

General Academic Achievement of Adult High School Dropouts

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General Academic Achievement of Adult High School Dropouts

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(AERA) held from April 1 to 5, 2002, in New Orleans, LA.

Abstract

This study describes demographic information and GED[®] Test Battery performance of adult examinees who did not complete high school. The sample consists of adult examinees between 40 and 70 years of age within the United States who took the GED Tests in 2002. Although the majority of GED candidates take the GED Tests within two years of leaving school, this study highlights the profile and performance of candidates who for a variety of reasons waited anywhere from 24 to 54 years to attempt to obtain the GED high school equivalency credential. Of the 40 million adults without a high school diploma or credential, about 60% are between the ages of 40 to 70. The GED Test Battery contains five tests covering the following content areas: Writing, Social Studies, Science, Reading, and Mathematics. Demographic information on adult candidates' gender, race, primary language, highest level of formal education, and income are provided. Performance on the test battery is reported for each content area test. Differential performance of examinees passing and failing the test battery is examined. Demographic information based on pass and fail status is also explored.

General Academic Achievement of Adult High School Dropouts

Perspective

The principles behind President Bush's No Child Left Behind legislation concern primary, secondary, postsecondary, and adult populations. However, given the media focus on mandatory national testing for primary and secondary grade students and fair testing and admissions procedures, the adult learner population may be the last population that comes to mind when the phrase "No Child Left Behind" is spoken.

However, there are a number of agencies in the United States that actively support and/or implement programs and activities that assist adult learners in gaining the knowledge and skills required for admission into higher education programs and institutions and for succeeding in the workplace (e.g., Office of Vocational and Adult Education, General Educational Development Testing Service, and offices of adult education across the nation). Of equal importance is the role these adult education programs play in helping adults "play active roles in the education of their children, and carry out the rights and responsibilities of citizenship" (Adult Education and Literacy, n.d., ¶ 3).

The extent of adult education programs can be gauged by both the number of students enrolled in adult education programs and by government funding of such programs. Two million seven hundred thousand adult learners were served by federal funding in program year 2001, and 42% of all adult education participants were enrolled in an English literacy program (vs. the Adult Basic Education or Adult Secondary Education programs). An increase in enrollment in English literacy programs is expected in 2002 as a result of additional foreign residents learning English in order to apply for citizenship. Meanwhile, the United States government has acknowledged the importance of educational programs for adult learners. Recently, the Senate

approved nearly \$872 million for adult education state grants, literacy for prisoners, national leadership, Even Start programs, and Community Technology Centers (Office of Vocational and Adult Education, 2002a). However, the 2.7 million adult learners served last year are only a fraction of the estimated 90 million adults who need better literacy skills to get good jobs and provide for themselves and their families. (Office of Vocational and Adult Education, 2002b)

Supporting the importance of adult education, several studies have addressed the current educational level of America's adults and the impact it has on larger issues. Nearly three fourths of American adults do not understand much about basic science, according to a report by the National Science Foundation (2002). The findings of the report suggested that American adults need help with skills required to assess medical claims, determine the merits of genetically engineered food, and understand national scientific issues. A study by Goldman and Smith (2002) examined the role of education level in good health care. The study found that education is central to understanding why and how to take medication, which, in turn, is critical to quality health.

The current study provides empirical data on how adult examinees who are 40 to 70 years of age and have not earned a high school diploma performed on a measure of general academic achievement. The study was exploratory in nature. That is, no hypotheses regarding the performance of examinees were made. It is hoped that the empirical results gathered from this study will provide insight into the effectiveness of adult education programs as well as inform adult education curricula and instruction.

Method

The study utilized test data obtained from the Tests of General Educational Development (GED® Tests) (American Council on Education, 2002a), a battery of tests designed “to measure academic achievement in a four-year program of high school education in the core content areas of U.S. and Canadian high school curricula” (American Council on Education, 2002b, p. 4). The GED Test Battery consists of five tests: Language Arts, Writing (50 items and an essay); Social Studies (50 items); Science (50 items); Language Arts, Reading (40 items); and Mathematics (50 items). Test and examinee data from three equated forms of the English version of the GED Tests administered in the U.S. during the 2002 examination cycle were included in the analysis. Data gathered under special accommodation administrations was excluded from this analysis.

Data Sources

The data analyzed are from the GED 2002 examination cycle database. At the time of this analysis, the database contained partial or complete 2002 test and examinee data from GED administrations in the following 35 states and the District of Columbia: Alaska, Arkansas, Arizona, Delaware, Hawaii, Iowa, Illinois, Kansas, Kentucky, Louisiana, Maine, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, North Carolina, Nebraska, Nevada, New Jersey, New Mexico, Oklahoma, Oregon, Pennsylvania, South Carolina, South Dakota, Tennessee, Texas, Utah, Virginia, Vermont, West Virginia, Wisconsin, and Wyoming.

It is important to keep in mind that data records were only selected if the candidate (a) indicated their information could be used for research purposes, (b) took each of the five tests within the test battery only once, (c) tested in the English language, and (d) received no testing accommodation. In addition, items excluded from analyses were those records that met one or

more of the following conditions: unknown gender, invalid United States state code, or test scores outside the valid range of 200-800.

Results

Demographics of Sample

The total sample, after removal of records as described above, consisted of demographic and test data on 10,177 adults who took the GED Tests in 2002. Fifty percent of the sample was male and 50% was female. Seventy-five percent of the sample was between the ages of 40 and 50, 22% between the ages of 51 and 60, and 3% between the ages of 61 and 70. Table 1 reports demographic information on the sample of 2002 GED adult candidates selected for this study. Figures 1 through 3 present several pieces of demographic data graphically. Appendix A lists the reported state of residence for the 10,177 adult GED candidates.

In terms of ethnicity, the distribution of 40 to 70-year-old GED candidates does not mirror the total U.S. population as reported by the U.S. Census Bureau (2000). There was a slightly higher proportion of 40 to 70-year-old African-American candidates taking the GED Tests than would be expected. As the data on race and primary language indicate, although approximately 7% of the candidates reported being of Hispanic ethnicity, only 2% of the candidates considered Spanish their primary language.

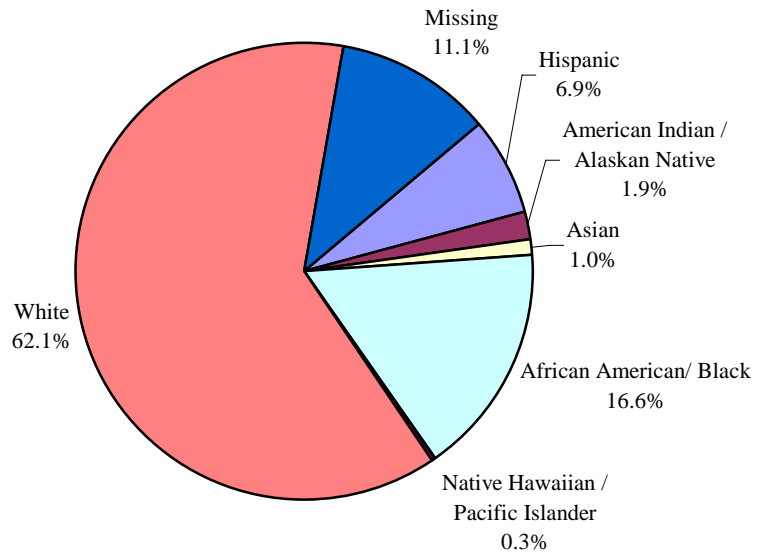


Figure 1. Race and ethnic background of adult 2002 GED® candidates.

