Understanding MIDUS Samples

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The purpose of this document is to explain the selection, composition, and weighting of each MIDUS sample, including the baseline MIDUS 1 (Core) sample and its longitudinal follow-ups as MIDUS 2 and MIDUS 3 as well as the baseline Refresher sample. Please note that the samples referred to here are Survey project samples for each wave of data collection. Only participants who completed Survey project are eligible for other MIDUS projects, including Cognition, Daily Diary, Biomarker, and Neuroscience projects. This link (https://midus.wisc.edu/findings/Understanding_MIDUS_Data_Collection_20241024.pdf) provides detailed information on eligibility requirement, response rates, and selected sociodemographics across projects for each wave of MIDUS Core or Refresher data collection. Also note that post-stratification weight variables were constructed only for main RDD sample (Core or Refresher) of the survey project.

MIDUS 1 (Core)
The first wave of the MIDUS (M1) study collected survey data from a total of 7,108 participants. The baseline sample was comprised of individuals from four subsamples: (1) a national RDD (random digit dialing) sample (n=3,487); (2) oversamples from five metropolitan areas in the U.S. (n=757); (3) siblings of individuals from the RDD sample (n=950); and (4) a national RDD sample of twin pairs (n=1,914). All eligible participants were non-institutionalized, English-speaking adults in the coterminous United States, aged 25 to 74. Data from the above samples were collected in 1995-1996.

Sample selection/Composition
Main RDD: The main RDD sample was selected from working telephone banks. For each household contacted, a list was generated of all people between 25 and 74 years old, and a random respondent was selected.

City Oversamples: Oversampling of five metropolitan areas was achieved by varying the probability of carrying out the interview as a joint function of the age and sex of the randomly selected respondent. These oversamples were chosen to advance targeted research agendas (e.g., adult cognition, social responsibility).

Sibling: Of the RDD respondents who reported having one or more siblings, only siblings within a family that had the same biological mother and father were considered eligible.

Twin: Twin-pairs were recruited in a two-part sampling design. The first part involved screening a representative national sample of approximately 50,000 households for the presence of a twin. The respondents who reported the presence of a twin in the family were then asked whether it would be acceptable for the research team to contact the twins to solicit their participation in the survey. The respondents who gave such permission were then referred to the MIDUS recruitment process.

Sample sizes and response rates of the MIDUS 1 samples are provided in the table below.

Table 1. Sample Sizes and Response Rates for MIDUS 1

Sample	# of Phone Respondents	Phone Response Rates	# of SAQ Respondents	SAQ Response Rates
Main RDD	3,487	70%	3,034	87%
City Oversamples	757	*	658	87%
Sibling	950	64%	869	81%
Twin	1,914	60%	1,764	92%
Full sample	*7,108*	*	*6,325*	*89%*

* Response rates for the city oversamples were not provided in the original MIDUS I
   Technical Report. As such, overall response rates cannot be calculated.

A detailed field report about the MIDUS baseline sample is available at ICPSR
(https://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/2760/versions/V15/datasets/1/files/1274994/downloadDoc/doc?path=/pcms/studies/0/0/2/7/02760/V15/files/1274994).

Post-stratification weights

To create population-based adjustment, M1 used the October 1995 Current Population Survey (CPS) data as the auxiliary dataset to create the post-stratification weights for the national RDD sample. Two sets of weights were created for respondents who completed the phone interview (N=3,487) and the subsample who completed the SAQ (N= 3,034). The adjustment factors included sex, race, age, education and marital status. The table below shows the distributions of the unweighted and weighted MIDUS data in comparison to the nationally representative data in the CPS. Overall, comparing the CPS vs unweighted M1 phone sample, the data show that the M1 national sample was quite comparable to the 1995 CPS data for most demographic variables (sex, race, age) although it was slightly more educated and more unmarried. Nonetheless, there was notable variation on educational status, with most of the sample having only a high school education (40.2%) or some college (31.4%). In addition, 37.7% was unmarried compared to 32.6% in the CPS.

