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# The Social and Educational Outcomes of Homeschooling

Joseph Murphy

*Frank W. Mayborn Chair, Vanderbilt University, Nashville, Tennessee, USA*

In this article, we provide a comprehensive review and analysis of the outcomes of homeschooling in America. We ground the work in an examination of the importance of homeschooling in society in general and education in particular. We provide an analysis of the strengths and weaknesses of the existing research base on homeschooling. With an eye on methodological weaknesses in the home-school research, we compile data on what is known about the outcomes of this social movement and educational reform. We document the impact of homeschooling on the social fabric of the nation (e.g., families) and the institution of schooling (e.g., student learning outcomes).

In this article, we provide a comprehensive analysis of what is known about the impact of homeschooling. We begin with a note to explain why the analysis of the impact of this social and educational reform movement merits our attention. The first part of the article provides a portrait of the quality of the existing research base. The final sections of the article distill what is known about the impact of homeschooling across an array of outcomes: the social fabric of the nation, schools, costs, families, and children. On the last topic, we explore what is known (and how well it is known) regarding academic achievement, social development, and success after completing homeschooling.

On the one hand, homeschooling merits attention for what it conveys about the social fabric of the nation. The study of homeschooling provides important insights on the conservative mosaic that has been formed in the United States over the last 30 years. Such analysis reveals a good deal about the tensions between individualism and community, as well as new ways to think about these social constructs. The study of homeschooling allows us to peer more thoroughly into the place of religion in the United States at the turn of the twenty-first century. Even more important, an examination of homeschooling provides significant insights into the nature of American families. Perhaps most centrally, the possibilities of movements that attempt to reverse the segmentation of life in America are surfaced. We learn that homeschooling is both an animating force for and an exemplar of efforts to provide an integrated frame for life in the postmodern world (Collom and Mitchell 2005; Gaither 2008; Stephens 2001).

As with most social movements of significance, analysis of homeschooling reveals much about the battle for the moral high ground in the country. As we attend to the history and development of homeschooling itself, we learn as much about the ebb and flow of waves of influence and the shifting pendulum in the area of social ideas and tastes in general (Murphy 2013). In a

similar vein, homeschooling reveals how history is both a product of as well as a platform for powerful figures to push and pull ideas onto society's central stage (Gaither 2008). Considerable insights about the legal workings of the nation are also exposed. Dynamics about social organizing become visible, especially in getting society to embrace ideas that once seemed anathema. By studying homeschooling, we accumulate a good deal of knowledge about the evolving role of government in the affairs of its owners. We track an evolution from government as the unquestioned mechanism to produce a better society to government as a self-forged and confining manacle that also has the potential to hinder improvement. In short, a study of homeschooling exposes dynamics that transcend the content of the topic at hand (Cibulka 1991; Gaither 2008; Van Galen 1991).

At the same time, homeschooling merits examination for what it reveals about education and schooling in America (Ray 2000a). Ongoing and dilemma-based questions about governance and control play out across its pages in new ways. Much can be learned here about possible forms of schooling in the twenty-first century, new conceptions and models that were unimaginable to the previous generation. Issues of funding and costs lurk in the background of homeschooling, but nonetheless offer important insights into financing the nation's most costly and critical state and local service—and other services as well (Ray and Weller 2003). Labor issues are prevalent in the homeschooling literature but usually cast obliquely. Even so, it is difficult to overlook the implications for the traditional and deeply rooted notions of civil service in the nation, especially in light of the prevalence of parallel trends in education (e.g., vouchers, tax credits, privately managed charter schools) and the larger society. A careful study of homeschooling produces considerable wisdom on the role of markets and profits in the education sector (Murphy 1996, 1999). Much can also be gleaned about the linkages between schooling and social justice by examining homeschooling (Apple 2005; Lubiensky 2000).

We also need to study homeschooling because it is the most robust form of educational reform in the United States today. The growth of homeschooling in the U.S. has been nothing short of remarkable, even using the most conservative estimates available. Only 10,000 to 15,000 children were being homeschooled in the 1970s. By 2010, somewhere in the neighborhood of 2 million students were part of this group. Scholars confirm that homeschool enrollment is now about one-fifth the size of private school enrollment (Belfield 2004b; Isenberg 2007). We find that almost twice as many youngsters are schooled at home as are educated in conservative Christian schools (Glanzer 2008). And more children are taught at home (2,000,000) than attend charter schools (1,500,000) and receive vouchers combined (Apple 2007; Belfield 2004b). When life cycle numbers are compiled, we discover that 6 to 12 percent of all students will have been educated at home at some time in their K-12 educational career (Houston 1999; Isenberg 2007).

## THE QUALITY OF THE RESEARCH BASE

One of the most stark conclusions one draws when interrogating the scholarly literature on the impacts of homeschooling is just how thin the empirical knowledge base is on this social phenomenon and educational movement. To be sure, the literature exposes a good deal of ideological bantering as well as some solid conceptual modeling. Homeschoolers have provided a trace of good reports on how to engage the work of educating a child at home, and fine collections of

resources to assist in those efforts. But the research cupboard is not well stocked, especially in the domain of outcomes. This assessment first surfaced as the homeschool movement reached early adolescence. It was revealed that the entire domain was largely uncharted in a scientific sense (see Delahooke 1986; Gladin 1987; Groover and Endsley 1988; Knowles 1989; Mayberry 1989; Schemmer 1985; Taylor 1986a; Williams et al. 1984; Wartes 1987; Wright 1988). More troubling, this same conclusion was consistently reached by scholars, analysts, and policy makers throughout the 1990s as well (see Dalaimo 1996; Duvall et al. 1997; Hertzell 1997; Houston 1999; Kelley 1991; Knowles et al. 1992; Luebke 1999; Mirochnik and McIntire 1991; Rudner 1999; Van Galen 1991). Even more disheartening, the next generation of reviewers has uncovered little evidence that the limited empirical evidence deficiency was addressed with much sense of robustness during the first decade of the twenty-first century (see Cogan 2010; Green and Hoover-Dempsey 2007; Ice and Hoover-Dempsey 2011; Isenberg 2007; Kunzman 2005, 2009a; Muntis 2006; Nemer 2002; Taylor-Hough 2010).

### An Assessment of Research Evidence

As Medlin (2000:118) informs us, the summative narrative of research in homeschooling parallels the chronicle found in many new domains of study:

no guiding theory, inadequate experimental design, poorly defined research questions, untried and weak measures, unorthodox treatment and presentation of data, and conclusions based on subjective judgments. Even a cursory look at the research reveals that many studies are qualitative descriptions of so few participants that the results cannot be generalized. Many are surveys that rely exclusively on parental reports but offer no idea of how reliable those reports may be. Many test only home-schooled children without comparing them to children attending conventional schools, making it very difficult to know what the results might mean. Further, all home school research is correlational (because researchers have no way to control the type of schooling children experience), samples are usually self-selected (because researchers cannot require home schooling families to participate), and however carefully researchers try to match their home-schooled and traditionally schooled groups, there are probably still important differences between the two.

Reinforcing many of the points and adding some additional insights, Belfield (2004a:10) exposes two major problems that plague research that compares the impact of homeschooling against other types of schooling, especially public schooling.

The first is the common concern over the endogeneity of school choice, that is different types of families choose the type of school that their children attend, and little can be inferred about the impacts of schools for students who do not attend them. The second is the need to distinguish the absolute performance of home-schoolers from the treatment effect of home-schooling. Given the above median resources of many home-schooling families, academic performance should be even if home-schooling itself is not differentially effective. Full controls for family background are needed, however, to identify a treatment effect.

Blok (2004) also reminds us that the body of empirical work on the impacts of homeschooling is rather thin. Analysts also have pointed out that most of the research that has been undertaken has been conducted by investigators with a good deal of interest in shaping results into positive stories, i.e., by advocacy groups whose defined mission is to promote the cause of homeschooling

(Houston and Toma 2003; Kunzman 2005; Reich 2005). The conclusion at present is that research on the impacts of homeschooling leaves a good deal to be desired. Most troubling is that we know almost nothing about the causal links in the homeschool theory of action and their connections to various outcomes (Ray 2009b).

Much of what we do know about homeschooling is anecdotal in nature (Houston 1999). Stories of individual children who have demonstrated remarkable achievements in academic competitions of varied sorts or in higher education are especially prevalent. On the other side of the ledger, negative stories are sometimes spotlighted to confirm the dangers of homeschooling. Many of these stories are proof of the impact of homeschooling; however, stories and anecdotes, personal experiences, and folklore lack the authority of scientific evidence (Stevens 2001; Taylor 1986b).

As we attempt to move beyond anecdotes and stories, we find that rigorous empirical research on the effects of homeschooling remains scarce (Houston 1999; Stevens 2001). We learn that studies on homeschooling effects suffer from major, interconnected problems that significantly limit the degree of certainty we can draw from research reports. Problems with samples and controls are particularly troublesome. On the first issue, analysts have routinely urged caution in accepting findings at face value because of the nonrepresentativeness of the samples employed in almost all homeschool research (Kaseman and Kaseman 1999; Kunzman 2005; Stevens 2001). Weak sampling frames mean first that samples are almost never drawn on a representative group of homeschoolers (Houston 1999; Kaseman and Kaseman 1999). Studies employ highly selective samples (Bauman 2002; Winstanley 2009). Self-selection and sampling bias have been and continue to be the norm in the study of homeschool effects (Lines 2000a, 2000b; Ray and Wartes 1991). Nonrepresentativeness means, of course, that findings cannot be generalized to the homeschool population. Even in these studies with nonrepresentative samples, return rates often fall below acceptable standards (Dahlquist et al. 2006; Stevens 2001). We rarely see efforts to examine nonresponders (Wright 1988). (For good treatments of these problems in context of Rudner's [1999] classic study, see Kaseman and Kaseman 1999, and Welner and Welner 1999.)

Concomitantly, researchers are quick to point out that the claimed benefits of homeschooling rest on shaky ground because studies rarely control for other explanatory variables in the causal effects equation (Blok 2004; Ray 2000b). Random assignment or other less powerful methods that can help eliminate alternative explanations for effects are rarely used (Collom 2005; Kunzman 2005). In particular, analysts decry the absence of controls for socioeconomic variables such as income, occupation, and education (Dahlquist et al. 2006), previous achievement (Ice et al. 2011), marital status (Burns 1999), and parental support and commitment (Barwegen et al. 2004; Hertzal 1997). Because these conditions are linked to student learning, they need to be accounted for in homeschool effects research. Without appropriate controls, it is impossible to establish whether outcomes are the result of the treatment (i.e., homeschooling) or other factors (e.g., family income) (Belfield 2005). Or as Lines (1995:3) nicely penned it, without controls research does not allow us to “determine whether the *same* children would perform better or worse in a public classroom or in a home-schooling arrangement” (emphasis in original).

