



# Homeschool Progress Report 2009:

Academic achievement  
and demographics

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**HSLDA**



In homeschooling's three decades of dynamic growth, its best advertisement has been its students and graduates. Homeschoolers have been achieving high test scores and winning spelling bees. They have interacted maturely with peers and adults. Children with special learning needs have exceeded the expectations of everyone around them. Homeschool graduates have embarked confidently on college, careers, and starting families of their own.

The anecdotal evidence of homeschooling's success has been backed by multiple research studies. However, it has been at least 10 years since any major nationwide study of homeschooling was done. During that time, the number of homeschooled children has grown from about 850,000 to approximately 1.5 million, according to the National Center for Education Statistics.<sup>1</sup> Other researchers think this number is conservative. Some estimate it as high as 2 million.<sup>2</sup> As homeschooling's appeal continues to broaden, familiar

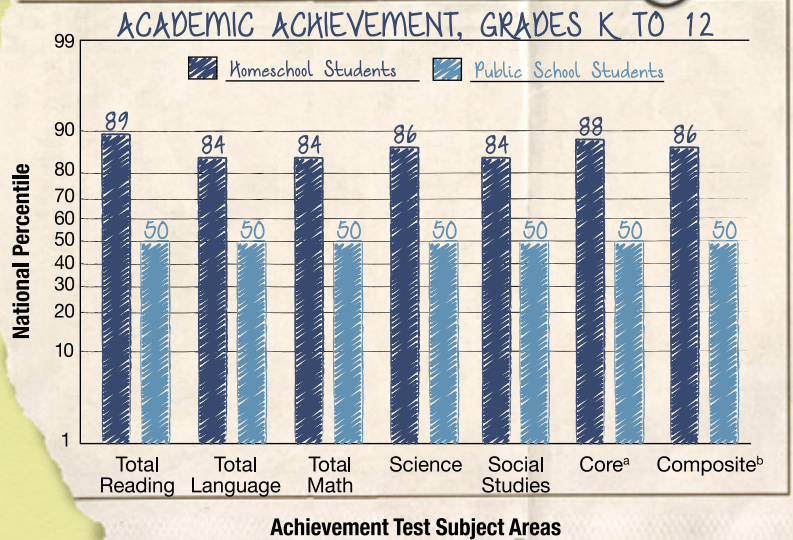
questions deserve to be revisited. Are homeschoolers still excelling? Do factors that traditionally impact academic achievement have a similar impact in home education? Is homeschooling still the best choice in education?

### A new study

In 2007, the Home School Legal Defense Association commissioned Dr. Brian D. Ray of the National Home Education Research Institute to conduct a nationwide study of homeschooling in America. The study's purpose was to develop a current picture of homeschool students and their families—capturing their demographics and educational background—and analyze the impact of certain variables on homeschoolers' academic achievement.

Dr. Ray collected data for the cross-sectional, descriptive study in spring 2008. The 11,739 participants came from all 50 states, Guam, and Puerto Rico.

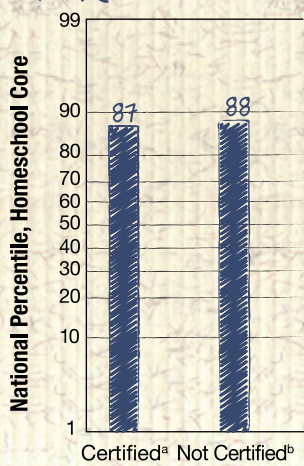
Figure 1



a. Core is a combination of Reading, Language, and Math.  
 b. Composite is a combination of all subtests that the student took on the test.

Figure 2

### DOES TEACHER CERTIFICATION MAKE A DIFFERENCE?



Homeschool Parent Certification

a. Either parent ever certified.  
 b. Neither parent ever certified.

