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The Characteristics of Home-Schoolers Who Take the SAT

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Abstract This short note describes the characteristics of home-schoolers who take the SAT. Home-schooling is the ultimate form of education privatization: privately funded and provided, with only light regulation. National data indicate that over 800,000 students are home-schooled. But, home-schooling is difficult to identify and measure. Using the population of SAT test-takers in 2001, we identify 6033 individuals who self-report being home-schooled. We compare their characteristics with national data and other information sources.

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1. HOME-SCHOOLING AS EDUCATION

Home-schooling is an extreme form of education privatization: it is privately funded, privately provided, and monitored only lightly by government authorities. Home-schooling also has a substantial effect on a family's expenditure patterns, time allocation, and labor force participation. As an alternative to public schooling, it may be meet the needs of families with particular educational preferences (typically for morality-based schooling, James, 1987), or those who are disaffected by any public-funded choices (see Stevens, 2001). Yet, concerns have been raised about the public goods produced by home-schooling and the welfare of the children involved. Advocates counter that parents' incentives may be better aligned with their children's welfare than those of governments. For some Economists the emergence of home-schooling is a sign that public schools are highly inefficient, in that for no other commodity has home production become more common over time (interview with Milton Friedman in Kane, 2002).

Research on the growth and development of home-schooling is emerging (see Lines, 2000; Welner and Welner, 1999; Hammons, 2001; and Somerville, 2000; for an economic treatment, see Isenberg, 2002). However, for a number of reasons it is very hard to measure the numbers of home-schoolers, so the preferences and motivations of home-school families may be difficult to discern. In this note, we present statistics on the numbers of home-schoolers who take the Scholastic Aptitude Test; we compare these statistics to other extant data, to better understand who is being home-schooled.

2. IDENTIFYING HOME SCHOOLERS

One estimate of the numbers of home-schoolers by 1999 is around 800,000 (NCES, 2001); although Isenberg (2002), by using a larger sample from NHES99, puts it at 1,040,000. This is around 1.7–2.2% of all K-12 students. It is a sizeable increase from the CPS and NHES96 figures for the early 1990s of 400,000 to 600,000 (Bauman, 2002). However, there are three main difficulties in analysis of the population of home-schoolers.

The first difficulty is that home schooling is not a discrete activity, particularly when contrasted with enrolment at a public school. According to Lines (2002), the typical home-schooling duration is around 2 years; Isenberg (2002) finds home-schoolers of highly educated parents return to public schools in later grades. As well, much of what is called home-schooling may in fact be home-study or home-based education. These last two practices involve either: some participation at school, e.g. for specialist courses, and some education within the home; or a temporary absence from school; or participation in a distance-learning program delivered by a school (e.g., umbrella schools). Indeed, the NCES (2001) definition of home-schooling leaves open the possibility that the majority of a students' education takes place in school. In this survey, home-schooling is derived from questions: 'Is child being schooled at home?'; 'Is child getting all of his/her instruction at home?' and 'How many hours each week does child usually go to school for instruction?'; and 'What are the main reasons you decided to school child at home?' So, home-schooling is identified where the child is being schooled at home; where any public schooling did not exceed 25 hours per week; and where the child is not being schooled at home for temporary reasons of health. The hours constraint, for example, allows children who go to school three days per week to be classed as home-schooled.

The second difficulty with obtaining home-schooling data is that of response bias. Home-schoolers may fail to declare their status on surveys and to school district administrators, for fear of regulation, monitoring or general interference (or because they do not support government intrusion on principle). Surveys and school administrative data may then under-estimate the numbers of home-schoolers, perhaps with strong bias.

The third difficulty is that of extracting a sample of sufficient size to permit analysis and comparison with students in schools. Using the definition outlined above, the National Household Expenditure Survey identifies only 270 home-schooled children out of the sample of 17,540. A small sample allows few sub-analyses. Over-sampling of home-schoolers also raises challenges in weighting for comparisons across school types.

