

Appendix A: Methodological Report for National Survey 2004

Boomers at Midlife 2004

Prepared by Princeton Survey Research Associates International for AARP
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Summary

The boomers@midlife survey, sponsored by AARP, conducted telephone interviews with a nationally representative sample of 3,850 adults living in the continental United States. Interviews were completed in both English and Spanish, according to the preference of the respondent. The interviews were conducted by Princeton Data Source, LLC (a subsidiary of Princeton Survey Research Associates International located in Fredericksburg, Virginia) during the period of April 5 through May 31, 2004. Quotas were set by age to ensure sufficient interviews among boomers²³ for statistical analysis. Results are weighted to correct for oversampling and to make the final total sample results representative of all adults living in the continental U.S. The margin of sampling error for the complete set of weighted data is ± 2 percent.

Details on the design, execution and analysis of the survey are discussed below.

Design and Data Collection Procedures

Sample Design

The sample was designed to generalize to the U.S. adult population, and to allow separate analyses of boomers overall, and African American and Hispanic boomers.

To oversample boomers, PSRA International screened standard list-assisted random digit dial (RDD) sample. To oversample minority groups, PSRA International supplemented the RDD sample with prescreened sample of African American and Hispanic households.

RDD sample

The RDD telephone sample was provided by Survey Sampling, Inc. (SSI) according to PSRA International specifications. To draw this sample, every *active block* of telephone numbers (area code + exchange + two-digit block number) that contained three or more residential directory listings is equally likely to be selected; after block selection, phone numbers are randomly generated in proportion to the number of listed households in each block. This method guarantees coverage of every assigned phone number regardless of whether that number is directory listed, purposely unlisted, or too new to be listed. After selection, the numbers are compared against business directories and matching numbers are purged. The RDD sample yielded 1,459 interviews.

Pre-screened sample

To supplement the RDD interviews, an additional 2,393 interviews were completed from minority households identified in the PDS Demographic Tracking Omnibus Survey. This short 10 minute demographic survey asked a number of questions about individual demographics and household composition. Sample for the original Demographic Tracking survey was drawn using the same RDD sampling as described above.

²³ For this survey, boomers are those born between 1946 and 1964.

Questionnaire Development and Testing

The original questionnaire was developed by PSRA International in collaboration with AARP in 2002 and readministered in 2003 and 2004 with very slight modifications. The questionnaire was translated into Spanish by Princeton Data Source. All interviews, both English and Spanish, were conducted using a fully-programmed CATI instrument.

Contact Procedures

Interviews were conducted during the period April 5 through May 31, 2004. As many as ten attempts were made to contact a person at every sampled telephone number. Sample was released for interviewing in replicates, which are representative subsamples of the larger sample. Using replicates to control the release of sample ensures that complete call procedures are followed for the entire sample and that the geographic distribution of numbers called is appropriate.

Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents. Each household received at least one daytime call in an attempt to find someone at home.

Weighting and analysis

Weighting is generally used in survey analysis to adjust for sample design effects and to compensate for patterns of non-response that might bias results. The weighting for this project was accomplished in two stages; a first stage to adjust demographic distortions due to non-response and age screening, and a second stage to put the various racial/ethnic groups back into their proper proportions and to make the final weighted n equal to the final unweighted n for the total sample.

First Stage: Demographic Adjustment

In the first weighting stage, the demographic composition of each racial/ethnic subsample was weighted to match national parameters for sex by age, sex by education, age by education, marital status and census region. These parameters came from a special analysis of the March 2003 Current Population Survey (CPS) that included all telephone households in the continental United States.

This stage of weighting was accomplished using Sample Balancing, a special iterative sample weighting program that simultaneously balances the distributions of all variables using a statistical technique called the *Deming Algorithm*. This weighting adjusts for non-response that is related to particular demographic characteristics of the sample and ensures that the demographic characteristics of each race/ethnic group's sample closely approximate the demographic characteristics of that group nationwide. Weights from this stage were trimmed to prevent individual interviews from having too much influence on the final results.

Second Stage: Final Adjustment to Racial/Ethnic Groups

The second and final stage of weighting adjusted the racial/ethnic distribution of the entire sample to match the distribution of the U.S. adult population. The final weight is the product of this adjustment factor and the weight after the first stage. Table 1 outlines the computation of the final weighting adjustment factor. Cases where the respondent refused to give their race were given an adjustment of 1.00. A final adjustment was made to make weighted and unweighted total sample counts equal. Tables 2 through 5 compare weighted and parameter distributions for the total sample and for major racial and ethnic subgroups.

