The Literacy of U.S. Adults with Disabilities Across GED Credential Recipients, High School Graduates, and Non–High School Graduates

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Running head: LITERACY OF GED CREDENTIAL RECIPIENTS WITH DISABILITIES

The Literacy of U.S. Adults with Disabilities Across GED Credential Recipients, High School Graduates, and Non–High School Graduates

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General Educational Development Testing Service™
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Abstract

To serve adults with disabilities without a high school diploma, the federal government and states have funded adult education and literacy programs that provide services to accommodate the needs of those adults. In addition, the Tests of General Educational Development (GED Tests) provide adults with disabilities with testing accommodations to minimize the impact of examinee characteristics on the assessment of academic knowledge and skills. Using data from the 2003 National Assessment of Adult Literacy (NAAL), this study examined the literacy level across GED credential recipients, high school graduates, and non–high school graduates. The study also provided evidence of the validity of the GED credential as an indication that adults with disabilities with a GED credential have achieved the literacy skills and knowledge equivalent to those skills and knowledge demonstrated by adults with disabilities with a high school diploma.

The Literacy of U.S. Adults with Disabilities Across GED Credential Recipients, High School Graduates, and Non–High School Graduates

According to Steinmetz (2006), in 2002, 51.2 million (about 18 percent) of the civilian non-institutionalized population living in the United States had some level of disability in communication, mental, or physical domains. The Americans with Disabilities Act of 1990 (ADA) provides guidelines that ensure the provisions of services to people with disabilities and the protection of their legal rights. However, people with disabilities still face social disadvantages and exclusions in many aspects of their lives (Carpenter & Readman, 2006). For instance, the dropout rate for students with disabilities is approximately twice that of students without disabilities (Blackorby & Wagner, 1996; Thurlow, Sinclair, & Johnson, 2002). According to Census 2000 (Waldrop & Stern, 2003), adults between the ages of 16 and 64 were less likely to be employed if they had disabilities. Only 60 percent of working-age men with a disability were employed, compared with 80 percent of working-age men without a disability. Among women of working age, the respective employment rates were 51 percent and 67 percent. Additionally, the poverty rate for people 16 to 64 years old with a disability is 19 percent, which is nearly double the rate (10 percent) for those without a disability.

Under Title II of the Federal Workforce Investment Act (known as the Adult Educational and Family Literacy Act of 1998), State Act 143 of 1986, and Title II of the Americans with Disabilities Act, the federal government and states have funded Adult Basic and Literacy Education (ABLE) programs to offer a full range of instructional services to improve adults' literacy skills in reading, writing, math, English-language competency, and problem solving, as well as to improve their vocational skills. These programs are committed to ensuring that necessary accommodations are provided to adults with disabilities to ensure equal opportunity to participate in and benefit from these services (Office of Vocational and Adult Education, 2007).

In addition, for adults with disabilities without a high school diploma, the Tests of General Educational Development (GED Tests) provide accommodations to minimize the impact of examinee characteristics on the assessment of academic knowledge and skills.

The GED Tests are taken by adults without a high school diploma in the United States, Canada, and U.S. insular areas to obtain certification of a high school level of academic knowledge and skills in English-language arts, mathematics, science, and social studies (American Council on Education, 2007). The GED Tests have also been one of the most popular instruments used by many ABLE-funded agencies to report learner gains (Molek & Forlizzi, 1999). Content-, criterion-, and construct-related evidences of validity for GED Tests scores were reported in *The Tests of General Educational Development: Technical Manual* (American Council on Education, 1993) and a new technical manual is currently in progress. A few other studies also provided evidences of the validity of GED Tests scores (see Agba, Klosowski, & Miller, 2002; and Lipiec, Campbell, & Giguere, 1993).

Based on the intended use of GED Tests scores, adults that pass the GED Tests should show evidence of possessing a level of literacy skills comparable to adults with a high school diploma. For GED Tests examinees that have disabilities in physical/chronic health, learning or cognition, emotional/mental health, or attention-deficit/hyperactivity, various accommodations are provided to meet their needs. These accommodations include audiocassette editions, Braille editions, large-print editions, use of a scribe, extended time, supervised frequent breaks, use of a private room, or other reasonable accommodations as warranted (General Educational Development Testing Service, 2007). In 2006, more than 1,400 GED Tests examinees (about 0.2 percent of adults who took the GED Tests) took the audiocassette, Braille, or large-print versions of the GED Tests (American Council on Education, 2007). To assess the nation's progress in adult literacy, the National Center for Education Statistics (NCES) in the U.S. Department of

Education's Institute of Education Sciences sponsored the 2003 National Assessment of Adult Literacy (NAAL). The 2003 NAAL defined literacy as "using printed and written information to function in society, to achieve one's goals, and to develop one's knowledge and potential" and measured literacy skills in prose, document, quantitative, and health domains. Several reports on the results of this study have been subsequently released (Greenberg, Dunleavy, & Kutner, 2007; Kutner, Greenberg, & Baer, 2005; Kutner, Greenberg, Jin, & Paulsen, 2006; and Kutner, Greenberg, Jin, Boyle, Hsu, & Dunleavy, 2007). These reports indicate that the literacy level of adults with a GED/high school equivalency credential is comparable to that of adults with a high school diploma. Hsu and George-Ezzelle (2007) further provided evidence that adults with a GED/high school equivalency credential had levels of English literacy equivalent to those of adults with a high school diploma and had significantly higher levels of English literacy than those of adults with some or less than high school education across the demographic characteristics of race/ethnicity, age, language spoken before starting school, English as a second language status, immigration status, and employment status.

In the 2003 NAAL study, four questions were used to identify adults with disabilities (Greenberg, Jing, & White, 2007, p. A-33). These questions are:

1. Do you have any difficulty seeing the words and letters in ordinary newspaper print even when wearing glasses or contact lenses, if you usually wear them?
2. Do you have any difficulty hearing what is said in a normal conversation with another person even when using a hearing aid, if you usually wear one?
3. Have you ever been diagnosed or identified as having a learning disability?
4. Do you have any other health problem, impairment, or disability now that keeps you from participating fully in work, school, housework, or other activities?

Regarding literacy skills of adults with disabilities, Kutner et al. (2007) indicated that about 6 percent of adults aged 16 and older reported that they had been diagnosed or identified as having a learning disability. These adults had lower average prose, document, and quantitative literacy than adults who did not have a learning disability. Among adults with a learning disability, 24 percent were *Below Basic* prose and document literacy and 38 percent were *Below Basic* quantitative literacy. In comparison, among adults without a learning disability, only 13 percent were *Below Basic* prose literacy, 12 percent were *Below Basic* document literacy, and 20 percent were *Below Basic* quantitative literacy. At the higher end of the literacy levels: 7 percent of adults with a learning disability had *Proficiency* literacy in prose, document, and quantitative scales, compared with 13 percent to 14 percent of adults without a learning disability. The results presented by Kutner et al. (2005) also showed that 46 percent of adults with *Below Basic* prose literacy had one or more disabilities, compared with 30 percent of adults with one or more disabilities in the total NAAL population, indicating a relationship between number of disabilities and literacy level. Likewise, there were 21 percent of adults with multiple disabilities in the *Below Basic* prose level, which was significantly higher than 9 percent of adults with multiple disabilities in the total NAAL population.

Kutner et al. (2007) reported only the literacy level of adults with a learning disability compared with the literacy level of adults without a learning disability. However, the literacy levels of adults with the other three types of disabilities (hearing, vision, and other) are also important and beneficial to be identified, especially for the adults with lower levels of educational attainment that usually resulted from poor health conditions and disadvantaged social economic status. Therefore, the purpose of this study was to assess the complete 2003 NAAL data sets to provide evidence of whether:

1. Literacy levels of adults with disabilities with a GED/high school equivalency credential and adults with disabilities with a high school diploma are comparable and whether literacy skill levels of adults with disabilities with a GED/high school equivalency credential are higher than those of adults with disabilities without a high school diploma on all four scales of prose, document, quantitative, and health literacy.
2. Literacy levels of adults with disabilities with a GED/high school equivalency credential are comparable to the average literacy of adults with disabilities.
3. Literacy levels for adults with disabilities with a GED/high school equivalency credential and for adults with disabilities with and without a high school diploma vary within demographic variables such as gender, race/ethnicity, age, and employment status.
4. Specific groups of adults with disabilities with lower literacy levels exist so that adult education entities and policy makers can target these groups with more support.

