

ICPSR 25281

**Midlife in the United States  
(MIDUS 2): Cognitive Project,  
2004-2006**

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Weights

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## Documentation of Post-stratification Weights

### Created at MIDUS 2

This document describes how the MIDUS 2 (M2) post-stratification weights were created. Weights were only calculated for cases from Main RDD sample that completed the M2 telephone interview.

The purposes of weighting survey data are to compensate for unequal probabilities of selection, to adjust for non-response and telephone non-coverage, to ensure that results are consistent with population data and to make population estimates.

The M1 weights were created using both sample-based and population-based methods. Because no sampling was conducted for the 2<sup>nd</sup> wave follow-up study, only population-based adjustments were created for M2.

One of the most popular population-based adjustments is called a post-stratification weight. It is called a *post*-stratification weight because you can only compute it *after* you have collected all your data. The *stratification* part comes from the fact that you use various known *strata* (such as age group or sex distribution) of the population to adjust your sample data to better conform to the population's parameters.

In order to calculate a post-stratification weight, you need an auxiliary dataset to which you can compare your sample data. M2 used Current Population Survey (CPS) data derived from the Census Bureau that show the demographic characteristics of the population.

All of these demographics (and many more) are present in the Current Population Survey, which is a monthly survey conducted by the Census bureau. (See [www.census.gov/cps/](http://www.census.gov/cps/))

M2 used the October 2005 CPS as the auxiliary dataset and compared the distributions of key demographic variables in the M2 data and the CPS.

The first step in creating post-stratification weights is to decide which demographics the researcher wants to “correct” for. When comparing the M2 and CPS proportions on a variety of demographic variables, the largest differences between the two appeared within Region, Education, and Age strata. This is a somewhat subjective decision, and we decided to offer a range of weights based on these three strata and to include additional weights based on Gender and Race.

Table 1. Comparison of MIDUS 2 and the Current Population Survey (October 2005)

MIDUS 2	CPS	Unweighted M2 data
	(N=71,607)	(n=2257)
	%	%
REGION		
Northeast	21.7	17.4
Midwest	23.3	28.4
South	31	34.5
West	24	19.7
SEX		
Male	47.3	47.6
Female	52.7	52.4
RACE		
White	84.9	86.1
Black	8.6	6.7
Others	6.5	7.2
AGE		
25-34	28.3	22.7
35-44	28.7	25.4
45-54	21.2	24.1
55-64	13.1	18.7
65-74	8.7	9.1
EDUCATION		
Less than 12 years	13.4	7.3
12 years	32.7	26.8
13 – 15 years	26.1	29.8
16 years or more	27.8	36.1

Once the population and sample proportions are known, the mathematical operation that creates the weights is quite simple; divide the population proportion by the sample proportion. We created nine sets of weights; four sets are multivariate, and five are univariate. These weights can be found in the dataset titled: M2\_P1\_MAIN\_WEIGHTS\_N=2257\_1-08-07

B1PWGHT1 - Region x Age x Education  
 B1PWGHT2 - Gender x Age x Education  
 B1PWGHT3 - Race x Age x Education  
 B1PWGHT4 - Region  
 B1PWGHT5 - Gender  
 B1PWGHT6 - Age  
 B1PWGHT7 - Education  
 B1PWGHT8 - Race  
 B1PWGHT9 - Race x Age x Education x Gender

Tables 2 and 3 below show the post-stratification weights for that were created based on various strata. Notice that in both table the larger weights tend to be associated with the younger and less-educated groups. These are groups which were under-represented in MIDUS 2. Because the 4-strata weights presented in Table 3 contain 120 cells, some cell counts amounted to zero. These tended to be among the youngest and oldest minorities, groups which we know are under-represented in MIDUS. To avoid producing weights with a value of “infinity,” all zero-count cells were replaced with “1.” These cells are indicated by **bolded weights** in Table 3.

Table 2. Post-stratification weights created using Region, Education, and Age strata (B1PWGHT1).