Table 1. Demographics of GED® 2002 Candidates 40-70 Years Old.

	<i>N</i>	Percent
Gender		
Male	5046	49.6%
Female	5131	50.4%
Race and Ethnic Background		
Hispanic	707	6.9%
American Indian/Alaskan Native	193	1.9%
Asian	106	1.0%
Black	1688	16.6%
Native Hawaiian/Pacific Islander	28	0.3%
White	6323	62.1%
Missing	1132	11.1%
Primary Language		
English	9445	92.8%
French	51	0.5%
Spanish	247	2.4%
Other	192	1.9%
Missing	242	2.4%
Highest Level of Education Completed		
None	21	0.2%
K-3	5	0.0%
Grade 4	12	0.1%
Grade 5	16	0.2%
Grade 6	95	0.9%
Grade 7	216	2.1%
Grade 8	865	8.5%
Grade 9	1746	17.2%
Grade 10	2390	23.5%
Grade 11	2998	29.5%
Grade 12	430	4.2%
12 +	346	3.4%
Missing	1037	10.2%
2001 Income		
\$0	1469	14.4%
\$1-3,000	986	9.7%
\$3,001-5,000	331	3.3%
\$5,001-7,500	354	3.5%
\$7,501-10,000	531	5.2%
\$10,001-15,000	879	8.6%
\$15,001-20,000	859	8.4%
\$20,001-25,000	740	7.3%
\$25,001-30,000	595	5.8%
\$30,001-40,000	782	7.7%
> \$40,000	702	6.9%
Missing	1949	19.2%

Figure 2 shows the highest level of education reported by the 2002 GED adult candidates. Nearly 78% of the sample reported completing formal schooling at the 9th grade or higher; 7.6% of those adults reported completing the 12th grade or higher. Adult candidates in 2002 reported fewer years of formal education compared to candidates aged 16-39 years old, where 91% reported completing formal schooling at the 9th grade or higher.

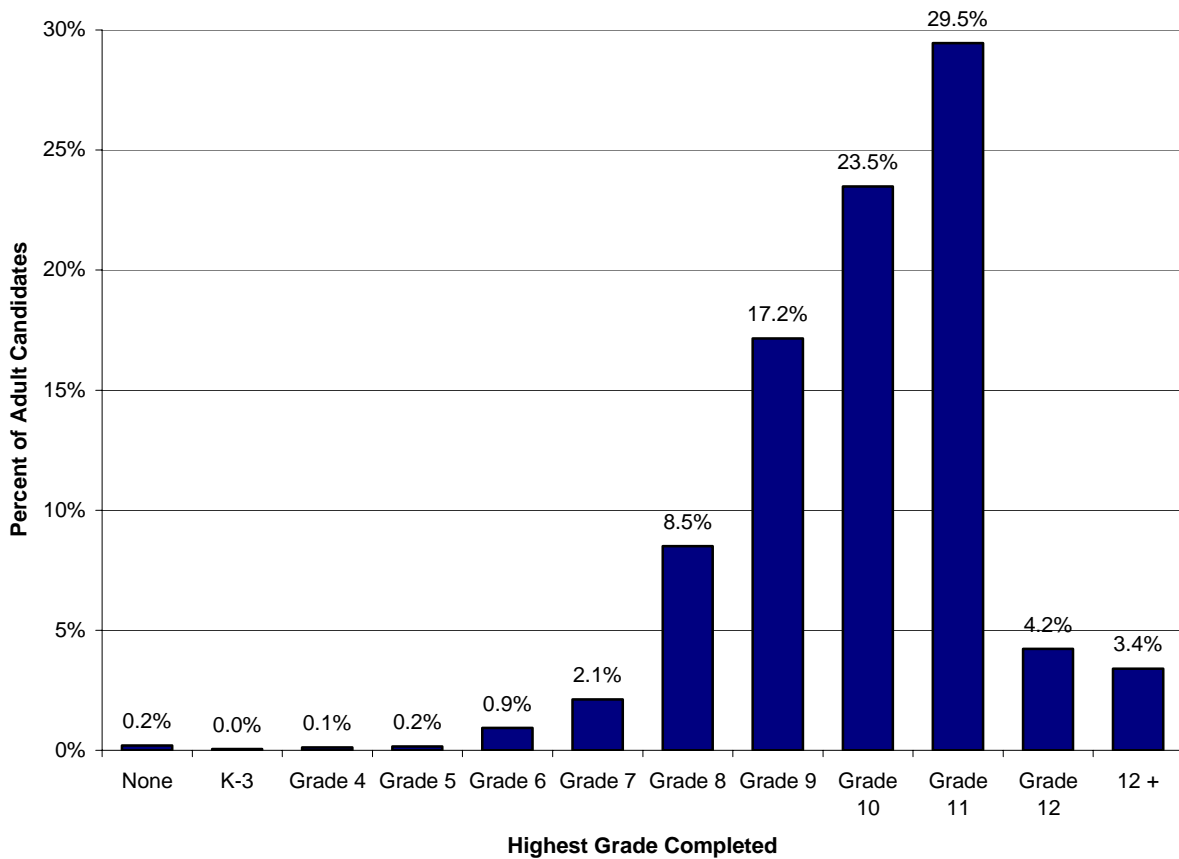


Figure 2. Highest level of education reported by adult 2002 GED® candidates.

Figure 3 reports the income of 40 to 70-year-old candidates the year prior to taking the GED Tests. Approximately 1% of all GED candidates report that they are retired. One in two GED candidates of any age reported earnings of between \$1 and \$10,000 annually. The 40 to 70-year-old candidates are, not surprisingly, under-represented in this group with only 1 in 5 earning between \$1 and \$10,000. Forty-five percent reported earning more than \$10,000 the year prior to taking the GED Tests compared to 27% of the total population of GED candidates.