Method

The analyses focused on the estimated differences in average prose, document, quantitative, and health literacy scores for adults with vision, hearing, learning, or other disabilities across three educational attainment levels: (1) adults with disabilities with less than or some high school but not currently in high school, (2) adults with disabilities with a GED/high school equivalency credential who did not pursue postsecondary education, and (3) adults with disabilities who are high school graduates but did not pursue postsecondary education. In addition, comparisons of these groups to the national level were examined. These groups of

adults with disabilities, along with some demographic variables, were selected from the 2003 NAAL data sets for analyses.

Statistical comparisons of average literacy scores were conducted between adults with disabilities with a GED/high school equivalency credential and adults with disabilities with less than or some high school, and between adults with disabilities with a GED/high school equivalency credential and adults with disabilities who are high school graduates. Comparisons of average literacy scores were also conducted across gender, race/ethnicity, age, and employment status. All statistical comparisons of the estimates of literacy levels for group comparisons were based on the *t* statistic, using a 95 percent confidence interval (two-tailed). The formula used to compute the *t* statistic is

$$t = \frac{(P_1 - P_2)}{\sqrt{SE_1^{\,2} + SE_2^{\,2}}}$$

where P_1 and P_2 are the estimates to be compared and SE_1 and SE_2 are their corresponding standard errors. The multiple t-tests conducted in this study replicated the method performed in the 2003 NAAL study (Kutner et al., 2005); Bonferroni adjustments were not applied.

Data Sources

Two data sets for this study were obtained from the publicly available data files from the 2003 NAAL released by the U.S. Department of Education's National Center for Education Statistics (NCES, 2007). One file assessed the prose, document, and quantitative literacy of adults (ages 16 and older) and the other file assessed the health literacy of adults. Both files contained demographic and literacy level information of 19,258 adults in households or prisons. Adults (about 3 percent) who could not be interviewed because of language spoken or cognitive

or mental disabilities and could not provide background information were not included in the data sets.

The analyses for this study were conducted using AM Statistical Software, which was developed by the American Institutes for Research. AM is a free statistical software for analyzing data from complex samples, especially large-scale assessments such as the National Assessment of Educational Progress (NAEP), the Third International Mathematics and Science Studies (TIMSS), and NAAL. The software can be downloaded from http://am.air.org/naal.asp.

Results

The results shown in Figures 1–4 and Table 1 present evidence that the average scores across the four literacy scales for adults with disabilities with a GED/high school equivalency credential are statistically significantly higher than those of adults with disabilities who did not complete high school and equivalent to both the average scores for adults with disabilities with a high school diploma and adults with disabilities across the nation ($p < .05$).

Results shown in Tables 2–5 and Figures 5–8 indicate that the literacy levels of adults with disabilities with a GED/high school equivalency credential and of adults with disabilities with and without a high school diploma varied within demographic variables such as gender, race/ethnicity, age, and employment status. Also included in the tables are the *t*-test statistics and significance values for average literacy scores between adults with disabilities with a GED/high school equivalency credential and adults with disabilities with less than or some high school, and between adults with disabilities with a GED/high school equivalency credential and adults with disabilities who are high school graduates. Table 2 indicates that the average literacy levels of adults with a vision disability with a GED/high school equivalency credential were significantly higher than the levels of adults with a vision disability with less than or some high school

education across the four demographic variables on the three scales ($p < .05$). In addition, the average scores earned by adults with a vision disability with a GED/high school equivalency credential were equivalent to the average scores earned by adults with a vision disability with a high school diploma. Also, the average quantitative literacy score earned by black adults with a vision disability with a GED/high school equivalency credential was significantly higher than that of black adults with a vision disability with a high school diploma ($p < .05$).

As shown in Table 3, adults with a hearing disability with a GED/high school equivalency credential generally had significantly higher literacy levels compared with adults with a hearing disability with less than or some high school education ($p < .05$). However, some adults with a hearing disability with a GED/high school equivalency credential had literacy levels equivalent to those of adults with a hearing disability with less than or some high school education: Hispanics (document and quantitative literacy), unemployed adults (document literacy), and black adults (health literacy). When comparing adults with a hearing disability with a GED/high school equivalency credential to those with a high school diploma, the average scores on the four literacy scales were generally not statistically different across gender, race/ethnicity, age, and employment status. However, differences in quantitative literacy scores were seen for black adults (GED/high school equivalency credential recipients had higher average quantitative literacy scores) and older (age equal to 40 years or over) and unemployed adults with a hearing disability (high school graduates had higher average quantitative scores) ($p < .05$).

Tables 4 and 5 provide evidence that adults with a GED/high school equivalency credential with a learning or other disability had significantly higher literacy scores than adults with less than or some high school education on all four literacy scales across gender, race/ethnicity (data for adults of Hispanic origin who had a learning disability were not available

due to small sample size), age, and employment status. Compared with adults with a learning or other disability with a high school diploma, adults with a learning or other disability with a GED/high school equivalency credential had similar or higher average literacy scores.

Conclusion

As mentioned earlier, individuals with disabilities have higher rates of dropping out of school and have lower rates of employment. Their lower educational level also contributes to their lower level of literacy skills and knowledge, which reduce their chances to be employed and be presented with opportunities related to a better life. Many adult literacy programs provide special and rehabilitative services to accommodate their needs and support them in improving their basic skills. Accommodations on the GED Tests also provide such support. This study provided evidence of the validity of the GED Tests scores as an indication of achieving the literacy skills and knowledge associated with a high school program of study for adults with vision, hearing, learning, and other disabilities. Such evidence contributes to the GED testing program's goal of serving equally adults with and without disabilities.

By accomplishing its objectives, this study provided critical evidence of the following:

1. Adults with disabilities who hold a GED/high school equivalency credential demonstrate levels of English literacy that are comparable to, and in some cases higher than, those demonstrated by adults with disabilities with a high school diploma and across the nation.
2. Adults with vision, hearing, learning, or other disabilities who hold a GED/high school equivalency credential show similar levels of English literacy across race/ethnicity, gender, age, and employment status as adults with a high school diploma.

The study also identified subpopulations of adults with hearing disabilities with a GED/high school equivalency credential that demonstrated lower literacy levels than expected. With this information, adult education entities and policy makers can target these groups of adults with disabilities with more support, funding, and better programs to improve their literacy skills and special needs and effectively enhance the literacy level of the nation.