The question aptly raised is whether any cause and effect relationship exists vis-à-vis home school education. . . . To date, no controlled studies exist that shed significant light on the important question. . . . Until some type of study is conducted, using control and experimental groups, the question likely will be left for speculative—rather than concrete—answers. (Wilhelm and Firman 2009:310–311)

Other difficulties are visible in the portfolio of research on homeschool outcomes. For example, in studies of effects on homeschool youngsters comparisons to national norms are traditional. While not without informative power, this strategy leaves a good deal to be desired (Welner and Welner 1999). We also very rarely hear from children in homeschool families about their perceptions of homeschool work and their assessments of outcomes (Mayberry et al. 1995; Schemmer 1985). Testing conditions in some homes are problematic (Basham et al. 2007). Practical problems arise in getting information to establish effects (Belfield 2005). For example, almost all of the data available because children are enrolled in public schools are missing for homeschool children (Isenberg 2007). There are very few longitudinal studies.

There are significant practical and methodological difficulties in counting these children (Lines 1991; Belfield 2004a). As Reich (2005) reports, in many places, registration of home-schooled children (a prerequisite to being counted) is not required. In other places, homeschool families simply neglect to register when they are required to do so (Bates 1991; Kleist-Tesch 1998; Lines 1999). In still other cases, parents are so opposed to governmental oversight of their families they refuse to participate in data collection activities, both census and research efforts (Bates 1991; Collom 2005; Kunzman 2005). Others fail to register because they lack trust in government agencies (Wartes 1988). Still others fall under provisions that do not require religious-based homeschoolers to register (Lines 1999). Some families operate as “private schools” thus again eliminating the registration requirement (Aurini and Davies 2005; Lines 1999). Finally, problems stemming from the nature of the intervention itself—a small population, definitional issues, geographical dispersion, and decentralization to hundreds of thousands of sites (homes)—make counting (and studying) homeschoolers a difficult task (Belfield 2004a; Collom and Mitchell 2005). All of these conditions lead to production of less-than-satisfying estimates, ones that are biased downward.

Counting problems also arise from the methods used to arrive at estimates (Mirochnik and McIntire 1991). For example, researchers often turn to lists of families who have joined homeschool associations to draw estimates. At other times, they rely upon lists of those who purchase materials from homeschool curriculum providers. However, since some families do not join support groups and/or purchase from homeschool providers these sources are likely to undercount homeschoolers (Lines 1999). It is also important to remember that there is a lack of uniformity among states in how and when they collect data on this population (Lines 1999).

More recently, researchers have employed household surveys to arrive at the number of homeschoolers in the United States. While this approach overcomes many of the problems inherent in the previously discussed methods, the procedure is not free of problems (Bielick et al. 2001). In particular, because they are often such a small percentage of school-age children, very few of them are likely to be included in national household surveys (Wenger and Hodari 2004).

Perhaps the most puzzling finding in the area of homeschooling effects is that almost every potential domain of impact that defines the intervention from parents’ perspectives is ignored while researchers chase down data on whether homeschool children can answer two or three more questions correctly on standardized tests than their public school peers. At the *macro level*, this is the case because the impacts of homeschooling as a broad social movement are generally not investigated. A fair amount of conceptual work on the issue of the impact of homeschooling on the social fabric of the nation is available, especially by those who foresee potential negative consequences (e.g., Apple 2007; Lubienski 2000; Reich 2005). However, with the exception of

work from scholars such as Gaither (2008) and Stephens (2001) there is scant guidance in the literature about how to think about operationalizing and measuring societal impacts.

At the *mid level* absence of attention to core outcomes occurs because most of the reasons parents provide for homeschooling, i.e., the essential values of the movement (e.g., developing religious values) are simply ignored (Cizek 1993; Klicka 1995). The goals of building strong families, preventing the litany of social problems attributed to public education from infecting children, and learning values are almost never tested in any scientific manner (see Parker 1992, and Ray 2004a for exceptions). If one were to draw a central conclusion from those who study homeschooling, it would be that the primary goal of this movement is to ratchet up academic achievement in mathematics and reading. The fact that this is patently inaccurate seems to escape the attention of most researchers plying their skills in the homeschooling area. In short, what counts as evidence of success in public schools has de facto become the measure of progress in homeschools for researchers.

At the *micro level*, the neglect of outcomes at the heart of the homeschooling community occurs because when scholars focus on academic outcomes, they confine themselves to the most basic elements of the achievement algorithm (measures of performance on basic skills in two or three areas, e.g., mathematics and reading). Many of the academic outcomes pursued by homeschooling families such as learning for understanding, developing habits of inquiry, and learning across content areas never appear in research studies on the effects of homeschooling (Mayberry et al. 1995).

In short, what Ray and Wartes (1991) refer to as the major agenda of public education has become the platform for assessing the productivity of homeschools. Other outcomes that are more important to the homeschool community and to the larger society receive very little empirical attention (Lines 2000b).

## HOMESCHOOLING EFFECTS: BROAD MEASURES

Two well-established pathways can be pursued in examining the impacts of homeschooling. First, we can turn to the designs developed to assess privatization initiatives in general. For example, Murphy (1996, 2002) assesses privatization strategies such as homeschooling around five criteria: efficiency, quality, choice, equity, and community. The second design evaluates homeschooling on categories of impact (e.g., socialization). We feature the second design and weave in essential ideas from the privatization pathway as appropriate. We divide the impact of homeschooling into two major categories: effects on broad measures and effects on children. The first category includes outcomes in four areas: society writ large, public schooling, costs, and family. The second category contains findings on three outcomes: academic achievement; social development; and post-school success, especially college attendance and graduation.

### Impact on the Social Fabric

A few homeschool analysts, both advocates and those with more skeptical mindsets, have forged theories of action about the potential effects of home-based education on the social fabric of the country (Collom and Mitchell 2005). These are often expressed in terms of the common good and the well being of the democratic state (Apple 2000b; Kunzman 2009a). There seems to

be consensus on all sides that the homeschooling movement is likely to have an important impact beyond what happens in individual homes and with specific children (Apple 2000a; Bates 1991; Riegel 2001). Widespread agreement exists that effects on the public good need to be considered in assessing the overall impact of homeschooling (Belfield 2005). While we sometimes find well-developed analyses of the logic of action in the literature, research on the question of homeschooling's impact on society writ large is almost nonexistent. Operationalization needed to begin empirical work is also scarce. We are left, therefore, with an ideologically defined landscape with little evidence to test claims and counter claims.

It is not our intention in this empirical review to delve into the theories of logic that power various perspectives on how homeschooling is linked, positively and negatively, to what Apple (2000a) refers to as the health of the public sphere. Suffice it to say that one side, often anchored by economists, concludes that community can be built through individualization, freedom of choice, and market forces (Belfield 2005; Murphy 1996). Analysts here also attempt to cast doubt on claims by opponents of homeschooling that the common school experience is essential for the development and maintenance of the public good (Hardenbaugh 2005). They view exit from public schooling as an attack on public monopoly, not a lack of commitment to the common good (Murphy 1999, 2002).

Opponents and skeptics see things quite differently. Their theories lead them to the conclusion that homeschooling, by failing to grow the social networks in schools that glue society together, (Apple 2000b; Lubienski 2000; Reich 2005) undermines the public good (Apple 2000a; Luke 2003) and reinforces old and grows new inequalities (Apple 2005). The crux of the equity argument in terms of homeschooling has been laid out by Lubienski (2000), Apple (2000a), and others: Making schooling private may enhance educational quality for some but will surely diminish quality for others. The pathway that leads from homeschooling to inequality is characterized by reduced concern for and commitment to the larger democratic society by homeschool parents. According to Apple (2000a), for example, homeschooling is defined by an anti-democratic logic and impoverishes the public good. For critics, homeschooling represents a retreat from the public sphere (Riegel 2001). These analysts hold that social justice is diminished by homeschooling (Apple 2000a; Lubienski 2000).

If we have not been sufficiently clear to this point, we restate critical insights here. Research provides little evidence about the impact of homeschooling on the larger public sphere. More accurately, remarkably little attention has been devoted to this important outcome in the home-school literature. The one study that directs an empirical spotlight to the issue suggests that the ground on which critics stand may be a little less firm than they believe. Operationalizing the public good in terms of civic involvement, Smith and Sikkink (1999) conclude that homeschoolers are not isolated, disengaged citizens. Employing regression analysis with NHES data and providing a strong set of controls, these researchers found that homeschooling families are significantly more likely than public school families "to participate in public life through a broad range of activities" (18). Their assessment is that "there appears to be something about homeschooling that increases families' participation in mostly non-school related civic activities in the public square" (18). Indeed, they conclude

that the challenges, responsibilities and practices that home educators normally entail for their participants may actually help reinvigorate America's civic culture and the participation of her citizens in the public square. (20)



## Impact on Schools

As Wartes (1990) reminded us in the first years of the homeschooling movement, one potential effect of homeschooling could be its shaping influence on public education, an impact that has been re-hypothesized for 20 years (Murphy 2013; McKeon 2007; Muntès 2006). The literature here provides some suggestions and initial clues but little empirical evidence (Bauman 2002; Lines 2004; Mayberry 1989). Meighan (1995) and others suggest that information from the homeschooling movement offers important insights about both the overhaul of the public education system and the reform of individual schools (Cooper and Sureau 2007; Dahlquist et al. 2006). Similar arguments have been amassed by scholars for the larger field of privatization generally (Murphy 1996) and for specific strategies such as vouchers and charter schools (Murphy, Gilmer, Weise, and Page 1998; Murphy and Shiffman 2002). With homeschooling in particular, analysts foresee potential impacts in public schools across an array of areas, including staffing, curriculum, organizational structure, resources, and so forth (Bauman 2002; Cooper and Sureau 2007).

Scholars have uncovered a number of pathways by which homeschooling could shape conventional schooling. Three avenues stand out: withdrawal impacts, lighthouse effects, and competitive effects. Critics of homeschooling maintain that involved parents one often sees in the homeschooling movement, pull away from public schools social capital is diminished (Wilhelm and Firman 2009). Relatedly, a reduced commitment to public education (Dahlquist et al. 2006; Riegel 2001) and a reduced willingness to support taxes for schools (Apple 2005; Hill 2000) suggests that homeschooling leads to less financial support for public education (Apple 2000a; Houston and Toma 2003). In short, critics hold that withdrawal to the home is accompanied by a reduction of political capital and material resources for public schools (Riegel 2001).

Other analysts who think about lighthouse effects suggest that the “good stuff” that makes homeschooling effective will find its way into public education, thus ratcheting up the quality of conventional schools (Lines 2000b; Luke 2003; Ray 2010)—both individual schools and the system of public education (Mayberry 1993). Here, analysts suggest that homeschooling will be an incubator of good practices that can be adopted and adapted by public school educators (Hardenbaugh 2005; Holt 1983). Currently, very little empirical data has been compiled about the robustness of either the withdrawal or the spillover pathways. Information from other privatization efforts, however, would lead one to be less than sanguine about the power of spillover effects (Murphy and Shiffman 2002).

Some preliminary data on cooperative relationships are beginning to be woven into a tentative finding. Specifically, some evidence exists that competition from homeschooling is encouraging public schools to develop new institutional forms (Bauman 2002; Jackson 2007; Mayberry et al. 1995). Noteworthy here has been the creation of new schools to serve homeschooled children and the development of more flexible public schools that permit homeschoolers to complete their education in multiple venues, both at home and in public school (Bauman 2002; Hill 2000; Knowles 1989). Meighan (1995) refers to the latter phenomenon as flexi-schooling.

Before leaving our discussion of the impact of homeschooling on conventional schools, it is important to recall that previously enrolled private school children are overrepresented among homeschoolers (Wartes 1987; Lines 2000b). Thus, as Lines (2004) reminds us, the

competitive effects of homeschooling are likely to fall heavily on private schools as well as public schools.