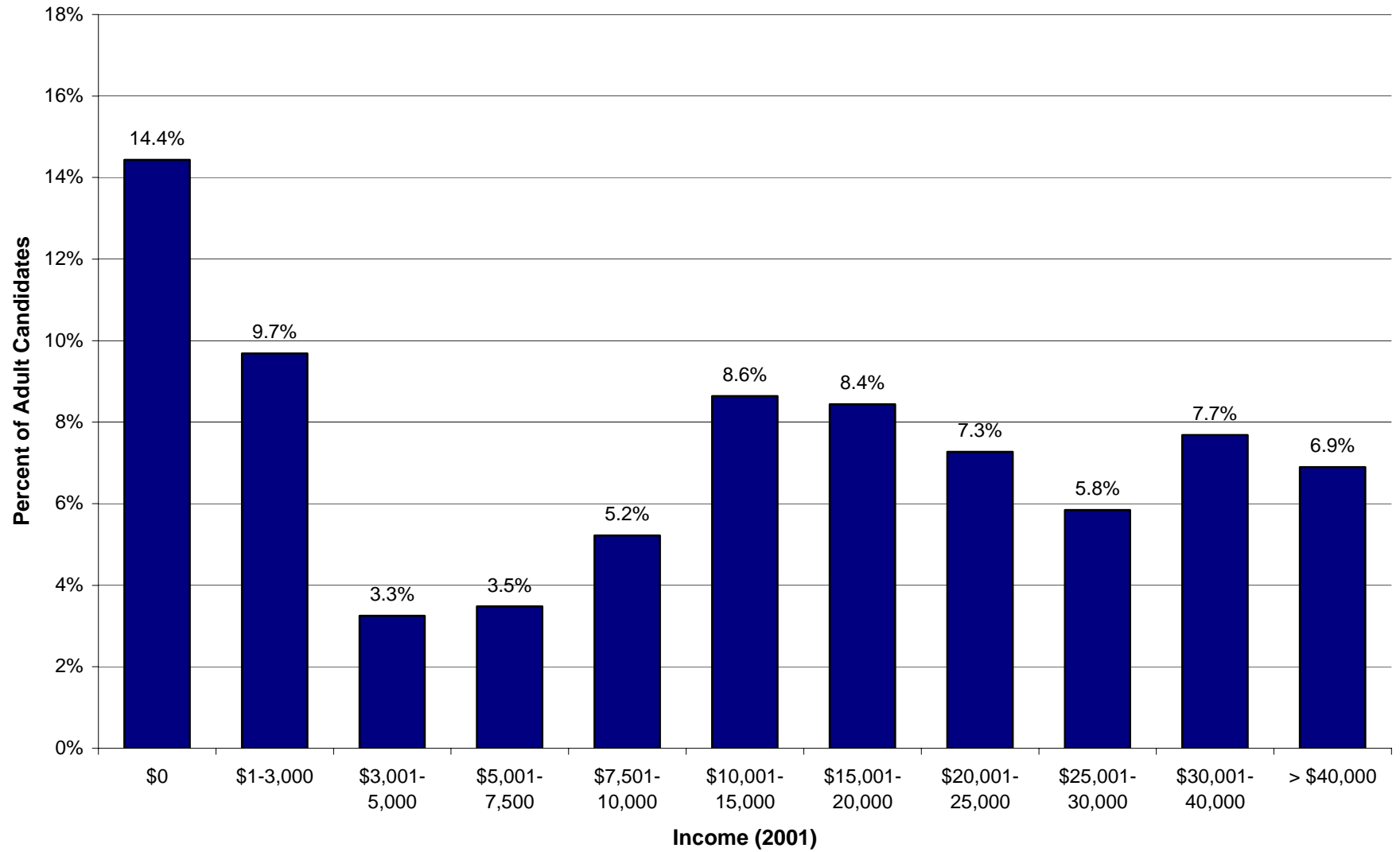


Figure 3. 2001 income reported by adult 2002 GED® candidates.

The most frequently reported reasons for not completing high school are presented in Figure 4. Of the 10 most frequently reported reasons, four were categorized under student performance, three were categorized under social issues, two were categorized under family issues, and one was categorized under academic environment issues. However, the top four most frequently reported reasons covered all of the four categorized reasons for not completing high school. Reasons for not completing high school differed based on age with more 40 to 70-year-olds than pre-40-year-olds citing financial reasons such as getting a job (32% vs. 18%) or needing money to help at home (23% vs. 7%). Student performance issues, such as excessive absences, dislike of and unhappiness with school, were reasons given most frequently by pre-40-year-old GED candidates in 2002.

Personal satisfaction and getting a better job were the two most frequently reported reasons adult candidates reported for taking the GED Tests (Figure 5). Positive role modeling, likely related to personal satisfaction, was the third most reported reason for testing. Furthering education through either a technical/trade program or a 2-year college was also among the most frequently reported reasons for taking the GED Tests. One noticeable difference in the motivation for taking the GED Tests between post-40-year-olds and pre-40-year-olds was that older candidates were less likely to take the GED Tests to enter a four-year college than were younger candidates.

Both home study and adult education classes taught at public schools were popular GED Tests preparation avenues for post-40-year-old candidates (Figure 6). However, older candidates were less likely than pre-40-year-olds to take advantage of preparation methods outside the home such as adult education classes offered at the public school or community college. Perhaps other commitments such as family and work prevent the post-40-year-old candidate from

attending formal classes. Nearly 16% of the adult candidates reported spending no time preparing for taking the GED Tests (Figure 7), while nearly 61% reported spending 11-99 hours in test preparation activities.

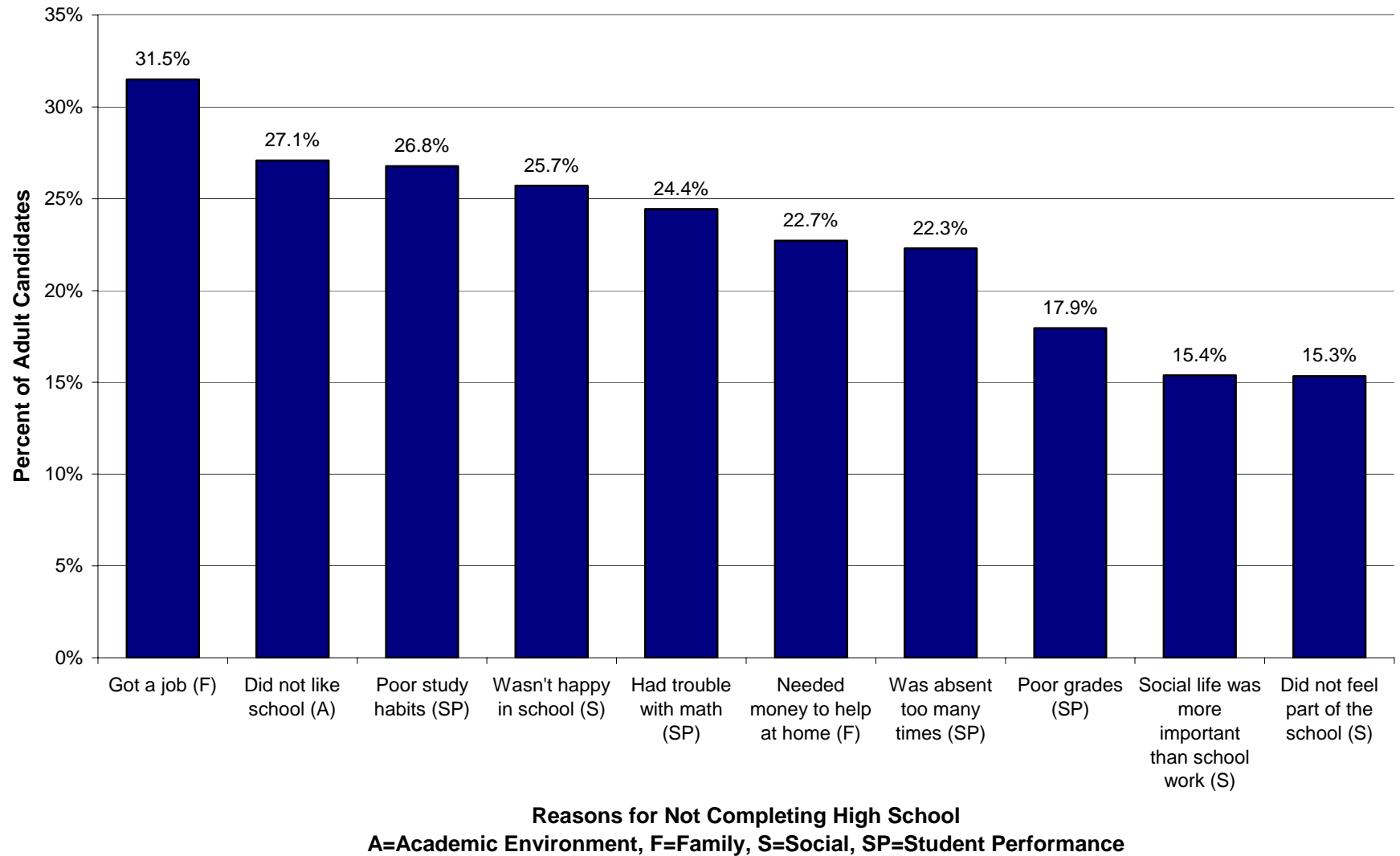


Figure 4. Most frequently reported reasons for not completing high school as reported by adult 2002 GED® candidates.