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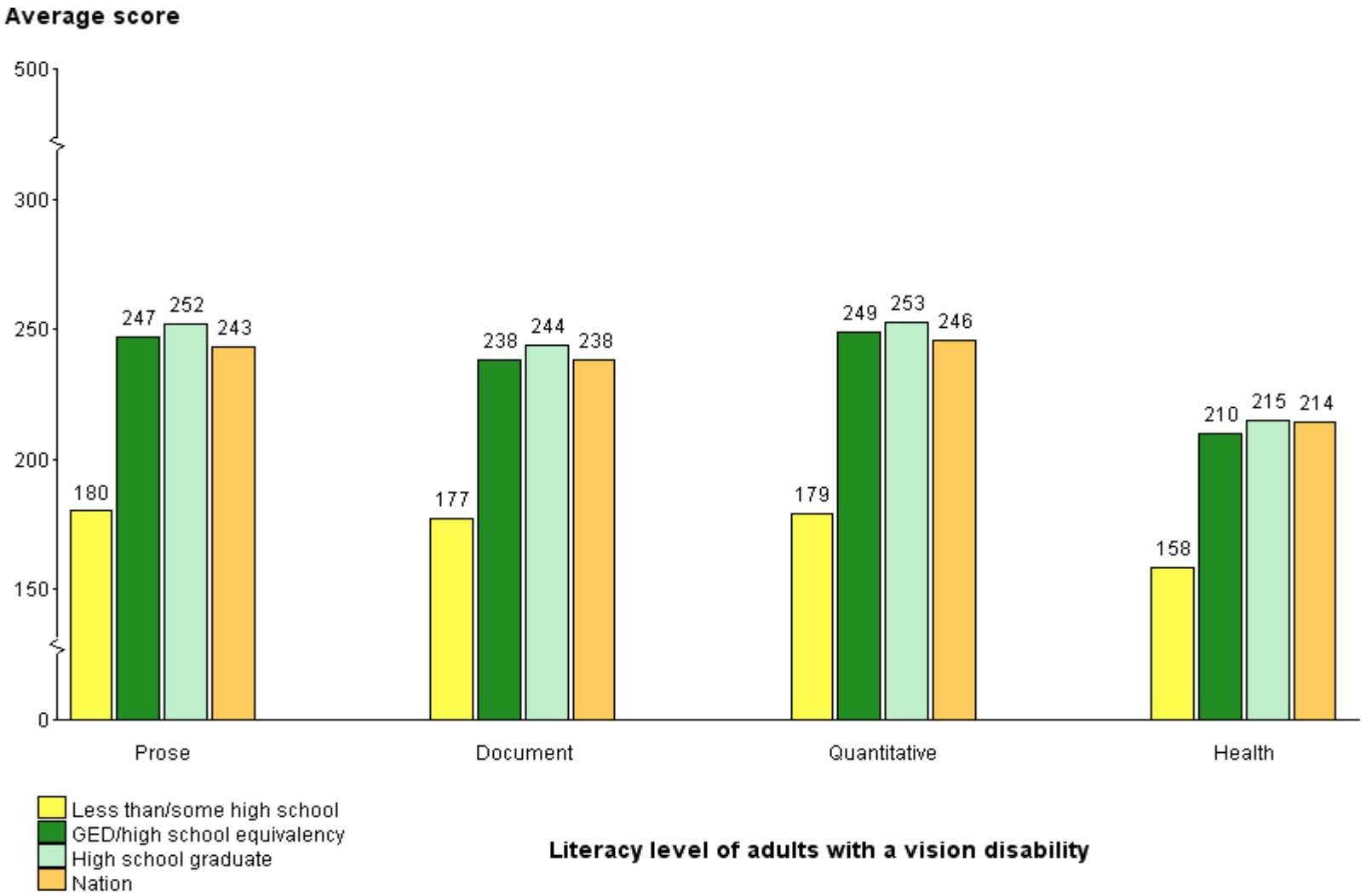

Figure 1. Average prose, document, quantitative, and health literacy scores of adults with a vision disability, by educational attainment: 2003 National Assessment of Adult Literacy.

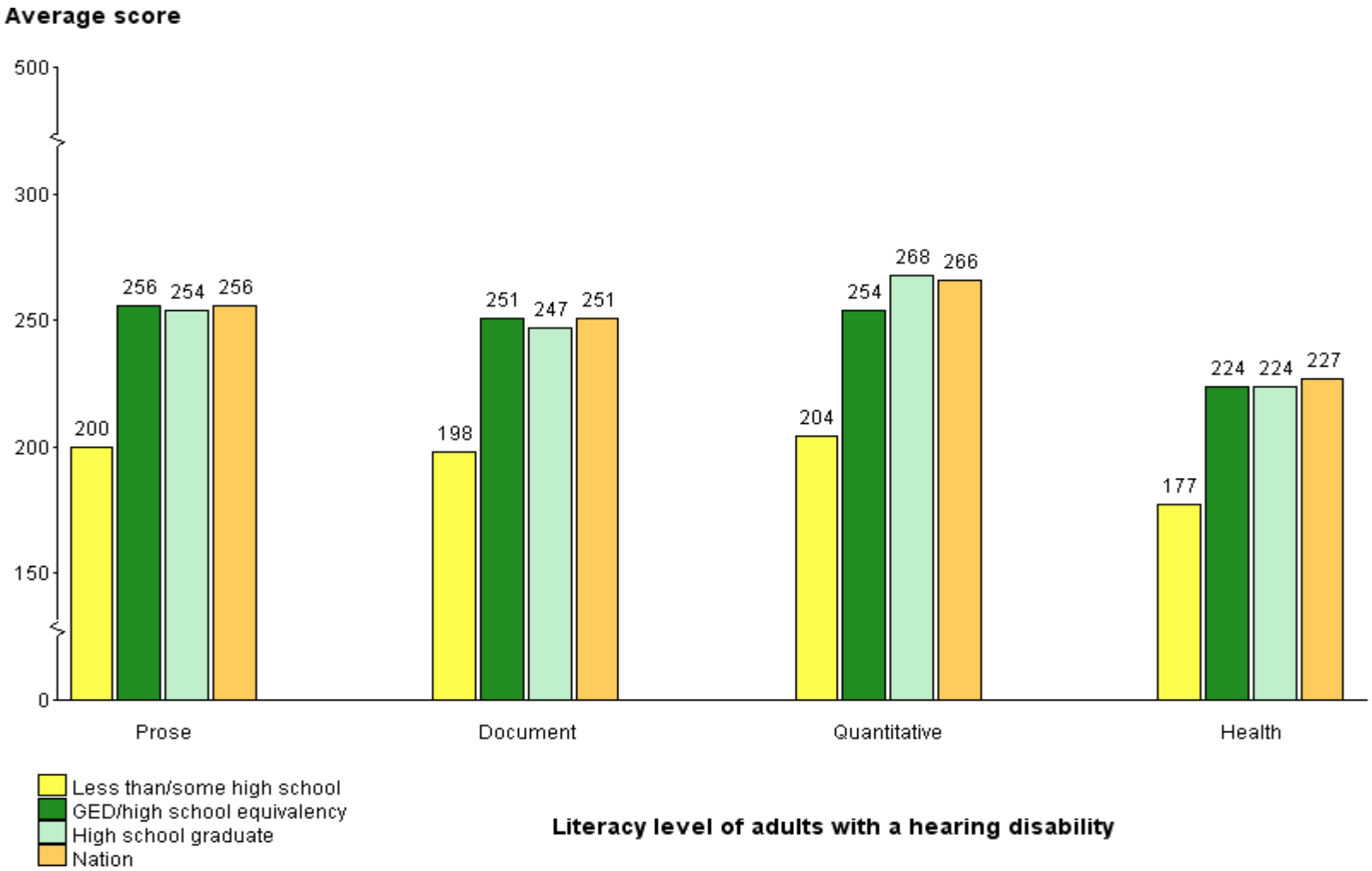

Figure 2. Average prose, document, quantitative, and health literacy scores of adults with a hearing disability, by educational attainment: 2003 National Assessment of Adult Literacy.