TABLE 1: FINAL ADJUSTMENT FACTOR

Race/Ethnicity	% after First-Stage Weight	Population Parameter	Adjustment
White, not Hispanic	24.81	71.9	2.898
Black, not Hispanic	25.42	10.7	0.421
Hispanic	47.81	11.8	0.247
Other, not Hispanic	1.96	5.5	2.803

TABLE 2: TOTAL SAMPLE DEMOGRAPHICS

Gender	Parameter	Weighted
Male	47.9	46.4
Female	52.1	53.6
Age		
18–39	40.8	37.8
40–50	22.8	23.9
51–58	13.1	13.8
59+	23.3	24.6
Education		
Less than HS	15.6	14.6
HS graduate	35.8	36.5
Some college	23.3	23.1
College graduate	25.3	25.8
Marital Status		
Married	57.6	58.5
Widowed/ Separated/ Divorced	18.6	17.6
Never Married	23.8	23.9
Race/Ethnicity		
White, not Hispanic	71.9	72.9
Black, not Hispanic	10.7	10.8
Hispanic	11.8	11.4
Other, not Hispanic	5.5	4.9
Region		
Northeast	19.7	19.4
Midwest	22.7	23.3
South	35.4	35.7
West	22.2	21.6

TABLE 3: AFRICAN AMERICAN SAMPLE DEMOGRAPHICS

Gender	Parameter	Weighted
Male	44.2	43.1
Female	55.8	56.9
Age		
18–39	46.2	44.0
40–50	23.6	24.3
51–58	12.0	12.7
59+	18.2	18.7
Education		
Less than HS	19.7	19.5
HS graduate	38.2	38.0
Some college	25.8	25.3
College graduate	16.2	16.8
Marital Status		
Married	38.4	39.2
Widowed/ Separated/ Divorced	23.7	24.3
Never Married	37.9	35.8
Region		
Northeast	18.4	16.6
Midwest	17.8	18.0
South	55.1	55.6
West	8.7	9.8

TABLE 4: HISPANIC SAMPLE DEMOGRAPHICS

Gender	Parameter	Weighted
Male	50.9	49.6
Female	49.1	50.4
Age		
18–39	58.6	55.7
40–50	20.3	21.6
51–58	8.6	9.3
59+	12.5	13.4
Education		
Less than HS	41.3	38.0
HS graduate	30.7	32.0
Some college	17.8	18.8
College graduate	10.3	11.0
Marital Status		
Married	55.6	56.8
Widowed/ Separated/ Divorced	14.5	13.0
Never Married	29.9	30.0
Region		
Northeast	14.6	11.0
Midwest	8.0	9.7
South	35.0	34.9
West	42.3	44.4

TABLE 5: WHITE/OTHER RACE SAMPLE DEMOGRAPHICS

Gender	Parameter	Weighted
Male	48.0	45.4
Female	52.0	54.6
Age		
18–39	37.3	34.8
40–50	23.1	24.2
51–58	13.9	14.7
59+	25.7	26.3
Education		
Less than HS	11.1	10.5
HS graduate	36.2	36.4
Some college	23.8	23.3
College graduate	28.9	29.6
		0.2
Marital Status		
Married	60.5	62.7
Widowed/ Separated/ Divorced	18.6	17.6
Never Married	20.9	19.6
		0.2
Race/Ethnicity		
White, not Hispanic	NA	NA
Black, not Hispanic	NA	NA
Hispanic	NA	NA
Other, not Hispanic	NA	NA
Region		
Northeast	20.7	19.2
Midwest	25.6	26.3
South	32.8	32.9
West	21.0	21.6

Effects of Sample Design on Statistical Inference

Specialized sampling designs and post-data collection statistical adjustments require analysis procedures that reflect departures from simple random sampling. PSRA International calculates the effects of these design features so that an appropriate adjustment can be incorporated into tests of statistical significance when using these data. The so-called “design effect” or *deff* represents the loss in statistical efficiency that results from a disproportional sample design and systematic non-response. PSRA International calculates the composite design effect for a sample of size n , with each case having a weight, w_i as:

$$deff = \frac{n \sum_{i=1}^n w_i^2}{\left(\sum_{i=1}^n w_i \right)^2}$$

In a wide range of situations, the adjusted standard error of a statistic should be calculated by multiplying the usual formula by the square root of the design effect (\sqrt{deff}). Thus, the formula for computing the 95% confidence interval around a percentage is:

$$\hat{p} \pm \left(\sqrt{deff} \times 1.96 \sqrt{\frac{\hat{p}(1-\hat{p})}{n}} \right)$$

where \hat{p} is the sample estimate and n is the unweighted number of sample cases in the group being considered.