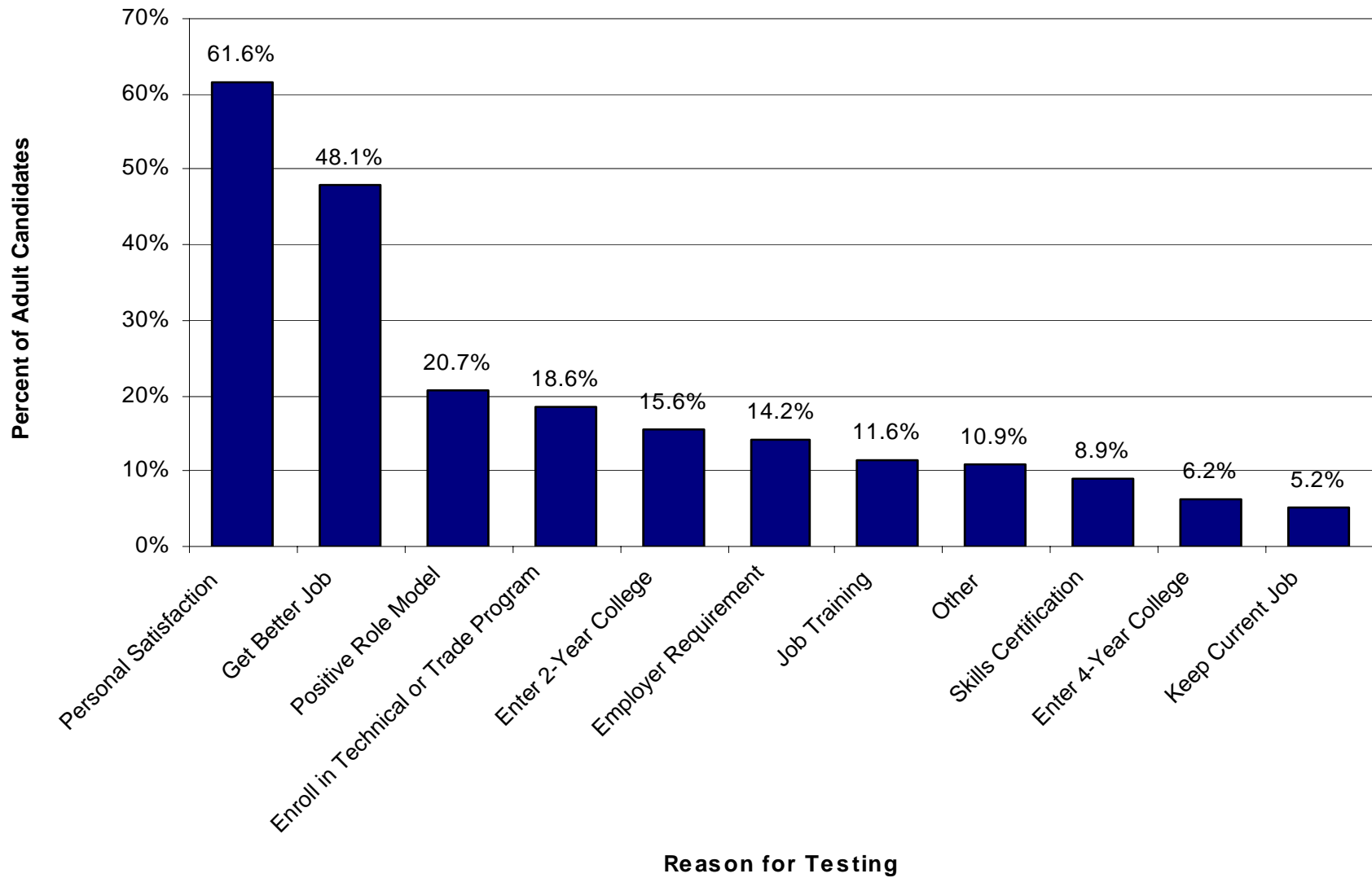


Figure 5. Most frequently reported reasons for testing for adult 2002 GED® candidates.