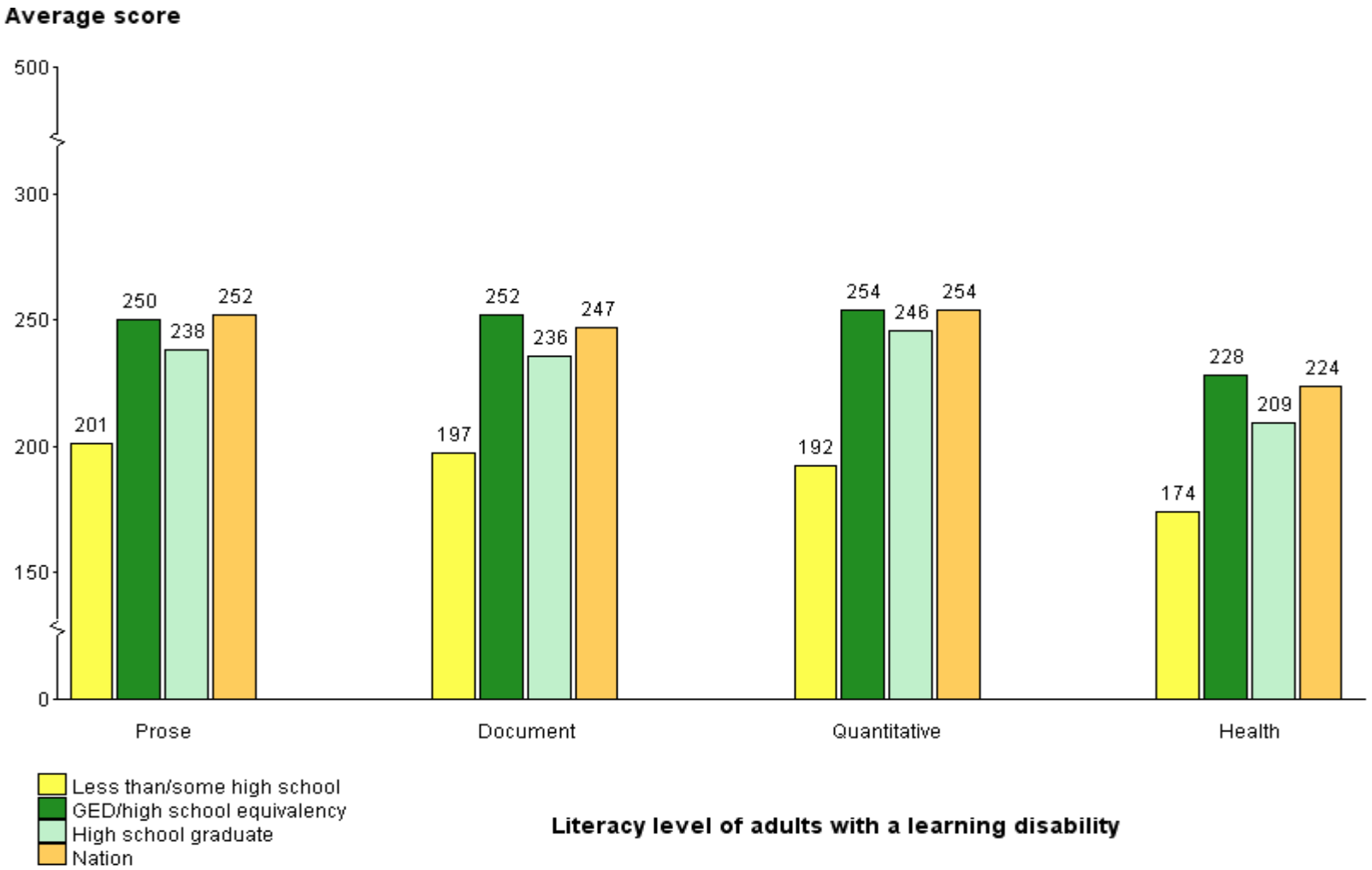

Figure 3. Average prose, document, quantitative, and health literacy scores of adults with a learning disability, by educational attainment: 2003 National Assessment of Adult Literacy.

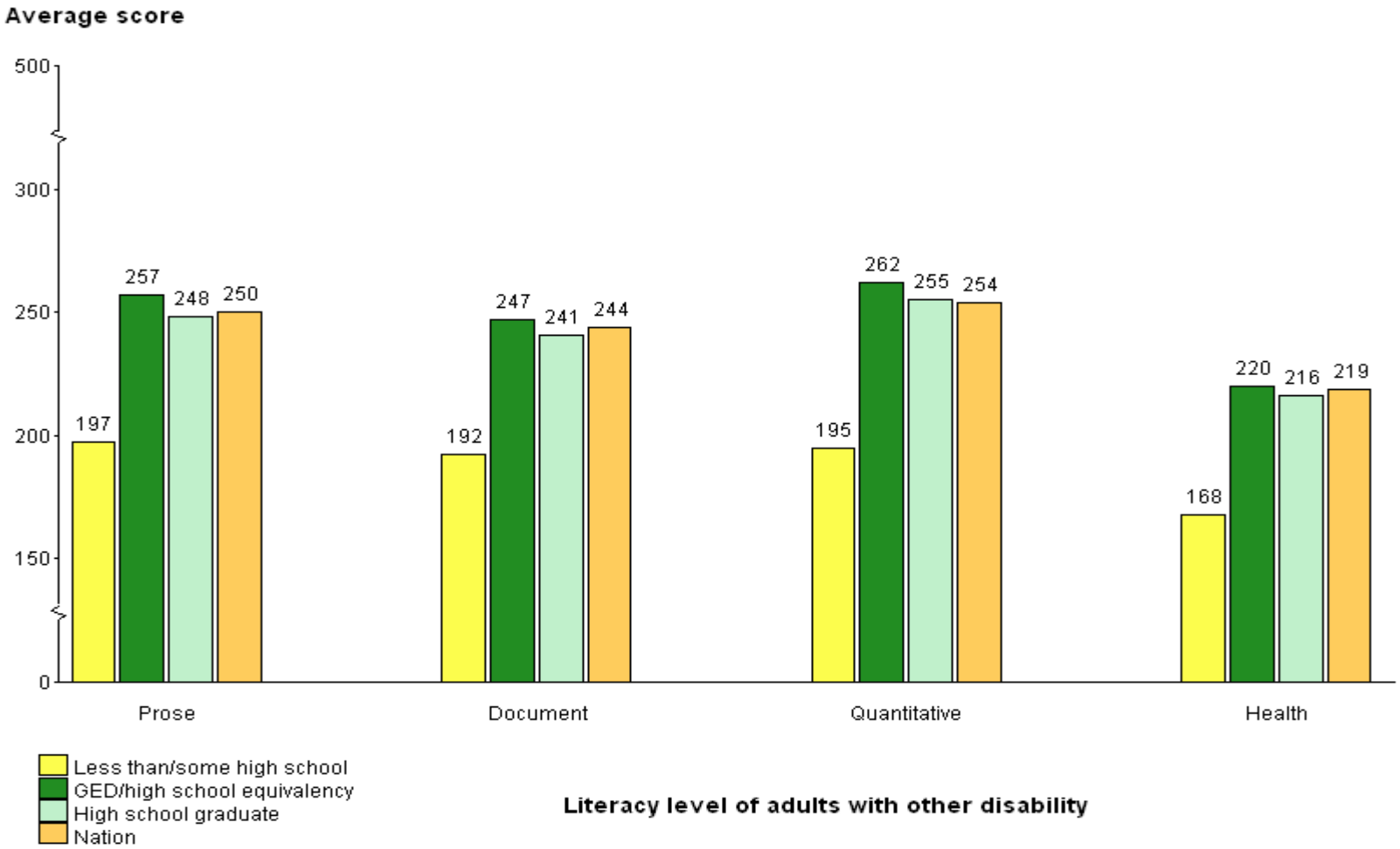

Figure 4. Average prose, document, quantitative, and health literacy scores of adults with other disability, by educational attainment: 2003 National Assessment of Adult Literacy.

