

Homeschooling in the United States: A review of select research topics¹

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Abstract: The U.S. homeschooling movement has grown steadily since the early 1980s. In that time, a growing body of academic literature has been published that assesses various aspects of the phenomenon. This article first explains some of the methodological issues surrounding this literature as it has developed. It then summarizes the findings of the literature with respect to the following topics: the history of homeschooling, demographics (including parental motivation), academic achievement, and transition to college/adulthood.

Keywords: homeschooling, home education, academic achievement, curriculum

Introduction

From colonial times, it was common for children in the territories now making up the United States to get what formal education they received in the home, whether by their parents or by tutors. As population settlements grew denser, families turned as quickly as they could to formal schooling. That trend was accelerated in the mid-19th century as many states passed legislation creating tax-supported, free public education for all white children. The public school system expanded throughout the 19th and into the 20th century, and even children who did not attend public schools attended private schools for the most part. By the mid-20th century, exclusive formal instruction in the home was exceedingly rare in the United States. But beginning in the late 1970s and growing steadily to the present moment, an increasing number of families from all walks of life have been turning back to the home for education (Gaither, 2016).

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This increase has often been dubbed the “homeschooling movement”, since many families involved have engaged in aggressive and concerted political and legal action to make it easier to keep children at home during the school day. Though an accurate count is impossible, the National Center for Educational Statistics estimated that in 2011 around 1.77 million children, or 3.4 % of the U.S. school-age population, was homeschooling. This was a 61 percent increase from the same organization’s 2003 estimates (Noel, Stark, & Redford, 2013). Not surprisingly, the remarkable growth of the phenomenon (and its politically charged nature) has triggered a robust if sprawling scholarly literature on the phenomenon (Murphy, 2012).

Homeschooling scholarship suffers, however, from a number of limitations. First and foremost, the literature is almost entirely qualitative in nature. While many of these qualitative studies are ambitious and imaginative, taken as a whole, homeschooling research has an anecdotal quality it has yet to transcend. Quantitative research on homeschoolers has been hampered by several factors. Basic demographic data is unavailable. Every state in the U.S. has its own unique homeschooling law, and states approach data collection in a very haphazard fashion. A few states that require homeschoolers to register keep meticulous records (Wisconsin and North Carolina being standout examples). Some states are unable or unwilling to devote the resources necessary for consistent data collection and thus have records that vary widely between counties and by year. And many states, especially those that do not require homeschoolers to register their practice, keep no records at all (Isenberg, 2007). Additionally, homeschoolers are a notoriously difficult demographic to study because of the diversity of individuals engaged in the practice, the deinstitutionalized nature of the phenomenon, and the distrust with which many homeschoolers regard external surveillance. (Goymer, 2000; Kaseman & Kaseman, 2002).

A second limitation of the literature is that much of it is politically motivated. A large number of studies, especially those most frequently cited in popular accounts and in the media, have been performed under the auspices of a prominent homeschooling advocacy organization, HSLDA, the Home School Legal Defense Association (Ray, 1990; Ray, 1994; Ray, 1997a; Ray, 1997b; Ray, 2004a; Ray, 2010, Rudner, 1999). Most of these HSLDA-funded studies have been conducted by Dr. Brian D. Ray and published independently through his organization, the National Home Education Research Institute, or NHERI. For decades Ray has sought to maintain both a tone of scholarly detachment when writing for mainstream periodicals and a

clear advocacy persona when speaking at home schooling conventions across the country. He has been a pivotal figure in the history of the homeschooling movement because his credentials and research studies have long been used in courtrooms and press releases by HSLDA as scientific validation of its political and legal aims (Ray, 1991; Gaither 2008b). Though these Ray studies have large sample sizes and employ sophisticated statistical techniques, they suffer from serious design limitations and are often used disingenuously to make generalizations beyond what their specific conclusions warrant (Gaither, 2008c; Lubienski, Puckett, & Brewer, 2013; McCracken, 2014).

HSLDA-funded studies are not the only examples of politicized homeschool research. Many university-housed academics who have published on homeschooling have similarly made their scholarship largely about scoring political points for or against homeschooling (Apple, 2000; Balmer, 2007; West, 2009). Like the literature on many other contemporary school reform issues, the controversial nature of homeschooling lends itself to normative argument. While homeschoolers often overstate the level of animus against them in the Academy, occasionally pieces do appear that give their suspicions a degree of credibility (Howell, 2013; Lubienski, 2000; Lubienski, 2003; West, 2009).

It is the aim of this paper to distill from this decidedly mixed body of work the most reliable data and conclusions and to arrange this knowledge in a clear and compelling form. To do so I am relying in large measure on a comprehensive review of the academic literature conducted by myself and Robert Kunzman in 2013, to which I am adding several studies published since that time (Kunzman & Gaither, 2013). This essay will limit itself to homeschooling in the United States and to the following topics: the history of homeschooling, demographics (including parental motivation), academic achievement, and transition to college/adulthood. It will conclude with a few brief suggestions for possible directions future research might take.