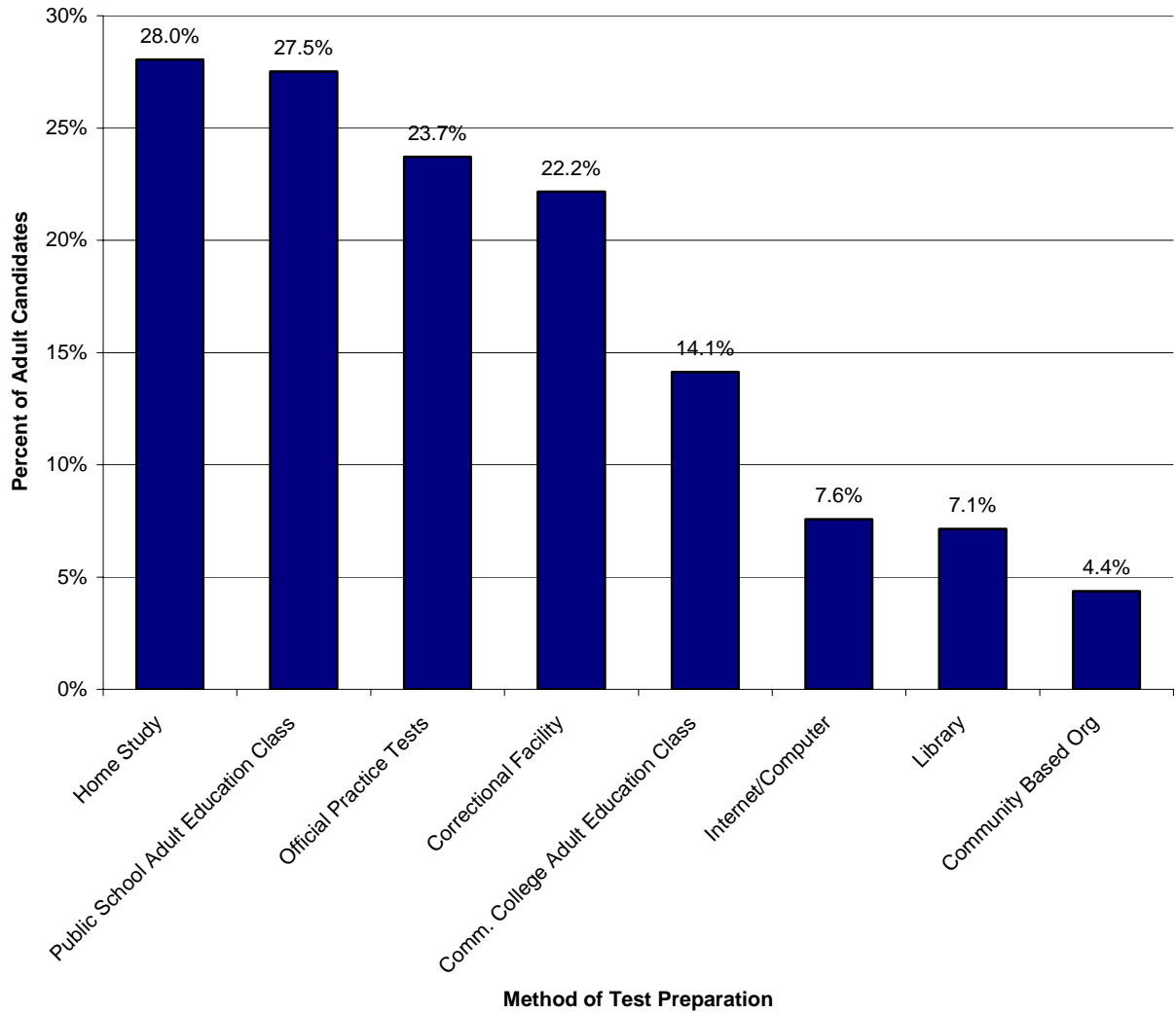


Figure 6. Most frequently reported methods of test preparation reported by adult 2002 GED® candidates.

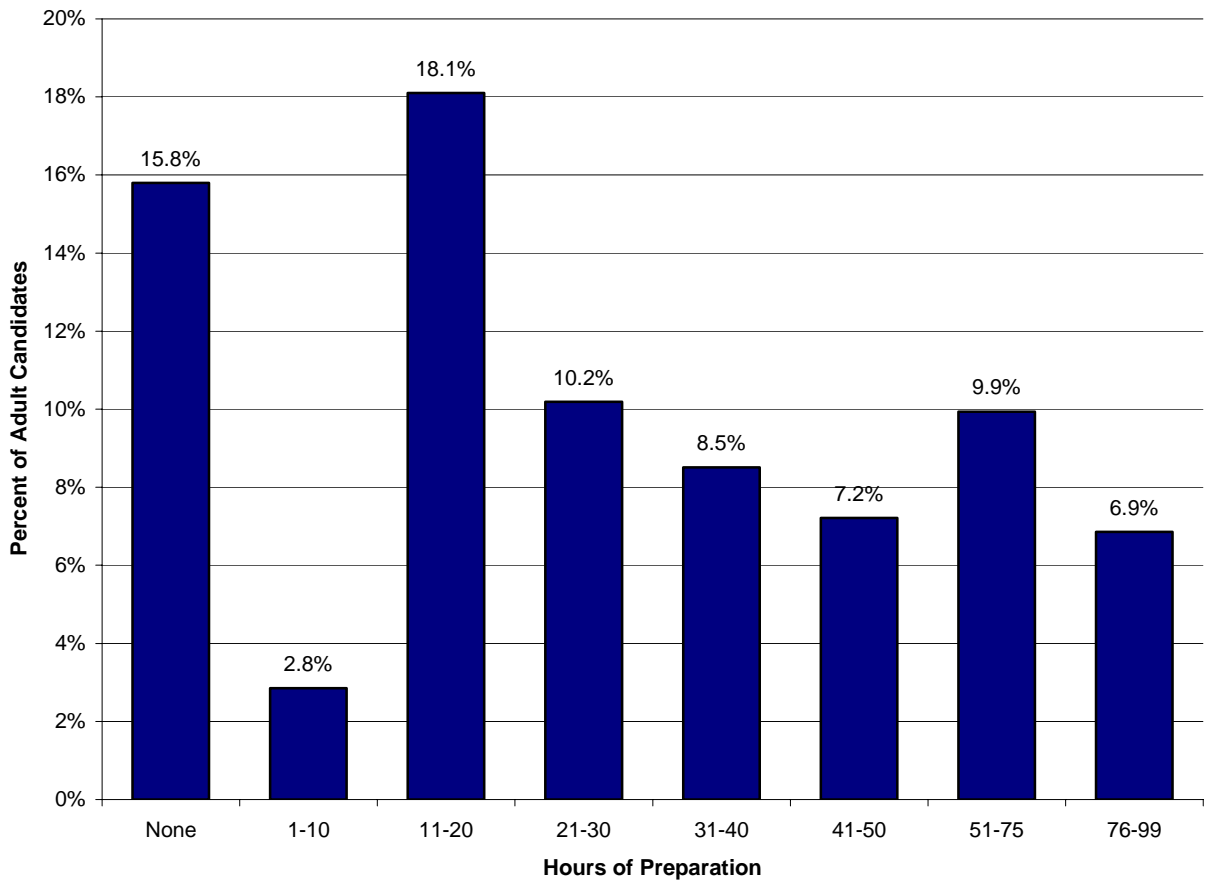


Figure 7. Reported hours of test preparation for adult 2002 GED® candidates.

Analyses by Performance on GED Test Battery

Within the adult candidate population, males had a 78% pass rate while females had a 64% pass rate. Candidates aged 40-50 had a 72% pass rate, candidates aged 51-60 had a 70% pass rate, and candidates aged 61-70 had a 65% pass rate.

GED Test Battery pass rates increased steadily as the highest grade reported completed by a candidate increased (Figure 8). The pass rate showed the most marked increases between completion of grades 7 and 10.