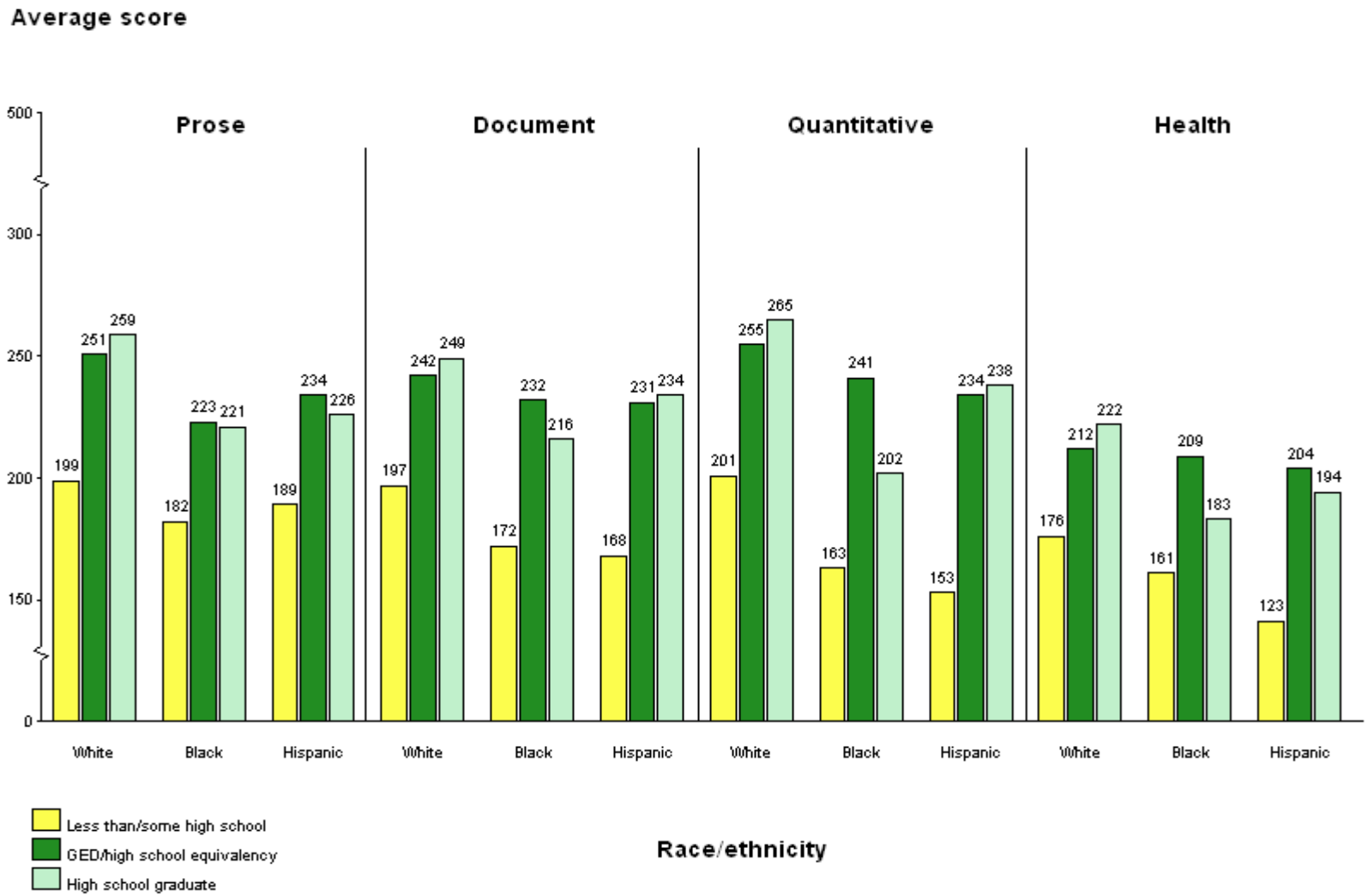

Figure 5. Average prose, document, quantitative, and health literacy scores of adults with a vision disability, by educational attainment and race/ethnicity: 2003 National Assessment of Adult Literacy.

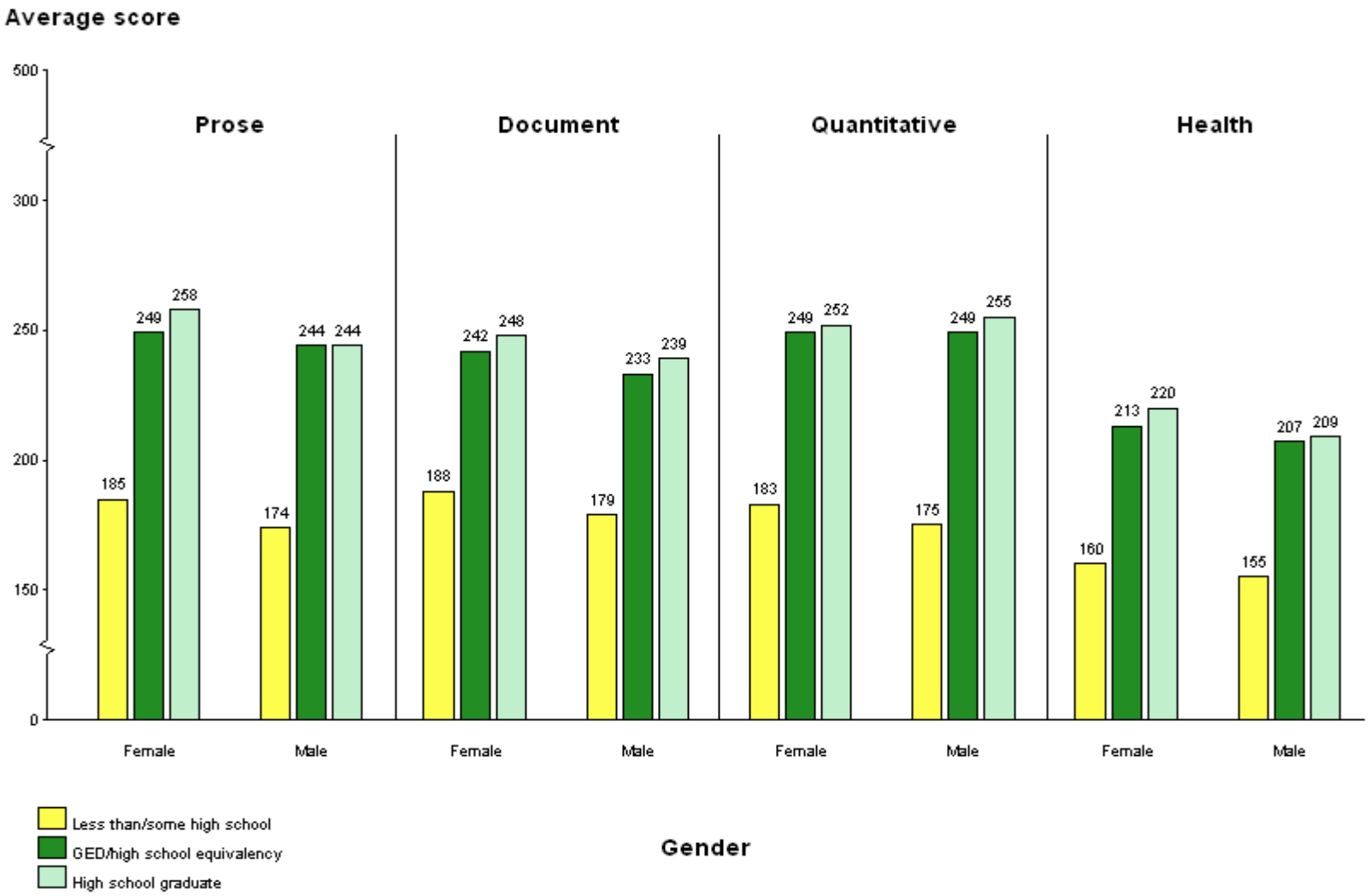

Figure 6. Average prose, document, quantitative, and health literacy scores of adults with a vision disability, by educational attainment and gender: 2003 National Assessment of Adult Literacy.