Table 2. Comparison of un-weighted and multivariate post-stratification weighted M1 Phone sample and M1 SAQ subsample with the Current Population Survey (October 1995)

MIDUS 1	CPS (Oct. 1995) (N=79,628)	Unweighted M1 Phone data (N=3,487)	Weighted M1 Phone data (N=3,487)	Unweighted M1 SAQ data (N=3,034)	Weighted M1 SAQ data (N=3,034)
	%	%	%	%	%
SEX					
Male	47.5	49.4	48.4	48.5	47.7
Female	52.5	50.7	51.6	51.5	52.3
RACE					
White	84.1	86.5	84.1	87.6	84.1
Others	15.9	13.5	15.9	12.4	15.9
AGE					
25-34	25.4	22.5	26.3	20.5	25.3
35-44	27.4	24.6	27.0	24.3	27.4
45-54	21.0	23.4	20.9	24.2	21.1
55-64	13.8	18.9	13.9	19.8	14.1

MIDUS 1	CPS (Oct. 1995) (N=79,628)	Unweighted M1 Phone data (N=3,487)	Weighted M1 Phone data (N=3,487)	Unweighted M1 SAQ data (N=3,034)	Weighted M1 SAQ data (N=3,034)
65-74	12.4	10.8	11.9	11.2	12.1
EDUCATION					
12 years or less	49.5	40.2	49.5	39.2	49.6
13 – 15 years	25.8	31.4	26.6	31.2	25.8
16 years or more	24.8	28.5	23.9	29.6	24.6
MARITAL					
Married	67.4	62.3	65.6	64.0	67.2
Unmarried	32.6	37.7	34.4	36.0	32.8

Detail information about MIDUS 1 post-stratification weights is available in this document - https://www.icpsr.umich.edu/icpsrweb/ICPSR/studies/2760/versions/V18/datasets/1/files/1278800/downloadDoc/doc?path=/pcms/studies/0/0/2/7/02760/V18/files/1278800

MIDUS 2 (Core)

A longitudinal follow-up of the original MIDUS study was conducted in 2004-2005. Every attempt was made to contact **all** original respondents and invite them to participate in a second wave of data collection.

In addition, MIDUS 2 recruited a new city-specific oversample of African Americans to participate in a field interview and questionnaire that paralleled with the main sample instruments. Milwaukee was chosen in hopes of recruiting many of these respondents to participate in the biological and neuroscience projects in Madison, WI. This sample is referred as MIDUS Milwaukee Sample (MKE). The goal of Milwaukee baseline survey was to complete interviews with 400 African Americans between 35 and 85 years of age. The final number of completed interviews was 592.

Sample composition/Longitudinal retention

Of the 7,108 participants in MIDUS 1, 4,963 successfully participated in phone interview at MIDUS 2. The longitudinal retention rates and response rates (adjusted for mortality) for the various MIDUS samples are provided in Table 3 below.

Table 3. Sample Sizes, Longitudinal Retention Rates, and Response Rates for MIDUS 2 core sample

Sample	# of MIDUS 1 Respondents	# of MIDUS 2 Respondents	Longitudinal Retention Rates	Response Rates (adjusted for mortality)
Main RDD	3,487	2,257	65%	71%
City Oversamples	757	489	65%	71%
Sibling	950	733	77%	83%
Twin**	1,914	1,484	78%	82%
Full Core Sample	*7,108**	*4,963*	*70%*	*75%*

   *UWSC fielded 7,105 cases at MIDUS 2 because contact information was unavailable for 3 cases.
    **Approximately 85% of the twin sample participated at MIDUS 2 with their twin pair intact.

Detailed field reports are available for both MIDUS 2 core sample

() and Milwaukee sample ().

Post-stratification weights

MIDUS 2 used the October 2005 Current Population Survey (CPS) data as the auxiliary dataset to create the post-stratification weights for the national RDD sample. Ten sets of weights were constructed, four sets are multivariate, and six are univariate. Table 4 below shows the results of the adjustments to the Main RDD sample by [B1PWGHT1] (Region x Age x Education) and by [B1PWGHT10] (Race x Age x Education x Sex). 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

MIDUS 2	CPS (Oct. 2005) (N=71,607)	Unweighted M2 data (n=2257)	Weighted M2 data (B1PWGHT1) (n=2257)	Weighted M2 data (B1PWGHT10) (n=2257)
	%	%	%	%
REGION				
Northeast	21.7	17.3	21.7	17.2
Midwest	23.3	28.4	23.3	29.8
South	31.0	34.4	31.0	35.4
West	24.0	19.8	24.0	17.6
SEX				
Male	47.3	47.6	46.6	47.2
Female	52.7	52.4	53.4	52.8
RACE				
White	84.9	86.0	84.6	85.3
Black	8.6	5.4	5.8	8.3
Others	6.5	8.6	9.6	6.5
AGE				
35-44	28.3	22.7	28.2	28.4
45-54	28.7	25.3	28.7	28.8
55-64	21.2	24.2	21.2	21.1
65-74	13.1	18.6	13.2	13.2
75-84	8.7	9.1	8.7	8.5
EDUCATION				
12 years or less	46.1	34.1	46.0	46.2
13 – 15 years	26.1	29.8	26.0	26.1
16 years or more	27.8	36.1	27.9	27.7
MARITAL				
Married	67.0	67.6	66.9	68.1
Not married	33.0	32.4	33.1	31.9

