

A Brief Statistical Analysis of
Academic Achievement Test Data from
Home Educated Students Operating Under the
Virginia Religious Exemption Statute

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Summary

This is a brief analysis of the standardized achievement test performance of 213 home educated students operating under the State of Virginia's "religious exemption statute." Table 1 presents the most essential information about these students and their academic achievement. These students scored, on average, at or above the 83rd percentile in all areas tested. (The national average is the 50th percentile.) They were at the 90th percentile in reading; 87th percentile in math; 83rd percentile in language; 89th percentile in science; 87th percentile in social studies; 89th percentile on the basic battery composite; 89th percentile on the complete battery composite.

The Appendix provides more detailed information. For example, 78% of the students were in grades K through 6, and 41% were tested using the Stanford Achievement Tests. The final part of the Appendix provides students' average scores (in z-values) by subject and grade level. A preliminary statistical analysis revealed no significant differences in basic battery scores by grade level.

Based on this sample of students, Virginia's home educated students operating under the State of Virginia's religious exemption statute are doing quite well in terms of academic achievement. In fact, on average, they score 33 to 40 percentile points higher than the national average of students tested.

Table 1. Summary of Grade Level, Age, and Test Scores of Students

Variable		Mean	Std Dev	Minimum	Maximum	Valid N	Label	
GRADE		4.31	2.96	0	12	181	Grade of Student	
AGE		10.05	2.70	5	17	152	Age of Student	
	%ile Mean	(z-values given below)						
TOTRDG	90	1.28	.74	-.95	2.33	200	Total Reading	
TOTMATH	87	1.14	.78	-1.1	2.33	203	Total Math	
TOTLANG	83	.97	.75	-.74	2.33	177	Total Language	
SCIENCE	89	1.22	.74	-1.2	2.33	102	Science	
SOCSTUD	87	1.14	.76	-.50	2.33	78	Social Studies	
BASBATT	89	1.22	.73	-.58	2.33	156	Basic Battery	
COMBATT	89	1.24	.70	-.44	2.33	129	Complete Battery	

Appendix

GRADE Grade of Student

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Kindergarten	0	16	7.5	8.8	8.8
	1	21	9.9	11.6	20.4
	2	17	8.0	9.4	29.8
	3	25	11.7	13.8	43.6
	4	23	10.8	12.7	56.4
	5	21	9.9	11.6	68.0
	6	18	8.5	9.9	77.9
	7	13	6.1	7.2	85.1
	8	9	4.2	5.0	90.1
	9	5	2.3	2.8	92.8
	10	8	3.8	4.4	97.2
	11	2	.9	1.1	98.3
	12	3	1.4	1.7	100.0
	-9	32	15.0	Missing	
		-----	-----	-----	
	Total	213	100.0	100.0	
Valid cases	181				
Missing cases		32			

AGE ' Age of Student

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	5	3	1.4	2.0	2.0
	6	10	4.7	6.6	8.6
	7	17	8.0	11.2	19.7
	8	25	11.7	16.4	36.2
	9	13	6.1	8.6	44.7
	10	17	8.0	11.2	55.9
	11	18	8.5	11.8	67.8
	12	19	8.9	12.5	80.3
	13	11	5.2	7.2	87.5
	14	11	5.2	7.2	94.7
	15	6	2.8	3.9	98.7
	16	1	.5	.7	99.3
	17	1	.5	.7	100.0
	-9	61	28.6	Missing	
	Total	213	100.0	100.0	

Valid cases 152 Missing cases 61

SEX Gender

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
Male	1	97	45.5	52.7	52.7
Female	2	87	40.8	47.3	100.0
	-9	29	13.6	Missing	
	Total	213	100.0	100.0	

Valid cases 184 Missing cases 29

TESTNAM Name of Test

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
SAT (Stanford Achiev	1	87	40.8	40.8	40.8
ITBS (Iowa Test of B	2	64	30.0	30.0	70.9
TAP (Test of Achieve	3	6	2.8	2.8	73.7
CAT (California Achi	4	17	8.0	8.0	81.7
WJ-R (Woodcock Johns	5	8	3.8	3.8	85.4
CTBS	6	26	12.2	12.2	97.7
ACT	7	1	.5	.5	98.1
MAT (Metropolitan Ac	9	3	1.4	1.4	99.5
CTP III (Comprehensi	10	1	.5	.5	100.0
		-----	-----	-----	
	Total	213	100.0	100.0	