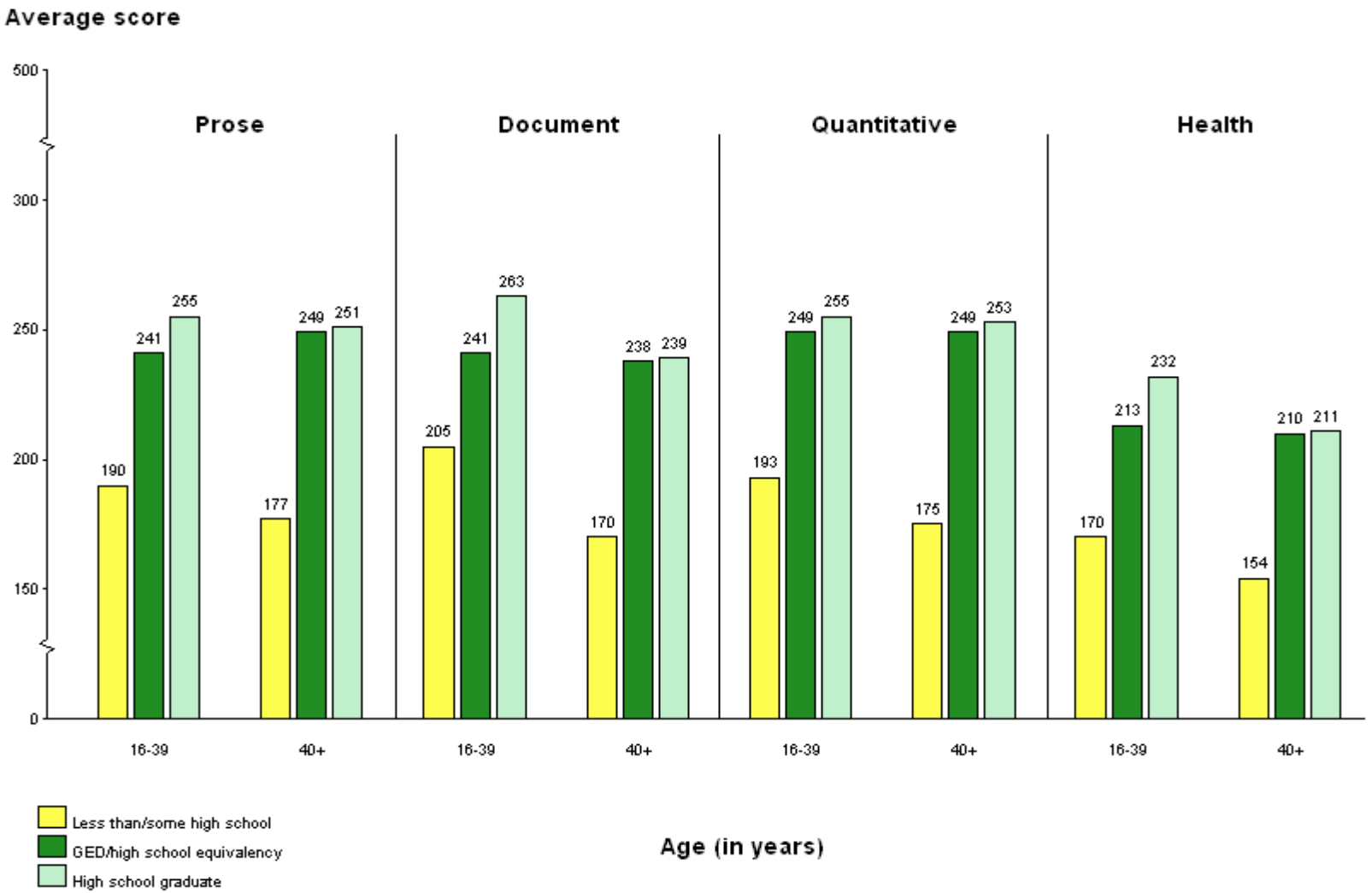

Figure 7. Average prose, document, quantitative, and health literacy scores of adults with a vision disability, by educational attainment and age: 2003 National Assessment of Adult Literacy.

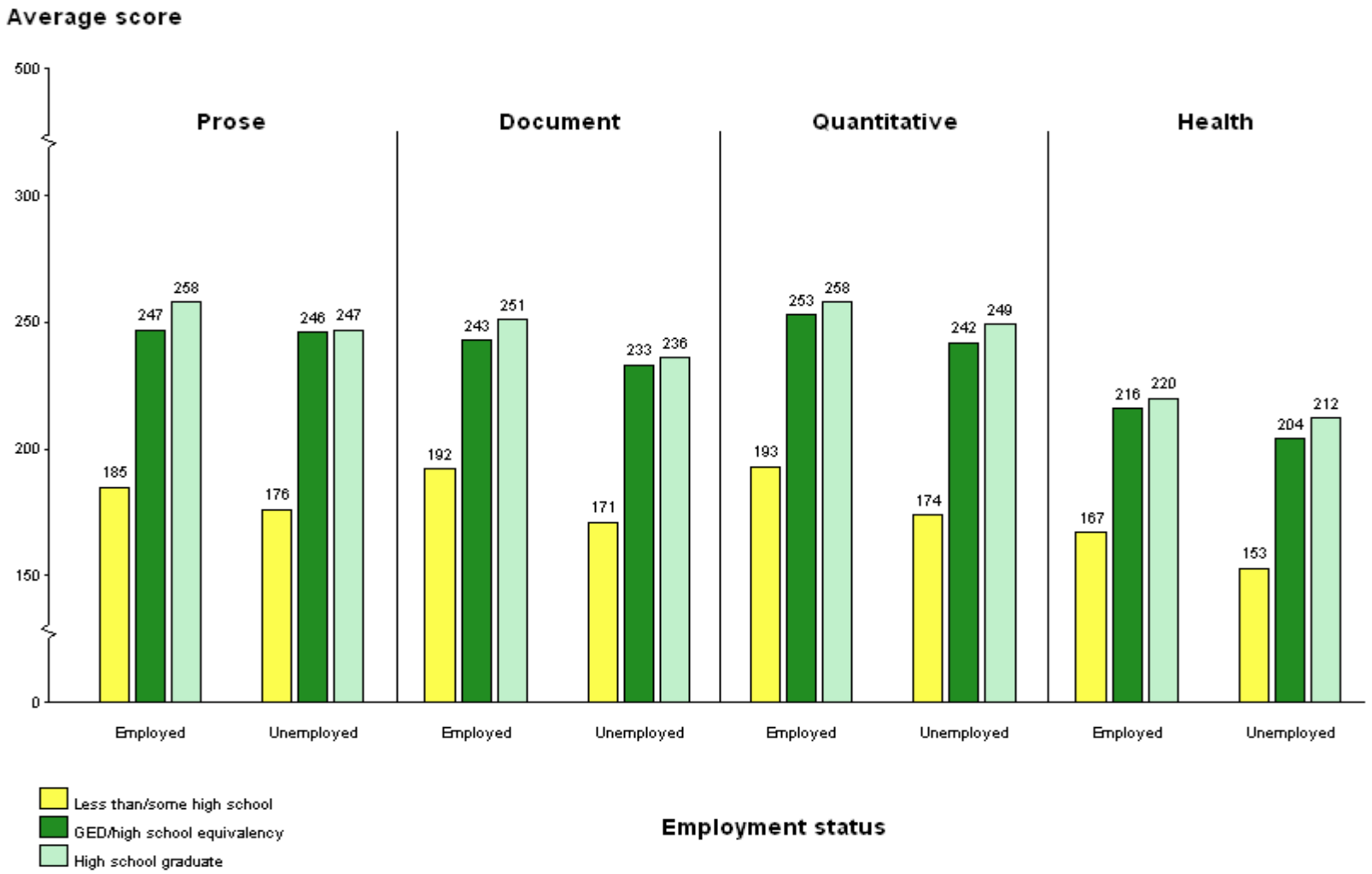

Figure 8. Average prose, document, quantitative, and health literacy scores of adults with a vision disability, by educational attainment and employment status: 2003 National Assessment of Adult Literacy.

Table 1

Average prose, document, quantitative, and health literacy scores of adults with a vision, hearing, learning, or other disability, by educational attainment: 2003 National Assessment of Adult Literacy

Type of disability	Literacy	Less than HS		GED		HS		Nation		GED vs. Less than HS		GED vs. HS		GED vs. Nation	
		Mean	SE	Mean	SE	Mean	SE	Mean	SE	Diff	*t*	Diff	*t*	Diff	*t*
Vision															
	Prose	180	3.4	247	4.5	252	3.0	243	2.7	67	11.79*	6	1.05	-3	-0.65
	Document	177	3.9	238	5.9	244	4.1	238	3.0	61	8.59*	5	0.75	0	-0.01
	Quantitative	179	4.2	249	6.4	253	4.4	246	3.1	70	9.20*	4	0.52	-3	-0.47
	Health	158	4.0	210	5.1	215	3.3	214	3.1	53	8.15*	5	0.85	4	0.62
Hearing															
	Prose	200	4.0	256	6.2	254	3.8	256	2.5	56	7.54*	-2	-0.33	0	0
	Document	198	5.1	251	9.4	247	4.1	251	2.5	52	4.91*	-4	-0.34	1	0.09
	Quantitative	204	5.7	254	6.8	268	3.7	266	2.3	50	5.62*	15	1.88	12	1.67
	Health	177	4.9	224	6.3	224	4.5	227	2.3	47	5.91*	0	0.05	3	0.46
Learning															
	Prose	201	5.2	250	6.7	238	4.9	252	3.5	49	5.84*	-12	-1.42	2	0.29
	Document	197	6.6	252	9.0	236	5.7	247	3.3	55	4.95*	-16	-1.52	-5	-0.52
	Quantitative	192	6.7	254	8.9	246	5.1	254	3.8	62	5.52*	-7	-0.69	0	0.01
	Health	174	4.9	228	10.4	209	5.8	224	3.3	54	4.69*	-19	-1.57	-4	-0.36
Other															
	Prose	197	3.6	257	3.7	248	2.9	250	2.2	59	11.53*	-9	-1.81	-6	-1.44
	Document	192	4.8	247	4.6	241	3.0	244	2.4	55	8.18*	-5	-0.94	-3	-0.48
	Quantitative	195	4.9	262	4.9	255	3.9	254	2.6	68	9.73*	-8	-1.22	-8	-1.43
	Health	168	4.2	220	5.2	216	3.1	219	2.5	52	7.72*	-4	-0.70	-1	-0.20

*$p < .05$; SE=Standard Error.