History of Education

When discussing the history of homeschooling a distinction needs to be made at the very outset. It is important to distinguish, as some do not (Hill, 2000; Jaynes, 2012), between

homeschooling as a deliberately chosen alternative to institutional schools on the one hand and, on the other, the pragmatic use of the home to educate children. The latter practice has been central to many if not most human societies from ancient times. In this chapter, we will not consider it. What we are concerned with is the self-consciously alternative practice, and this emerged only in the 20th century in reaction to compulsory school laws and public school bureaucracies, at first in isolated instances but coalescing into a discernible political movement by the late 1970s.

Very few scholarly works dealing exclusively with the homeschooling movement's history were published prior to 2008. Perhaps the most widely cited has been Knowles, Marlow, and Muchmore (1992), which laid out a five-phase model of the development of homeschooling in the United States. Their basic narrative structure was one of conflict between homeschooling advocates and public school personnel that gave way gradually to cooperation as laws were changed to make the practice more clearly legal, culminating in the consolidation of the movement as national networks emerged to group like-minded homeschoolers into rival camps. Carper's (1992, 2000) work, published in several articles, has also been influential, describing a grand, three-act historical arc beginning with educational pluralism in the colonial and early national periods, moving to the near-universal establishment of public schools in the mid-19th to mid-20th centuries, and concluding with a growing dissent against that establishment in the late 20th century. A few early works provide good coverage of particular states or regions. McIlhenny's (2003) study of the early history of Texas homeschooling is a standout example, as is Tyler and Carper's (2000) study of South Carolina. Finally, a few of the many dissertations conducted on homeschooling during the 1990s and 2000s provided rich historical accounts of local homeschooling histories. Examples here include Bloodworth's (1991) study of North Carolina, Cochran's (1993) study of Georgia, and Kelly's (2008) study of Hawaii.

All of this work, and much else besides, was synthesized in Gaither's 2008 *Homeschool: An American History*, which was the first and remains the only book-length scholarly treatment of the history of education in the home in the United States. The first three chapters of that book deal with domestic education in the colonial and early national periods and explain how and why nearly all Americans chose institutional schooling over the home in the 19th and early 20th centuries. Gaither draws on a wide range of historiography from various subfields of U.S. social history to tell this story. Chapter four, with the help again of a large bibliography of U.S.

political and social history, lays out three broad contextual changes in the mid-20th century that set the stage for the homeschooling movement: the growth of the postwar suburbs and the anti-institutional ideologies they helped establish, the Civil Rights and women's movements, which popularized organized protest against the established order, and the polarization of the electorate into right and left wings in the late 1960s and 1970s, both of which were skeptical about established institutions like government schools. Chapter five provides detailed biographies of pioneer homeschooling leaders John Holt, Raymond and Dorothy Moore, and Rousas J. Rushdoony. Chapter six chronicles the rise of the Home School Legal Defense Association (HSLDA) in the mid-1980s and the fissuring of the homeschooling movement into rival camps of conservative Christians and everyone else. Chapter seven details the history of the legal and legislative battles fought over homeschooling in the 1980s and 1990s, and a final chapter describes trends in homeschooling up to 2008 (Gaither, 2008a).

Since Gaither's volume, several important historical works have emerged. The rest of this section provides a summary of the most significant:

Krause (2012) draws on literature about dissent traditions to argue that the homeschooling movement is a democratizing trend in an educational landscape that has, in the past several decades, grown increasingly bureaucratized and alienated from participation by ordinary citizens. She makes this argument by providing a detailed examination of much of the legal and legislative history of the movement, with a special focus on the *Leeper* case and the experiences of homeschooling pioneers in Texas, all of which show the power of grassroots activism and networking. She also provides details about several historically significant homeschooling curricula, including Cornerstone Curriculum, Beautiful Feet Books, Diana Waring Presents, and Cadron Creek Christian Curriculum.

McVicar (2015) is a book-length, major study of one of the most important figures in the early history of American homeschooling, Rousas J. Rushdoony. In six chapters grounded in a rich study of Rushdoony's personal papers and journals, oral histories, and other primary sources, McVicar explains in great detail the intellectual pedigree, connections and funding networks, and influence of Rushdoony and the Christian Reconstruction movement he founded. Chapter five is perhaps the most significant for the history of homeschooling, for it explains the wide reach of Rushdoony's ideas among his many followers and imitators. McVicar is very clear on how the family was at the heart of Rushdoony's project, and how many in the

homeschooling movement understood what they were doing through his framework. Key figures in popularizing Rushdoony's vision among homeschoolers included the influential lawyer John W. Whitehead and Franky Schaeffer, son of the famous Christian apologist Francis Schaeffer, along with their financial backer, billionaire heir Howard Ahmanson. Through these and other second-generation reconstructionists, thousands of Christian homeschoolers became exposed to Rushdoony's ideas. His books and speeches became fixtures of many Christian homeschooling curricula, and Rushdoony was called upon many times to offer expert witness at key homeschooling court cases across the country.