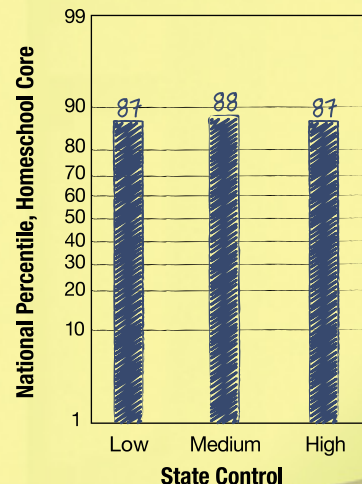
## Academic achievement

The biggest news? Homeschoolers are still achieving well beyond their public school counterparts—no matter what their family background, socioeconomic level, or style of homeschooling.

In the study, homeschoolers scored 34–39 percentile points higher than the norm on standardized achievement tests. The homeschool national average ranged from the 84th percentile for Language, Math, and Social Studies to the 89th percentile for Reading. (See Figure 1.)

The study also found that whether or not parents were teacher-certified had no impact on these high scores. Critics of homeschooling have long insisted that parents who want to teach their own children should become certified teachers first. But in this study, students received slightly higher scores if neither parent had ever held a state-issued teaching certificate than if one or both parents had. (See Figure 2.) Critics also insist that the government should regulate homeschooling in order to ensure the quality of education that students receive. However, in this study, the degree to which homeschooling was regulated by state governments had no bearing on student test scores. That's a good reason for state

Figure 3 IS GOVERNMENT REGULATION NECESSARY FOR HIGH ACHIEVEMENT?



governments to redirect scarce funds from regulating homeschooling to where the money is actually needed. (See Figure 3.)

## Getting results

So what's the formula? Is there something special that homeschoolers do to achieve such excellent results? The study considered the many approaches that homeschoolers take to

education—and found hardly any difference, less than .5% of variance, in achievement based on the following variables:

- Degree of structure (ranging from very unstructured approaches such as delight-directed learning or eclectic teaching approaches to very structured, preplanned, and prescribed approaches),
- Amount of time spent per day in parent-directed learning activities, and
- Enrollment in a full-service curriculum (one that furnishes a year's worth of textbooks, lesson plans, evaluations, counseling, and record-keeping in all core subjects).

## EDUCATION LEVEL OF HOMESCHOOLING PARENTS

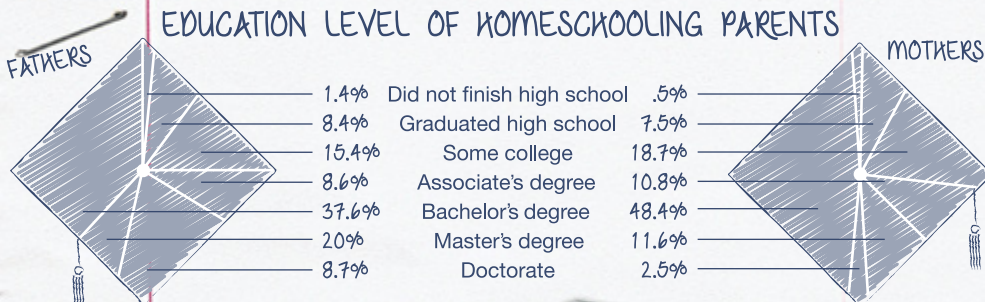
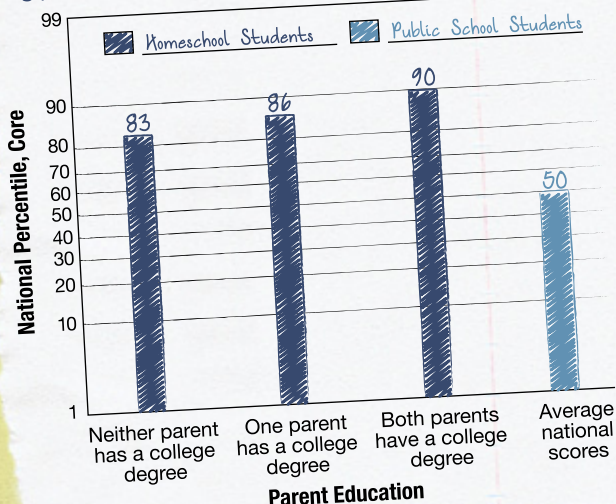


