June 2018 Political Survey
Methodology Report

Submitted to:

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I. SUMMARY

The June 2018 Political Survey, fielded for the Pew Research Center by Abt Associates, obtained telephone interviews with a representative sample of 2,002 adults living in the United States (502 respondents were interviewed on a landline telephone and 1,500 were interviewed on a cell phone; 41 respondents were landline-only, 963 were dual users and 998 were cell-only). Interviewing was conducted from June 5 to June 12, 2018 in English and Spanish. Samples were drawn from both the landline and cell phone RDD frames. Persons with residential landlines were not screened out of the cell phone sample. Both the landline and cell phone samples were provided by Survey Sampling International. The combined sample is weighted to match demographic parameters from the American Community Survey and telephone status parameters from the National Health Interview Survey. The weighting procedure also accounts for the fact that respondents with both a landline and cell phone had a greater probability of selection. The margin of sampling error for weighted estimates based on the full sample is ± 2.55 percentage points.

II. SAMPLE DESIGN

The target population for the study is non-institutionalized persons age 18 and over, living in the US. Samples were drawn from both the landline and cellular random digit dial (RDD) frames to represent people with access to either a landline or cell phone. Both samples were provided by Survey Sampling International, LLC according to Abt Associates specifications.

Numbers for the landline sample were drawn with equal probabilities from active blocks (area code + exchange + two-digit block number) that contained one or more residential directory listings. The cellular sample was drawn by Survey Sampling International through a systematic sampling from 1000-blocks dedicated to cellular service according to the Telcordia database.

III. QUESTIONNAIRE DEVELOPMENT AND TESTING

The questionnaire was developed by the Pew Research Center in consultation with Abt Associates. In order to improve the quality of the data, the questionnaire was pretested with a small number of respondents using landline RDD telephone numbers. The pretest interviews were conducted using experienced interviewers who could best judge the quality of the answers given and the degree to which respondents understood the questions. Some final changes were made to the questionnaire based on the recorded pretest interviews.

IV. CALLING PROTOCOL

Landline numbers were called as many as 7 times, and cell phone numbers were called as many as 7 times. Up to 3 additional call attempts were made for Spanish language callbacks. Refusal conversion was attempted on soft refusal cases. Interviews were conducted from June 5 to June 12, 2018. Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents. Each number received at least one daytime call. The 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.

For the landline sample, interviewers asked to speak with either the youngest male or youngest female at home right now. For the cell sample, interviews were conducted with the person who answered the phone. Interviewers verified that the person was an adult and in a safe place before administering the survey. Cell sample respondents were offered a post-paid cash incentive of $5 for their participation.

V. WEIGHTING

Two weights were created for this survey. The specification for each weight follows the Weighting Protocol for Pew Research Center RDD Surveys (Williams and Kennedy, October 2017). The design of the full sample weight recommended for analysis is described first. Description of the other weight is provided at the end of this section.

First Stage Weighting

The first stage of weighting corrected for different probabilities of selection associated with the number of adults in the household and the respondent's telephone usage (landline only, cell phone only or has both kinds of phones). This weighting also adjusts for the overlapping landline and cell sample frames and the relative sizes of each frame and each sample.

This first-stage weight, labeled WT, can be expressed as:

$$WT = \frac{1}{\left(\frac{S_{ll}}{U_{ll}} \times \frac{LL}{AD}\right) + \left(\frac{S_{cp}}{U_{cp}} \times CP\right) - \left(\frac{S_{ll}}{U_{ll}} \times \frac{LL}{AD} \times \frac{S_{cp}}{U_{cp}} \times CP\right)}$$

Where:

LL =1 if respondent has a landline phone
    =0 if respondent has no landline phone
    (OR number of landlines on which the respondent could have been reached)

CP =1 if respondent has a cell phone
    =0 if respondent has no cell phone
    (OR number of cell phones on which the respondent could have been reached)

S_{ll}= size of the landline sample drawn across all released replicates (# of landline numbers dialed)

S_{cp}=size of the cell phone sample drawn across all released replicates (# of cell phone numbers dialed)

U_{ll}=size of the landline RDD frame (according to SSI)