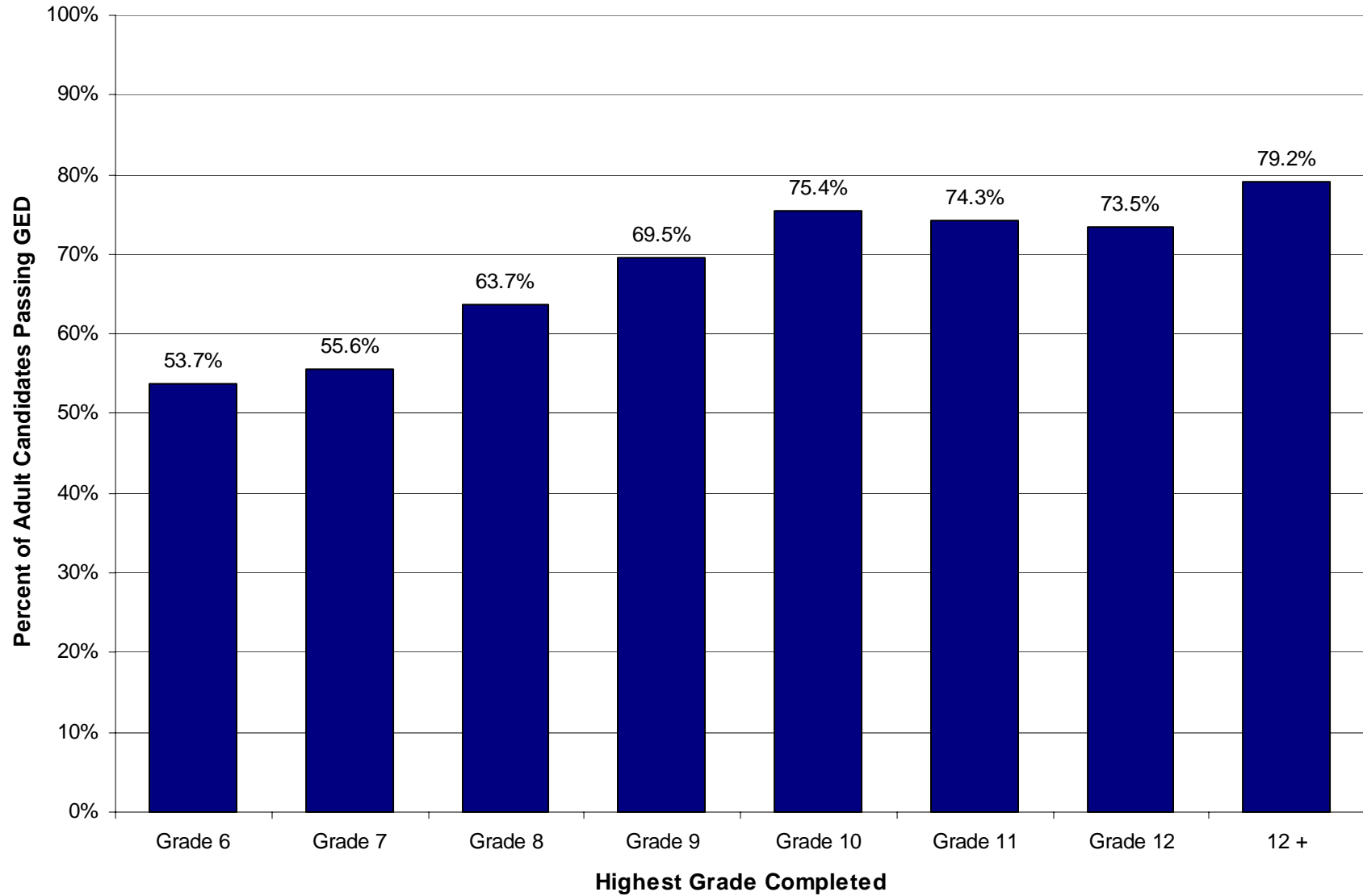


Figure 8. GED® Test Battery pass rate by highest level of education completed by adult candidates in 2002.

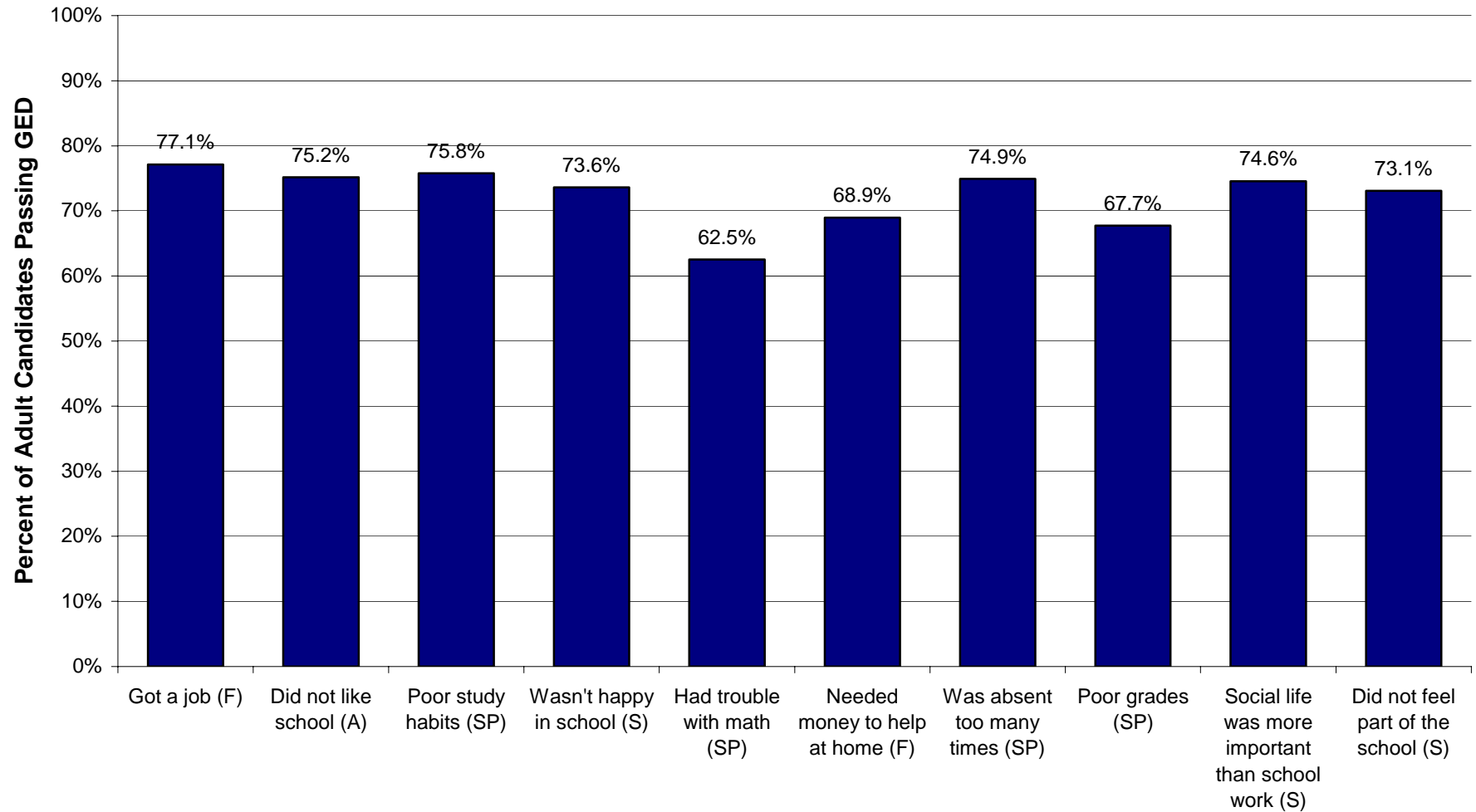
A generally steady pass rate of 73% to 77% was seen across the most frequently reported reasons for not completing high school (Figure 9). Three exceptions were for candidates who reported “Had trouble with math”, “Poor grades”, and “Needed money to help at home”; in these cases the pass rates were 63%, 68%, and 69%, respectively.

Figure 10 shows that adult candidates who indicated reasons for testing were related to keeping or getting a job, or job training or requirement, had slightly lower pass rates (57% to 69%) than those candidates who indicated reasons for testing that were related personal satisfaction (75% pass rate), early release from prison (76%), and entering a 4-year college (78%).

Figure 11 presents GED Test Battery pass rates by the most frequently reported methods of test preparation. The methods of test preparation are ordered from left to right in the order of most frequently reported to reported less frequently. Higher pass rates for adult candidates were associated with reporting taking the Official GED® Practice Tests and using Internet/computer resources. Lower pass rates were associated with reporting preparation in workplace literacy programs and public school adult education classes, and using television resources.

GED Testing Service recommends to each testing jurisdiction that a candidate achieve a standard score of 410 on each GED content area test and an average standard score of 450 in order to pass the GED Test Battery. GED standard scores range from 200 to 800 with a mean of 500 and a standard deviation of 100. Figure 12 reports the average GED Tests standard scores by GED Test Battery pass/fail status and the complete table of descriptive statistics is located in Appendix B. Regardless of whether adult candidates passed or failed the GED Test Battery, the *Mathematics* and *Language Arts, Writing Tests* were the most difficult tests on average. The

largest difference in average standard scores between candidates who passed vs. failed the test battery was seen on the *Language Arts, Reading Test*.



Reasons for Not Completing High School
A=Academic Environment, F=Family, S=Social, SP=Student Performance

Figure 9. GED® Test Battery pass rate by most frequently reported reasons for not completing high school for adult 2002 GED® candidates.

