

Understanding Data Collection Across MIDUS Projects

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MIDUS is a complex longitudinal study involving wide-ranging data collection covering diverse disciplinary domains. This document provides an overview of the process of data collection, beginning with a description of eligibility for each wave of data collection, along with information about response rates. Then follows a visual distillation of sample flow across the MIDUS projects, separately for each wave. The project-specific information also includes eligibility requirements, response rates, and selected sociodemographic information (age, gender, education, marital status, subjective health). The above information is provided for each wave of the MIDUS Core sample (MIDUS 1, 2 and 3), as well as for the baseline of the MIDUS Refresher sample.

MIDUS 1 (Core)

The baseline MIDUS 1 (M1) sample was recruited in 1995-1996 using random-digit-dialing (RDD). Eligibility included the following: the participant had to be between the ages of 25 to 74, had to be English-speaking, non-institutionalized, and living in the co-terminus U.S. The response rate for the national RDD sample¹ (N = 4,244) was 70%. Note, only one other project (daily experience study) was included at MIDUS 1 (see visual information that follows).

Also recruited as part of MIDUS 1 were siblings (N = 950) of the core sample respondents (only siblings that had the same biological mother and father were considered eligible), plus a national sample of twins (N = 1,914) to facilitate research on genetic and environmental factors in health. 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. Then, the respondents who reported the presence of a twin in the family were asked whether it would be acceptable for the research team to contact the twins to solicit their participation in the survey.

MIDUS 2 (Core)

MIDUS 2 (M2) consisted of a follow-up assessment of M1 participants recruited in 2004-2005. Response rates for the various subsamples were as follows: RDD 70%, siblings 82%, twins 82%. To augment participation of African Americans, particularly in the MIDUS biomarker and neuroscience projects, M2 included recruitment of a new probability sample of African Americans (N = 592) from Milwaukee, WI. In addition to sample expansion, M2 included new data collection projects. Following completion of the survey, members of the sample were invited to complete a cognitive project (conducted by phone), with subsamples then invited to complete the daily project, the biomarker project, and the neuroscience project. Eligibility requirements and response rates across these projects are provided, along with sociodemographic information in the visual figure that follows.

¹ The RDD sample in this document included all the cases from subsample of national RDD and city oversample in the data file and field report.

MIDUS Refresher 1

Between the completion of M2 and initiation of M3, a new national sample known as the MIDUS Refresher 1 (MR1) sample (N = 3,577) was recruited in 2011-2014. It included U.S. adults that paralleled the age and gender distribution of the M1 baseline sample, along with recruitment of a new sample of African Americans from Milwaukee, WI (N = 508). The five-project data collection design for MR1 also paralleled with the projects that defined the M2 data collection. Information on eligibility criteria, response rates, and socio-demographics is included for each project in the tables below. The flow of data collection across projects also paralleled the progression followed at M2.

MIDUS 3 (Core)

The last figure shows information for MIDUS 3 (M3), the second longitudinal follow up of the MIDUS core sample which was recruited in 2013-2014. It also included the first longitudinal follow up of the Milwaukee sample. Response rates for the various subsamples were as follows: RDD 74%, siblings 84%, twins 78%, and Milwaukee 79%. The five-project data collection design for M3 paralleled the projects that defined the M2 and MR1 data collection. Information on eligibility criteria, response rates, and socio-demographics is included for each project. The flow of data collection across projects also paralleled the progression followed at M2 and MR1.

Other data collection not included in flow charts below

Retention Early Warning (REW) Project

At M3, after the completion of the survey project, there was an effort to reinstate participants who had dropped out of the study, known as the Retention Early Warning (REW) project. Such reinstatement was intended to improve representativeness of the sample as well as reduce problems of selective attrition. This project thus attempted to convert living cases who had dropped out of the MIDUS Survey at either M2 or M3 return to the study. REW data were collected via a CAPI (in-person) interview, a Self-Administered Questionnaire (SAQ), and the Brief Test of Adult Cognition via Telephone (BTACT). The CAPI data also included a set of anthropometric measures. Of previously attrited respondents, 651 MIDUS participants returned to complete the REW study. These cases are eligible for the next wave of data collection (MIDUS 4).

Genomic Project

Using the serum samples collected in Biomarker project, MIDUS added genomic measures of the participants consenting to genetic testing (genotyping). Such work included data from DNA (Polygenic Risk Score, Methylation Score) and RNA (Gene Expression). The proportion of Biomarker participants at M2, MR1 and M3 who provided tissue samples and consented to genotyping are as follows:

• MIDUS 2:	85% (n=1064/1255)
• MIDUS Refresher 1:	96% (n=825/863)
• MIDUS 3:	97% (n=723/747)

The plan going forward is to implement the same DNA and RNA extraction procedures for MIDUS Refresher 2 and MIDUS 4 data collection.