U_{cp}=size of the cell RDD frame (according to SSI)

AD=number of adults in the household (1, 2, 3 or more)[1]

The first-stage weight is then adjusted so the sum of the weight across all cases equals the total number of interviews:

$$NEWWT1 = WT \times \frac{n}{\sum WT}$$

Second Stage Weighting

The second stage of weighting balances sample demographics to estimated population parameters. The sample is balanced to match national population parameters for sex, age, education, race, Hispanic origin, region (U.S. Census definitions), population density, and telephone usage. The Hispanic origin was broken out based on nativity: U.S born and non-U.S. born. The white, non-Hispanic subgroup is also balanced on age, education and region. The basic weighting parameters came from an analysis of the Census Bureau's 2016 American Community Survey (ACS) one-year estimates. The ACS parameters were calculated for adults aged 18 years and older residing in households, excluding those living in institutionalized group quarters. The population density parameter was derived from Census 2010 data. The telephone usage parameter was based on a projection from the January-June 2017 National Health Interview Survey[2] and was based on all adults living in households with a phone (either landline or cell phone) in the U.S., including Alaska and Hawaii.

The second stage weighting uses an iterative technique that simultaneously balances the distributions of all weighting parameters. This process was performed separately for each

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[1] Number of adults was capped at 3 to avoid extreme weights.

[2] Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, January–June 2017. National Center for Health Statistics. December 2017. Available from: https://www.cdc.gov/nchs/nhis.htm.

questionnaire form. Weights were trimmed at the 5th and 95th percentiles to prevent individual interviews from having too much influence on the final results. The use of these weights in statistical analysis ensures that the demographic characteristics of the sample closely approximate the demographic characteristics of the national population. In the survey dataset, this full sample weight is labeled *WEIGHT*. Table 1 compares weighted and unweighted sample distributions to population parameters.

Table 1. Weighted and Unweighted Estimates Along with Benchmarks

	Benchmark	Weighted	Unweighted
18-24	12.5%	11.9%	8.0%
25-34	17.7%	17.6%	13.3%
35-44	16.4%	16.4%	12.9%
45-54	17.2%	17.6%	15.5%
55-64	16.7%	17.0%	21.2%
65+	19.5%	19.5%	29.0%
High School Graduate or less	39.8%	38.1%	25.1%
Some College	31.1%	31.5%	27.1%
College Graduate	29.1%	30.4%	47.8%
Northeast	17.8%	17.7%	17.1%
Midwest	21.0%	21.4%	20.9%
South	37.6%	37.6%	38.9%
West	23.6%	23.3%	23.1%
White Non-Hispanic	64.3%	65.0%	71.0%
Black Non-Hispanic	11.7%	11.5%	9.5%
Hispanic, Native Born	8.2%	8.2%	6.8%
Hispanic, Foreign Born	7.5%	7.5%	5.6%
Other, Non-Hispanic	8.3%	7.9%	7.0%
1 Lowest	19.9%	20.0%	20.5%
2	20.0%	20.0%	20.4%
3	20.1%	20.0%	20.7%
4	20.0%	20.1%	20.0%
5 Highest	20.0%	19.9%	18.3%
Landline Only	4.3%	3.6%	2.1%
Dual	40.7%	41.2%	48.1%
Cell Phone Only	55.0%	55.3%	49.9%

Design of CELLWEIGHT

This weight was computed for respondents from the cell sample using the same procedures as above except there is no first stage weighting adjustment because only one sampling frame is used and within-household selection is not conducted during cell phone interviews. Also, a phone use parameter is *not* included in the second stage weighting. This weight was trimmed at the 5th and 95th percentiles.

VI. DESIGN EFFECT AND MARGIN OF ERROR

Weighting and survey design features that depart from simple random sampling tend to result in an increase in the variance of survey estimates. This increase, known as the design effect or *deff*, should be incorporated into the margin of error, standard errors, and tests of statistical significance. The overall design effect for a survey is commonly approximated as the 1 plus the squared coefficient of variation of the weights. For this survey, the margin of error (half-width of the 95% confidence interval) incorporating the design effect for full-sample estimates at 50% is ± 2.55 percentage points. Estimates based on subgroups will have larger margins of error. It is important to remember that random sampling error is only one possible source of error in a survey estimate. Other sources, such as question wording and reporting inaccuracy, may contribute additional error. A summary of the weights and their associated design effect is reported in Table 2 below.