In a similar vein, homeschooling has the potential to influence institutions of higher education in America (Gaither 2008; Prue 1997; Ray 2005), especially around admissions criteria. At a minimum, preliminary data suggest that homeschooling is encouraging these institutions to broaden their admissions procedures (Prue 1997).

## Costs

To date, only limited attention has been directed to the costs, or what Cibulka (1991) describes as the fiscal appeal of homeschooling. As with most everything in homeschooling, both proponents and opponents have a point of view on the cost issue. Critics see homeschooling as pulling resources from public school districts, specifically the per pupil allotment that no longer flows to the coffers of the district (Apple 2007). Supporters, on the other hand, argue that there are considerable cost savings or a reduced tax burden on taxpayers when children leave (or decide not to enter) public schools (Belfield 2005; Lyman 1998; Ray & and 2003). Going even further, Wenders and Clements (2007) maintain that homeschooling not only saves taxpayers money but leads to greater spending on public schools (see also Ray and Weller 2003).

As with many things in the area of homeschooling, the inside story on “costs” is a little more complex than it appears at first blush. The issue of what gets counted in the calculations is especially nettlesome and, as Luebke (1999) reminds us, the true impact depends a good deal on who you ask and what one considers evidence. However, more so than with other impacts, meaningful data to inform the discussion are available. The data suggest that the idea that homeschoolers are taking money out of the pockets of schools (Apple 2005) does not hold up well. On the theory side here, it is important to remember that public schools enjoy no entitlement to student enrollment (Wenders and Clements 2007). Indeed, critics of the entitlement perspective see it as a return to the architecture of public monopoly that dominated education throughout the twentieth century (Murphy 2006).

On the empirical side, researchers have explored two approaches to the cost impact of homeschooling. Some reviewers extrapolate tax savings that materialize by not having students in public school classrooms. For example, at the state level figures on tax savings have been provided by Wenders and Clements (2007) in Nevada, Sutton and Bogan (2005) in Florida, Luebke (1999) in Wisconsin, and Ray and Weller (2003) in Oregon. At the national level, these tax savings have been calculated at 3.7 to 6.1 billion dollars in 1996–1997 (Ray 1997b) and 4.4 to 9.9 billion dollars in 2003 (Lips and Feinberg 2008). Other reviewers examine real expenses to uncover the financial impact of homeschooling on school districts. The two studies that have examined this issue reveal that in addition to providing tax savings, homeschooling reduces educational costs for school districts (Thompson 1994; Wenders and Clements 2007).

Other costs that could make homeschooling less of a net gain receive almost no analysis in the literature, however. Real costs fall on families because of labor income forgone to allow one parent to remain at home for schooling purposes (Houston and Toma 2003; Parker 1992). Relatedly, the cost of tax revenue missed because homeschooling parents elect not to participate in the paid labor market could be sizeable.

## Impact on Families

Building healthy families is one of the four driving motives for homeschooling. Unfortunately, there is almost no direct research on the topic. Some indirect evidence surfaces in some of the case studies of homeschooling. Given its place in the pantheon of motivations for home-based education, the lack of research is actually a jarring conclusion. Considerable research is needed to address the oft-stated logic of action that homeschooling (1) prevents the generational gap between children and their parents; (2) builds healthy relationships among siblings; and (3) establishes a nurturing family environment, i.e., allows families to knit together strong bonds, including successful marriages (Farris and Woodruff 2000; Mayberry 1993; Webb 1989).

Researchers also have been less than diligent and hardly systematic in exploring how homeschooling impacts the ongoing activities of families. Abundant evidence exists that mothers assume primary and often near total responsibility for homeschooling work, both in individual families and in the larger homeschooling support structure (Stevens 2001). The fact that many parents have reconfigured their lifestyles to engage the task of educating their children is discussed in the literature but not systematically investigated (Colfax and Colfax 1988). Based on empirical evidence, three conclusions about family lifestyle changes surface, but again, little surfaces about the core issue of building relationships, which is not even operationalized in the literature. First, homeschooling requires a major commitment of time (Aurini and Davies 2005; Martin 1997; Stevens 2001) and much hard work (Green and Hoover-Dempsey 2007; Kunzman 2009b; Williams et al. 1984). For example, Parker (1992) reported severe time pressures in 11% of his sample and distinct time pressures in another 62%. Second, homeschooling often requires a significant financial sacrifice, primarily the income forgone to keep the mother at home (Lyman 2000; Stevens 2001), although there is no information on how many of these women would be full-time homemakers in the absence of homeschooling. Third, homeschooling has the potential to limit the careers of mothers who do stay at home (Aurini and Davies 2005; Lyman 2000). Stevens (2001) refers to this as costs to homeschooling mothers in terms of career opportunities. Or as Perry and Perry (2000) assert, it represents a career change.

Insights about the frustrations and satisfactions that parents experience from homeschooling are limited (Divoky 1983; Green and Hoover-Dempsey 2007). The most important work was undertaken by Gladin (1987). On the frustration side of the ledger, Gladin concludes that the greatest angst arises from the difficult assignment of balancing homemaking and hometeaching activities. But again, we do not know how this frustration compares to that of mothers balancing careers and homemaking. Williams and colleagues (1984) also surface the frustration of competence among some homeschooling mothers. On the asset side of the balance book, Gladin (1987) uncovered factors that cluster into three domains: seeing children develop; spending time with children, including deepening sibling relations; and taking control and fulfilling God's mandate (Klicka 1995; Sheffer 1995). Sheffer (1995) and Williams and associates (1984) add a fourth domain satisfaction: using homeschooling as an avenue of personal learning and development, especially the invigoration of full-time motherhood.

## HOMESCHOOLING EFFECTS ON CHILDREN

Our exploration of the effects of homeschooling on children attends to three outcomes: academic achievement, social development, and post-homeschooling success.

## Academic Achievement

### *A Caveat*

To begin with, keystone elements in the debate over the value of homeschooling need to be thrown open to scrutiny (Hill 2000; Kaseman and Kaseman 1999). Three concerns emerge. First, analysts from both sides of the homeschooling community (the liberal left minority and the conservative, evangelical right majority) soundly reject the notion of the primacy of achievement scores in understanding the impact of homeschooling (Farrenga 1997; Klicka 1995). It is argued that other more important goals (e.g., inculcation of values) should hold center stage in explorations of whether homeschooling works. Relatedly, many others maintain that the door to homeschooling should not open and close in response to test scores. Homeschooling is a right that transcends test results (Kaseman and Kaseman 1999). The warrant for homeschooling rests on a higher power, not government-anchored measures of outcomes. The final concern is that focusing on achievement results puts the burden of proof for the legitimacy of homeschooling on homeschoolers, rather than those who are opposed to the practice (Hill 2000). It also pulls homeschools into the orbit of public education. Given our earlier discussion of the near absence of evaluation of the family-preferred outcomes of homeschooling, the critique over emphasis on academic achievement merits considerably more ink.

### *Lay of the Land*

Let us place our concern for the proper place of achievement scores in evaluating homeschooling in abeyance for the time being. Instead, let us direct the analytic spotlight to what we know about the academic performance of homeschooled youngsters. One group of scholars concludes that we know almost nothing about the impact of homeschooling on academic performance (Lips and Feinberg 2008; Reich, 2005). Their conclusion is based on the fact that the extant research base lacks the scientific foundations to distill any reliable findings (Frost and Morris 1988; Reich 2005). Absent comparative data and controlled studies, these analysts report that firm conclusions cannot be drawn (Dahlquist et al. 2006). That is, the current research base of descriptive analyses and case studies precludes forming generalizations about the cognitive growth of homeschooled children. Even when these children test well, we are unable to establish that the homeschooling intervention is responsible for the results (Reich 2005).

Other analysts argue, while acknowledging the limitations of the research, that the data are not available to show that homeschooling is harmful to the academic achievement of children (Lines 2000a; Luebke 1999). That is, these analysts find that academic test results suggest that homeschooling students are not disadvantaged by home-based education (Belfield 2005; Blok 2004; Knowles et al. 1992).

Still another cluster of reviewers maintain that the cumulative body of evidence suggests that real academic benefits flow to homeschool children (Luebke, 1999; Ray & Wartes, 1991). These analysts hold that indirect evidence signals a positive link between homeschooling and academic performance (Basham et al. 2007; Ray 1997b).

### *Comparisons with National Norms*

Analysts who link homeschooling and positive academic achievement almost always compare the performance of homeschooled youngsters to national norms (Collom 2005; Stevens 2001; Wegner and Hodari 2004). These analysts find that homeschool students who take standardized tests usually do quite well when compared to traditionally-schooled peers as a group (Calvery et al. 1992; Lines 1991; Ray 2001a; 2001b). For example, Delahooke (1986) compared homeschool achievement with test norms of private school children. She found similar levels of performance. Wartes (1987, 1988) reported that homeschoolers scored between the 65th to 68th percentile on national norms in his studies in Washington. Rakestraw (1988) in a study in Alabama found that homeschooled children scored about the same as public school students. Frost (1988) and Frost and Morris (1988) discovered that homeschooled children in Illinois performed better than public school children in every subject area other than mathematics.

Ray (2001a, 2001b) reached similar conclusions in his landmark 1990 national study, reporting that homeschooled children achieved at or above the 80th percentile in all subjects on standardized tests. Ray's subsequent investigations (1997b, 2010) reinforced his earlier conclusions. For example, in his 1997 study (1997b:54)

the students scored, on the average, at the following percentiles on standardized achievement tests: (a) total reading, 87th, (b) total language, 80th, (c) total math, 82nd, (d) total listening, 85th, (e) science, 84th, (f) social studies, 85th, (g) study skills, 81st, (h) basic battery (typically, reading, language, and mathematics), 85th, and (i) complete battery (all subject areas in which student was tested), 87th.

In his 2010 study, he found homeschool achievement reported in national percentiles as follows: (a) total reading, 89th; (b) total language, 84th; (c) total mathematics, 84th; (d) science, 86th; (e) social studies, 84th; and (f) composite, 86th.

In another hallmark national study, Rudner (1999) documented achievement test scores for homeschoolers between the 76th and 91st percentile across all 12 grades. He noted that homeschoolers in grades 1 through 4 were a full year above their private and public school peers on standardized tests and about four years above them in the 8th grade. Parker (1992) followed a similar approach using reports of homeschooling parents. He found that these parents reported considerable academic success. Schemmer (1985) calculated growth of homeschool students from one year to the next. She reported that these students performed well but in some cases did not achieve 12 months' growth. In a small-scale study in which growth over time (one semester) was measured, Duvall and associates (1997, 2004, 2005) found that homeschooled special needs children demonstrated more growth than public school peers in reading and written language and about equal growth in mathematics. Wenger and Hodari (2004) compared the scores of homeschool recruits into the military against students educated in public and private schools on the Armed Forces Qualification Test. They found that the homeschoolers performed about the same as the public school graduates.