To describe and analyze home-schooling, we use data from the SAT test-takers of 2001 who were aged between 14 and 24. Before taking the test, individuals are required to complete an online form about their personal status and their schooling attendance. Home-schooling is one of the options for school type, and this self-report is our indicator

variable. To some extent, the empirical problems noted above are ameliorated. We cannot address the first difficulty (which is inherent to the practice of home-schooling); regarding the second difficulty, it is unlikely that the respondents are wary of regulation or personal intrusion when taking the SAT. (The SAT administrators are not government officials, and anyway the home-schoolers are close to the end of their home-schooling). More emphatically, the sample size available from the SAT data is 6,033 home-schoolers (without over-sampling). However, our analysis is only of home-schoolers who are college-aspirant, which is unlikely to be representative of the national sample of home-schoolers. Rather, it is likely to be representative of home-schoolers motivated to obtain a superior education to that in the public schools (rather than a different education). Yet, the dataset does allow for some controlled comparisons: all the other students in the dataset from other types of school are college-aspirant also. The contrasts with other data on home-schoolers must nonetheless be viewed in this light; but such a large sample is unique and may offer valuable insight about the characteristics of home-schoolers.

3. CHARACTERISTICS OF HOME-SCHOOLERS

Approximately one-half of one percent of SAT test-takers in 2001 were home-schooled. Other school types are well-represented: 8.2% of the sample attended a private Catholic school; 2.6% attended a private (non-Catholic) religious school; and 3% attended a private non-religious school. The characteristics of the home-schoolers, their families, and local community are shown in Tables 1, 2, and 3. Cross-tabulations for public, private-independent, and private-religious schooling are also presented, to allow for relative frequencies of characteristics across college-aspirant students.

Table 1 illustrates several significant differences between home-schoolers and children attending each of the other types of school. Home-schoolers tend to be white, with a first language that is English, and without a disability. Of interest are the religious beliefs of the students: whereas around half of all public students profess a religious faith, and two-thirds of those in religious schools do so, the figure for home-schoolers is just above two-fifths. This difference is mainly because very few Catholic, Methodist or

Jewish children are home-schooled; yet a very high proportion of home-schoolers are Baptists: their adherence rate is 17.7%, compared to 11.1% within the public schools.

Table 2 shows family characteristics across school type. Looking at both the highest and the lowest education levels for parents, home-schoolers are very unlikely to have parents who report a high school education; this compares to 6-7% of the parents in public schools. Yet, the home-schoolers' parents are not overly represented at the highest education levels: approximately the same proportions of public school students have mothers with (higher) degrees (although the home-schoolers' fathers are more likely to have a degree). The prevalence of home-schooling across family incomes suggests a similar pattern: many of the families are in the middle of the income distribution, with over half the families earning between \$20,000 and \$60,000 per year.

Table 3 shows county-level statistics for affluence and childhood deprivation, matched to the residence zipcodes. Unfortunately, these Census indices do not make for clear interpretation: the average household income (affluence) is not strongly correlated with the percent of children in poverty (deprivation). The county-level statistics show that home-schoolers are not from affluent counties, even compared to public school students; but, home-schoolers are less likely to live in areas of high child poverty.

Several conclusions can be drawn. First, given the differences in background across school types, unadjusted comparisons of the academic performances of home-schoolers are likely to be misleading (Rudner, 1999). Second, the characteristics of college-aspirant home-schoolers are similar to those described by in extant literature, but with some nuances. Lines (2002) describes home-schooling families as "more religious, more conservative, white, somewhat more affluent, and headed by parents with somewhat more years of education"; and a similar picture emerges from the NCES survey. But, earlier surveys found higher representations of other ethnic groups; Mayberry et al. (1995) found greater religiosity; Isenberg (2002) finds home-schooling to be correlated with status as an Evangelical Protestant in Wisconsin. In comparison, the SAT data show that college-aspirant home-schoolers are: less religious in general, but with a strong representation of Baptists; more white; possibly more affluent because they are clustered in the middle of the income distribution; and probably more educated because they are not likely to have parents with the lowest education levels. Third, it is

difficult to identify community characteristics that correlate well with home-schooling: neither county income levels nor poverty rates are correlated. So far, the decision to home-school appears to be driven by the characteristics of the child and the family (see also Belfield, 2002), rather than external motivators. A better understanding of these household characteristics may assist in societal acceptance and support for home-schooling, as is desired by the families involved and their advocates (Lines, 2002).