Laats (2010) uses a rigorous historical methodology of intensive examination of archival primary sources, oral histories, and contextual historiography to tell the story of the three most influential and long-lasting Christian curricular options: Accelerated Christian Education (ACE), A Beka, and Bob Jones Complete. All three began as curricula for Christian day schools but eventually spread to homeschooling as well. All three were self-consciously created as alternatives to the "secular humanism" and "progressivism" of public education curriculum. Yet for all their similarities the three curriculum providers were often very forthright in their denunciations of one another for various transgressions. Though the companies waged ideological warfare against one another to make their products look distinctive, Laats finds that many families chose eclectically from them as they pieced together a customized curriculum for their children.

Millman and Millman (2008) include an important chapter on the history of homeschooling groups in New Jersey. Details are provided for Nancy Plent's founding of the Unschoolers Network in coordination with John Holt in the late 1970s, one of the most important organizations of its kind until the early 2000s, when it faded from the scene. The Millmans also describe the much larger and tightly organized Friendship Learning Center, an exclusively Protestant organization. The Millmans conclude that despite ideological differences, when threats to homeschooler freedoms appear, as they did in 2004 in the New Jersey State Legislature, homeschoolers quickly put aside differences and rally to the cause with shows of such overwhelming force that regulators quickly back down.

Coleman (2010) provides a detailed account of the history of homeschooling in Delaware County (which includes the city of Muncie), Indiana, explaining how a few isolated homeschoolers from very different perspectives came together in the early 1980s to secure

homeschooling legal freedom. Coleman describes how early Muncie-area homeschoolers were influenced by John Holt and Raymond Moore and worked together across religious lines. But by the 1990s those lines had hardened considerably and continued to do so through the early 2000s, with conservative Protestant groups gaining control of the political and communications networks used by the region's homeschoolers. But by 2005 the internet had transformed the way homeschoolers communicated, and especially the way prospective homeschoolers got information. As Coleman (2010) puts it, the internet has “democratized the flow of information, eliminating the role once played by gatekeepers” (p. 81). It has also fragmented the homeschooling community in Delaware County.

Hoffman and Hoffman (2014) present a book-length collection produced by a mother-daughter homeschooling team that relates some of the history of homeschooling in Minnesota through first person accounts. The Hoffmans themselves are conservative Christians, so their timeline and contributor list stress that side of the movement, though they do include an interview with Jeanne Newstrom, a more left-liberal homeschooling mother who appealed her homeschooling conviction to the Minnesota Supreme Court, which declared in 1985 that the Minnesota Compulsory Attendance Law was unconstitutionally vague. The interviews are arranged in a roughly chronological fashion and collectively tell the story of the separation in the mid-1980s of conservative Christian Minnesotans from other homeschoolers. Especially noteworthy is the interview with State Senator Gen Olson, who was the central figure in the Statehouse working to pass the first Homeschooling law in Minnesota in 1987, to defeat a bill in 2001 that would have increased regulations, and to pass a bill in 2011 that significantly reduced regulations.

Demographics and Parental Motivation

In the United States, it is very difficult to get even rudimentary data on the number and type of children homeschooling due to the decentralized nature of educational policy. Each state has its own homeschooling law, and the laws vary widely. Many states do not even require families to register as homeschoolers, thus making a count impossible. Many states that do require registration do not keep meticulous records. A few states, most notably North Carolina and Wisconsin, do keep excellent records. Given this diversity, the most reliable data on

homeschooler demographics in the United States are drawn from the estimates crafted from large representative samples provided by the National Household Education Survey (NHES), which includes questions about homeschooling every four years (Belfield & Levin, 2005; Isenberg, 2007; Noel et al, 2013). The NHES found that 1.77 million children were being homeschooled in 2011, a significant increase from the 1.5 million reported in 2007 and the 1.1 million reported in 2003 (Planty et al., 2009).² Data from several states suggest that growth has continued, so it seems safe to say that there are now well over two million homeschoolers in the United States (Icher, 2016). Moreover, if one chooses to count as homeschoolers students enrolled fulltime (about 315,000 by one 2014 estimate) or part time (about 715,000) in the various forms of online public education that have emerged in recent years, the overall home schooling figure rises considerably (Watson et al., 2015).