Detail information about MIDUS 2 post-stratification weights is available in this document - https://midus.wisc.edu/Projects/M2P1/M2P1_Survey/Documentation/M2_P1_DocumentationOfWeights_20201103.pdf

MIDUS Refresher 1
The MIDUS Refresher survey data collection was conducted with two separate grants from the National Institute on Aging, which were lagged in time. Thus, sample data comes from two independent samples, referred to in this document as:

1. Younger decades (MRY): Adults between the ages of 25 and 54 living in residential housing units in the USA. These cases were fielded and completed phone data collection between November, 2011 and October, 2012.
2. Older decades (MRO): Adults between the ages of 55 and 74 living in residential housing units in the USA. These cases were fielded and completed phone data collection between July, 2013 and May, 2014.

In addition, as in MIDUS 2, a city-specific oversample of African Americans from Milwaukee were recruited to participate in the Refresher project.

Sample selection/Composition
Apart from age range differences, MRY and MRO used the same sampling frame – an RDD landline telephone sampling frame and cell phone sample frame made up of all possible cellphone numbers.

The eligible respondents for the MRY survey were English-speaking adults living in residential units in the USA between the ages of 25 through 54. The eligible respondents for the MRO survey were English speaking adults living in residential units in the USA between the ages of 56 through 75. Eligibility was determined at the time of contact.

The Milwaukee oversample was stratified by age (25 to 64), gender, and income for English-speaking adults living in residential units of Milwaukee.

The MRY and MRO combined baseline Refresher sample is referred as national sample in MIDUS Refresher 1 (MR1). It recruited 3,577 new participants nationwide into the MIDUS longitudinal study. Additionally, the Milwaukee Refresher sample recruited 508 participants.

Table 5. Demographic Characteristics of the MIDUS Refresher 1 Samples

	Gender	Age		Education			
Sample	Male	Range	Mean (SD)	> than 12 years	12 years	13 to 15 years	16 + years
National sample	48%	25 – 75	51 (14.4)	7%	27%	32%	42%
Milwaukee	43%	25 – 64	43 (11.1)	18%	29%	39%	15%

Detailed field reports are available for both MIDUS Refresher 1 core sample (https://midus-study.github.io/public-documentation/MR1P1/Documentation/MR_P1_FieldReport_20220531.pdf) and Milwaukee Refresher 1 sample (https://www.icpsr.umich.edu/web/ICPSR/studies/36722/versions/V3/datasets/0/files/1254486/downloadDoc/doc?path=/pcms/studies/0/3/6/7/36722/V3/files/1254486).

Post-stratification weights

Since the MRY Sample and the MRO Sample were disjointed in time but contiguous, the two samples were pooled with the existing weights (sampling weight). Once the MRY and MRO datasets were combined, the full Refresher dataset was compared to the October 2012 Current Population Survey on a variety of demographic strata (post-stratification), and the final weight adjustments combining the sampling weight and post-stratification weight was constructed. Table 6 below shows the CPS comparison with MR1 using unweighted and the final weighted data. Overall, the data show that the Refresher national sample was comparable to the 2012 CPS sample in regional distribution, sex, race, and marital status, although the Refresher participants were more educated. Nonetheless, there was notable variation on educational status.

Table 6. Comparison of MIDUS Refresher and the Current Population Survey

MIDUS Refresher 1	CPS (October 2012) (N=81,379)	Unweighted MR1 data (N=3,577)	Weighted MR1 data (N=3,577)
	%	%	%
REGION			
Northeast	20.5	18.8	20.5
Midwest	23.0	28.9	23.0
South	31.4	33.9	31.4
West	25.1	18.3	25.1
SEX			
Male	47.9	48.1	47.9
Female	52.1	51.9	52.1
RACE			
White	82.5	81.8	82.5
Black	9.7	6.3	9.7
Others	7.8	11.8	7.8
AGE			
25-34	20.9	19.4	20.9
35-44	20.9	20.3	20.9
45-54	23.3	20.4	23.3
56-65	21.3	19.9	21.3
66-75	13.6	20.0	13.6
EDUCATION			
12 years or less	39.2	23.2	39.1
13 – 15 years	27.6	30.7	27.7
16 years or more	33.2	46.1	33.2
MARITAL			
Married	62.5	64.0	62.6
Separated	2.3	2.1	2.3
Divorced	12.9	13.4	12.9
Widowed	3.7	5.6	3.7
Never Married	18.6	15.0	18.6

Detail information about sampling and weighting the Refresher data can be found in this

document - https://midus-study.github.io/public-documentation/MR1P1/Documentation/MR_P1_SamplingAndWeighting_20160616.pdf

MIDUS 3
MIDUS 3 study included longitudinal follow-up of both MIDUS Core sample and Milwaukee sample. The second longitudinal follow-up (the third wave) of the Core national sample was conducted in 2013-2014, while the first longitudinal follow-up of the Core Milwaukee sample conducted in 2016-2017.