Table 2

Average literacy scores of adults with a vision disability, by educational attainment and various demographic characteristics: 2003 National Assessment of Adult Literacy

			Less than HS		GED		HS		GED vs. Less than HS		GED vs. HS	
Literacy			Mean	SE	Mean	SE	Mean	SE	Diff	*t*	Diff	*t*
Prose												
	Gender											
		Female	185	3.5	249	6.3	258	4.4	63	8.77*	9	1.20
		Male	174	5.6	244	7.1	244	4.4	70	7.77*	0	-0.01
	Race/ethnicity											
		White	199	4.9	251	6.2	259	3.6	53	6.67*	8	1.15
		Black	182	4.5	223	8.4	221	6.1	40	4.28*	-2	-0.16
		Hispanic	189	1.9	234	9.7	226	16.0	45	4.56*	-7	-0.40
	Age											
		16–39 years	190	7.1	241	13.1	255	7.3	51	3.42*	14	0.93
		40+ years	177	3.7	249	4.6	251	3.0	72	12.05*	3	0.51
	Employment											
		Employed	185	5.0	247	5.7	258	5.8	61	8.07*	11	1.32
		Unemployed	176	4.4	246	8.5	247	4.3	70	7.29*	1	0.08
Document												
	Gender											
		Female	188	3.9	242	5.8	248	5.5	54	7.71*	6	0.69
		Male	179	6.4	233	9.3	239	4.9	55	4.87*	5	0.48
	Race/ethnicity											
		White	197	5.6	242	7.4	249	4.9	44	4.78*	7	0.83
		Black	172	7.4	232	9.5	216	7.5	59	4.93*	-15	-1.28
		Hispanic	168	2.5	231	14.1	234	13.0	63	4.40*	3	0.15
	Age											
		16–39 years	205	8.4	241	13.5	263	9.6	36	2.26*	22	1.35
		40+ years	170	4.5	238	5.2	239	4.7	68	9.81*	1	0.17
	Employment											
		Employed	192	8.0	243	6.6	251	6.5	51	4.95*	8	0.87
		Unemployed	171	5.4	233	8.8	236	5.3	62	5.95*	3	0.29
Quantitative												
	Gender											
		Female	183	4.4	249	6.3	252	6.3	66	8.65*	3	0.38
		Male	175	6.7	249	10.3	255	5.4	74	6.01*	6	0.47
	Race/ethnicity											
		White	201	6.6	255	7.9	265	5.5	54	5.22*	10	1.03
		Black	163	7.7	241	10.1	202	9.5	78	6.12*	-39	-2.85*
		Hispanic	153	7.3	234	6.9	238	10.1	81	8.04*	4	0.35
	Age											
		16–39 years	193	7.5	249	11.4	255	9.7	56	4.13*	5	0.35
		40+ years	175	4.8	249	7.2	253	5.0	74	8.59*	4	0.42
	Employment											
		Employed	193	6.2	253	8.1	258	8.0	60	5.90*	5	0.43
		Unemployed	174	5.2	242	12.6	249	5.4	68	4.96*	7	0.49
Health												
	Gender											
		Female	160	4.5	213	7.3	220	4.9	53	6.22*	6	0.72
		Male	155	6.2	207	7.6	209	5.2	52	5.33*	2	0.24
	Race/ethnicity											
		White	176	6.7	212	7.0	222	4.1	36	3.69*	10	1.27
		Black	161	8.6	209	12.1	183	6.4	48	3.20*	-26	-1.89
		Hispanic	123	6.6	204	8.4	194	9.4	81	7.61*	-10	-0.81
	Age											
		16–39 years	170	8.4	213	13.8	232	8.9	43	2.65*	19	1.18
		40+ years	154	4.7	210	5.4	211	4.6	56	7.85*	1	0.09
	Employment											
		Employed	167	6.2	216	5.4	220	6.4	49	5.98*	4	0.51
		Unemployed	153	5.5	204	9.9	212	5.0	51	4.52*	8	0.74

*$p < .05$; SE=Standard Error.

Table 3

Average literacy scores of adults with a hearing disability, by educational attainment and various demographic characteristics: 2003 National Assessment of Adult Literacy

			Less than HS		GED		HS		GED vs. Less than HS		GED vs. HS	
Literacy			Mean	SE	Mean	SE	Mean	SE	Diff	*t*	Diff	*t*
Prose												
	Gender											
		Female	200	5.5	262	7.3	256	4.3	62	6.81*	-6	-0.72
		Male	201	5.2	252	9.5	252	5.4	51	4.69*	0	0.01
	Race/ethnicity											
		White	210	5.0	265	6.4	257	4.4	56	6.86*	-8	-1.01
		Black	185	7.4	221	13.2	220	6.0	36	2.39*	-1	-0.06
		Hispanic	160	10.6	222	19.6	234	15.7	62	2.79*	12	0.50
	Age											
		16–39 years	223	6.3	291	22.0	252	8.2	68	2.99*	-39	-1.67
		40+ years	195	4.2	247	5.5	254	4.0	52	7.48*	7	1.10
	Employment											
		Employed	209	8.1	272	11.0	262	5.6	63	4.64*	-10	-0.83
		Unemployed	198	3.9	237	7.8	246	5.6	40	4.52*	9	0.89
Document												
	Gender											
		Female	200	7.0	244	12.7	245	6.3	44	3.02*	1	0.09
		Male	197	6.8	255	12.9	248	5.7	59	4.02*	-7	-0.49
	Race/ethnicity											
		White	208	6.3	258	12.5	250	4.6	51	3.62*	-8	-0.61
		Black	176	7.1	225	12.1	220	6.3	49	3.50*	-4	-0.32
		Hispanic	169	11.0	211	20.2	222	13.4	41	1.80	12	0.48
	Age											
		16–39 years	205	8.4	241	13.5	263	9.6	36	2.26*	22	1.35
		40+ years	170	4.5	238	5.2	239	4.7	68	9.81*	1	0.17
	Employment											
		Employed	214	11.6	280	9.8	268	6.4	66	4.33*	-13	-1.07
		Unemployed	193	6.1	215	10.4	231	4.8	22	1.84	16	1.37
Quantitative												
	Gender											
		Female	197	7.2	251	9.2	261	5.5	55	4.71*	10	0.90
		Male	210	7.4	255	9.4	273	4.4	46	3.83*	18	1.72
	Race/ethnicity											
		White	217	6.9	263	7.7	275	4.2	46	4.43*	12	1.33
		Black	166	9.6	238	10.6	209	10.3	72	5.05*	-30	-2.00*
		Hispanic	173	11.0	200	23.3	226	9.5	27	1.04	26	1.03
	Age											
		16–39 years	232	8.6	292	15.5	267	10.5	60	3.38*	-25	-1.32
		40+ years	197	6.2	241	6.6	268	4.0	45	4.92*	27	3.49*
	Employment											
		Employed	229	10.8	270	8.7	278	5.9	41	2.95*	9	0.81
		Unemployed	197	6.9	228	13.9	260	5.9	32	2.05*	32	2.10*
Health												
	Gender											
		Female	176	7.4	218	8.6	227	7.9	42	3.66*	9	0.78
		Male	178	6.1	228	8.7	221	6.1	50	4.68*	-6	-0.57
	Race/ethnicity											
		White	186	6.3	236	8.6	227	5.2	50	4.64*	-9	-0.85
		Black	167	7.8	189	12.0	194	8.0	22	1.57	4	0.31
		Hispanic	139	10.3	183	17.7	207	9.5	44	2.12*	24	1.18
	Age											
		16–39 years	199	7.9	266	27.1	227	8.6	67	2.37*	-39	-1.38
		40+ years	171	5.0	212	4.5	224	5.1	41	6.04*	12	1.71
	Employment											
		Employed	190	9.4	242	11.1	239	6.9	52	3.55*	-3	-0.21
		Unemployed	173	5.2	202	7.4	212	7.0	30	3.27*	9	0.91

*$p < .05$; SE=Standard Error.