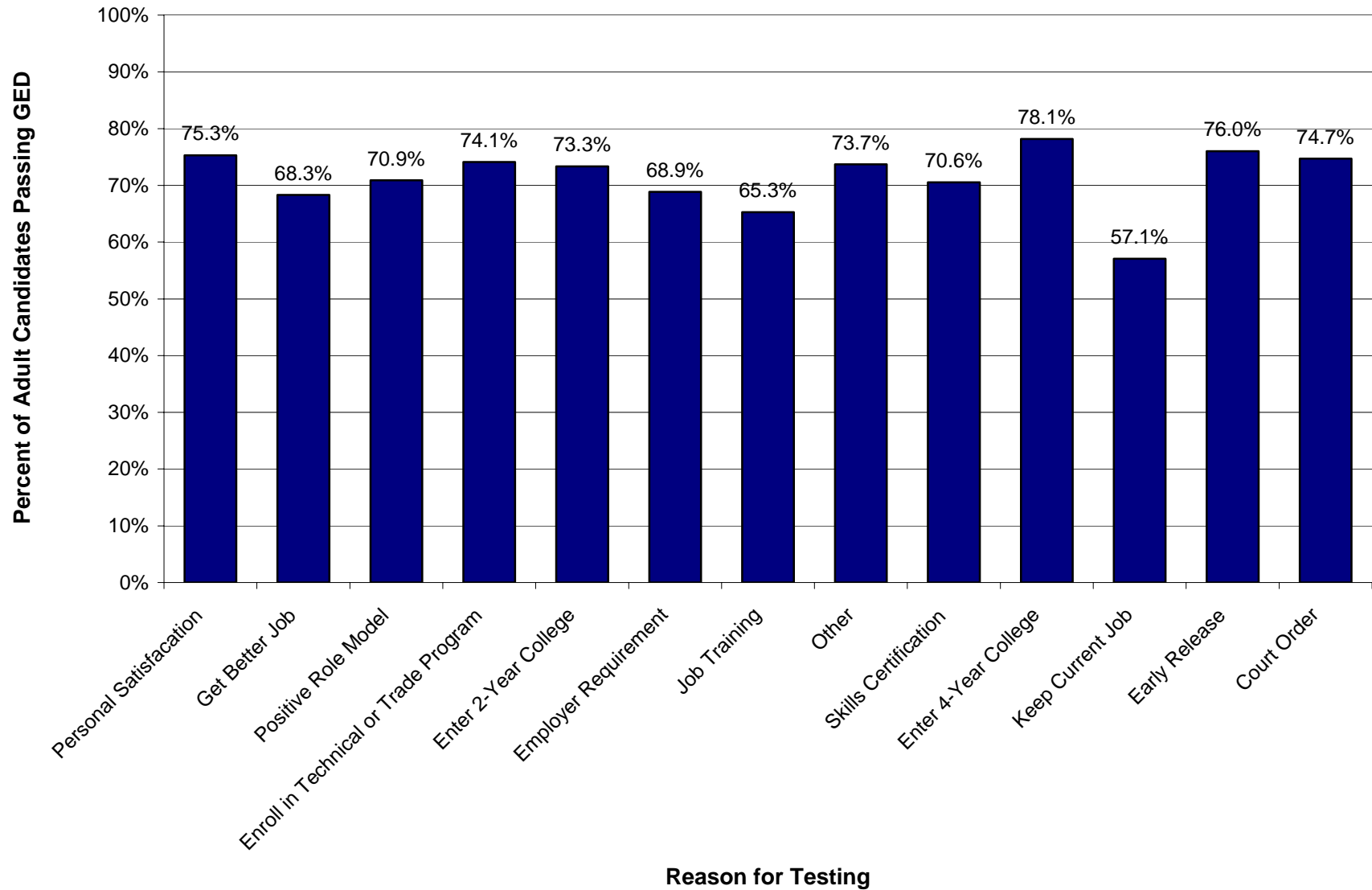


Figure 10. GED® Test Battery pass rate by most frequently reported reasons for testing for adult 2002 GED® candidates.

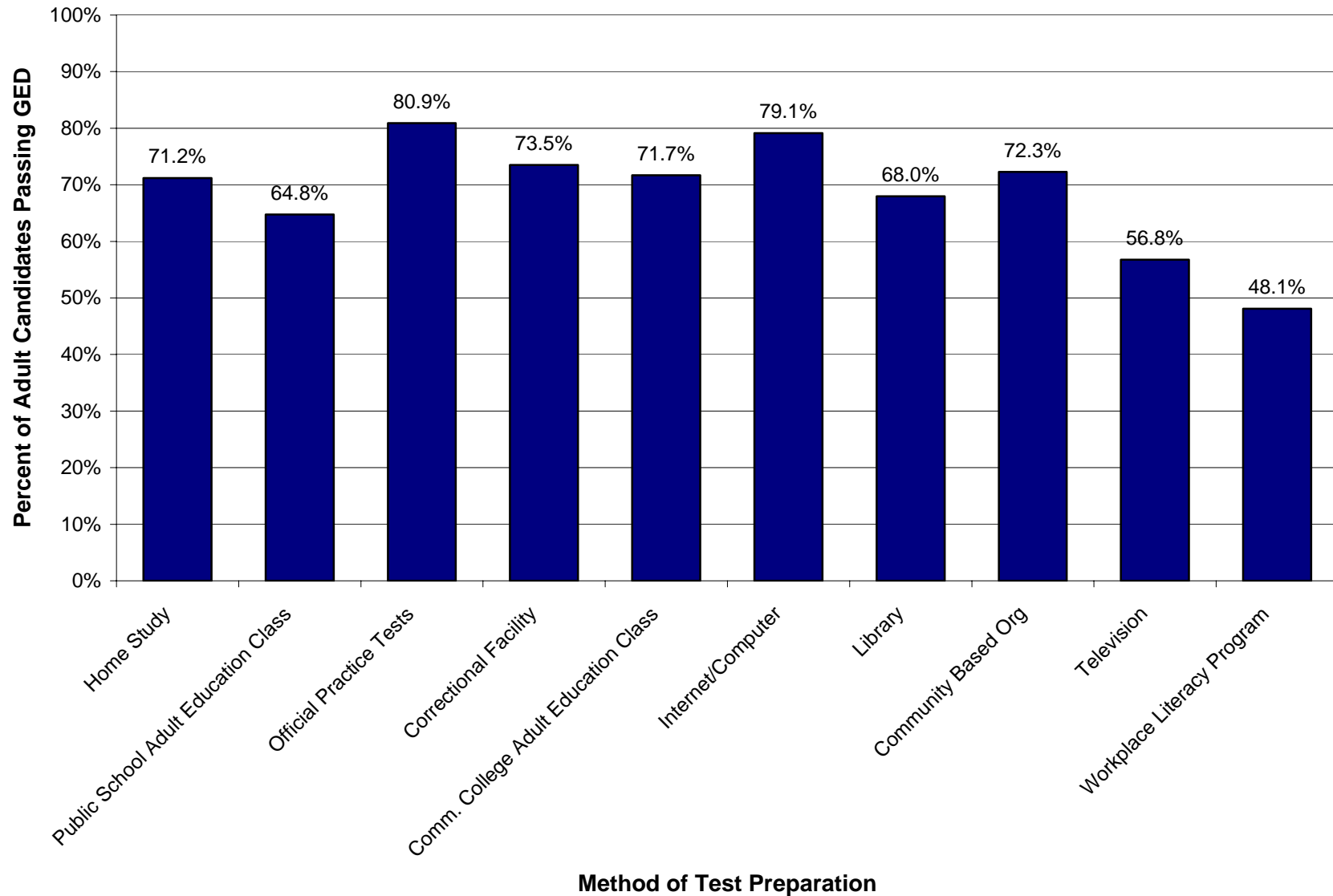


Figure 11. GED® Test Battery pass rate by type of test preparation for adult 2002 GED® candidates.