Figure 4

Figure 5

## IS THERE A CORRELATION BETWEEN STUDENT SCORES AND PARENT EDUCATION?



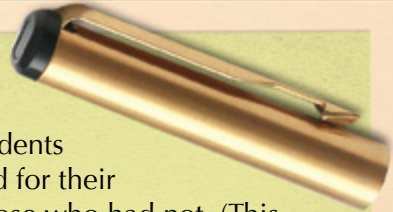
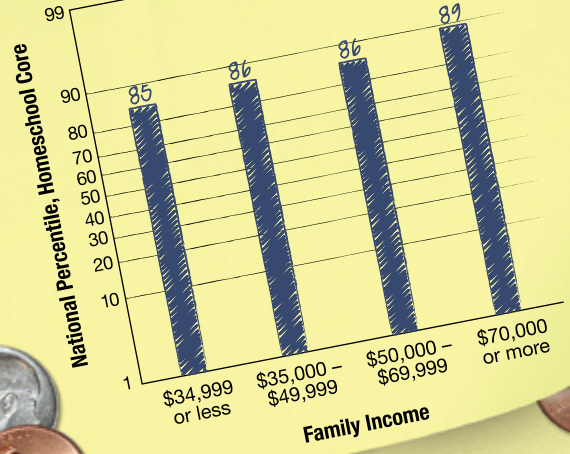


Figure 6

### HOMESCHOOL PERCENTILE SCORES BASED ON FAMILY INCOME



The study also found very little difference between the achievement scores of students who had been homeschooled for their entire academic lives and those who had not. (This variable explains less than .5% of the variance in scores.)

### The impact of major variables on homeschool achievement

How about factors that research repeatedly links to student achievement in public school? Even in those areas, homeschoolers scored notably higher than the norm.

The homeschooling parents' formal education level was above average.<sup>3</sup> (See Figure 4.) As with students who attend an institutional school, there was a correlation between the test scores of homeschooled children and whether one or both parents had a college degree. Students whose parents both

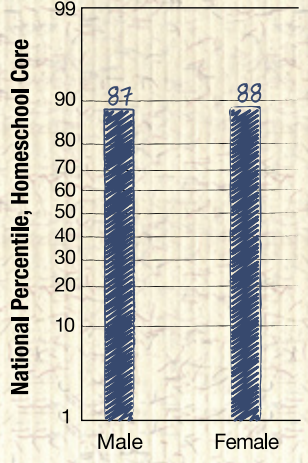
had a college degree performed better than those who had no parent with a college degree. However, this correlation is generally weaker for homeschool students than for public school students.<sup>4</sup> The homeschooled students whose parents did not have college degrees still performed at the 83rd percentile. (See Figures 4 and 5.)

Family income is another factor that is noticeably linked to student performance in public school.<sup>5</sup> The higher a family's income, the higher the children score on standardized tests. But in this study, the income of homeschool families had only a slight relationship with student achievement. And those homeschool students in the lowest-income category scored well above the public school average. (See Figure 6.)

Another finding demonstrates that individual families do not need the massive budget of a public school to provide their children with a quality education.

Figure 8

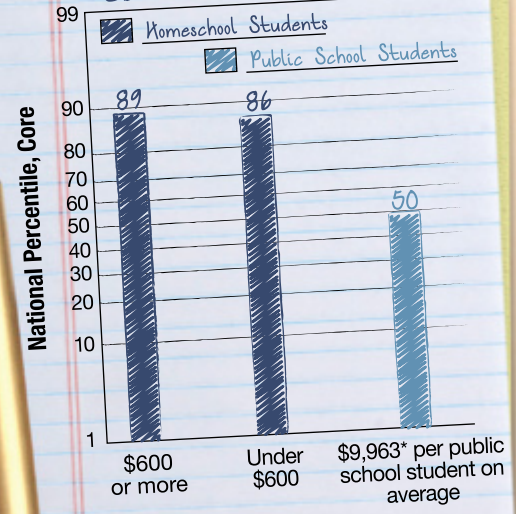
### HOMESCHOOL PERCENTILE SCORES RANKING BASED ON GENDER



Homeschool Student Gender

Figure 7

### PERCENTILE SCORES BASED ON MONEY SPENT ON EDUCATION PER CHILD



\* National Education Association. Retrieved August 5, 2009 from <http://www.nea.org/home/29402.htm>. (This figure does not include capital expenditures or research and development.)