Table 4

Average literacy scores of adults with learning disability, by educational attainment and various demographic characteristics: 2003 National Assessment of Adult Literacy

			Less than HS		GED		HS		GED vs. Less than HS		GED vs. HS	
Literacy			Mean	SE	Mean	SE	Mean	SE	Diff	*t*	Diff	*t*
Prose												
	Gender											
		Female	201	6.8	249	23.5	254	6.5	48	1.98*	5	0.19
		Male	200	7.6	250	6.6	227	6.2	50	4.93*	-23	-2.51*
	Race/ethnicity											
		White	213	7.4	259	9.8	242	5.7	46	3.77*	-17	-1.51
		Black	170	8.5	217	7.5	213	11.9	47	4.17*	-4	-0.30
		Hispanic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Age											
		16–39 years	219	6.1	258	7.0	241	5.8	39	4.24*	-17	-1.90
		40+ years	174	8.2	225	13.7	232	9.1	51	3.18*	7	0.43
	Employment											
		Employed	222	8.6	264	9.6	238	6.5	42	3.28*	-26	-2.20*
		Unemployed	183	6.0	224	7.7	239	7.5	41	4.18*	15	1.43
Document												
	Gender											
		Female	191	9.7	234	9.5	257	8.6	43	3.17*	22	1.74
		Male	200	8.4	255	10.6	223	6.4	55	4.04*	-32	-2.61*
	Race/ethnicity											
		White	210	7.0	266	11.1	241	6.2	56	4.26*	-26	-2.03*
		Black	160	12.1	213	9.1	195	14.7	52	3.45*	-18	-1.02
		Hispanic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Age											
		16–39 years	214	7.6	257	10.4	235	7.1	43	3.33*	-22	-1.75
		40+ years	173	7.1	238	19.0	238	10.6	65	3.22*	-1	-0.03
	Employment											
		Employed	212	10.1	261	14.0	237	8.0	50	2.86*	-24	-1.50
		Unemployed	183	6.9	235	13.0	236	9.8	52	3.51*	2	0.10
Quantitative												
	Gender											
		Female	182	9.3	238	22.4	251	8.0	56	2.30*	13	0.55
		Male	198	8.7	255	9.2	243	6.7	57	4.51*	-12	-1.02
	Race/ethnicity											
		White	209	7.8	264	11.1	251	5.9	56	4.11*	-13	-1.04
		Black	151	13.6	215	7.4	194	13.7	64	4.16*	-21	-1.35
		Hispanic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Age											
		16–39 years	206	7.7	262	12.2	248	7.2	56	3.89*	-14	-0.97
		40+ years	172	10.2	232	12.1	243	7.9	60	3.77*	12	0.80
	Employment											
		Employed	214	10.2	268	12.2	238	5.7	55	3.43*	-30	-2.24*
		Unemployed	175	7.2	225	14.8	257	10.9	50	3.06*	32	1.76
Health												
	Gender											
		Female	160	4.5	213	7.3	220	4.9	53	6.22*	6	0.72
		Male	155	6.2	207	7.6	209	5.2	52	5.33*	2	0.24
	Race/ethnicity											
		White	181	5.6	242	14.2	212	6.8	61	4.00*	-30	-1.89
		Black	151	8.4	180	8.8	189	8.8	29	2.41*	9	0.70
		Hispanic	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	Age											
		16–39 years	188	4.9	235	12.8	218	6.8	47	3.42*	-17	-1.19
		40+ years	149	7.7	211	19.8	190	6.2	62	2.91*	-21	-1.01
	Employment											
		Employed	187	5.5	242	16.4	211	7.3	55	3.15*	-31	-1.72
		Unemployed	161	6.3	207	161	208	8.6	47	2.72*	1	0.05

*$p < .05$; SE=Standard Error.; NA = not available due to inadequate sample size for estimation.

Table 5

Average literacy scores of adults with other disability, by educational attainment and various demographic characteristics: 2003 National Assessment of Adult Literacy

			Less than HS		GED		HS		GED vs. Less than HS		GED vs. HS	
Literacy			Mean	SE	Mean	SE	Mean	SE	Diff	*t*	Diff	*t*
Prose												
	Gender											
		Female	202	4.2	261	7.7	253	3.5	58	6.69*	-8	-0.91
		Male	191	5.3	253	5.2	243	4.8	62	8.36*	-10	-1.47
	Race/ethnicity											
		White	211	4.3	263	4.5	251	3.1	52	8.37*	-12	-2.20*
		Black	190	4.9	239	6.1	224	7.0	48	6.17*	-15	-1.57
		Hispanic	189	3.2	232	8.9	233	16.3	43	4.57*	1	0.08
	Age											
		16–39 years	225	6.9	273	8.2	261	6.7	48	4.51*	-12	-1.11
		40+ years	190	3.6	248	5.0	244	3.3	48	4.51*	-4	-0.70
	Employment											
		Employed	221	11.9	264	10.5	260	7.0	43	2.72*	-4	-0.33
		Unemployed	193	3.4	257	5.9	243	3.1	64	9.44*	-13	-2.00*
Document												
	Gender											
		Female	196	5.3	244	4.6	246	4.1	48	6.72*	2	0.39
		Male	187	7.0	249	7.5	236	4.7	62	6.05*	-12	-1.41
	Race/ethnicity											
		White	206	6.7	255	6.2	246	3.2	49	5.35*	-9	-1.29
		Black	178	5.7	229	6.7	207	7.4	51	5.74*	-21	-2.13*
		Hispanic	150	9.1	221	9.7	232	17.3	71	5.38*	11	0.57
	Age											
		16–39 years	222	10.1	278	13.7	261	8.2	57	3.35*	-17	-1.07
		40+ years	184	4.4	234	5.3	235	4.0	50	7.25*	1	0.19
	Employment											
		Employed	213	13.7	273	12.0	266	8.2	60	3.28*	-7	-0.47
		Unemployed	187	5.0	239	5.2	233	3.4	52	7.17*	-6	-0.96
Quantitative												
	Gender											
		Female	194	5.3	264	7.3	248	4.3	70	7.75*	-16	-1.92
		Male	196	7.4	261	6.7	263	5.4	66	6.59*	1	0.14
	Race/ethnicity											
		White	214	6.2	272	5.5	262	4.3	58	7.01*	-10	-1.39
		Black	169	7.2	236	10.3	210	6.6	68	5.36*	-26	-2.12*
		Hispanic	150	10.8	225	15.6	240	10.3	75	3.97*	15	0.79
	Age											
		16–39 years	218	11.1	270	10.3	262	4.7	52	3.44*	-8	-0.72
		40+ years	189	4.6	258	6.3	252	5.4	70	8.97*	-6	-0.75
	Employment											
		Employed	229	14.1	286	9.4	274	6.2	56	3.31*	-12	-1.05
		Unemployed	188	4.9	256	7.6	248	4.3	68	7.56*	-8	-0.93
Health												
	Gender											
		Female	171	5.1	229	9.8	222	4.4	58	5.23*	-8	-0.71
		Male	165	5.4	214	5.8	210	5.5	50	6.25*	-4	-0.54
	Race/ethnicity											
		White	180	5.5	227	7.4	221	3.4	47	5.14*	-6	-0.76
		Black	162	6.8	205	10.9	185	7.7	43	3.39*	-20	-1.53
		Hispanic	130	8.3	202	12.3	201	12.0	72	4.86*	0	-0.02
	Age											
		16–39 years	199	7.7	246	16.0	231	7.9	47	2.64*	-15	-0.83
		40+ years	160	4.2	210	4.9	211	4.2	50	7.73*	1	0.11
	Employment											
		Employed	182	11.6	222	6.9	229	7.7	40	2.98*	7	0.72
		Unemployed	165	4.4	222	8.2	212	3.4	57	6.08*	-10	-1.08

*$p < .05$; SE=Standard Error.

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