Scholars also have compared college entrance examination scores of homeschoolers to national norms for those tests. Rudner (1999) reported that homeschoolers had a composite ACT score of 22.8 while the national norm was 21.0, a score that placed homeschooled children in the 65th percentile of all ACT test takers. In an earlier study, Oliviera and team (1994) found

no significant differences on ACT scores. Gray (1998) reported a similar conclusion for SAT scores. In a more sophisticated study (Belfield 2005), investigators found that homeschooled students enjoyed a strong advantage over public school peers on the SAT even after controlling for 21 relevant independent variables, with all of the advantage coming from the verbal scores (Belfield, 2004b). Ray (2004b) also reported that the homeschooled youngsters in his study outperformed public school colleagues on college entrance examinations. They scored 568 in verbal and 532 in mathematics on the SAT, compared to averages of 501 and 510, respectively.

### Contextual Issues

Researchers have also invested energy in exploring the environmental or background factors (e.g., family income) on the achievement of homeschooled children. In particular, scholars have been interested in determining how powerful these contextual variables are in homeschools vis-à-vis the homes of public school children. Scholars have also been engaged in investigating the impact of these variables on student achievement within homeschools. To presage the more detailed analysis that follows, and keeping in mind the state of research in the areas of home-schooling, the bulk of the evidence to date suggests that in the “home-school, public-school comparisons,” most of these contextual factors have weaker relationships to academic performance than is the case in public schools (Basham et al. 2007; Ray 1997b). The evidence also suggests that in the “in homeschool analyses,” background factors, by and large, are not significant determinants of academic achievement (Collom and Mitchell 2005).

In their treatments of *household income*, analysts have uncovered two important findings. To begin with, researchers reveal that low-income children in homeschools often achieve at or above national norms while low-income children in public schools on average score considerably below national norms (Ray 2004b; Ray 2009a). A less pronounced relationship is noted between family income and student learning in homeschools than in public schools (Blok 2004; Ray 1997b; Wartes 1990). At the same time, although there is some difference of opinion, it does appear that family income still matters. That is, across homeschools researchers uncover a significant difference in the cognitive performance of children based on family income (Ray 2010; Rudner 1999). Higher income is associated with higher test scores and the differences are larger for children in higher grades (Rudner 1999).

Turning to *parental education*, we arrive at parallel conclusions. Homeschooling appears to damp down the negative effects of low levels of parental education on student performance (Basham et al. 2007). The children of poorly educated parents score higher on achievement tests in homeschools than they do in public schools (Basham et al. 2007; Ray 2000b). Looking at the topic with another lens, Ray (1997b) found that homeschool parents with low levels of education routinely have children who reach national norms on achievement tests. He provided the following data on the issue in his 1997 (1997a:4) study.

For public school students, a parent’s education level *does* affect their children’s performance. In eighth grade math, public school students whose parents are college graduates score at the 63rd percentile, whereas students whose parents have less than a high school diploma score at the 28th percentile. Remarkably, students taught at home by mothers who never finished high school score a full 55 percentile points higher than public school students from families of comparable educational backgrounds.

Rudner (1999:25), in turn, encapsulated his findings as follows:

It is worthy to note that, at every grade level, the mean performance of home school students whose parents do not have a college degree is much higher than the mean performance of students in public schools. Their percentiles are mostly in the 65th to 69th percentile range.

Concomitantly, when researchers focus solely on homeschool families, the bulk of the evidence points to only a weak-to-moderate relationship between parents' educational levels and measures of academic performance (Collom 2005; Ray 2010; Rudner 1999), although some researchers and reviewers suggest no relationship (Lines 2000b; Mayberry et al. 1995; Moore and Moore 1994). For example, in his comprehensive study Rudner (1999) found that home-school children with college-educated parents performed better in every grade than parents who had less than a college degree.

Turning to other contextual variables, researchers provide some evidence on the "public-homeschool comparison" front, but very limited information on the "across homeschools" front. On the first topic, as was the case for income, preliminary evidence suggests that homeschooling depresses the negative effects of *race* visible in the public schools (Collom 2005). For example, and remembering the research limitations examined above, Ray (1997a) in his 1997 report found only minimal difference between African American and white students in reading and mathematics in homeschools, but large differences in scores in those two subjects by race in public schools. Investigators also have shown that widely seen *gender* differences in public school achievement scores may be muted by homeschooling. Wartes (1990) was the first scholar to document this compression in achievement variability by gender. Later studies by Rudner (1999) and Ray (2010) confirm Wartes' initial results.

*Religion* is a critical theme in the homeschool literature, but we know almost nothing about its place in the student achievement equation. *Motivations* in general are also a critical piece of the homeschooling story, but here too almost no information is available when we explore the chapters on achievement in the book on homeschools. Collom (2005) reported that reading and language scores were higher for children in homes that were motivated to homeschool because of their criticism of public education, while lower scores were recorded for children of parents who homeschooled for family reasons, although Collom reminds us that the latter finding could be explained by the high number of special needs children in homes motivated by family needs.

Other contextual variables address conditions in the homeschool program. For example, Wartes (1990) examined amount of *religious content* in the homeschool experience. He found no relationship with student achievement. Wartes (1988, 1990) also documented no meaningful relationship between *grade level* and academic achievement in homeschools, although Rudner's (1999) later and more methodologically sophisticated study suggests otherwise, that student cognitive development does vary with grade level in homeschools. Rudner's (1999) landmark study also shed some light on a suggestive finding by Parker (1992) of a positive relationship between *length of time homeschooling* and student achievement. Rudner (1999) discovered that students who had been schooled at home for their entire schooling experience posted higher achievement scores than students who had attended public and private schools as well. Ray (2010) and others have also begun to provide some initial insights on other dimensions of homeschooling and student achievement. In his most recent comprehensive analysis, he uncovered no differences in achievement scores between children *engaged with full-package* curriculums and other

homeschool students. Wartes' (1990) work extends this finding to the *structure of schooling* more generally, as well as to *hours of formal schooling*. Ray's (2010) investigation did unearth a positive relationship between *money spent on homeschooling* and student learning. A number of scholars over the last 25 years have explored the link between homeschool parents' (past or current) *certification as a teacher* and student achievement. The consistent conclusion from this work is that no relationship exists between parental certification and student performance on standardized achievement tests (Basham et al., 2007; Ray, 2010; Wartes, 1990).

### The Take-Away Message on Student Achievement

After all the information on student achievement is arrayed and reviewed, a number of key conclusions can be distilled. First, we know more than some analysts suggest we do. Important empirically grounded clues are visible and tentative hypotheses are being formed. At the same time, we know a lot less than advocates of homeschooling would have us believe. Second, a growing body of evidence reveals how homeschool students are performing academically compared to national norms on standardized tests. Third, a fair amount of suggestive evidence has been compiled that homeschooling can damp down the effects found in public schools of family socioeconomic variables. Or as Collom (2003:329) so nicely captures it, "the two great divides that public school children face—race and class—are inconsequential for student achievement among home-educated children."

For all of the reasons discussed herein, all of the current studies on homeschooling must be viewed as non-definitive. All of the work in this domain falls considerably short of the standards of scientific investigation. Experimental designs have never been employed. Quasi-experimental designs are conspicuous by their absence. Until researchers employ more rigorous research designs that control for selection bias, claims about academic effects of homeschooling simply cannot be evaluated. Fourth, we want to revisit our cardinal caveat: there are a number of valid reasons why it is inappropriate to privilege academic achievement in the algorithm we craft to assess the impact of homeschooling.

### Social Development

#### *The Storyboard*

The topic of the social development of children is consistently reported to be a critical outcome measure of homeschooling, often ranked first in importance but almost never less than second (Arai 1999; Lyman 2000; Ray and Wartes 1991). Those who are apprehensive about the socialization of homeschool children put forth a theory of action that runs as follows. Schools are a critical caldron in which important social skills are formed and social norms are learned (Guterson 1992; Kelley 1991). Homeschooling, it is asserted, limits the exchanges by which skills (e.g., conflict resolution) and norms (e.g., respect for others) are developed (Gladin 1987; Gorder 1990; Shyers 1992). As a consequence, a variety of negative outcomes materialize (e.g., poor ability to cope in larger society). The claim is made that by limiting socialization to the family, children may be harmed, and that lack of exposure to and interaction with peers at school can negatively impact social development, including self worth and social skills (Delahooke 1986; Medlin



2000). The fear is that absent the socializing experiences of traditional schooling, homeschoolers will not be as socially well adjusted as their conventionally educated peers, and they could become social misfits (Romanowski 2001; Sheffer 1995). As Guterson (1992: 4) captures the sentiment, homeschool children could “be like caterpillars who never become butterflies, crawling along down the labyrinths of adult life and blinking unhappily at the shrubbery.”

Embedded in this logic in action are a variety of more specific concerns. A central worry is that absent traditional schooling, homeschooled children will become socially isolated (Farris and Woodruff 2000; Gaither 2008; Medlin 2000) and the homeschool movement will produce an army of social isolates (Delahooke 1986; Gray 1993; Stevens 2001). A number of analysts have also discussed the concern that too great a reliance on one institution for socialization, such as the family, could lead to indoctrination (Apple 2000a, b; Reich 2005). Scholars have expressed apprehension about the potential negative effects of homeschooling in the area of friendship development as well (Gray 1993; Knowles and Muchmore 1995; Martin 1997). They sometimes paint a “picture of home school students as lonely children who don’t get a chance to interact with their peers” (Dalaimo 1996:15). Critics worry about identity formation (Belfield 2004b). Generalized angst from some that homeschoolers will not develop needed social skills is present in the literature (Delahooke 1986; Medlin 2000). Nor, it is argued, will they learn essential social norms (Arai 1999). Still another often noted worry is that homeschool children will suffer from a lack of exposure to people from all walks of life and to the diversity of perspectives one finds in public schools (Lyman 2000; Medlin 1998; Reich 2002), what Romanowski (1991) refers to as different viewpoints and distinctive ways of life. They may have, it is maintained, a limited horizon of experience (Kunzman 2009a; Reich 2002). Because of these deficiencies, it is further asserted, homeschooled graduates may lack the capacity to be productive members of society, to fit into the real world (Kelley 1991, Knowles and Muchmore 1995). They may struggle to adapt to the tough realities of life beyond their families, particularly to the competitive culture of the workplace (Arai 1999). Some analysts worry that these youngsters will be more likely to withdraw from civic engagements (Apple 2000b; Lubienski 2000; Reich 2002).

Proponents of homeschooling have a different perspective on the social development of homeschooled children (Farris and Woodruff 2000), and, as we will see below, considerably more empirical evidence to bolster their position.

Home schooling parents, not surprisingly, disagree on every point. They describe conventional schools as rigid and authoritarian institutions where passive conformity is rewarded, where peer interactions are too often hostile or derisive or manipulative, and where children must contend with a dispiriting ideological and moral climate. Home schooling parents argue that this kind of environment can stifle children’s individuality and harm their self-esteem. They say it can make children dependent, insecure, or even antisocial. They believe it can undermine their efforts to teach their children positive values and appropriate behavior. Finally, they insist that it is unlikely to cultivate the kind of rewarding and supportive relationships that foster healthy personal and moral development. (Medlin 2000:109)

Proponents maintain that a healthy family provides a better caldron in which to brew positive social development than the public school (Belfield 2004a; Gray 1998; Moore and Moore 1981). They caution us that the robust portrait of socialization unfolding in America’s schools is somewhat of an illusion (Hill 2000; Holt 1981), carrying as much negative freight as benefits (Farris and Woodruff 2000; Gorder 1990; Jaycox 2001). Proponents also remind us that there is a good

deal more to the day than the few hours of “school time” and argue that most homeschoolers are socially engaged during this extended time (Duvall 2005; Groover and Endsley 1988; Perry and Perry 2000). Advocates also define “variety” differently, suggesting that what is lost in engagement with peers in school is more than compensated for with abundant contacts with other peers and adults (Dalaimo 1996; Jaycox 2001). Advocates argue that if the formation of positive social skills is the goal, then socialization with adults trumps socialization with peers (Farris and Woodruff 2000; Meighan 1995). They contend that extensive peer socialization, which we have already seen, is viewed suspiciously by all sides of the homeschool community (Holt 1981; Moore 1982) as actually likely to be harmful (Boone 2000; Taylor 1986a; Webb 1989).

