

Educational Aspirations and Expectation

This memo discusses the educational aspirations and educational expectations measures. Educational aspirations and educational expectations are measures commonly used to capture educational ambitions—specifically, they indicate the level of formal schooling that one would like to complete. Indicators of educational ambitions, such as educational aspirations and educational expectations, are important sociological variables as they are positively associated with eventual educational attainment (e.g. Sewell et al, 1969, 1970).

This memo reviews the aspirations and expectations questions in the UWBS survey, multiple ways to operationalize the measures, and the difference between educational aspirations and educational expectations. Also the fluctuation in levels of missing data across survey cohorts is discussed.

Original Survey Items

Educational Aspirations:

1) How far would you LIKE to go in school?

(CIRCLE ONLY ONE)

- Less than High School Graduation1
- High School Graduation Only2
- Less than 2 Years of College, Vocational, or Business School3
- Two or More Years of College Including a 2-Year Degree4
- Finish College (4 or 5 Year Degree)5
- Master's Degree or Equivalent6
- Ph.D., M.D., or other Professional Degree7

Educational Expectations:

2) Realistically speaking, how far do you THINK you will get in school?

(CIRCLE ONLY ONE)

- Less than High School Graduation1
- High School Graduation Only2
- Less than 2 Years of College, Vocational, or Business School3
- Two or More Years of College Including a 2-Year Degree4
- Finish College (4 or 5 Year Degree)5
- Master's Degree or Equivalent6
- Ph.D., M.D., or other Professional Degree7

Operationalization

There are multiple ways to operationalize these measures however two of the commonly used approaches are to code them as continuous or binary variables. The general logic behind recoding these variables into continuous measures is to assign to each response category (e.g. Less than High School Graduation, High School Graduation Only) the average number of years that it would take to reach that level of education. For example 'high school graduation only' would be coded as 12 years while 'finish college' would be coded as 16 years. For exact values for all of the educational categories consult syntax used to create the educational aspirations and expectations measures which are included below.

The logic behind the binary variable is to differentiate between students that aspire/expect to complete a college degree and those that do not. The decision to differentiate between student with ambitions to complete a college degree or higher and those that do not is based upon the fact that the receipt of college degree is increasingly necessary for entry into the middle class (Crissey 2009; Day and Newburger, 2002). Again, the SPSS syntax code that is used to create the actual binary variables is below.

One benefit of utilizing the binary measure is that it easier to interpret, conceptually, as it makes the crucial distinction between having and not having college ambitions. The continuous measure, on the other hand, indicates differences in years of aspired/expected schooling which is less intuitive in that levels of completed schooling are rewarded in the labor market—not fractions of years.

For example, below is an OLS regression of demographic attributes—gender, race/ethnicity, and generational status, on educational aspirations as a continuous measure and a logistic regression on educational aspirations as a binary measure. In the OLS regression we see that females, on average, aspire to an additional .50 years of schooling, while the logistic regression, which displays odds-ratios, notes that females are 28% more likely than their male counterparts, net of race/ethnicity and generational status, to aspire to a college degree of greater. As you can see, both measures equally indicate that differences exist across gender, racial/ethnic and generational status groups and the independent variables fit the two measures equally well. Thus, the choice as to which measure to use is a matter of preference and ease of interpretation.

Source	SS	df	MS	Number of obs =	8858
Model	1831.48866	14	130.820619	F(14, 8843) =	19.55
Residual	59160.7867	8843	6.69012628	Prob > F =	0.0000
				R-squared =	0.0300
				Adj R-squared =	0.0285
Total	60992.2754	8857	6.88633571	Root MSE =	2.5865