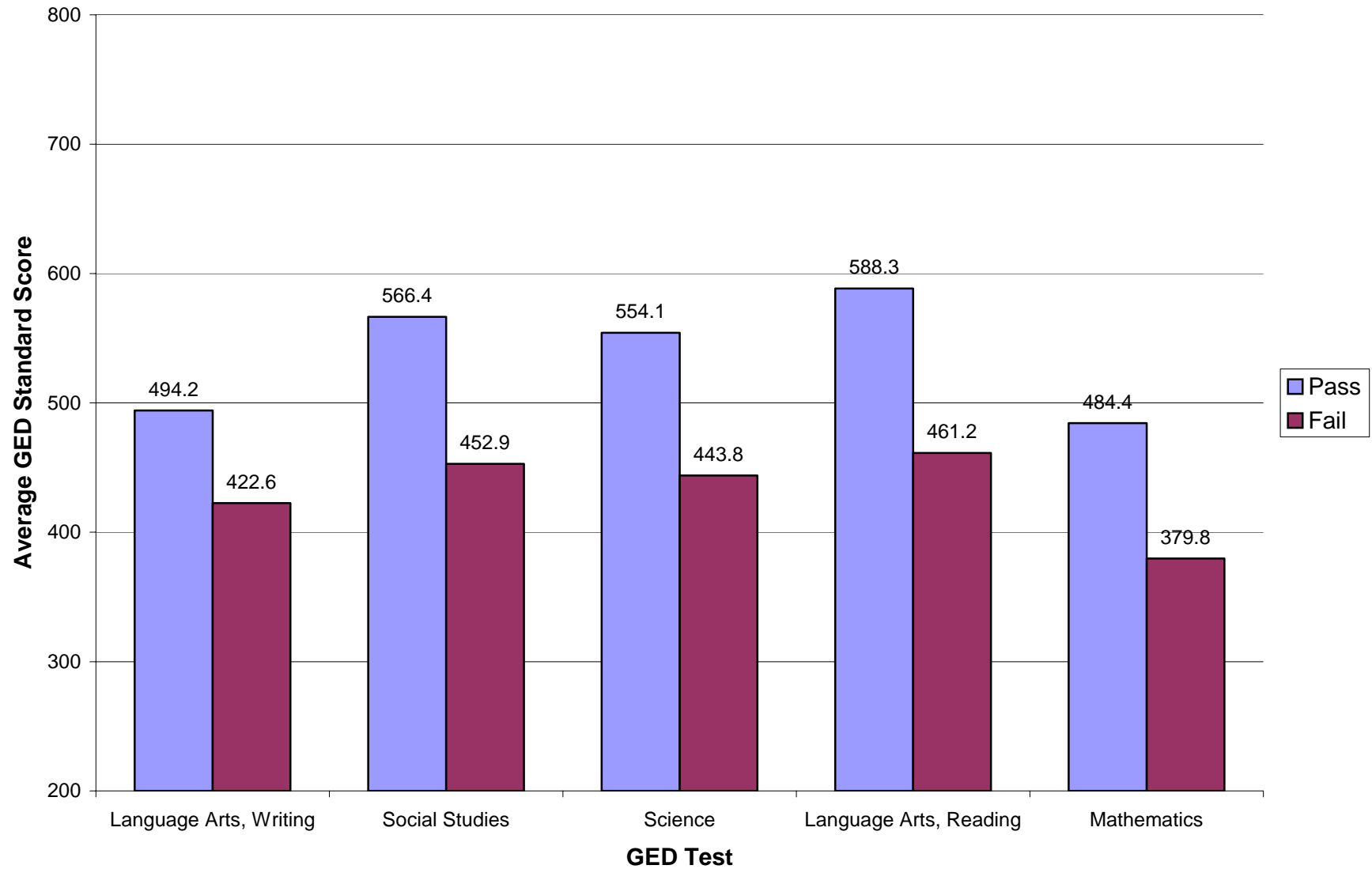


Figure 12. Average GED® Test standard scores by pass/fail status for adult 2002 GED® candidates.

Discussion

It is hoped that the empirical results of the academic achievement level of U.S adults over the age of 40 who have pursued a high school equivalency will provide various benefits to adult education agencies and programs that serve adult learners. By providing performance data on a measure of general academic achievement for this group of examinees, this study will contribute to research concerning instructional strategies and learner assessment in adult education (Alamprese, 1999).

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Appendix A

State of Residence for Adult 2002 GED® Candidates

State (U.S.)	Number of Adult Candidates	Percent
Alaska	78	0.77
Alabama	10	0.10
Arkansas	227	2.23
Arizona	156	1.53
California	27	0.27
Colorado	343	3.37
Connecticut	9	0.09
District of Columbia	5	0.05
Delaware	6	0.06
Florida	14	0.14
Georgia	8	0.08
Hawaii	51	0.50
Iowa	110	1.08
Idaho	3	0.30
Illinois	82	0.81
Indiana	3	0.03
Kansas	85	0.84
Kentucky	567	5.57
Louisiana	249	2.45
Massachusetts	228	2.24
Maryland	8	0.08
Maine	86	0.85
Michigan	639	6.28
Minnesota	192	1.89
Missouri	393	3.86
Mississippi	261	2.56
Montana	71	0.70
North Carolina	340	3.34
Nebraska	44	0.43
New Hampshire	1	0.01
New Jersey	432	4.24
New Mexico	110	1.08
Nevada	214	2.10
New York	11	0.11
Ohio	12	0.12
Oklahoma	478	4.70
Oregon	331	3.25
Pennsylvania	841	8.26
South Carolina	286	2.81
South Dakota	69	0.68
Tennessee	578	5.68
Texas	1353	13.29
Utah	117	1.15
Virginia	613	6.02
Vermont	6	0.06
Washington	6	0.06
Wisconsin	220	2.16

Appendix B

GED® Standard Score Descriptive Statistics by Pass/Fail Status

GED® Test	Mean	Std Dev	Median	Mode
Total Group (n = 10,177)				
Language Arts, Writing	473.5	66.3	460.0	440.0
Social Studies	533.7	90.2	520.0	500.0
Science	522.3	88.4	510.0	470.0
Language Arts, Reading	551.6	110.5	530.0	580.0
Mathematics	454.2	74.3	450.0	440.0
Pass (n = 7240)				
Language Arts, Writing	494.2	63.5	480.0	450.0
Social Studies	566.4	80.2	550.0	580.0
Science	554.1	79.7	540.0	550.0
Language Arts, Reading	588.3	101.3	580.0	580.0
Mathematics	484.4	61.5	470.0	460.0
Fail (n = 2937)				
Language Arts, Writing	422.6	40.8	410.0	400.0
Social Studies	452.9	56.1	450.0	460.0
Science	443.8	52.4	440.0	430.0
Language Arts, Reading	461.2	74.4	450.0	440.0
Mathematics	379.8	45.2	380.0	390.0



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