### The Evidence

A number of researchers help us think through the rather messy concept of social development/socialization. One group assists by providing definitions. For example, Brim and Wheeler (cited in Kelley 1991:2) define socialization as the “process by which persons acquire the knowledge, skills, and dispositions that make them more or less able members of society.” McNeil (also cited in Kelley 1991:2), in turn, “defines socialization as the process by which the child learns the ways of society and how to best function as a part of it.” Another cluster of analysts decompose socialization into its core elements; they provide frameworks for navigating through the research examining the impacts of homeschooling on children. Ray (2005), for example, discusses socialization around three domains: social, emotional, and psychological development. Medlin (2000:110) also unpacks socialization into three components: “participat[ion] in daily routines of one’s communities, acquiring the [needed] rules of behavior and systems of beliefs and attitudes, and functioning effectively as members of society.” Medlin (2000) provides us with a second framework as well, categorizing socialization as social activity, social influence, and social experience. Based on the work of pioneers in the field, we present the empirical evidence on the impact of homeschooling on the social development of children around three constructs: social engagement, self-esteem, and social skills. Before we begin, however, it is instructive to remind the reader that the body of research, although larger than in most of the impact domains of homeschooling, is still relatively small.

### Social Engagement

Social engagement as an outcome is assessed in three spheres of the homeschool literature: engagement of families (parents), engagement of children being homeschooled, and engagement of homeschooled graduates. We report on homeschool graduates below when we take up the topic of “post-homeschool success.” We touched on the engagement of homeschool families in the earlier section on the “impact on the social fabric,” documenting that, in general, homeschool families are at least as involved, if not more involved, civically as the general public (Isenberg 2002; Ray 2004a; Smith and Sikkink 1999). Here we review what is known about the socialization impact on children when they are being homeschooled.

We start with the social isolation hypothesis that is batted back and forth by critics and proponents of homeschooling. Here is what we can comfortably say based on the evidence. Homeschooling does impact the calculus of interpersonal relationships for homeschoolers, a

hardly surprising finding given their absence from groups of peers in formal school settings (Chatham-Carpenter 1994). At the same time, nearly every study conducted to date finds that these children are not socially isolated (Arai 1999; Ray 2004a; Van Galen 1991). Or as Chatham-Carpenter (1994) puts it, they are not “at risk” socially when “riskness” is assessed by the total number of social contacts.

The average homeschool student interacts with a large number of people on a daily basis. He or she is part of both an extensive and diverse social network (McCulloch et al. 2006; Ray 2009b), although generally less extensive than the network maintained by the average public school child (Chatham-Carpenter 1994). Studies reveal that closeness of connections varies by school type, with public schoolers having more close contacts than homeschoolers (Chatham-Carpenter 1994). Also, not unexpectedly, homeschool students spend more time with siblings and adults than they do with public school peers (Allie-Carson 1990). Consistent with what we reported above, homeschooling is likely to restructure the social world of the student, promoting more mixed-age than same-age engagements (Chatham-Carpenter 1994; Ensign 1997; Ray 2009a). The basis for peer connections also changes for homeschoolers, from proximity to common interests. At the same time, fewer peer contacts (i.e., 11 versus 20 for public school youngsters in the Chatham-Carpenter [1994] study) do not translate into an insufficient number of peer connections (Chatham-Carpenter 1994; Montgomery 1989). Indeed, studies routinely document robust peer linkages for homeschoolers (Groover and Endsley 1988; Wartes 1987). Although in short supply, the data that are available also suggest that homeschooled students are not isolated from cultural diversity (Medlin 1998). Homeschoolers on average are engaged with persons from diverse socioeconomic backgrounds, ages, religions, and ethnicities (Medlin 1998, 2000).

Researchers help us see that these out-of-home relations are fostered through the social and civic activities in which homeschool youngsters participate. For the last 30 years, scholars have documented that homeschoolers are involved in a wide variety of religious, social, sporting, cocurricular, government, work, educational, and service activities outside the home (Basham et al. 2007; Montgomery 1989; Tillman 1995). Homeschoolers are engaged at least to the same extent as their conventionally schooled peers, and often more so (Duvall et al. 2004; Delahooke 1986; Medlin 2000).

### Self-Concept

Researchers consistently find that on various measures of self-concept and self-esteem, homeschoolers score as well as or better than peers in other forms of schooling (Medlin 2000). A line of analysis also reveals that self-concept and socialization are tightly linked (Romanowski 2001; Taylor 1986b), connected in a recursive manner. It is generally held that socialization can be measured by self-concept, or that socialization is a core element in the formation of self-concept—that self-concept is a reflection of socialization (Kelley 1991; Taylor 1986a).

On the definitional front, Kelley (1991) reviews an assortment of meanings for self-concept. An especially clear and useful definition has been provided by Woolfolk (cited in Kelley 1991:4): “how people view themselves physically, emotionally, socially, and academically; all self-perceptions taken together.” Another was penned by Taylor (1986a:14): “a construct defined as an individual’s perception of himself, of what he perceives others to think of him and what he himself would wish to be.”

Keeping in mind the caveat we have introduced and reinforced about the limited body of high quality research studies, almost all of the evidence amassed over the last 30 years leads to the conclusion that homeschoolers do not suffer from poor self-concepts. Their self-concepts are as strong or stronger than those of their peers in public and private schools (Ray 2009b). Among the studies and reviews that focus on self-concept, a few are foundational, including the seminal work of Ray (1997b, 2000c, 2009b) and Medlin (1998, 2000).

One of the early landmark studies was conducted by Taylor (1986a). Using the Piers-Harris Children's Self-Concept Scale (PHCSCS), he discovered that the self-concepts of home-schooled children were significantly higher than those of their peers in public schools. Indeed, he reported that over half of the home-educated children scored above the 90th percentile on the composite scale. Only 10% scored below the 50th percentile. Not surprisingly, he also found that the homeschool students performed well on each of the six sub-scales of the PHCSCS—behavioral, intellectual, physical, anxiety, popularity, and happiness, with somewhat lower scores on the popularity scale. Within the homeschool group, he found that socio-economic status matters. Specifically, higher socioeconomic status was significantly related to higher self-concept. He also discovered that self-concept decreases for homeschoolers as they increase in age and by grade. His overall conclusion is that a positive self-concept is a benefit of homeschooling.

Kitchen's (1991) analysis, although hampered by limited sample size, supports the findings of Taylor. Kitchen documented that homeschooled children scored better than conventionally schooled peers on three of the four dimensions (personal security, academic competence, familial acceptance) and on the summative dimension of the Self-Esteem Index. The only area in which they trailed their peers was in the area of peer popularity, the area where homeschoolers scored the lowest in the Taylor (1986a) study as well. Shyers (1992), as did Taylor, used the PHCSCS to measure the self-concept of homeschoolers. He concluded that homeschooled children and traditionally schooled children scored about the same. Lee (1994) also documented that homeschooled children did not lag behind other children on a measure of self worth. Using the Harter Self-Perception Profile for Children, he reported no significant difference between home and public schooled children in self-esteem. Parker (1992) and Sheffer (1995) also reported positive self-concept for homeschoolers, although without comparative data.

A moving-forward hypothesis then seems plausible. For a number of reasons, home-based education appears at least as capable of nurturing self-concept as conventional schools. It is distinctly possible that homeschoolers perform even better in this area than their peers do in traditional schools. As Taylor (1986a) and other scholars over the years have consistently pointed out, critics should be cautious about placing bets against homeschooling on the "socialization rationale" in general and the "self-concept rationale" in particular.

## Social Skills

The third dimension of our social development framework attends to how well homeschool children develop the social skills essential to the intercourse of life. As revealed above in the discussion of the socialization storyboard, recurring concern appears in the literature that because of their isolation, homeschooled children will be stifled socially and will not develop the skills they need to engage effectively with others. The empirical evidence available to date

suggests that at a minimum this concern is likely overblown and more likely is without foundation (Dahlquist et al. 2006; Medlin 2000).

To be sure, “social skills” covers a good deal of ground. One aspect is maturity. We learn from the research that homeschoolers are as mature as or more mature than children in public schools (Saunders 2010; Smedley 1992). We also discover that they demonstrate good leadership skills (Montgomery 1989) and are rated high on measures of ability to interact with others, both peers and adults (Wartes, 1987)—communication skills and daily living skills (Ray and Wartes 1991; Smedley 1992; Webb 1989). They do not appear to be socially anxious (Taylor 1986a). Homeschooled children measure well against their peers on indices of confidence, assuredness, and well-adjustedness (Lee 1994; Tillman 1995). Evidence also reveals that homeschoolers demonstrate fewer behavioral problems than conventionally schooled peers (Delahooke 1986; Lee 1994; Shyers 1992). They tend to be trustful and non-cynical in nature (McCulloch et al. 2006). They are generally a happy group (Taylor 1986a). They score about the same as conventionally schooled peers on measures of social acceptance (Lee 1994; Webb 1989). Overall, they demonstrate appropriate pro-social behavior and social responsibility (Shyers 1992; Wartes 1987).

### Post-Homeschooling Success: Long-Term Impacts

For a variety of reasons—the general lack of research on homeschooling, the recency of the movement, the difficulty of engaging the work—research on the impacts of homeschooling on “graduates,” or what Knowles and Muchmore (1995) refer to as the long-term effects of homeschooling, is in very short supply. While there is no shortage of theories on what Galloway and Sutton (1995) call the “products” of homeschools, little data is available to inform that discussion. When the data points that have been produced over the last quarter century are compiled, the emerging narrative conveys a story of homeschoolers who (1) are reasonably successful adults and (2) are holding their own vis-à-vis conventionally school students (Cochran 1995; Knowles and Muchmore 1995; Ray 2000a). That narrative as told by Webb (1989) is comprised of four chapters: further education, employment, social ability, and community engagement. Ray (2004a) arrays the data in two chapters: general and civic involvement. Cochran (1995), in turn, packages product data into three broad chapters: employment, education, and social adjustment. Below, we build from these frameworks, placing post-homeschool graduates into four broad categories: college preparation, access, and success; employment and military service; civic engagement; and satisfaction with education and life.