aspedu	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
female	.5008173	.0553311	9.05	0.000	.3923555 .6092792
ethafam	.134518	.0824269	1.63	0.103	-.0270578 .2960939
ethnatv	-.5992413	.2287984	-2.62	0.009	-1.047739 -.1507433
ethasian	.0677315	.1949309	0.35	0.728	-.3143784 .4498414
ethcamb	-.6232616	.1825181	-3.41	0.001	-.9810395 -.2654838
ethviet	.6112032	.1774367	3.44	0.001	.263386 .9590205
ethfili	.3776665	.1795445	2.10	0.035	.0257177 .7296154
ethkorea	1.333802	.1581048	8.44	0.000	1.02388 1.643724
ethjpchn	.7862583	.2187651	3.59	0.000	.3574279 1.215089
ethnhopi	-.5170798	.1985482	-2.60	0.009	-.9062805 -.1278792
ethmexic	-.545705	.1580807	-3.45	0.001	-.8555798 -.2358302
ethohisp	-.2158969	.17467	-1.24	0.216	-.5582905 .1264968
gen1st	-.0903599	.0973583	-0.93	0.353	-.2812047 .1004849
gen2nd	.3371478	.0862529	3.91	0.000	.168072 .5062236
_cons	16.47965	.0476874	345.58	0.000	16.38617 16.57313

Logistic regression	Number of obs =	8858
	LR chi2(14) =	191.05
	Prob > chi2 =	0.0000
Log likelihood = -4832.7726	Pseudo R2 =	0.0194

aspcoll	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
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female	1.275918	.0638784	4.87	0.000	1.156665	1.407466
ethafam	.9378654	.0689304	-0.87	0.383	.8120441	1.083182
ethnatv	.6440131	.1219211	-2.32	0.020	.4443751	.9333394
ethasian	.8971462	.1547916	-0.63	0.529	.6397331	1.258136
ethcamb	.6589417	.1013705	-2.71	0.007	.4874158	.8908291
ethviet	1.592522	.2751408	2.69	0.007	1.135071	2.234334
ethfili	1.317456	.2296013	1.58	0.114	.9362503	1.853875
ethkorea	4.380387	.9745437	6.64	0.000	2.832293	6.77465
ethjpchn	2.40211	.6322961	3.33	0.001	1.433954	4.023933
ethnhopi	.6724837	.1125571	-2.37	0.018	.4844085	.9335805
ethmexic	.5746964	.0746753	-4.26	0.000	.4454864	.7413828
ethohisp	.66984	.0982319	-2.73	0.006	.5025074	.8928934
gen1st	.79254	.0681515	-2.70	0.007	.6696153	.9380306
gen2nd	1.301291	.1061645	3.23	0.001	1.108996	1.526929

If the educational ambitions measures are used as predictor variables a similar pattern emerges—the logistic regressions of educational aspirations on college attendance (below) fit the data equally well. Again, the main difference between the models is the interpretation of the predictor variables—does one want to interpret the change in the odds of an additional year of aspired schooling or difference in the odds of attending college for students with educational aspirations that include college (or higher) relative to students with educational aspirations that do not include a college degree.

Logistic regression	Number of obs	=	8182
	LR chi2(1)	=	1207.14
	Prob > chi2	=	0.0000
Log likelihood = -4247.0663	Pseudo R2	=	0.1244

coll24yr	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
aspedu	1.46047	.0180171	30.70	0.000	1.425581 1.496213

BIC: -65205.147

Logistic regression	Number of obs	=	8182
	LR chi2(1)	=	1303.83
	Prob > chi2	=	0.0000
Log likelihood = -4198.72	Pseudo R2	=	0.1344

coll24yr	Odds Ratio	Std. Err.	z	P> z	[95% Conf. Interval]
aspcoll	7.605744	.4407676	35.01	0.000	6.789112 8.520606

BIC: -65301.840

Aspiration-Expectation Distinction

Although educational aspirations and expectations are conceptually and empirically very proximate (correlation of .82) they are distinct measures that capture unique elements of students' educational ambitions. The aspirations question asks students how far they would LIKE to go in school, which implies that the student should note their educational aspirations regardless of any constraints (e.g. finances, grades, etc) that may keep them from achieving this level of attainment. The expectations question on the other hand asks students to note the level of schooling that they REALISTICALLY expect to complete, indicating that the students should factor in to their response the potential constraints that may hinder their educational attainment.

Given the nature of the questions, students, on average, report higher levels of aspirations than expectations, which is evidenced in the descriptive statistics noted below. Roughly seventy six percent of students aspire to a college degree while only 68% expect to complete one. A similar difference is apparent in the means for aspirations (16.85) and expectations (16.15).