The NHES survey breaks down the data by ethnicity, geographic region, family type, parent education level, and household income, though the relatively small number of homeschooler respondents (n=290 in 2007) makes these numbers less reliable. The 2011 survey (Noel et al, 2013) reports that homeschoolers are mostly nonpoor (80%) and well educated (69% with at least some college). While previous iterations had found higher percentages, the 2011 survey found that only 68% of homeschooling families were white, while 8% were black, 15% Hispanic, 4% Asian, and 5% something else. The 2011 survey also found a fairly even distribution of children across grade level. Hanna's (2012) longitudinal study suggests that the increasing reliance on computers and internet-based curriculum is a major contributor to the growth in homeschooling of older children.

A vast quantity of research has been devoted to homeschoolers' motivations. Survey data can only take us so far, forced as it does to limit possible motivations to a set of prefabricated options. The NCES survey found in 2011 that only 21% of families reported religious or moral factors were their primary motivator for choosing homeschooling. Just as many families chose concern about school environment (25%) or dissatisfaction with academic instruction at schools (19%) as their primary motivator (Noel et al, 2013). More qualitative studies of parental motivation, however, have revealed a far more nuanced and complicated picture, as the motivations captured in surveys interact with others in ways that change given

² Given the reluctance of many homeschoolers to respond to outsider queries, particularly those sponsored by the government (Belfield, 2002; Kaseman & Kaseman, 2002; Lines, 2000), the NCES figures are likely underestimates.

family contexts (Murphy, 2012). Even families that would be identified in surveys as stereotypical religious conservatives have, upon closer examination, complex and changing motivations for homeschooling (Sherfinski & Chesanko, 2014). In a thoughtful survey of this literature, Murphy (2012) concludes, “the motives of homeschooling families are multi-dimensional... a myriad of perspectives and beliefs shaping homeschooling decisions” (p. 79).

Motivations for African American homeschooling parents have in recent years received much attention. Fields-Smith and Williams (2009) found that their sample of home educating black families were demographically similar to their white counterparts, with two-parent, middle-income, multiple child nuclear families predominating. Parents were motivated by the push factor of racism in schools (especially directed against their boys), and the pull factor of religion. They placed their children’s success over their own careers and struggled with the daily grind of actually doing homeschooling. Fields-Smith and Kisura (2013) expanded the push factors to three: resistance to the culture of low expectations that confronts black children at public schools, avoiding over-diagnosis of special needs (especially for boys), and a concern for children’s safety. They also cite two pull factors: homeschooling allows children to experience Afrocentric and multicultural curriculum and connects them through homeschooling networks to achievement-oriented white families. Mazama and Musumunu have recently published several articles on black parental motivation, all of which have been combined and expanded into the book *African Americans and Homeschooling* (2015). In their survey of 74 black homeschooling families they identify several motivating factors. Many parents are motivated by “racial protectionism”, the drive to rescue their children from the institutional and individual racism of public education. Many are likewise motivated by “educational protectionism”, the desire to replace the boring and low-expectation curriculum of public education with something more challenging and affirming. Like Fields-Smith and colleagues, Mazama and Musumunu (2015) find that many are especially motivated to do these things for their boys. Finally, they note a small minority of black homeschoolers (about 15% of their sample) who do not identify with the racialized concepts expressed by the majority. For this group inculcation of fundamentalist protestant religion is the chief motivation. They call this motivation “religious protectionism” (Mazama & Musumunu, 2015). A final study by Ray, derived largely from connections he established to black home educators affiliated with leading conservative

organizations, likewise found that, for his sample of black homeschoolers, religion, not race, was the driving motivator for the decision to homeschool (Ray, 2015a).

Several in-depth qualitative studies of homeschooling families have revealed interesting details about home-school life. A steady stream of research over the past two decades has found a consistent pattern of pedagogical development. When they first begin homeschooling, nervous mothers often rely on a prefabricated curriculum, seeking to replicate the conventional school experience at home. By the second or third year they have become more flexible (“eclectic” is a popular self-designation) and tend to engage their children in more outside activities. If the family continues homeschooling over the long haul, parents often become more like facilitators, and children largely take control of their own learning (Holinga, 1999; Lois, 2006). For their part, mothers are frequently influenced by veteran homeschoolers to make homeschooling more central to their overall identity, and sometimes to become more religiously conservative (Safran, 2010). Recent studies have found that while fathers love to pontificate about the philosophical and theological significance of homeschooling, they typically contribute very little to actual practice, and the mothers who actually do the work are less motivated by ideology than by their sense of maternal duty and desire (Lois, 2013; Vigilant, Trefethren, & Anderson, 2013). Homeschooling parents also tend, not surprisingly, to teach to their strengths (Kunzman, 2009).