### College Preparation, Access, and Success

While more research is available on this post-homeschool outcome than most others, the empirical portfolio is still relatively thin (Cogan 2010; Saunders 2010). On the issue of *preparation*, evidence has been generated in two areas: perceptions of significant actors in the chronicle and test scores. In the first area, when asked, college admission officers have assessed homeschoolers as being academically and socially prepared to handle the rigors of college life (Prue 1997; Sorey and Duggan 2008), and at least as well prepared as graduates of public high schools (Jenkins 1998). In the second area, test scores, researchers find that homeschoolers demonstrate

academic preparedness equal to graduates of public schools on measures of verbal, writing, and critical thinking skills (Galloway and Sutton 1995; Oliviera et al. 1994). Two investigators have found that homeschool students score as well as or better than their public school peers on college entrance examinations, both the ACT and the SAT (Cogan 2010; Ray and Weller 2003). Early indications are that homeschooled children apply to and are *admitted* to postsecondary education in proportions similar to their conventionally educated peers (Lips and Feinberg 2008; Ray 1997b). They are enrolling in some of the nation's most distinguished institutions of higher education as well (Basham et al. 2007; Gaither 2008; Marean, Ott, and Rush 2005).

So far, the research shows that once enrolled, homeschooled students in colleges and universities are performing as well as public school graduates (Ray 2009b), remembering that the body of evidence is small (Cogan 2010; Gray 1998; Prue 1997). As with "preparedness," the data on *success* is of two types, perceptual and harder indicators. On the perceptual side of the ledger, researchers such as Jenkins (1998), Ray (2005), and Sorey and Duggan (2008) reveal that college admissions officers report that homeschooled youngsters are as successful as (or better than) public school graduates. Harder measures of student success also dot the impact literature. Turning first to earned grades, findings of equivalence are found here as well (Gray 1998; Galloway and Sutton 1995; Oliviera et al. 1994). The operational hypothesis at this point in time is as follows: there are "few if any" meaningful differences in retention and academic performance in college between homeschooled students and peers from public schools (Saunders 2010).

Sutton and Galloway (2000) assessed additional domains of success beyond academic achievement. They bundled 40 discrete indicators of success into five broad impact categories: achievement, leadership, professional aptitude, social behavior, and physical activity. They reported equivalence between homeschoolers and public school graduates on all the additional four domains. Their interpretation follows:

Implications from the nonsignificant results are mixed for home schools. First and foremost, the fact that neither the public school nor the private school groups significantly outperformed the home school group is noteworthy . . . . Conversely, however, the inability of the home school group to outperform their private and public school counterparts academically suggests that home school students are not generalizing their exceedingly high K-12 achievement scores to the college level. (143)

Research on postsecondary graduation rates of homeschooled students is very limited. We have a few empirical starting points (Cogan 2010; Ray 2004b) but no body of evidence.

### Success in the Workforce and the Military

We begin our discussion here with a recurring theme: a very thin data base from which to draw conclusions dominates this impact domain. In one early study, Knowles and Muchmore (1995) reported that homeschooled adults tended to move into entrepreneurial and professional positions. In his comprehensive study, Ray (2004a) documented remarkably high levels of satisfaction with their jobs among homeschooled adults, with 61.4 percent being very satisfied and 34.5 percent expressing moderate satisfaction.

We were able to uncover only one robust examination of the success of homeschooled graduates in the military. While the investigators are careful to specify the limitations of their study, especially in terms of the small and likely nonrepresentative sample of homeschoolers who enter

the armed services, their conclusions, nonetheless, reflect poorly on homeschoolers. Specifically, Wenger and Hodari (2004) documented that, compared to public school graduates, homeschoolers: (1) have significantly higher attrition rates; (2) are less likely to enter the military at an advanced pay grade (a measure of quality); (3) are more likely to be admitted on a waiver (another measure of quality); (4) are more likely to exit the military for negative reasons; and (5) are not viewed as high quality at the time they leave the armed forces.

### Participation in the Community

Consistent with the findings on socialization of homeschooling youngsters and the social and civic engagement of their parents (Lines 2000a), available research finds that homeschooled adults also participate in community-based activities at rates much higher than those found in the general population (Ray 2005). Two studies in particular open a window on this issue. In the mid-1990s, Knowles and Muchmore (1995) reported that homeschooled adults were not disengaged socially or civically. In a comprehensive analysis of the issue a decade later, Ray (2004a) documented that homeschooled adults were indeed heavily involved in community life at the local and national levels and were more civically involved than the general population of adults. He found that compared to public school graduates, homeschooled adults were more likely to (1) vote; (2) be involved in ongoing community service; (3) be part of an organization; (4) write, telephone, or sign petitions; and (5) participate in a protest or boycott.

### Satisfaction with Education and Life and Economic Benefits

There are some clues in the empirical literature that students who complete their education at home enjoy higher “life satisfaction” ratings than peers who graduate from public schools (Basham et al. 2007). In a similar vein, homeschooled children view their homeschooling experiences quite positively (Knowles and Muchmore 1995; Ray 2004a). Again, these data are in line with the limited findings on satisfaction when students are engaged in the homeschooling experience (Duvall et al. 1997; Jackson 2007). One good but indirect measure of satisfaction is a willingness and commitment of homeschooled adults to home educate their own children (Webb 1989). Using this measure, we learn that homeschooled adults are very satisfied with education they received (Meighan 1995; Ray 2004a).

While we know that homeschooling decisions are rarely made on the basis of cost-benefit calculations, there are no available studies on economic benefits to homeschool graduates (Aurini and Davies 2005).

## CONCLUSION

In this article, we provided an extensive review of what is known about the impact of homeschooling in the United States. We saw that the homeschooling population has grown substantially over the last 40 years. It has become a central element in the portfolio of privatization initiatives (e.g., charter schools, vouchers) accompanying the evolution from the institutional and hierarchical forms of education in the twentieth century to a system of schooling with greater

emphasis on consumer- and market-oriented infrastructure. We explained how homeschooling is larger than schooling. Home-based education is also a social movement. It is both the result of and a contributing factor to the changing dynamics of religion, family, and politics. It has raised the prominence of evangelical Christian fundamentalism. Homeschooling has helped reposition the dialogue and action around the role of the family, especially the mother, in the United States. We also noted how homeschooling both adds to and shapes the rivers of conservative politics.

We investigated the educational outcomes associated with homeschooling. We were careful to the point of redundancy in exposing the incipient and immature nature of the research on homeschooling. We reported that for many domains of homeschooling, most especially those in the family of outcomes, the amount of research is quite limited. We also explained that the body of work undertaken to date has left a good deal to be desired in terms of methodological rigor. The overall message is one that at best only allows us to report that research “suggests” certain findings. Existing findings need to be subjected to more scientific study. Given these limitations, the evidence currently at hand leads us to be cautious about too readily accepting the claims of homeschool critics that the academic and social well-being of youngsters is harmed by homeschooling.

#### AUTHOR NOTES

Joseph Murphy is the Frank W. Mayborn Chair at Vanderbilt University. He works in the area of school improvement.

#### REFERENCES

- Allie-Carson, J. 1990. “Structure and Interaction Patterns of Home School Families.” *Home School Researcher* 6(3):11–18.
- Apple, M. 2000a. “Away with All Teachers: The Cultural Politics of Home Schooling.” *International Studies in Sociology of Education* 10(1):61–80.
- Apple, M. 2000b. “The Cultural Politics of Home Schooling.” *Peabody Journal of Education* 75(1):256–271.
- Apple, M. 2005. “Away with All Teachers: The Cultural Politics of Home Schooling.” Pp. 75–95 in *Home Schooling in Full View*, edited by B. S. Cooper. Greenwich, CT: Information Age Publishing.
- Apple, M. 2007. “Who Needs Teacher Education? Gender, Technology, and the Work of Home Schooling.” *Teacher Education Quarterly* 34(2):111–130.
- Arai, B. 1999. “Homeschooling and the Redefinition of Citizenship.” *Education Policy Analysis Archives* 7(27):1–15.
- Aurini, J. and S. Davies. 2005. “Choice Without Markets: Homeschooling in the Context of Private Education.” *British Journal of Sociology of Education* 26(4):461–474.
- Barwegen, L., N. Falciani, S. Putnam, M. Reamer, and E. Stair. 2004. “Academic Achievement of Homeschool and Public School Students and Student Perception of Parent Involvement.” *School Community Journal* 14(1):39–58.
- Basham, P., J. Merrifield, and C. Hepburn. 2007. “Home Schooling: From the Extreme to the Mainstream.” *Studies in Education Policy Series*. Vancouver, BC, Canada: Fraser Institute.
- Bauman, K. 2002. “Home Schooling in the United States: Trends and Characteristics.” *Education Policy Analysis Archives* 10(26):121.
- Belfield, C. 2004a. *Home-Schooling in the US (Occasional Paper No. 88)*. New York: National Center for the Study of Privatization in Education, Teachers College, Columbia University.
- Belfield, C. 2004b. “Modeling School Choice: A Comparison of Public, Private-Independent, Private-Religious, and Home-Schooled Families.” *Education Policy and Analysis Archives* 12(30):1–16.



- Belfield, C. 2005. "Home Schoolers: How Well Do They Perform on the SAT for College Admissions?" Pp. 167–177 in *Home Schooling in Full View*, edited by B. S. Cooper. Greenwich, CT: Information Age Publishing.
- Bielick, S., K. Chandler, and S. Broughman. 2001. "Homeschooling in the United States: 1999." *Education Statistics Quarterly* 3(3):1–13.
- Blok, H. 2004. "Performance in Home Schooling: An Argument Against Compulsory Schooling in the Netherlands." *International Review of Education* 50(1):39–52.
- Boone, J. 2000. "Homeschool Alumni." *Paths of Learning: Options for Families & Communities* 3:25–30.
- Burns, J. 1999. "The Correlational Relationship Between Homeschooling Demographics and High Test Scores." Opinion paper: Northeastern State University.
- Calvery, R., D. Bell, and C. Vaupel. 1992. "The Difference in Achievement Between Home Schooled and Public Schooled Students for Grades Four, Seven, and Ten in Arkansas." Paper presented at the annual meeting of the Mid-South Research Association, Knoxville, TN.
- Chatham-Carpenter, A. 1994. "Home Versus Public Schoolers: Differing Social Opportunities." *Home School Researcher* 10(1):15–24.
- Cibulka, J. 1991. "State Regulation of Home Schooling: A Policy Analysis." Pp. 101–120 in *Homeschooling: Political, Historical, and Pedagogical Perspectives*, edited by J. Van Galen and M. Pittman. Norwood, NJ: Ablex Publishing Corp.
- Cizek, G. 1993. "The Mismeasure of Home Schooling Effectiveness (A Commentary)." *Home School Researcher* 9(3):1–4.
- Cochran, C. 1995. "The Home School Movement in the U.S.: Georgia as a Test Case, 1979–1984." Doctoral dissertation, Emory University, Atlanta, GA.
- Cogan, M. F. 2010. "Exploring Academic Outcomes of Homeschooled Students." *Journal of College Admission* 208:18–25.
- Colfax, D. and M. Colfax. 1988. *Homeschooling for Excellence*. New York: Warner Books.
- Collom, E. 2005. "The Ins and Outs of Homeschooling: The Determinants of Parental Motivations and Student Achievement." *Education and Urban Society* 37(3):307–335.
- Collom, E. and D. Mitchell. 2005. "Home Schooling as a Social Movement; Identifying the Determinants of Homeschoolers' Perceptions." *Sociological Spectrum* 25(3):273–305.
- Cooper, B. S. and J. Sureau. 2007. "The Politics of Homeschooling: New Developments, New Challenges." *Educational Policy* 21(1):110–131.
- Dahlquist, K., J. York-Barr, and D. D. Hendel. 2006. "The Choice to Homeschool: Home Educator Perspectives and School District Options." *Journal of School Leadership* 16(4):354–385.
- Dalaimo, D. 1996. "Community Home Education: A Case Study of a Public School-Based Home Schooling Program." *Educational Research Quarterly* 19(4):3–22.
- Delahooke, M. 1986. "Home Educated Children's Social/Emotional Adjustment and Academic Achievement: A Comparative Study." Doctoral dissertation, California School of Professional Psychology, Los Angeles.
- Divoky, D. 1983. "The New Pioneers of the Home-Schooling Movement." *Phi Delta Kappan* 64(6):395–398.
- Duvall, S. F. 2005. "The Effectiveness of Homeschooling Students with Special Needs." Pp. 151–166 in *Home Schooling in Full View*, edited by B. S. Cooper. Greenwich, CT: Information Age Publishing.
- Duvall, S., J. Delquadri, and D. Ward. 2004. "A Preliminary Investigation of the Effectiveness of Homeschool Instructional Environments for Students with Attention-Deficit/Hyperactivity Disorder." *School Psychology Review* 33(1):140–158.
- Duvall, S., D. L. Ward, J. Delquadri, and C. Greenwood. 1997. "An Exploratory Study of Home School Instructional Environments and Their Effects on the Basic Skills of Students with Learning Disabilities." *Education and Treatment of Children* 20(2):150–172.
- Ensign, J. 1997. *Homeschooling Gifted Students: An Introductory Guide for Parents*. Reston, VA: Council for Exceptional Children, ERIC Clearinghouse on Disabilities and Gifted Education.
- Farris, M. and S. Woodruff. 2000. "The Future of Home Schooling." *Peabody Journal of Education* 75(1/2):233–255.
- Frost, G. 1988. "The Academic Success of Students in Home Schooling." *Illinois School Research and Development* 24(3):111–117.
- Frost, E. and R. Morris. 1988. "Does Home-Schooling Work? Some Insights for Academic Success." *Contemporary Education* 59(4):223–227.
- Gaither, M. 2008. *Homeschool: An American History*. New York: Palgrave MacMillan.

