were

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Appendix (continued)

then multiplied by the CPI for the year 2000 to make all data compatible to year 2000 dollars. The number of persons in a state for each teacher (PERTEACH i, t) was derived by dividing the number of people in a state by the number of teachers in a state. The 1980 to 2000 population data were obtained from the Census Bureau. The data for the number of teachers were obtained from the *Statistical Abstract of the United States* (Bureau of the Census Data, 2004) and the *Digest of Educational Statistics* (National Center for Education Statistics, 2004a).

The high school graduation data (HSGRADRTI i, t) were derived from dividing the number of graduates by the total enrollment data (the number of high school students Grades 9 through 12). This method was suggested to me by a data consultant at the National Center for Education Statistics, given that there are significant variations in the ways states determine the flow of students through the grades. The error rate in this method is significantly lower than just dividing the number of graduates by Grade 9 enrollment 4 years ago. The graduation and enrollment data for the years 1980 to 2000 were obtained from the following sources: *Digest of Educational Statistics* (National Center for Education Statistics, 2004a), *Statistics of Public Elementary and Secondary School Systems* (National Center for Education Statistics, 2003b), *Statistical Abstract of the United States* (Bureau of the Census Data, 2004), *Statistics of State School Systems* (U.S. Office of Education, 1983), and from www.postsecondary.org.

To measure the number of states that are adjacent (ADJACENT i, t) to each other (sharing a border), I used the method presented by Berry and Berry (1990) in their EHA analysis. Their coding scheme assumes that states are neighbors of all other states that share a borderline. In addition, New Jersey and Maryland as well as Massachusetts and Maine are considered neighbors. In their scheme, Berry and Berry only coded for the 48 contiguous states and discounted Alaska and Hawaii. I decided to incorporate the remote states by coding Alaska as sharing a boundary with Washington and Hawaii and coding Hawaii as sharing a boundary with California, Oregon, Washington, and Alaska.

The coding scheme is as follows: Alabama has four neighbors MS, TN, GA, FL; Alaska has WA and HI; Arizona has CA, NV, UT, CO, NM; Arkansas has LA, TX, OK, MO, KY, TN, MS; California has AK, OR, NV, AZ; Colorado has NM, AZ, UT, WY, NE, KS, OK; Connecticut has NY, MA, RI; Delaware has MD, PA, NJ; Florida has AL, GA; Georgia has FL, AL, TN, NC, SC; Hawaii has AK, CA, OR, WA; Idaho has WA, OR, NV, UT, WY, MT; Illinois has WI, IA, MO, KY, IN, MI; Indiana has KY, IL, MI, OH; Iowa has MO, NE, SD, MN, WI, IL; Kansas has OK, CO, NE, MO; Kentucky has TN, AR, MO, IL, IN, OH, WV, VA; Louisiana has TX, AR, MS; Maine has NH, MA; Maryland has VA, WV, PA, DE, NJ; Massachusetts has RI, CT, NY, VT, NH, ME; Michigan has WI, IL, IN, OH; Minnesota has ND, SD, IA, WI, MI; Mississippi has LA, AR, TN, AL; Missouri has AR, OK, KS, NE, IA, IL, KY, TN; Montana has ID, WY, SD, ND; Nebraska has KS, CO, WY, SD, IA,

MO; Nevada has CA, OR, ID, UT, AZ; New Hampshire has MA, VT, ME; New Jersey has DE, PA, NY, MD; New Mexico has AZ, UT, CO, OK, TX; New York has PA, NJ, CT, MA, VT; North Carolina has SC, GA, TN, VA; North Dakota has SD, MT, MN; Ohio has KY, IN, MI, PA, WV; Oklahoma has TX, NM, CO, KS, MO, AR; Oregon has AK, CA, NV, ID, WA; Pennsylvania has DE, MD, WV, OH, NY, NJ; Rhode Island has CT, MA; South Carolina has GA, NC; South Dakota has ND, NE, WY, MT, MN, IA; Tennessee has NC, GA, AL, MS, AR, MO, KY, VA; Texas has NM, OK, AR, LA; Utah has AZ, NV, ID, WY, CO, NM; Vermont has NH, MA, NY; Virginia has NC, TN, KY, WV, MD; Washington has AK, OR, ID; West Virginia has VA, KY, OH, PA, MD; Wisconsin has MN, IA, IL, MI; Wyoming has CO, UT, ID, MT, SD, NE.

B. Division of States Into Regions

To divide the United States into regions (REGION i,t), I decided to incorporate the definition of six regions provided by the Civil Rights Project at Harvard University. The six regional groupings include the following states (note: States mentioned below with an asterisk have passed homeschooling laws):

Northeast: Connecticut*, Maine*, Massachusetts, New Hampshire*, New Jersey, New York*, Pennsylvania*, Rhode Island*, and Vermont*

Border: Delaware*, Kentucky, Maryland*, Missouri*, Oklahoma*, and West Virginia*

South: Alabama, Arkansas*, Florida*, Georgia*, Louisiana*, Mississippi*, North Carolina*, South Carolina*, Tennessee*, Texas, and Virginia*

Midwest: Illinois, Indiana, Iowa*, Kansas, Michigan*, Minnesota*, Nebraska, North Dakota*, Ohio*, South Dakota, and Wisconsin*

West: Arizona*, California, Colorado*, Montana*, Nevada*, New Mexico*, Oregon*, Utah*, Washington*, and Wyoming*

Other: Hawaii* and Alaska*, which have very distinctive populations, are treated differently.

Notes

1. American Federation of Teachers (AFT) was not used in the hypothesis because AFT statistical data for the event history analysis (EHA) were not available.

2. Approximately 90% of revenues for public education are from state and local sources. Expenditures are the resources spent on the day-to-day basis for public education. Those include "all expenditures except those associated with repaying debts, capital outlays (e.g., purchases of land, school construction and repair, and equipment), and programs outside the scope of preschool to Grade 12, such as adult education, community colleges, and community services. Expenditures for items lasting more than 1 year (e.g., school buses and computers) are not included in current expenditures" (National Center for Education Statistics, 2004b).

3. For a detailed discussion of the National Education Association's (NEA) topics of concern refer to "NEA on the Issues" at <http://www.nea.org/topics/>.

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