Valid cases 213 Missing cases 0

YRTEST Date of Test

Value Label	Value	Frequency	Percent	Valid Percent	Cum Percent
	1	1	.5	.5	.5
1991	91	4	1.9	2.0	2.5
1992	92	8	3.8	4.1	6.6
1993	93	184	86.4	93.4	100.0
	-9	16	7.5	Missing	
		-----	-----	-----	
	Total	213	100.0	100.0	

Valid cases 197 Missing cases 16

Grade of Student	Total Reading	Total Math	Total Language	Science	Social Studies	Basic Battery	Complete Battery
-9							
Mean	1.29	1.24	1.25	1.23	1.08	1.16	1.05
N	32	32	31	17	17	8	3
StdDev	.55	.57	.66	.77	.67	.45	.47
Kindergarten							
Mean	1.73	1.22	.66	.76	.	1.54	1.44
N	12	15	5	7	0	10	9
StdDev	.67	.70	.94	1.25	.	.70	.63
1							
Mean	1.41	1.11	.75	1.01	1.23	1.49	1.31
N	21	21	10	8	1	18	10
StdDev	.79	.77	.71	.49	.	.79	.77
2							
Mean	1.26	1.59	.76	1.60	.20	1.22	1.54
N	16	16	12	11	1	14	11
StdDev	.97	.91	.77	.70	.	.82	.83
3							
Mean	1.07	1.08	.70	.99	1.11	.92	.94
N	24	24	24	11	11	23	20
StdDev	.79	.88	.75	.63	1.02	.79	.71
4							
Mean	1.16	1.02	.74	1.46	1.42	1.06	1.26
N	20	20	20	6	7	16	18
StdDev	.81	.84	.75	.43	.96	.86	.72
5							
Mean	1.02	.82	.80	.94	.75	1.05	.95
N	21	21	21	10	10	19	19
StdDev	.65	.93	.74	.72	.59	.75	.68

Grade of Student	Total Reading	Total Math	Total Language	Science	Social Studies	Basic Battery	Complete Battery
6							
Mean	1.32	1.18	1.07	1.42	1.24	1.26	1.20
N	17	17	17	10	10	14	14
StdDev	.80	.75	.68	.85	.82	.65	.64
7							
Mean	1.42	1.27	1.19	1.29	1.26	1.48	1.45
N	13	13	13	8	8	12	9
StdDev	.57	.68	.83	.66	.69	.55	.52
8							
Mean	1.36	1.24	1.26	1.23	1.09	1.27	1.31
N	9	9	9	5	5	8	7
StdDev	.91	.90	.85	.85	.83	.71	.86
9							
Mean	.94	.47	.94	.98	1.06	1.01	1.18
N	5	5	5	3	3	5	3
StdDev	.29	.47	.59	.71	.25	.39	.09
10							
Mean	1.67	1.28	1.48	1.41	1.43	1.65	1.93
N	7	7	7	4	4	7	4
StdDev	.61	.44	.53	.28	.44	.51	.28
11							
Mean	1.27	.76	.86	2.33	2.33	1.14	1.88
N	2	2	2	1	1	2	1
StdDev	.20	.02	.31	.	.	.13	.
12							
Mean	2.33	.74	2.33	1.75	.	.	2.05
N	1	1	1	1	0	0	1
StdDev

<u>Grade of Student</u>	<u>Total Reading</u>	<u>Total Math</u>	<u>Total Language</u>	<u>Science</u>	<u>Social Studies</u>	<u>Basic Battery</u>	<u>Complete Battery</u>
Grand Total							
Mean	1.28	1.14	.97	1.22	1.14	1.22	1.24
N	200	203	177	102	78	156	129
StdDev	.74	.78	.75	.74	.76	.73	.70

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