Academic Achievement

The subject of homeschooler academic achievement has received much scholarly attention, but unfortunately most of this work contains serious design flaws that limit its generalizability and reliability. This subject, more than any other, has been impacted by the work of Brian D. Ray and other scholars funded by HSLDA, the U.S.’s leading homeschooling advocacy organization. Specifically, Ray has since 1990 conducted five large scale studies of homeschooler academic achievement (Ray, 1990; Ray, 1994; Ray, 1997a; Ray, 1997b; Ray, 2010). From 1990 to 2010 these studies have followed a consistent pattern. They rely for their data on samples of homeschoolers recruited for the purpose by HSLDA (and, more recently, a few other homeschooling organizations as well). Volunteers are asked to submit demographic data as well as the results of one or more group of standardized test scores, with promises made that the research will be used for homeschooling advocacy. These self-reported scores (from tests

that are typically proctored by the parent in the home) are then compared against national averages and the results reported. In every case homeschooled students have consistently scored in the 80th percentile or above on nearly every measure.

In Ray's original studies, he is clear that the data being presented do not reflect a random sampling of all homeschoolers, nor do they control for key variables like race, SES, marital status, or parent educational attainment when comparing against national averages. Such caveats are critical, for the homeschooler sample obtained by Ray's recruitment strategy is not at all representative of national norms, nor, indeed, of all homeschoolers. For example, in his most recent 2010 study, Ray's sample of 11,739 homeschooled children came from families that were 95% Christian, 91.7% white, 97.7% married, 80% with stay-at-home moms, and 45.9% with incomes over \$80,000 per year (Ray, 2010). Though Ray notes such limitations in his original studies, the less technical versions he produces – and especially the related press releases put out by HSLDA – are regularly cited as proof that homeschoolers outperform public schoolers by wide margins on standardized tests (Gaither, 2008c; Kunzman, 2009).

To date only one study has eclipsed Ray's oeuvre in sample size and impact: Lawrence Rudner's 1999 "Achievement and Demographics of Home School Students". Though larger, Rudner's study was very much like Ray's. Conceived and commissioned by HSLDA, it derived its massive sample (20,760 subjects) from the Bob Jones University Press Testing and Evaluation Service, a popular fundamentalist Protestant homeschooling service provider. Parents for the most part administered the tests (Iowa Tests of Basic Skills or Tests for Achievement and Proficiency) themselves, but in this case the results were reported directly to Rudner by Bob Jones University. Parents also completed a demographic questionnaire, and the results again show a sample far whiter, more religious, more married, better educated, and wealthier than national averages. Students performed on average in the 70th to 80th percentile on nearly every measure. Rudner's (1999) text is full of qualifications and cautions, stating very clearly, "This study does not demonstrate that home schooling is superior to public or private schools. It should not be cited as evidence that our public schools are failing. It does not indicate that children will perform better academically if they are home schooled" (p. 34).

Despite such disclaimers, Rudner's study has repeatedly been and continues to be cited uncritically in the popular press, in advocacy-motivated homeschool research, and even in otherwise non-partisan research as demonstrating that homeschoolers outperform public

schoolers on standardized tests, despite multiple efforts by various scholars to make it clear that the Rudner and Ray studies of academic achievement do not employ random sampling nor do they control for confounding variables (Belfield, 2005; Dumas, Gates, & Schwarzer, 2010; Haan & Cruickshank, 2006; Lubienski et al, 2013; McCracken, 2014; Saunders, 2009-2010). The Rudner study remains “perhaps the most misrepresented research in the homeschooling universe” (Kunzman, 2009, p. 97).

There have been several other studies of academic achievement prosecuted since the 1980s, most on a much smaller scale than those of Ray and Rudner. Frost and Morris (1988) found in a study of 74 Illinois homeschoolers that, controlling for family background variables, homeschoolers scored above average in all subjects but math. Wartes, similarly, found that homeschoolers in Washington state scored well above average in reading and vocabulary but slightly below average in math computation (Ray & Wartes, 1991). The Ray and Rudner studies also found that homeschoolers do comparatively less well in math than in language-based subjects (Ray, 1997a; Rudner, 1999). Likewise, Belfield (2005), in a well-designed study that controlled for family background variables, found that homeschooled seniors taking the SAT scored slightly better than predicted on the SAT verbal and slightly worse on the SAT math. A similar study of ACT mathematics scores likewise found a slight mathematical disadvantage for homeschoolers (Quaqish, 2007). Coleman’s review of data from Alaska, Arkansas, and two colleges likewise found that homeschoolers underperformed in math given their demographics (2014). Given this persistent corroboration across two decades we might conclude, tentatively, that there may be at least a modest homeschooling effect on academic achievement – namely that it tends to improve students’ verbal and weaken their math capacities. Why? Answers here are only speculative, but it could be that the conversational learning style common to homeschooling and the widely-observed phenomenon that homeschoolers often spend significant time reading and being read to contribute to their impressive verbal scores, while math is not given the same priority (Frost & Morris, 1988; Kunzman, 2009; Thomas & Pattison, 2008).