Summary points

Key points from the flow charts that follow:

- Within each wave of MIDUS, the multidisciplinary depth of data collection requires substantial time, with each project carried out over a period of years. The biomarker project is the most time and labor-intensive, given that each participant must complete a two-day visit, including overnight stay, to a biomarker data collection site. These lengthy visits account for the uniquely rich biomarker data collected in MIDUS.
- The potential for cross-project analyses in MIDUS is deep and wide. That is, all participants in the cognitive, daily, biomarker, and neuroscience projects have completed the phone interview and SAQ of the survey project. Further, majority of survey participants (more than 70%) also completed the cognitive project. This means that investigators interested in the daily, biomarker and neuroscience data can investigate linkages to the survey and cognitive data.
- Across the Core and Refresher samples, there is extensive overlap (n = 1,355) between those who participated in both the daily and biomarker projects. Finally, all neuroscience participants completed the biomarker project as well as the survey and cognitive projects, and many (n = 294) also completed the daily project. Thus, although data collected for some MIDUS projects are available for subsamples of the national sample (due to budgetary and temporal constraints), the scope of data available for cross-project analyses is extensive.

MIDUS 1 (Core)

Eligibility, Response Rates, and Sociodemographics for Survey and Daily Projects

(RDD=424	N=7108 4 Sibling=950 Twin=1914)	
(Age (M,SD)	46.38 (13.00)
Eligibility Criteria:	25 to 39	35.0%
✓ Aged 25-74	40 to 59	45.8%
✓ English speaking	60 to 75	19.2%
✓ Non-institutionalized	Gender – Female	51.7%
adults	Education:	
✓ Living in the coterminous	High school or less	38.6%
U.S.	Some college	30.6%
	College or more	34.7%
Response Rate: 70%	Race – White	90.7%*
	Marital Status - Married	65.7%
% Completing SAQ: 89%	Subjective Health (M,SD)	2 47 (0 00)
	(1=excellent, 5=poor)	2.47 (0.99)

	DAILY PROJECT N=1476 (RDD=1009 Twin=467)	
<u>Eligibility Criteria:</u> ✓ M1 Interview + SAQ <u>Response Rate:</u> 70.6%	Age (M,SD) 25 to 39 40 to 59 60 to 75 Gender – Female Education: High school or less Some college College or more Race – White Marital Status - Married Subjective Health (M,SD)	46.10 (12.82) 36.3% 45.4% 18.3% 53.6% 36.6% 32.2% 31.2% 91.2%* 68.8% 2.40 (0.93)
	Subjective Health (M,SD) (1=excellent, 5=poor)	

*Racial background is only available for the cases who completed SAQ questionnaire (N=6325 for P1 and N=1472 for P2).

MIDUS 2 (Core)

Eligibility, Response Rates, Sociodemographics and Participant Flow from Project to Project

	Eligibi	(RDD=2746 \$	Sibling	=733 Twin=1484 M	libuoukoon			
					mwaukee=	592)		
				Age (M,SD)	5	0.02 (12.44)		
				33 to 49		37.6%		
		Participation		50 to 65		40.3%		
	¥ WIF	anicipation		66 to 85		22.1%		
	Respo	nse Rate:		Gender – Female		54.3%		
	RDD			Education:				
	 Sibli 	ng: 82%		High school or less		35.4%		
	• Twin	: 82%		Some college College or more		30.1% 34.5%		
	Milw	aukee: 71%		Race – White		80.9%		
				Marital Status - Marrie	be	66.3%		
	<u>% Com</u>	pleting SAQ: 8	0%	Subjective Health (M,	SD)			
				(1=excellent, 5=poor		2.52 (1.04)		
				V				
			COG	NITIVE PROJEC	СТ			
				N=4512				
		(RDD=2279	Sibling	g=663 Twin=1264 I	Milwaukee=	306)		
			-	Age (M,SD)	5	5.80 (12.31)		
				33 to 49		34.6%		
	Eligibi	lity Criteria:		50 to 65		41.9%		
	(66 to 85		23.5%		
		nterview		Gender – Female		55.1%		
		nse Rate:		Education:		22 59/		
	RDD: Siblin	: 83% 1g: 90%		High school or less		33.5% 30.0%		
	• Sibili			Some college College or more		36.5%		
		aukee: 52%		Race – White		85.6%		
	• WILLWOOD	aukee. 52/0		Marital Status - Marrie	be	69.2%		
				Subjective Health (M,				
				(1=excellent, 5=poo		2.46 (1.03)		
						``	·	
	1. mm mm							
_DAI	LY PROJECT					BIO	MARKER PROJECT	
	N=2022						N=1255	
(RDD=1141 Sibling=	185 Twin=516 Milwauke	ee=180)		Completed Beth		(RDD=66	6 Twin=388 Milwaukee=201)	
	ge (M,SD)	56.23 (12.20)	, c	Completed Both			Age (M,SD)	54.52 (11.7
	33 to 49	33.2%		N=1011			Age 33 to 49	37.8%
	50 to 65	42.9%					Age 50 to 65	43.7%
	66 to 85	23.9%		anna lata d Daile Finst			Age 66 to 85	18.5%
	ender - Female	57.2%	^c	Completed DailyFirst N=377 37%►	Eligibility		Gender - Female	56.8%
····· = •··· , (= • · · , · · · · · · · · ,	ducation:			N-311 31/0		win Sample	Education:	
	High school or less	31.2%			✓ M2 Inter	/iew + SAQ	High school or less	28.0%
	Some college	30.4%		Completed Bio First	_		Some college	30.0%
	College or more	38.4%		N=634 63%	Response	Rate: 41.8%	College or more	42.1%
		84.1%	_				Race - White	78.1%
	larital Status - Married ubjective Health (M,SD)	68.7%	_				Marital Status - Married	64.7%
	(1=excellent, 5=poor)	2.44 (1.02)					Subjective Health (M,SD) (1=excellent, 5=poor)	2.41 (0.99
		1			L		I	1