- Galloway, R. and J. Sutton. 1995. "Home Schooled and Conventionally Schooled High School Graduates: A Comparison of Aptitude for and Achievement in College English." *Home School Researcher* 11(1):1-9.
- Gladin, E. 1987. "Home Education: Characteristics of Its Families and Schools." Doctoral dissertation, Bob Jones University, Greenville, SC.
- Glanzer, P. L. 2008. "Rethinking the Boundaries and Burdens of Parental Authority over Education: A Response to Rob Reich's Case Study of Homeschooling." *Educational Theory* 58(1):1-16.
- Gorder, C. 1990. *Home Schools: An Alternative*. Tempe, AZ: Blue Bird Publishing.
- Gray, D. W. 1998. "A Study of the Academic Achievements of Home-Schooled Students Who Have Matriculated into Postsecondary Institutions." Doctoral dissertation. Sarasota, FL: University of Sarasota.
- Gray, S. 1993. "Why Some Parents Choose to Home School." *Home School Researcher* 9(4):1-12.
- Green, C. and K. Hoover-Dempsey. 2007. "Why Do Parents Homeschool? A Systematic Examination of Parental Involvement." *Education and Urban Society* 39(2):264-285.
- Groover, S. and R. Endsley. 1988. "Family Environment and Attitudes of Homeschoolers and Non-Homeschoolers." Unpublished master's thesis, University of Georgia.
- Guterson, D. 1992. *Family Matters: Why Homeschooling Makes Sense*. New York: Harcourt Brace Jovanovich.
- Hardenbaugh, N. 2005. "Through the Lens of Homeschooling: A Response to Michael Apple and Rob Reich." Pp. 97-108 in *Home Schooling in Full View*, edited by B. S. Cooper. Greenwich, CT: Information Age Publishing.
- Hertzell, J. 1997. "Literacy in the Homeschool Setting." Pp. 61-81 in *Literacy: Building on What We Know*, edited by P. H. Dreyer. Claremont, CA: Claremont Reading Co.
- Hill, P. 2000. "Home Schooling and the Future of Public Education." *Peabody Journal of Education* 75(1/2):20-31.
- Holt, J. 1981. *Teach Your Own: A Hopeful Path for Education*. New York: Delacorte Press.
- Holt, J. 1983. "Schools and Home Schoolers: A Fruitful Partnership." *Phi Delta Kappan* 64(6):391-394.
- Houston, R. 1999. "The Economic Determinants of Home Education." Doctoral dissertation. Lexington, KY: University of Kentucky.
- Houston, R. and E. Toma. 2003. "Home Schooling: An Alternative School Choice." *Southern Economic Journal* 69(4):920-935.
- Ice, C. L. and K. V. Hoover-Dempsey. 2011. "Linking Parental Motivations for Involvement and Student Proximal Achievement Outcomes in Homeschooling and Public Schooling Settings." *Education and Urban Review* 43(3):339-369.
- Isenberg, E. 2002. *Home Schooling: School Choice and Women's Time Use*. National Center for the Study of Privatization in Education, Teachers College, Columbia University, New York, NY.
- Isenberg, E. 2007. "What Have We Learned About Homeschooling?" *Peabody Journal of Education* 82(2):387-409.
- Jackson, G. 2007. "Home Education Transitions with Formal Schooling: Student Perspectives." *Issues in Educational Research* 17:62-84.
- Jaycox, R. 2001. *Rural Home Schooling and Place-Based Education*. Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools.
- Jenkins, T. 1998. "The Performance of Home Schooled Students in Community Colleges." Unpublished doctoral dissertation. Texas AandM University - Commerce.
- Kaseman, L. and S. Kaseman. 1999. "HSLDA study: Embarrassing and Dangerous." *Home Education Magazine*. Retrieved March 5, 2011 from [http://www.homeedmag.com/HEM/164/ja\\_clmn\\_tch.html](http://www.homeedmag.com/HEM/164/ja_clmn_tch.html)
- Kelley, S. 1991. "Socialization of Home Schooled Children: A Self-Concept Study." *Home School Researcher* 7(4):1-12.
- Kitchen, P. 1991. "Socialization of Home School Children Versus Conventional School Children." *Home School Researcher* 7(3):7-13.
- Kleist-Tesch, J. M. 1998. "Homeschoolers and the Public Library." *Journal of Youth Services in Libraries* 11(3):231-241.
- Klicka, C. 1995. *The Right Choice: The Incredible Failure of Public Education and the Rising Hope of Home Schooling: An Academic, Historical, Practical, and Legal Perspective*. Gresham, OR: Noble Publishing Associates.
- Klugewicz, S. and C. Carraccio. 1999. "Home Schooled Children: A Pediatric Perspective." *Clinical Pediatrics* 38(7):407-411.
- Knowles, J. G. 1989. "Cooperating with Home School Parents: A New Agenda for Public Schools?" *Urban Education* 23(4):392-411.
- Knowles, J. G. and J. Muchmore. 1995. "Yep! We're Grown Up Home-School Kids - And We're Doing Just Fine, Thank You." *Journal of Research on Christian Education* 4(1):35-56.

- Knowles, G., S. Marlow, and J. Muchmore. 1992. "From Pedagogy to Ideology: Origins and Phases of Home Education in the United States." *American Journal of Education* 100:195–235.
- Kunzman, R. 2005. *Homeschooling in Indiana: A Closer Look. (Education policy brief Volume 3, Number 7)*. Bloomington, IN: Center for Evaluation and Education Policy, Indiana University.
- Kunzman, R. 2009a. "Understanding Homeschooling: A Better Approach to Regulation." *Theory and Research in Education* 7(3):311–330.
- Kunzman, R. 2009b. *Write These Laws on Your Children: Inside the World of Conservative Christian Homeschooling*. Boston: Beacon Press.
- Lee, W. J. 1994. "The Socialization of Home-Schooled and Public-Schooled Children." Doctoral dissertation. University of La Verne, La Verne, CA.
- Lines, P. M. 1991. "Home Instruction: The Size and Growth of the Movement." Pp. 9–42 in *Homeschooling: Political, Historical, and Pedagogical Perspectives*, edited by J. Van Galen and M. Pittman. Norwood, NJ: Ablex Publishing Corp.
- Lines, P. M. 1995. *Home Schooling (ERIC Digest, Number 95)*. Eugene, OR: ERIC Clearinghouse on Educational Management, University of Oregon.
- Lines, P. M. 1999. *Homeschoolers: Estimating Numbers and Growth*. Washington, DC: National Institute on Student Achievement, Curriculum, and Assessment.
- Lines, P. M. 2000a. "Homeschooling Comes of Age." *The Public Interest* 140:74–85.
- Lines, P. M. 2000b. "When Home Schoolers Go to school: A Partnership Between Families and Schools." *Peabody Journal of Education* 75(1–2):159–186.
- Lines, P. M. 2004. "Enrolled Home Study Partners with Public Schools." *Education Digest* 69(6):43–46.
- Lips, D. and E. Feinberg. 2008. *Homeschooling: A Growing Option in American Education*. Washington, DC: Heritage Foundation.
- Lubienski, C. 2000. "Whither the Common Good? A Critique of Home Schooling." *Peabody Journal of Education* 75(1/2):207–232.
- Luebke, R. V. 1999. *Homeschooling in Wisconsin: A Review of Current Issues and Trends*. Milwaukee, WI: Wisconsin Policy Research Institute.
- Luke, C. 2003. "Home Schooling: Learning from Dissent." *Canadian Journal of Educational Administration and Policy*, 25. Retrieved April 1, 2011 from <http://www.umanitoba.ca/publications/cjeap/articles/caluke.html>
- Lyman, L. 1998. "Homeschooling: Back to the Future?" *Policy Analysis* 294:1–15.
- Lyman, I. 2000. *The Homeschooling Revolution*. Amherst, MA: Bench Press International.
- Marean, J., M. Ott, and M. Rush. 2005. "Home Schooled Students and the Ivy League: Gaining Admissions to Highly Selective Universities in the United States." Pp. 179–197 in *Home Schooling in Full View*, edited by B. S. Cooper. Greenwich, CT: Information Age Publishing.
- Martin, M. 1997. "Homeschooling: Parents' Reactions." Retrieved March 5, 2011 from <http://www.eric.ed.gov/PDFS/ED415984.pdf>
- Mayberry, M. 1989. "Characteristics and Attitudes of Families Who Home School." *Education and Urban Society* 21(1):32–41.
- Mayberry, M. 1993. "Effective Learning Environments in Action: The Case of Home Schools." *The School Community Journal* 3(1):61–68.
- Mayberry, M., G. Knowles, B. Ray, and S. Marlow. 1995. *Home Schooling: Parents as Educators*. Thousand Oaks, CA: Corwin Press/Sage.
- McCulloch, D., S. Slocum, C. Kolegue, and S. Montaudo. 2006. "Cynicism, Trust, and Internal-External Locus of Control among Home Educated Students." *Academic Leadership* 4(4):1–4.
- McKeon, C. C. 2007. "A Mixed Methods Nested Analysis of Homeschooling Styles, Instructional Practices, and Reading Methodologies." Doctoral dissertation, Capella University. Retrieved March 5, 2011 from <http://www.eric.ed.gov/PDFS/ED504128.pdf>
- Medlin, R. G. 2000. "Home Schooling and the Question of Socialization." *Peabody Journal of Education* 75(1/2):107–123.
- Medlin, R. G. 1998. "For Homeschooled Children, the Social Contacts Are Diverse." *Homeschooling Today* 7(5):51–52.
- Meighan, R. 1995. "Home-Based Education Effectiveness: Research and Some of Its Implications." *Educational Review* 47(3):275–287.
- Mirochnik, D. A. and W. G. McIntire. 1991. *Homeschooling: Issues for Administrators. (Occasional Paper Series, No. 12)*. Orono, ME: University of Maine.

