

*SLID data*

Obs	id	year	sex	education	vocabulary
1	20040001	2004	Female	9	3
2	20040002	2004	Female	14	6
3	20040003	2004	Male	14	9
4	20040005	2004	Female	17	8
5	20040008	2004	Male	14	1
6	20040010	2004	Male	14	7
7	20040012	2004	Female	12	6
8	20040013	2004	Male	10	6
9	20040016	2004	Male	11	5
10	20040017	2004	Female	9	1
11	20040019	2004	Female	16	4
12	20040020	2004	Male	11	6
13	20040022	2004	Female	14	9
14	20040023	2004	Male	12	0
15	20040026	2004	Female	16	6
16	20040027	2004	Female	13	9
17	20040030	2004	Male	16	10
18	20040032	2004	Male	12	3
19	20040035	2004	Female	17	10
20	20040036	2004	Female	16	8
21	20040038	2004	Male	19	9
22	20040046	2004	Male	16	9
23	20040048	2004	Male	18	4
24	20040049	2004	Female	13	5
25	20040053	2004	Female	12	5
26	20040054	2004	Male	12	0
27	20040057	2004	Male	16	10
28	20040059	2004	Female	16	10
29	20040060	2004	Male	16	9
30	20040061	2004	Male	16	7
31	20040062	2004	Male	16	6
32	20040063	2004	Female	20	10
33	20040065	2004	Male	20	8
34	20040066	2004	Female	18	7

*SLID data*

<b>Obs</b>	<b>id</b>	<b>year</b>	<b>sex</b>	<b>education</b>	<b>vocabulary</b>
35	20040069	2004	Female	18	8
36	20040070	2004	Female	18	10
37	20040071	2004	Female	16	8
38	20040072	2004	Female	17	7
39	20040074	2004	Female	15	0
40	20040075	2004	Female	16	10
41	20040079	2004	Female	10	1
42	20040080	2004	Female	18	9
43	20040083	2004	Female	17	6
44	20040084	2004	Male	16	7
45	20040087	2004	Male	16	9

*The FREQ Procedure*

year	Frequency	Percent	Cumulative Frequency	Cumulative Percent
1974	1446	6.68	1446	6.68
1976	1434	6.63	2880	13.31
1978	1484	6.86	4364	20.17
1982	1723	7.96	6087	28.13
1984	1402	6.48	7489	34.61
1987	1679	7.76	9168	42.37
1988	920	4.25	10088	46.62
1989	968	4.47	11056	51.10
1990	852	3.94	11908	55.03
1991	961	4.44	12869	59.47
1993	1013	4.68	13882	64.16
1994	1840	8.50	15722	72.66
1996	1866	8.62	17588	81.28
1998	1301	6.01	18889	87.30
2000	1311	6.06	20200	93.35
2004	1438	6.65	21638	100.00

sex	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Female	12312	56.90	12312	56.90
Male	9326	43.10	21638	100.00

*The FREQ Procedure*

<b>education</b>	<b>Frequency</b>	<b>Percent</b>	<b>Cumulative Frequency</b>	<b>Cumulative Percent</b>
<b>0</b>	31	0.14	31	0.14
<b>1</b>	9	0.04	40	0.18
<b>2</b>	28	0.13	68	0.31
<b>3</b>	64	0.30	132	0.61
<b>4</b>	91	0.42	223	1.03
<b>5</b>	113	0.52	336	1.55
<b>6</b>	229	1.06	565	2.61
<b>7</b>	317	1.47	882	4.08
<b>8</b>	1022	4.72	1904	8.80
<b>9</b>	715	3.30	2619	12.10
<b>10</b>	1072	4.95	3691	17.06
<b>11</b>	1269	5.86	4960	22.92
<b>12</b>	6908	31.93	11868	54.85
<b>13</b>	1823	8.42	13691	63.27
<b>14</b>	2305	10.65	15996	73.93
<b>15</b>	951	4.40	16947	78.32
<b>16</b>	2633	12.17	19580	90.49
<b>17</b>	647	2.99	20227	93.48
<b>18</b>	701	3.24	20928	96.72
<b>19</b>	284	1.31	21212	98.03
<b>20</b>	426	1.97	21638	100.00