A second generalization that emerges from many studies on academic achievement is that homeschooling does not have much of an effect at all on student achievement once family background variables are controlled for. This conclusion is implicit even in many of Ray’s own studies, which consistently find no relationship between academic achievement and the number

of years a child has been homeschooled (Ray & Wartes, 1991; Ray, 2010). In other studies, it is more explicit. A 1994 study of 789 first year students at a Christian liberal arts college found no significant difference on the California Critical Thinking Skills Test between students who had been homeschooled and those attending conventional schools (Oliveira, Watson, & Sutton, 1994). A 2004 survey of 127 seniors at a diverse suburban public high school categorized subjects by the degree to which their parents were involved in their learning. Students from the “high parent involvement” cohort scored significantly higher on the ACT than students reporting low levels, and exactly the same as homeschoolers taking the ACT (Barwegen, Falciani, Putnam, Reamer, & Star, 2004). A 2005 study comparing all self-identified homeschoolers who took the 2001 SAT (n=6,033) with public and private schooled SAT takers found that when controlled for family background, “there is not a large gap between the scores across school types” (Belfield, 2005, p. 174).

A final consistent finding in the literature on academic achievement is that parental background matters very much in homeschooler achievement. Belfield (2005) found greater variance in SAT scores by family background among homeschoolers than among institutionally-schooled students. Boulter’s (1999) longitudinal sample of 110 students whose parents averaged only 13 years of education found a consistent pattern of gradual decline in achievement scores the longer a child remained homeschooled, a result she attributed to the relatively low levels of parent education in her sample. Medlin’s (1994) study of 36 homeschoolers found a significant relationship between mother’s educational level and child’s achievement score. Kunzman’s (2009) qualitative study of several Christian homeschooling families found dramatic differences in instructional quality correlated with parent educational background.

There is an anomaly in the literature that has not yet been well explained. Several large-scale representative samples of the entire population that have captured some homeschoolers have found, contrary to all that has been reported so far in this section, that homeschoolers tend to *underperform* academically. This was the finding of Green-Hennessy (2014) from the data collected by the massive National Survey on Drug Use and Health, and it emerged as well from both rounds of the Cardus Education Survey (Pennings, Seel, Sikkink, Van Pelt, & Wiens, 2011; Pennings et al., 2014). It could be the case that the randomized nature of these data have captured homeschoolers who typically do not respond to commissioned surveys, or it could be that, as some argue, homeschooling families simply have different academic goals than do

others, so the long-term impacts of homeschooling will not be accurately reflected on standardized tests or rates of attendance at competitive colleges and universities (Gray & Riley, 2015b; Murphy, 2012; Sikkink & Skiles, 2015).

The future direction of studies of academic achievement may lie in the methodology of a paper by Martin-Chang, Gould, and Meuse (2011). These researchers sought to overcome the methodological flaws of previous studies by comparing homeschooled students to demographically paired institutionally schooled students. In this study *both* groups were recruited and both administered tests in the same controlled environment by the same researchers. The small sample size of this study (37 homeschoolers and 37 conventionally-schooled students), the *post hoc* division of the homeschoolers into a “structured” subgroup and an “unstructured” subgroup, and the lack of clarity on how long those in the homeschool group had been homeschooling all limit the generalizability of the particular findings (the researchers found that “structured” homeschoolers perform better than institutionally schooled peers but that “unstructured” homeschoolers perform worse), but the design itself represents real progress.

Transition to College/Adulthood

The great majority of studies performed on homeschooled adults are concerned with homeschooling graduates’ collegiate experiences. Most of these studies are quantitative, and most follow a predictable pattern. The researcher will obtain a convenience sample of college students (often from the researcher’s own institution) who had previously homeschooled and then compare them with a random sample of students of similar background from the same institution who had attended conventional schools.

Most studies of this sort have found little to no difference on a wide range of variables between previously homeschooled and previously institutionally schooled students, though on a few measures homeschoolers consistently come out on top, if only by small margins. Several studies have found that homeschoolers outperform their institutionally schooled peers with similar demographic backgrounds in grade point average. Cogan (2010) found this at a Midwest doctoral institution. Jenkins (1998) found it at a community college. Two studies have found

the same at private Christian colleges (Holder, 2001; White et al., 2007). Jones and Gloeckner (2004a) found it as well, though the difference in their study was not statistically significant.

Studies of other variables have found little to no difference between college students who were homeschooled and those who attended traditional schools. Studies of student retention and graduation rates have found no difference (Cogan, 2010; Jones & Gloeckner, 2004a). Studies of successful emotional and social transition to college have similarly found little to no difference (Bolle, Wessel, & Mulvihill, 2007; Saunders, 2009-2010). A study of student stress levels likewise found no difference (Rowe, 2011).