4. CONCLUSIONS

Increasingly, a clearer picture of home-schoolers is emerging from various data sources. This picture is needed, because home-schooling is an important new development in the privatization of schooling. Although it allows substantial freedom of choice for parents, at the same time it raises concerns about equity and about social cohesion. Only by obtaining more data on the characteristics and behaviors of home schoolers can such concerns be addressed.

Table 1
Characteristics of SAT-takers by School Type

| | | Public School | Private - Independent School | Home School | Private - Religious School |
|-----------------------------|--|--------------------------|---|------------------------|---|
| | | %/Mean | %/Mean | %/Mean | %/Mean |
| Ethnicity: African American | | 10.10 | 3.84 | 2.70 | 5.69 |
| Ethnicity: Asian | | 7.32 | 5.88 | 1.94 | 5.28 |
| Ethnicity: Hispanic | | 7.95 | 3.05 | 2.45 | 8.17 |
| US citizen | | 83.39 | 61.55 | 78.12 | 82.70 |
| First language not English | | 6.52 | 3.40 | 1.33 | 3.68 |
| Disabled | | 6.47 | 7.73 | 4.36 | 6.50 |
| Male | | 45.24 | 52.66 | 46.88 | 49.70 |
| Age | | 18.32 | 18.40 | 18.25 | 18.29 |
| Religious faith (any) | | 52.51 | 36.79 | 41.80 | 66.69 |
| Religion: Baptist | | 11.08 | 5.08 | 17.70 | 6.52 |
| Religion: Hindu | | 0.60 | 0.70 | 0.15 | 0.25 |
| Religion: Jewish | | 2.09 | 4.90 | 0.60 | 2.06 |
| Religion: Lutheran | | 2.48 | 0.94 | 1.22 | 1.35 |
| Religion: Methodist | | 5.24 | 3.51 | 1.86 | 1.45 |
| Religion: Presbyterian | | 2.84 | 3.09 | 1.78 | 1.45 |
| Religion: Catholic | | 18.39 | 9.32 | 5.77 | 45.22 |
| <i>Observations</i> | | <i>975117</i> | <i>54682</i> | <i>6033</i> | <i>137671</i> |

Source: ETS data, 2001. Population of test-takers, with exclusion of foreign nationals, missing income, ages 14-24.

Table 2
Characteristics of Family Backgrounds for SAT-takers by School Type

| | Public School | Private - Independent School | Home School | Private - Religious School |
|-----------------------------------|--------------------------|---|------------------------|---|
| | Mean | Mean | Mean | Mean |
| <i>Mother's education:</i> | | | | |
| High school | 5.97 | 1.28 | 0.01 | 2.49 |
| BA / Graduate degree | 30.86 | 38.65 | 32.94 | 38.31 |
| <i>Father's education:</i> | | | | |
| High school | 6.62 | 1.46 | 1.49 | 3.27 |
| BA / Graduate degree | 34.65 | 42.20 | 41.08 | 43.75 |
| <i>Observations</i> | <i>975117</i> | <i>54682</i> | <i>6033</i> | <i>137671</i> |
| <i>Family income:</i> | | | | |
| <\$20K | 12 | 5 | 8 | 7 |
| \$20K-\$40K | 22 | 12 | 28 | 17 |
| \$40K-\$60K | 21 | 13 | 28 | 22 |
| \$60K-\$80K | 18 | 13 | 17 | 23 |
| \$80K-\$100K | 11 | 11 | 8 | 19 |
| >\$100K | 16 | 45 | 11 | 12 |
| <i>Observations</i> | <i>693372</i> | <i>25000</i> | <i>3355</i> | <i>137671</i> |

Source: ETS data, 2001. Population of test-takers, with exclusion of foreign nationals, ages 14-63.

Table 3
Characteristics of Local County for SAT-takers by School Type

| | Public School | Private - Independent School | Home School | Private - Religious School |
|----------------------------------|--------------------------|---|------------------------|---|
| | Mean | Mean | Mean | Mean |
| Average household income (\$000) | 43.38 | 43.81 | 42.37 | 43.96 |
| Percent children in poverty | 17.66 | 17.72 | 17.13 | 18.21 |
| <i>Observations</i> | <i>975117</i> | <i>54682</i> | <i>6033</i> | <i>137671</i> |

Source: ETS data, 2001; Small-area sample household Census, 1997. Population of test-takers, with exclusion of foreign nationals, ages 14-63.

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