Sample composition/Longitudinal retention
For the Core sample, all living participants who completed MIDUS 2 phone interview were eligible for MIDUS 3 study. Of the 4,963 MIDUS 2 participants, 430 were known to be deceased, 73 had either withdrawn from the study or been deemed cognitively unable to participate, resulting in a total of 4,460 cases eligible for MIDUS 3. And 3,294 cases out the 4,460 (66% response rate) completed the MIDUS 3 phone interview.

For the Milwaukee sample, the production sample included all respondents who completed the baseline interview (MIDUS 2 Milwaukee). Except for those ascertained to be deceased, a total 518 were fielded and 389 (66% response rate) participated the study.

The MIDUS 3 longitudinal retention rates and response rates (adjusted for mortality) for the various MIDUS samples are provided in Table 7 below.

Table 7. Sample Sizes, Longitudinal Retention Rates, and Response Rates for MIDUS 3

Sample	# of MIDUS 2 Respondents	# of MIDUS 3 Respondents	Longitudinal Retention Rates	Response Rates (adjusted for mortality)
Main RDD	2,257	1,414	63%	74%
City Oversamples	489	318	65%	76%
Sibling	733	544	74%	84%
Twin	1,484	1,018	69%	78%
Full Core Sample	*4,963*	*3,294*	*66%*	*77%*
Milwaukee	592	389	66%	79%

Detailed field reports are available for both MIDUS 3 core sample (https://midus-study.github.io/public-documentation/M3P1/Documentation/M3_P1_FieldReport_20220531.pdf) and Milwaukee sample (https://www.icpsr.umich.edu/web/ICPSR/studies/37120/versions/V1/datasets/0/files/1260312/downloadDoc/doc?path=/pcms/studies/0/3/7/1/37120/V1/files/1260312)

Post-stratification weights
MIDUS 3 used the October 2013 Current Population Survey (CPS) data as the auxiliary dataset to create the post-stratification weights for the national RDD sample. Ten sets of weights were constructed, four sets are multivariate, and six are univariate, identical to the weight constructed in M2. Table 8 below shows the results of the adjustments to the Main RDD sample by [C1PWGHT1] (Region x Age x Education) and by [C1PWGHT10] (Race x Age x Education x

Sex). Overall, the unweighted MIDUS 3 sample was comparable to the 2013 CPS data in regional variation, sex, race, age, and marital status, although it was more educated. Nonetheless, there was notable variation on educational status. This table also showed that the weighted frequencies are comparable to the CPS proportions, especially for the three variables used in the adjustment: Region, Age, and Education.

Table 8. Comparison of MIDUS 3 Marginals and the Current Population Survey

MIDUS 3	CPS (October 2013)	Unweighted M3 Phone data	Weighted M3 data (C1PWGHT1)	Weighted M3 data (C1PWGHT10)
	(N=56,383)	(N=1,414)	(N=1,414)	(N=1,414)
	%	%	%	%
REGION				
Midwest	23.1	29.3	23.3	30.9
Northeast	21.4	16.8	21.0	16.5
South	31.6	33.0	31.8	34.1
West	23.8	20.9	23.9	18.5
SEX				
Male	46.9	47.3	46.5	46.5
Female	53.1	52.7	53.5	53.5
RACE				
White	84.1	87.5	86.6	85.2
Black	9.4	5.0	5.7	8.5
Others	6.6	7.5	7.7	5.4
AGE				
45-54	33.1	24.3	33.3	32.7
55-64	30.9	28.4	30.6	31.0
65-74	20.7	27.2	20.8	21.2
75-84	11.0	16.2	11.1	11.0
85-94	4.4	3.9	4.2	4.1
EDUCATION				
Less than 12	11.5	5.5	10.8	10.4
12 years	32.9	24.1	33.1	32.6
13 – 15 years	26.0	29.7	26.2	26.4
16 years or more	29.7	40.6	29.9	30.5
MARITAL				
Married	63.3	64.2	63.4	63.1
Not married	36.7	35.8	36.6	36.8

Detail information about MIDUS 3 post-stratification weights is available in this document – https://www.icpsr.umich.edu/web/ICPSR/studies/36346/versions/V7/datasets/1/files/1279608/downloadDoc/doc?path=/pcms/studies/0/3/6/3/36346/V7/files/1279608