NEUROSCIENCE PROJECT					
N=331					
(RDD=134	Twin=88 Milwaukee=109)				
	Age (M,SD) Age 33 to 49 Age 50 to 65	52.99 (11.37) 43.1% 42.5%			
Flight little Onkering	Age 50 to 65 Age 66 to 85 Gender - Female	42.5% 14.5% 55.4%			
Eligibility Criteria: ✓ M2 Interview + SAQ ✓ Completed Bio at UW <u>Response Rate:</u> 76.3%	Education: High school or less	34.0%			
	Some college % College or more	29.5% 36.4%			
	Race - White	64.2%			
	Marital Status - Married	60.2%			
	Subjective Health (M,SD) (1=excellent, 5=poor)	2.42 (0.97)			

MIDUS Refresher 1

Eligibility, Response Rates, Sociodemographics and Participant Flow from Project to Project

			SURVEY PROJECT			
			N=4085			
		1	RDD=3577 Milwaukee=50	8)		
		(
		Eligibility Criteria:	Age (M,SD) 25 to 39	49.58 (14.23) 29.1%		
	-	✓ Aged 25-75	40 to 59	29.1% 41.4%		
		✓ English Speaking	60 to 76	29.5%		
		✓ Non-institutionalized	Gondor - Fomalo	52.5%		
		 Living in the cotermi 	Education:	52.578		
		U.S.	High school or less	26.1%		
			Some college	31.7%		
		Response Rate	College or more	42.2%		
	1	RDD: 59%	Race - White	72.5%		
		Milwaukee: 48%	Marital Status - Marrie			
	1	% Completing SAQ: 72	% Subjective Health (M, (1=excellent, 5=pool			
			COGNITIVE PROJEC N=2763 RDD=2551 Milwaukee=21 Age (M,SD) 25 to 39			
			40 to 59	40.7%		
		Eligibility Criteria:	60 to 76	36.3%		
		✓ MR1 Interview	Gender - Female	52.8%	-	
			Education:		-	
		Response Rate	High school or less	22.9%		
		RDD: 71%	Some college	30.0%		
		Milwaukee: 42%	College or more	47.0%		
			Race - White	78.0%	-	
			Marital Status - Marrie		-	
			Subjective Health (M.		-	
			(1=excellent, 5=poor			
	Towns			·		
	k **				**▲	
	DAILY PROJECT			B	IOMARKER PROJECT	
	N=781				N=863	
	(RDD=781)			(RDD=746 Milwaukee=117)	
	Age (M,SD)	47.92 (12.68)	Completed Both		Age (M,SD)	50.84 (13.4 ⁻
	25 to 39	27.8%	N=345		Age 25 to 39	22.2%
	40 to 59	51.1%			Age 40 to 59	46.2%
	40 to 35	21.1%			Age 60 to 76	31.5%
	Gender - Female	55.6%	Completed Daily First		Gender - Female	52.1%
igibility Criteria:	Education:	55.0%	N=262 76%	Eligibility Criteria:	Education:	52.1%
		20.4%				17.3%
MR1 Interview + SAQ	High school or less			✓ MR1 Interview + SAQ	High school or less Some college	
esponse Rate: 63.2%	Some college College or more	29.7%	Completed Bio First	Response Rate: 42%	College or more	30.5%
00,2 /0	-	49.9%	N=82 24%	100001130 Mate. 42 /0	-	52.2%
	Race - White	84.7%			Race - White	70.6%
	Marital Status - Married				Marital Status - Married	58.5%
	Subjective Health (M,SE (1=excellent, 5=poor)	⁰⁾ 2.44 (1.09)			Subjective Health (M,SD) (1=excellent, 5=poor)	2.45 (1.10)
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NEUR	OSCIENCE PROJECT N=138	
(RI	DD=94 Milwaukee=44)	
	Age (M,SD) Age 25 to 39 Age 40 to 59	47.15 (11.61) 26.8% 56.6%
Eligibility Criteria:	Age 60 to 76 Gender - Female	16.7% 54.3%
 ✓ MR1 Interview + SAQ ✓ Completed Bio at UW 	Education: High school or less Some college	23.2% 35.5%
Response Rate: 56.6%	% College or more	41.3%
	Race - White	61.6%
	Marital Status - Married	
	Subjective Health (M,SD) (1=excellent, 5=poor)	2.40 (0.97)

MIDUS 3 (Core)

Eligibility, Response Rates, Sociodemographics and Participant Flow from Project to Project