In the study, there was an only slight relationship between the yearly cost of education (including textbooks, other teaching materials, tutoring, enrichment services, counseling, testing, and evaluation) and homeschooled student test scores. The median amount spent per child each year was \$400–599. Where \$600 or more was spent, a slight difference was observed. (See Figure 7.)

Contrary to the gender gaps found for decades in the national education arena, the homeschooled males and females in this study performed almost the same at all grade levels.<sup>6</sup> (See Figure 8.)

### What do homeschooling families look like?

The vast majority of the parents in the study were married (97.9%), and the families had an average of 3.5 children compared to the general population's average of 2.0 children.<sup>7</sup> (See Figure 9.)

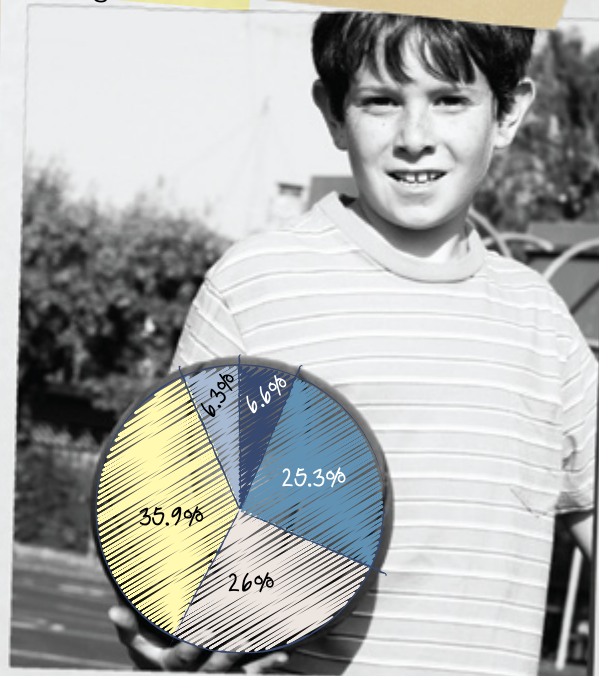
Homeschoolers' median family income (\$75,000–79,999) closely spanned the nationwide median (about \$79,000) for families headed by a married couple and with one or more related children under 18.

Of the 19.4% of homeschool mothers who worked for pay, most of them, 84.8%, worked part-time.

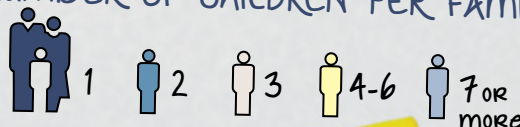
Parents held to a wide variety of religious beliefs, although the majority identified themselves with various denominations of Christianity (82.4% Protestant, 12.4% Roman Catholic, and .2% Eastern Orthodox). Other categories included atheist/agnostic (1.1%), Jewish (.4%), Mormon (.8%), Muslim (.1%), and a variety of others (about 2.5%).

Almost all (98.3%) of the homeschooled students used a computer at home. In 2007, 91%

Figure 9



NUMBER OF CHILDREN PER FAMILY



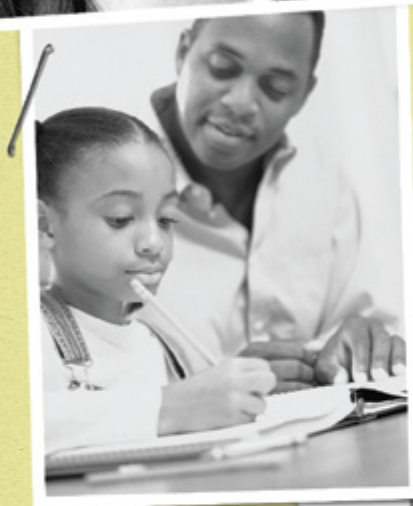


of U.S. 8th-grade non-American Indian/Alaska Native students reported they had a computer available to use at home.<sup>8</sup> (While this is not an exact comparison, it is the most recent available at the time of release of this study.)