The formula for computing the 95 percent confidence interval around the difference between two percentages, p_1 and p_2 , of sizes n_1 and n_2 , is:

$$(\hat{p}_1 - \hat{p}_2) \pm 1.96 \sqrt{\frac{deff_1 \hat{p}_1(1-\hat{p}_1)}{n_1} + \frac{deff_2 \hat{p}_2(1-\hat{p}_2)}{n_2}}$$

where \hat{p}_1 is the estimate of p_1 , \hat{p}_2 is the estimate of p_2 , and $deff_1$ and $deff_2$ are the design effects for each group.

The survey's *margin of error* is the largest 95% confidence interval for any estimated proportion based on the total sample—one around 50%. For example, the margin of error for the total sample is $\pm 2.4\%$, this means that in 95 out every 100 samples using the same methodology, estimated proportions based on the entire sample will be no more than 2.4 percentage points away from their true values in the population. It is important to remember that sampling fluctuations are only one possible source of error in survey estimates. Other sources, such as measurement, may contribute additional error of greater or lesser magnitude. Table 6 shows design effects, sample sizes and margins of error for the total sample and selected target subgroups.

TABLE 6: SAMPLE SIZES, DESIGN EFFECTS AND MARGINS OF ERROR

	Number of Interviews	Design Effect	Margin of Error
Total	3852	2.39	2.4%
Age			
18–39	760	1.74	4.7%
40–50	1162	1.90	4.0%
51–58	1104	1.98	4.2%
59+	824	2.28	5.2%
Gender			
Male	1416	2.31	4.0%
Female	2436	2.32	3.0%
Education			
LT HS graduate	550	2.56	6.7%
HS graduate	1345	2.26	4.0%
Some college	928	2.51	5.1%
College graduate	1014	2.37	4.7%
Marital Status			
Married	2156	2.17	3.1%
Widowed/ Separated/ Divorced	952	2.54	5.1%
Never married	729	2.59	5.8%
Race/Ethnicity			
White, not Hispanic	1340	1.40	3.2%
Black, not Hispanic	1180	1.64	3.7%
Hispanic	1218	2.02	4.0%
Region			
Northeast	514	2.15	6.3%
Midwest	721	2.00	5.2%
South	1550	2.53	4.0%
West	1067	2.57	4.8%

Response Rate

Table 7 reports the disposition of all sampled telephone numbers from the RDD sample. The response rate estimates the fraction of all eligible respondents in the sample that were ultimately interviewed. At PSRA International it is calculated by taking the product of three component rates:²⁴

- Contact rate—the proportion of working numbers where a request for interview was made—of 72.8 percent²⁵
- Cooperation rate—the proportion of contacted numbers where a consent for interview was initially obtained, versus those refused—of 47.2 percent
- Completion rate—the proportion of initially cooperating and eligible interviews that were completed—of 88.1 percent

Thus the response rate for the RDD portion of this survey is 30.3 percent.

Table 8 reports the disposition of all sampled telephone numbers from the pre-screened African American and Hispanic samples. These samples yielded post-screening response rates of 36 percent for the African American oversample and 32 percent for the Hispanic oversample. Figures in these tables represent rates after the pre-screening of eligible households. The response rate for the original screening interview was approximately 33 percent.

TABLE 7: RDD SAMPLE DISPOSITION

Total Numbers Dialed	15610	
Business	1345	
Computer/Fax	1028	
Other Not-Working	2475	
Additional Projected NW	979	
Working numbers	9783	62.7%
No Answer	262	
Busy	64	
Answering Machine	1364	
Callbacks	488	
Other Non-Contacts	480	
Contacted numbers	7125	72.8%
Initial Refusals	1304	
Second Refusals	2456	
Cooperating numbers	3365	47.2%
No Adult in HH	64	
SO–Age Quota	1605	
Language Barrier	39	
Eligible numbers	1657	49.2%
Interrupted	198	
Completes	1459	88.1%
Response Rate		30.3%

²⁴ PSRAI's disposition codes and rate formulas are consistent with standards of the American Association for Public Opinion Research.

²⁵ We assume that 75 percent of cases that result in a constant disposition of "No answer" over ten or more attempts are actually not working numbers.

TABLE 8: PRE-SCREENED SAMPLE DISPOSITIONS

	African American		Hispanic	
Total Numbers Dialed	8051		11367	
Business	143		204	
Computer/Fax	146		227	
Other	1754		1637	
Not-Working				
Additional projected NW	313		317	
Working numbers	5695	70.7%	8982	9.0%
No Answer	91		83	
Busy	13		22	
Answering Machine	847		952	
Callbacks	497		458	
Other	198		846	
Non-Contacts				
Contacted numbers	4049	71.1%	6621	73.7%
Initial Refusals	794		1844	
Second Refusals	879		1468	
Cooperating numbers	2376	58.7%	3309	50.0%
No Adult in HH	57		73	
SO–Age Quota	971		1422	
SO–Race	44		112	
Unqualified				
Language Barrier	5		216	
Eligible numbers	1299	54.7%	1486	44.9%
Interrupted	186		206	
Completes	1113	85.7%	1280	86.1%
Response Rate	35.7%		31.7%	

Screener

Hello, my name is _____ and I'm calling for Princeton Survey Research. We're conducting an important national opinion survey and we'd very much like to include your household. This survey is for research purposes only, we're not trying to sell you anything.