Descriptive Stats. Variable	Obs	Mean	Std. Dev.	Min	Max
Aspirations-cont	8858	16.85183	2.624183	11.5	21
Expectation-cont	8842	16.1485	2.447261	11.5	21
Aspirations-binary	8858	.7553624	.4298964	0	1
Aspirations-binary	8842	.6795974	.4666577	0	1

Missing Values Across Cohorts

The table below illustrates the percentage of cases with missing values on the educational aspirations (Question 1) and expectations (Question 2) by cohort. The number of missing values for the 2000 and 2002 cohorts is minimal (1-2% missing), however, the percentage missing increases for the 2003 to 2005 cohorts to 9 to 12%. The reason for the increase in missing values is not reflective of an overall change in data quality post 2002 rather it is most likely due to a slight change in the pagination process. This slight change caused many students to skip the first page which displayed Questions 1 and 2. In 2004 a note was added to the survey on page 2 to remind students of the first page, which helped slightly as the percentage of students with missing values dropped from 12% to 9%.

Percentage of cases with missing values on the Aspirations (Q1) and Expectations (Q2) questions by cohort.		
Cohort	Aspirations	Expectations
2000	1%	1.2%
2002	2.5%	2.5%
2003	12.3%	12.6%
2004	9.1%	9.2%
2005	9.6%	9.7%

Citations:

Crissey, Sarah R. 2009. "Educational Attainment in the United States: 2007" *Current Population Reports*, P20; No. 560. Washington, D.C. Census Bureau.

Day, Jennifer C. and Eric C. Newburger. 2002. "The Big Payoff: Educational Attainment and Synthetic Estimates of Work-Life Earnings." *Current Population Reports* P23-210. Washington, D.C.: U.S. Census Bureau.

Sewell, William H., Archibald O. Haller, and Alejandro Portes. 1969. "The Education and Early Occupational Attainment Process". *American Sociological Review* 34:82-92.

Sewell, William H., Archibald O. Haller, and George W. Ohlendorf. 1970. "The Education and Early Occupational Attainment Process: Replication and Revision". *American Sociological Review* 35:1014-1027.

* SPSS SYNTAX .

*****ASPIRED and Expected level of education*****.

```
if s001 = 1 aspedu = 11.5.
if s001 = 2 aspedu = 12.
if s001 = 3 aspedu = 13.
if s001 = 4 aspedu = 14.
if s001 = 5 aspedu = 16.
if s001 = 6 aspedu = 18.
if s001 = 7 aspedu = 21.
if missing(apedu ) aspedu = s001 .
variable label aspedu "ASPIRED level of education attained--s001".
```

expected level of education.

```
if s002 = 1 expedu = 11.5.
if s002 = 2 expedu = 12.
if s002 = 3 expedu = 13.
if s002 = 4 expedu = 14.
if s002 = 5 expedu = 16.
if s002 = 6 expedu = 18.
if s002 = 7 expedu = 21.
if missing(expedu ) expedu = s002 .
variable label expedu "expected level of education attained--s002".
```

```
** create dichotomous variables from them .
missing values aspedu expedu (-99797, -999) .
if aspedu lt 16 aspeduD = 0.
if aspedu ge 16 aspeduD = 1.
```

```
if expedu lt 16 expcollD = 0.
if expedu ge 16 expcollD = 1.
execute .
```

```
missing values aspedu expedu ( ) .
```

```
if missing(apeduD ) aspeduD = aspedu .
variable label aspeduD 'Aspires a college degree, 1 is yes, s001'.
```

```
if missing( expcollD ) expcollD = expedu .
variable label expcollD 'expects a college degree, 1 is yes, s002'.
```

```
add value labels aspedu expedu
-99797 'No more valid answers (possibly incomplete student survey)'
-999 'Missing for some other reason (DK/Refused/Skipped Question)' .
```

```
add value labels aspeduD expcollD
-99797 'No more valid answers (possibly incomplete student survey)'
-999 'Missing for some other reason (DK/Refused/Skipped Question)'
0 'No'
1 'Yes' .
```

```
execute .
```