Region	Education	Age				
		35-44	45-54	55-64	65-74	75-84
Northeast	Less than 12 years	11.08	2.17	2.28	1.70	2.10
	12 years	1.86	1.52	1.22	1.03	2.26
	13 – 15 years	1.03	1.52	0.91	0.67	0.73
	16 years or more	1.46	1.19	0.75	0.72	0.78
Midwest	Less than 12 years	1.76	1.00	0.92	1.12	1.44
	12 years	1.20	0.83	1.17	0.68	0.76
	13 – 15 years	1.04	0.97	0.73	0.55	0.44
	16 years or more	0.84	0.75	0.54	0.40	0.48
South	Less than 12 years	3.48	1.40	2.04	0.93	1.97
	12 years	1.46	1.51	0.94	0.74	0.98
	13 – 15 years	0.84	0.95	0.73	0.47	0.74
	16 years or more	0.77	0.70	0.58	0.53	0.53
West	Less than 12 years	4.86	7.97	3.97	1.27	3.21
	12 years	3.30	2.15	1.50	1.26	1.36
	13 – 15 years	1.54	1.27	0.88	0.51	0.66
	16 years or more	1.05	1.17	0.75	0.54	0.81

Table 3. Post-stratification weights created using Gender, Race, Education, and Age strata (B1PWGHT9).

Gender	Race	Education	Age				
			35-44	45-54	55-64	65-74	75-84
Male	White	Less than 12 years	4.12	1.59	2.24	1.36	1.65
		12 years	2.12	1.41	1.08	0.78	0.94
		13 – 15 years	1.18	1.12	0.75	0.74	0.70
		16 years or more	0.75	0.88	0.58	0.54	0.45
	Black	Less than 12 years	3.07	1.86	3.69	0.91	<b>2.38</b>
		12 years	11.37	2.42	1.28	1.71	0.94
		13 – 15 years	1.14	3.44	0.93	0.74	<b>0.44</b>
		16 years or more	1.20	2.35	0.81	0.33	<b>0.53</b>
	Other	Less than 12 years	1.02	1.38	2.04	0.64	0.94
		12 years	1.57	1.06	1.24	1.88	<b>0.91</b>
		13 – 15 years	0.53	0.66	1.05	1.50	0.22
		16 years or more	1.15	0.42	0.63	0.52	0.42
Female	White	Less than 12 years	3.51	2.45	1.55	1.31	2.58
		12 years	1.36	1.20	1.07	0.87	1.17
		13 – 15 years	1.10	1.17	0.80	0.41	0.58
		16 years or more	1.04	0.95	0.72	0.54	1.01
	Black	Less than 12 years	<b>4.16</b>	0.86	2.44	0.88	1.23
		12 years	0.98	1.63	3.65	0.66	2.54
		13 – 15 years	0.99	0.90	0.92	2.00	0.37
		16 years or more	1.58	0.62	0.99	0.56	0.88
	Other	Less than 12 years	<b>2.63</b>	3.29	1.57	0.49	2.19
		12 years	1.20	0.92	1.06	1.28	0.85
		13 – 15 years	0.51	0.90	1.19	0.22	<b>0.59</b>
		16 years or more	2.04	1.70	0.60	0.66	<b>0.69</b>

Table 4 below shows the results of applying both adjustments to the Main RDD sample. Notice that the weighted frequencies are comparable to the CPS proportions, especially for the three variables used in the adjustment: Region, Age, and Education.

Table 4. Comparison of MIDUS 2 Marginals and the Current Population Survey (October 2005).

<b>MIDUS 2</b>	<u>CPS</u> (N=71,607)	<u>Unweighted M2 data</u> (n=2257)	<u>Weighted M2 data (B1PWGHT1)</u> (n=2236)	<u>Weighted M2 data (B1PWGHT9)</u> (n=2228)
	%	%	%	%
<b>REGION</b>				
Northeast	21.7	17.4	21.3	17.3
Midwest	23.3	28.4	23.4	29.8
South	31	34.4	31.2	35.4
West	24	19.7	24.1	17.6
<b>SEX</b>				
Male	47.3	47.6	46.6	47.3
Female	52.7	52.4	53.4	52.7
<b>RACE</b>				
White	84.9	86.1	84.5	85.3
Black	8.6	6.7	7.4	8.3
Others	6.5	7.2	8.1	6.4
<b>AGE</b>				
35-44	28.3	22.7	27.9	28.1
45-54	28.7	25.4	28.8	28.8
55-64	21.2	24.1	21.3	21.3
65-74	13.1	18.7	13.2	13.2
75-84	8.7	9.1	8.8	8.5
<b>EDUCATION</b>				
Less than 12	13.4	7.3	12.9	13.0
12	32.7	26.8	32.9	32.9
13 – 15 years	26.1	29.8	26.2	26.1
16 years or more	27.8	36.1	28.0	27.9