### **Still a great option!**

Through three decades of growth and change, homeschooling continues to stand out as an educational option that gives every child the opportunity to succeed at learning. Whether homeschool students are male or female, younger or older, and have been homeschooled for one year or eleven, they consistently outperform their public school peers. Even with variables that are linked to higher or lower levels of student achievement in public schools—such as whether a parent is college educated—homeschoolers still score well above the norm.

As the evidence accumulates, it only serves to further establish homeschooling as a valid and truly effective educational option.



## ENDNOTES

1. United States Department of Education, National Center for Education Statistics. <http://nces.ed.gov/programs/coe/2009/section1/table-hsc-1.asp>.
2. Ray, Brian D. (2009). Research facts on homeschooling. <http://www.nheri.org/Research-Facts-on-Homeschooling.html>.
3. National average education attainment of adult males and females: U.S. Census Bureau, 2009, Table 222.
4. For example: United States Department of Education, National Center for Education Statistics. NAEP Data Explorer analyses for 2007, 8th grade Reading, Writing, and Math. <http://nces.ed.gov/nationsreportcard/nde/>.
5. For example: Sirin, Selcuk R. (2005). Socioeconomic status and academic achievement: A meta-analytic review of research. *Review of Educational Research*, 75(3), 417–453.
6. U.S. Department of Education, Institute of Education Sciences. (2005). Trends in educational equity of girls and women: 2004 (Report NCES 2005–016). <http://nces.ed.gov/pubs2005/2005016.pdf>.
7. United States Census Bureau. (2009). The 2009 statistical abstract; The national data book (Table 63). <http://www.census.gov/compendia/statab/tables/09s0063.pdf>.
8. United States Department of Education, National Center for Education Statistics. [http://nces.ed.gov/nationsreportcard/nies/nies\\_2007/n0317.asp](http://nces.ed.gov/nationsreportcard/nies/nies_2007/n0317.asp).

## Appendix: Adjusting the scores down

Over the last 25 years, studies have shown homeschoolers scoring at an average of the 65th to the 80th percentile. However, during that same time span, homeschooling has grown dramatically. It would make sense for the scores to have lowered somewhat. In view of this, Dr. Ray considered whether there were ways to appropriately adjust the scores down.

He began by asking whether children with higher test scores participated in the study in a higher proportion than those with lower scores. Ray found that 69.4% of the parents did not know their children's scores before the study was conducted. The scores for this group and for the group of parents who did know their children's scores were the same: the 88th percentile.

Ray then compared the scores of study participants with all the scores (study participants and non-participants) from three of the four major testing services involved with the study. Nearly all of the 22,584 students tested by these three services were homeschooled. The all-scores average was between only two and four percentile points lower than the participants-only scores.

Ray also found no difference in the scores of students from groups with lower-participation rates compared to those of students from higher-participation groups.

The conclusion is the same as in previous studies: homeschool students are scoring well above their public school peers on standardized tests.



### About the researcher

Brian D. Ray is an internationally known scholar and the president of the nonprofit National Home Education Research Institute in Salem, Oregon. He earned his PhD in science education from Oregon State University, his MS in zoology from Ohio

University, and his BS in biology from the University of Puget Sound. He has been a professor of science and education at the undergraduate and graduate levels, has been a classroom teacher in both public and private schools, and has taught homeschool students. Dr. Ray conducts and publishes research and provides expert testimony to legislatures and courts.

### More detail about the study

For a comprehensive and in-depth report on all of the methods and findings for this research study, contact NHERI and ask for *Homeschooling Across America: Academic Achievement and Demographic Characteristics*.



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