- Montgomery, L. 1989. "The Effect of Home Schooling on the Leadership Skills of Home Schooled Students." *Home School Researcher* 5(1):1–10.
- Moore, R. 1982. "Research and Common Sense: Therapies for Our Homes and Schools." *Teachers College Record* 84(2):355–377.
- Moore, R. and D. Moore. 1981. *Home Grown Kids: A Practical Handbook for Teaching Your Children at Home*. Waco, TX: Word Books.
- Moore, R. and D. Moore. 1994. *The Successful Homeschool Family Handbook: A Creative and Stress-Free Approach to Homeschooling*. Camas, WA: Moore Foundation.
- Muntes, G. 2006. "Do Parental Reasons to Homeschool Vary by Grade? Evidence From the National Household Educational Survey." *Home School Researcher* 16(4):11–17.
- Murphy, J. 1996. *The Privatization of Schooling: Problems and Possibilities*. Newbury Park, CA: Corwin Press.
- Murphy, J. 1999. "New Consumerism: The Emergence of Market-Oriented Governing Structures for Schools." Pp. 405–419 in *The Handbook of Research on School Administration*, edited by J. Murphy and K. S. Louis. San Francisco: Jossey-Bass.
- Murphy, J. 2006, December. "The Evolving Nature of the American High School: A Punctuated Equilibrium Model of Institutional Change." *Leadership and Policy in Schools* 5(4):1–39, 285–324.
- Murphy, J. 2013. "Exploring the Change in Homeschooling, 1970–2010." *Home School Research Journal* 29(1):1–15.
- Murphy, J., S. Gilmer, R. Weise, and A. Page. 1998. *Pathways to Privatization in Education*. Norwood, NJ: Ablex.
- Murphy, J. and C. Shiffman. 2002. *Understanding and Assessing Charter Schools*. New York: Teachers College Press.
- Nemer, K. M. 2002. *Understudied Education: Toward Building a Homeschooling Research Agenda (Occasional Paper)*. New York: National Center for the Study of Privatization in Education, Teachers College, Columbia University.
- Oliviera, P. C. M. de, T. G. Watson., and J. P. Sutton. 1994. "Differences in Critical Thinking Skills among Students Educated in Public Schools, Christian Schools, and Home Schools." *Home School Researcher* 10(4):1–8.
- Parker, R. D. 1992. "Inside Home Schools: A Portrait of Eighty-Four Texas Families and the Schools in Their Homes." Master's thesis. Texas Tech University.
- Perry, J. and K. Perry. 2000. *The Complete Guide to Homeschooling*. Los Angeles: Lowell House.
- Prue, I. 1997. "A Nation-Wide Survey of Admissions Personnel's Knowledge, Attitudes, and Experiences with Home Schooled Applicants." Doctoral dissertation. Athens, GA: University of Georgia.
- Rakestraw, J. 1988. "Home Schooling in Alabama." *Home School Researcher* 4(4):1–6.
- Ray, B. 1997a. *Home Education across the United States: Family Characteristics, Student Achievement, and Longitudinal Traits*. Salem, OR: Home School National Defense Fund.
- Ray, B. 1997b. *Strengths of Their Own: Home Schoolers across America*. Salem, OR: NHERI Publications.
- Ray, B. 2000a. "Home Schooling for Individuals' Gain and Society's Common Good." *Peabody Journal of Education* 75(1):272–293.
- Ray, B. 2000b. "Home Schooling: The Ameliorator of Negative Influences on Learning?" *Peabody Journal of Education* 75(1/2):71–106.
- Ray, B. 2001a. *Home Education Research Fact Sheet*. Salem, OR: National Home Education Research Institute.
- Ray, B. 2001b. *Home Schooling Achievement*. Purcellville, VA: National Home Education Research Institute. Retrieved March 5, 2011 from <http://www.hslda.org/docs/study/comp2001/HomeSchoolAchievement.pdf>
- Ray, B. 2004a. *Home Educated and Now Adults: Their Community and Civic Involvement, Views about Homeschooling, and Other Traits*. Salem, OR: National Home Education Research Institute.
- Ray, B. 2004b. "Homeschoolers on to College: What Research Shows Us." *Journal of College Admission* 185:5–11.
- Ray, B. 2005. "A Homeschool Research Story." Pp. 1–19 in *Home Schooling in Full View*, edited by B. S. Cooper. Greenwich, CT: Information Age Publishing.
- Ray, B. 2009a. *Home Education Reason and Research: Common Questions and Research-Based Answers about Homeschooling*. Salem, OR: National Home Education Research Institute.
- Ray, B. 2009b. *Research Facts on Homeschooling: General Facts and Trends*. Salem, OR: National Home Education Research Institute.
- Ray, B. 2010. "Academic Achievement and Demographic Traits of Homeschool Students: A Nationwide Study." *Academic Leadership Live: The Online Journal* 8(1):1–26.
- Ray, B. 2011. *2.04 Million Homeschool Students in the United States in 2010*. Salem, OR: National Home Education Research Institute.

- Ray, B. and J. Wartes. 1991. "The Academic Achievement and Affective Development of Home-Schooled Children." Pp. 43–62 in *Homeschooling: Political, Historical, and Pedagogical Perspectives*, edited by J. Van Galen and M. Pittman. Norwood, NJ: Ablex Publishing Corp.
- Ray, B. and N. Weller. 2003. "Homeschooling: An Overview and Financial Implications for Public Schools." *School Business Affairs* 69(5):22–26.
- Reich, R. 2002. "The Civic Perils of Homeschooling." *Educational Leadership* 59(7):56–59.
- Reich, R. 2005. "Why Homeschooling Should Be Regulated." Pp. 109–120 in *Home Schooling in Full View*, edited by B. S. Cooper. Greenwich, CT: Information Age Publishing.
- Riegel, S. 2001. "The Home Schooling Movement and the Struggle for Democratic Education." *Studies in Political Economy* 65:91–116.
- Romanowski, M. 2001. "Common Arguments about the Strengths and Limitations of Home Schooling." *The Clearing House* 75(2):79–83.
- Rudner, L. 1999. "Scholastic Achievement and Demographic Characteristics of Home School Students in 1998." *Education Policy Analysis Archives* 7(8).
- Saunders, M. 2010. "Previously Homeschooled College Freshmen: Their First Year Experiences and Persistence Rates." *Journal of College Student Retention* 11(1):77–100.
- Schemmer, B. A. S. 1985. "Case Studies of Four Families Engaged in Home Education." EdD Dissertation, Ball State University.
- Sheffer, S. 1995. *A Sense of Self: Listening to Homeschooled Adolescent Girls*. Portsmouth, NH: Boyton/Cook Publishers.
- Shyers, L. 1992. "A Comparison of Social Adjustment Between Home and Traditionally Schooled Students." *Home School Researcher* 8(3):1–8.
- Smith, C. and D. Sikkink. 1999. "Is Private School Privatizing?" *First Things* 92:16–20. Retrieved April 8, 2011 from <http://www.firstthings.com/ftissues/ft9904/articles/smith.html>
- Sorey, K. and M. Duggan. 2008. "Homeschoolers Entering Community Colleges: Perceptions of Admission Officers." *Journal of College Admission* 200:22–28.
- Stevens, M. 2001. *Kingdom of Children: Culture and Controversy in the Homeschooling Movement*. Princeton, NJ: Princeton University Press.
- Sutton, L. and Y. Bogan. 2005. "School Choice: The Fiscal Impact of Home Education in Florida." *AASA Journal of Scholarship & Practice* 2(2):5–9.
- Sutton, L. and R. Galloway. 2000. "College Success of Students from Three High School Settings." *Journal of Research in Development and Education* 33(3):137–146.
- Taylor, J. 1986a. "Self-Concept in Home-Schooling Children." Doctoral dissertation, Andrews University. UMI Dissertation Services.
- Taylor, J. 1986b. "Self-Concept in Home-Schooling Children." *Home School Researcher* 2(2):1–3.
- Taylor-Hough, D. 2010. "Are All Homeschooling Methods Created Equal?" Retrieved March 5, 2011 from <http://www.eric.ed.gov.proxy.lib.wayne.edu/PDFS/ED510702.pdf>
- Thompson, J. 1994. "The Impact of Structural Costs on Home Schooling Decision in Rural and Non-Rural Districts." Paper presented at the annual meeting of the American Educational Finance Association, Nashville, TN, March 16–19, 1994.
- Tillman, V. D. 1995. "Home Schoolers, Self Esteem, and Socialization." *Home School Researcher* 11(3):1–6.
- Van Galen, J. 1991. "Ideologies and Pedagogues: Parents Who Teach Their Children at Home." Pp. 63–76 in *Homeschooling: Political, Historical, and Pedagogical Perspectives*, edited by J. Van Galen and M. Pittman. Norwood, NJ: Ablex Publishing Corp.
- Wartes, J. 1987. *Report from the 1986 Homeschool Testing and Other Descriptive Information about Washington's Homeschoolers*. WA: Washington Homeschool Research Project.
- Wartes, J. 1988. "The Washington Home School Project: Quantitative Measures for Informing Policy Decisions." *Education and Urban Society* 21(1):42–51.
- Wartes, J. 1990. *The Relationship of Selected Input Variables to Academic Achievement among Washington's Homeschoolers*. WA: Washington Homeschool Research Project.
- Webb, J. 1989. "The Outcomes of Home-Based Education: Employment and Other Issues." *Educational Review* 41(2):121–133.

- Welner, K. and K. M. Welner. 1999. "Contextualizing Homeschooling Data: A Response to Rudner." *Education Policy Analysis Archives* 7(13).
- Wenders, J. and A. Clements. 2007. "An Analysis of the Economic Impact of Home and Private Schooling in Nevada." *Home School Researcher* 17(2):13-35.
- Wenger, J. and A. Hodari. 2004. *Final Analysis of Evaluation of Homeschool and Challenge Program Recruit*. Alexandria, VA: CNA Corp.
- Wilhelm, G. and M. Firman. 2009. "Historical and Contemporary Developments in Home School Education." *Journal of Research on Christian Education* 18:303-315.
- Williams, D., L. M. Arnoldson, and P. Reynolds. 1984. "Understanding Home Education: Case Studies of Home Schools." Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA, April 23-37.
- Winstanley, C. 2009. "Too Cool for School?: Gifted Children and Homeschooling." *Theory and Research in Education* 7(3):347-362.
- Wright, C. 1988. "Home School Research: Critique and Suggestions for the Future." *Education and Urban Society* 21(1):96-113.