S1 Here's my first question... How would you rate your neighborhood as a place to live? Would you say it is excellent, good, fair or poor?

- 1 Excellent
- 2 Good
- 3 Fair
- 4 Poor
- 8 Don't know
- 9 Refused

S2 To make sure our survey includes many different kinds of families, I need to ask a few questions about who lives in your household. How many adults age 18 or older live in your household?

- 1 One
- 2 Two
- 3 Three
- 4 Four or more
- 5 None
- 98 Don't know
- 99 Refused

If only one adult 18+ in HH (S2=1)

S3. May I please speak to that person?

- 1 Continue with current respondent—Go to Q1
- 2 New respondent being brought to phone—Go to INTRO2
- 3 New respondent not available—Schedule call back
- 9 Refused

If more than one adult 18+ in HH (S2=2, 3, 4)

S4. How many people between 18 and 39 now live in your household?

- 1 One
- 2 Two or more
- 3 None
- 9 Don't know/Refused

If more than one adult 18+ in HH (S2=2, 3, 4)

S5a. How many people between 40 and 50 now live in your household?

- 1 One
- 2 Two or more
- 3 None
- 9 Don't know /Refused

If more than one adult 18+ in HH (S2=2, 3, 4)

S5b. How many people between 51 and 58 now live in your household?

- 1 One
- 2 Two or more
- 3 None
- 9 Don't know/Refused

If more than one adult 18+ in HH (S2=2, 3, 4)

S6. How many people 59 or older now live in your household?

- 1 One
- 2 Two or more
- 3 None
- 9 Don't know/Refused

If answer refused to S4, S5a, S5b, S6 (S4=9 AND S5a=9 AND S5b=9 AND S6=9)

CONF. Just to confirm, are you over the age of 18?

- 1 Yes—Go to Q1
- 2 No—Code as a refusal

If answered none to S4, S5a, S5b, S6 (S4=3 AND S5a=3 AND S5b=3 AND S6=3)

S7. May I please speak to any person over the age of 18?

- 1 Continue with current respondent—Go to Q1
- 2 New respondent being brought to phone—Go to intro2
- 3 New respondent not available—Schedule call back
- 9 Refused—Thank and terminate

Instructions for prioritizing respondent to continue with interview

- 1 Has at least one 51–58 yr old (S5b=1, 2) [Skip to S8a] First Priority
- 2 Has at least one 40–50 yr old (S5a=1, 2) [Skip to S8b] Second Priority
- 3 Has at least one 59+ yr old (S6=1, 2) [Skip to S9] Third Priority
- 4 Has at least one 18–39 yr old (S4=1, 2) [Skip to S10] Fourth Priority

If one or more adults between ages 51 AND 58 (S5b=1, 2)

S8a. May I please speak to the person between 51 and 58 years old?

- 1 Continue with current respondent—Go to Q1
- 2 New respondent being brought to phone—Go to intro2
- 3 New respondent not available—Schedule call back
- 9 Refused—Thank and terminate

If one or more adults between ages 40 AND 50 (S5a=1, 2)

S8b. May I please speak to the person between 40 and 50 years old?

- 1 Continue with current respondent—Go to Q1
- 2 New respondent being brought to phone—Go to intro2
- 3 New respondent not available—Schedule call back
- 9 Refused—Thank and terminate

If one or more adults 59+ and no 40 to 58 year olds (S6=1, 2 AND S5a=3 AND S5b=3)

S9. May I please speak to the person 59 or older?

- 1 Continue with current respondent—Go to Q1
- 2 New respondent being brought to phone—Go to intro2
- 3 New respondent not available—Schedule call back
- 9 Refused—Thank and terminate

If one or more adults between ages 18 AND 39 and no 40 to 58 year olds and no 59+ (S4=1, 2 AND S5a=3 AND S5b=3 AND S6=3)

S10. May I please speak to the person between 18 and 39 years old?

- 1 Continue with current respondent—Go to Q1
- 2 New respondent being brought to phone—Go to intro2
- 3 New respondent not available—Schedule call back
- 9 Refused—Thank and terminate

IF S3=2 or S7=2 or S8=2 or S9=2 or S10=2

INTRO2

Hello, my name is _____ and I'm calling for Princeton Survey Research. We're conducting an important national opinion survey and we'd very much like to include your household. This survey is for research purposes only, we're not trying to sell you anything.