**The REG Procedure**  
**Model: MODEL1**  
**Dependent Variable: vocabulary**

Number of Observations Read	21638
Number of Observations Used	21638

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	25340	25340	7204.63	<.0001
Error	21636	76097	3.51715		
Corrected Total	21637	101437			

Root MSE	1.87541	R-Square	0.2498
Dependent Mean	5.99616	Adj R-Sq	0.2498
Coeff Var	31.27675		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr >  t
Intercept	1	1.44239	0.05514	26.16	<.0001
education	1	0.35590	0.00419	84.88	<.0001

***The GLM Procedure***

Class Level Information		
Class	Levels	Values
<b>education</b>	21	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

<b>Number of Observations Read</b>	21638
<b>Number of Observations Used</b>	21638

**The GLM Procedure****Dependent Variable: vocabulary**

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
<b>Model</b>	20	26099.4540	1304.9727	374.44	<.0001
<b>Error</b>	21617	75337.2276	3.4851		
<b>Corrected Total</b>	21637	101436.6816			

R-Square	Coeff Var	Root MSE	vocabulary Mean
0.257298	31.13390	1.866840	5.996164

Source	DF	Type I SS	Mean Square	F Value	Pr > F
<b>education</b>	20	26099.45400	1304.97270	374.44	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
<b>education</b>	20	26099.45400	1304.97270	374.44	<.0001

*The GLM Procedure*

Class Level Information		
Class	Levels	Values
<b>education</b>	21	0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20

<b>Number of Observations Read</b>	21638
<b>Number of Observations Used</b>	21638



**The GLM Procedure****Dependent Variable: vocabulary**

Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
<b>Model</b>	20	26099.4540	1304.9727	374.44	<.0001
<b>Error</b>	21617	75337.2276	3.4851		
<b>Corrected Total</b>	21637	101436.6816			

R-Square	Coeff Var	Root MSE	vocabulary Mean
0.257298	31.13390	1.866840	5.996164

Source	DF	Type I SS	Mean Square	F Value	Pr > F
<b>education</b>	20	26099.45400	1304.97270	374.44	<.0001

Source	DF	Type III SS	Mean Square	F Value	Pr > F
<b>education</b>	20	26099.45400	1304.97270	374.44	<.0001

***The GLM Procedure***

<b>Levene's Test for Homogeneity of vocabulary Variance ANOVA of Absolute Deviations from Group Means</b>					
<b>Source</b>	<b>DF</b>	<b>Sum of Squares</b>	<b>Mean Square</b>	<b>F Value</b>	<b>Pr &gt; F</b>
<b>education</b>	20	113.0	5.6493	4.27	<.0001
<b>Error</b>	21617	28579.2	1.3221		

**The GLM Procedure**

Level of education	N	vocabulary	
		Mean	Std Dev
0	31	3.38709677	3.00751746
1	9	2.33333333	1.58113883
2	28	3.75000000	2.18792985
3	64	3.00000000	2.00000000
4	91	2.85714286	1.82921616
5	113	3.21238938	1.66610821
6	229	3.65065502	1.76224090
7	317	4.06940063	2.00669227
8	1022	4.50684932	1.96677895
9	715	4.40279720	1.93956101
10	1072	4.84048507	1.98822936
11	1269	4.89046493	1.91329703
12	6908	5.73422119	1.85690616
13	1823	6.11025782	1.81692829
14	2305	6.38785249	1.81970072
15	951	6.67297581	1.87034910
16	2633	7.32852260	1.84514766
17	647	7.55486862	1.93701206
18	701	7.92439372	1.80673062
19	284	8.19014085	1.68943129
20	426	8.30516432	1.74917032