A few studies have found significant differences between formerly homeschooled and other students. Snyder's (2013) data from a small, conservative Catholic liberal arts college, is intriguing, as the institution he chose for his study enrolls about 1/3 homeschool, 1/3 private, and 1/3 public school graduates. Using not a sample but population-wide data, Snyder found that homeschooled graduates outperformed their public and privately schooled peers on every variable, sometimes by a wide margin. Variables considered here include entering ACT and SAT scores as well as college GPA. While these results do not generalize to institutions that are not so aggressively conservative and Catholic, Snyder's methodology is far more sophisticated than most of the convenience sample studies cited elsewhere in this section. In another study from one Christian college, Cheng (2014) found that the longer a student had been homeschooled the greater that student's self-reported tolerance of those with differing political and moral views. Again, these results cannot be generalized beyond the special circumstances of the unique institution being studied. In this case it is likely that the homeschooled population self-selected for tolerance, as the university is significantly less conservative than many others patronized by Christian homeschoolers.

Studies comparing the personalities and college experiences of homeschooled and conventionally schooled college students have found slight differences between the groups on some measures and little to no differences on others. White, Moore, and Squires (2009) found that college students who had been homeschooled for their entire lives scored significantly higher for openness to new experiences, agreeableness, and conscientiousness, but on other personality measures there was no significant difference between groups. Another study by White et al. (2007) found that homeschoolers reported less anxiety but otherwise were indistinct from their institutionally schooled peers on a variety of measures of psychosocial health. Sutton

and Galloway (2000), likewise, found no statistically significant difference between groups of homeschooled, private schooled, and public schooled college students on thirty-three of forty measures of college success. The one category where homeschoolers tended to outperform their peers from other schooling backgrounds was campus leadership – homeschoolers were significantly more involved in leadership positions for longer periods of time.

A smaller number of studies have approached the homeschooled child's collegiate experience using qualitative methods. The qualitative studies have largely found the same – that previously homeschooled college students transition well to college and do well in college (Smiley, 2010). But these studies do add two insights to the bigger picture of homeschoolers' college experience. First, two studies have found that homeschooled first-year college students often struggle more than their conventionally schooled peers with the task of writing research papers. This is partly because many homeschooling families do not stress research-based writing very much in the lower grades and partly because many conservative Christian homeschoolers have a difficult time learning how to write for a secular audience using secular argumentation and sources (Holder, 2001; Marzluf, 2009). These same studies found that over time homeschoolers were able to catch up to their peers and eventually produce capable writing that adhered to the standards of the secular academy.

Another question qualitative study of homeschooled college students often engages is the degree to which these students change or do not change their religious or political views as a result of their collegiate experiences. Marzluf (2009) found that his writing students were able to learn the conventions of secular writing but did not budge from their consistently conservative political and religious views. Smiley (2010), similarly, found that most in his sample reported having their home values *strengthened* as a result of their exposure to other perspectives in college. On the other hand, Hoelzle's (2013) qualitative study of four homeschooled and then college-educated young adults found that all of them had liberalized to some degree. The more authoritarian the upbringing, the more significant the liberalizing tended to be.

Beyond differences between the homeschooled and institutionally schooled college students, the second major issue with which the literature on homeschoolers and higher education is concerned is admissions, both the attitudes of admissions staff toward homeschooling and the policies or lack of policies institutions of higher education have for homeschooled applicants. Again, most of this literature is quantitative, consisting for the most

part of surveys of admissions officers. The consistent finding of such studies is that homeschooled applicants are accepted at roughly the same rates as their conventionally schooled peers, that admissions staff generally expect homeschoolers to do as well as or better than their conventionally schooled peers in college, and that while colleges and universities welcome homeschooled applicants, most do not go out of their way to provide special services or admissions procedures for homeschoolers (Duggan, 2010; Gloeckner & Jones, 2013; Haan & Cruickshank, 2006; Jones & Gloeckner, 2004b; Sorey & Duggan, 2008). One qualitative look at attitudes of admissions officers at three institutions, however, found that many officers privately believe that homeschoolers are close-minded religious bigots, suggesting that what such individuals report on surveys might not always tell the whole story (Millman & Millman, 2008).

A growing body of research is focused on other aspects of the young adult experience for previously homeschooled students. Brian Ray's (2004a) *Home Educated and Now Adult* is by far the most frequently cited study in this regard. This survey of 7,306 adults who had been homeschooled is very similar in tone and methodology to Ray's other work discussed above. Survey instruments were sent out via homeschooling networks to veteran homeschoolers, almost all of them Evangelical Christian, who were asked to contribute to the study as a way of demonstrating homeschooling's effectiveness to the broader public. Not surprisingly, the results, as with other Ray efforts, were superlative. Homeschoolers were found to be better educated than national averages, to vote at high rates, to have a positive view of their homeschooling experiences, and to be generally well adjusted, productive members of society (Ray, 2004a; Ray, 2004b).

A considerably less flattering portrait emerged from the two rounds of the large-scale *Cardus Education Survey* (Pennings et al., 2011, Pennings et al., 2014). The surveys used random sampling to examine the lives of religious, young adults, age 24-39, who had been homeschooled through high school. The surveys compared these young adults to graduates of Protestant, Catholic, and public schools. Homeschoolers in this sample had similar spiritual lives to graduates of Protestant schools, but they got married younger, had fewer children, and divorced more frequently than adults in the other groups, even when controlling for background variables. Formerly homeschooled young adults reported lower SAT scores than the privately schooled subjects, attended less selective colleges for less time, and reported at higher rates feelings of helplessness about life and lack of goals and direction. Uecker and Hill (2014), in an

analysis based on the first round of the Cardus survey, found that, contrary to their hypotheses, homeschooled young adults looked more like public school graduates than private school graduates in terms of their marriage and childbearing patterns. Like public schoolers, they were more likely to exist on both extremes – marrying and having one or more children very young or not marrying and not having a child at all by age 39. Homeschooled young adults on the whole married and had children at rates below that of graduates of Catholic and Protestant private schools (Uecker & Hill, 2014).

A second database that has been mined to good effect for its findings about homeschooled young adults is the National Survey of Youth and Religion, a massive endeavor initiated in 2002-2003 and followed up by two subsequent waves of questions, thus providing valuable longitudinal data about young adult development. Two important articles have mined this data for insights into the lives of homeschooled young adults. Uecker (2008) found that previously homeschooled young adults from nonreligious families were less likely than their equivalent peers from public or private schools to develop a religious life of their own. Homeschooled young adults from very religious families were statistically indistinguishable from their peers who had attended public or private schools. Parental religious commitment levels had the most profound impact of all variables on their children’s religious lives, but this impact was just as profound in a public school or private school setting. Homeschooling had “very little effect on any aspect of adolescents’ religious lives” (Uecker, 2008, p. 579). Hill and Den Dulk (2013) used the NSYR data to gauge the impact of homeschooling on young adult civic engagement and volunteering. Homeschoolers in the NSYR sample turned out to be significantly less likely to engage in volunteer activities than public school graduates or graduates of private religious schools.

The cumulative results of the studies based on randomized data, then, make homeschooling outcomes seem far less rosy than those reported by Ray (2004a). Before leaving this topic, it should be noted that the results of several more surveys of formerly homeschooled young adults have been published in recent years, though all of these suffer from the same design flaw that biased Ray’s 2004a results. They are convenience samples recruited by the authors in whatever way they could devise – mailing list requests, facebook invitations, advertisements in homeschooling publications or on websites. Nevertheless, here are the results. First, a homeschooling alumni organization called Homeschool Alumni Reaching Out (HARO),

founded in 2013 by a group of former homeschoolers raised in the conservative Protestant subculture and now critical of various aspects of that upbringing, conducted a survey that seems to have been taken mostly by young adults in the social orbit of that group's leaders. Seven installments of findings have been published based upon the survey, which was taken by 3,702 people. Results include the following: this group of young people tended overall to remain religious but to be less sectarian and more tolerant than their parents had been; mental health issues are a problem for a large percentage of respondents (25% have a diagnosed mental illness, and 23% more think they probably have an illness); younger respondents were more likely than older cohorts to have been homeschooled their entire school lives; those raised in "fundamentalist" homes reported higher levels of abuse and lower levels of instructional quality than those raised in more moderate religious homes; the group as a whole had higher rates of marriage than the overall population; eighteen percent of the sample identified as gay, lesbian, bisexual, or transgender (CRHE, 2014; CRHE, 2015a, CRHE, 2015b, CRHE, 2015c, CRHE, 2015d, CRHE, 2015e; CRHE, 2015f).

Brian Ray returned to the topic of homeschooled young adults with his Gen2 Survey, conducted online in 2013-2014 and securing a total of 9,369 responses. Ray began publishing the results in 2015. He found that children raised in loving homes with quality relationships with both parents, frequent church attendance, and many years of homeschooling were more likely to maintain their parents' religious views themselves, to live according to Christian moral standards, and to express satisfaction in life. Christian children raised in secular public or private schools, in contrast, were less likely to keep the faith as adults (Ray, 2015b).

Finally, Gray and Riley (2015a, 2015b) conducted the first ever survey of adults who had been unschooled (that is, home education with limited formal structure so as to maximize self-directed learning). Based on seventy-five responses, Gray and Riley found that their sample had little trouble transitioning to college and/or career. A comparatively high percentage, especially of lifelong unschoolers, had chosen careers in the creative arts, and a comparatively small percentage had chosen careers in a science, technology, engineering, or mathematics field. As with the Gen2 and HARO surveys, Gray and Riley acknowledge that their methodology limits the generalizability of their findings and are forthright in believing that the nature of their recruitment likely biased their sample in the direction of competence (Gray & Riley, 2015a).

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