Table 2. Design Effect and Effective Sample Size

Weight Variable	Number of cases (n)	Minimum weight	Maximum weight	Design effect	Effective n
WEIGHT	2,002	0.3085	2.4282	1.36	1,476
CELLWEIGHT	1,500	0.4120	2.2945	1.27	1,179

VII. DISPOSITIONS

Table 3 reports the disposition of all sampled telephone numbers dialed for the survey. Abt Associates calculates four component rates: Response rate, Cooperation rate, and Contact rate, and Refusal rate[3]:

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[3] Abt Associates' disposition codes and reporting are consistent with the American Association for Public Opinion Research standards.

- o Response rate – the number of complete interviews with reporting units divided by the number of eligible reporting units in the sample.
- o Cooperation rate – the proportion of all cases interviewed of all eligible units ever contacted.
- o Contact rate – measures the proportion of all cases in which some responsible member of a housing unit was reached by the survey
- o Refusal rate – measures the proportion of all cases in which a housing unit or the respondent refuses to be interviewed, or breaks-off an interview, of all potentially eligible cases.

Overall, the response rate (AAPOR RR3) was 5.9% for the RDD landline sample and 5.7% for the RDD cell sample.

Table 3. Final Dispositions and Rates, by Sample

		Landline Sample	Cell Sample
Interview (Category 1)			
Complete	1.000	502	1,500
Partial	1.200	40	148
Eligible, non-interview (Category 2)			
Refusal and breakoff	2.100	60	59
Refusal	2.110	3,254	0
Respondent never available	2.210	13	0
Answering machine household-no message left	2.221	3,623	0
Physically or mentally unable/incompetent	2.320	116	0
Household-level language problem	2.331	88	0
Unknown eligibility, non-interview (Category 3)			
Always busy	3.120	687	4,004
No answer	3.130	4,271	3,957
Call blocking	3.150	84	639
No screener completed: No live contact made	3.210	0	15,827
No screener completed: Live contact made	3.210	0	12,174
Other: Cell case physically or mentally unable/incompetent	3.920	0	104
Other: Cell case language problem	3.930	0	468
Not eligible (Category 4)			
Fax/data line	4.200	994	128
Non-working/disconnect	4.300	35,749	13,467
Temporarily out of service	4.330	791	1,901

Business, government office, other organizations	4.510	2,298	1,397
No eligible respondent (e.g., child phone)	4.700	0	662
Other	4.900	0	0
Total phone numbers used		52,570	56,435
Completes (1.0)	I	502	1,500
Partial Interviews (1.2)	P	40	148
Eligible Non-Interview: Refusal (2.1)	R	3,314	59
Eligible Non-Interview: Non-Contact (2.2)	NC	3,636	0
Eligible Non-Interview: Other (2.3)	O	204	0
Undetermined If Working and Residential (3.1)	UH	5,042	8,600
Working and Residential But Undetermined Eligibility (3.2,3.9)			
Live contact was made	UO_C	0	12,746
Live contact not made	UO_{NC}	0	15,827
Not Eligible: Nonworking, Nonresidential, or Ported (4.1-4.5,4.9)	NWC	39,832	16,893
Screen Out: Working and Residential but Not Eligible (4.7)	SO	0	662
TOTAL		52,570	56,435
e1=(I+P+R+NC+O+UO_C+OU_{NC}+SO)/(I+P+R+NC+O+UO_C+OU_{NC}+SO+NWC)		16.2%	64.7%
e2=(I+P+R)/(I+P+R+SO)		100.0%	72.1%
AAPOR RR3 = $I / (I+P+R+NC+O+[e1*e2*UH]+[e2*(UO_C +UO_{NC})])$		5.90%	5.70%
AAPOR CON2 = $(I+P+R+O+[e2*UO_C]) / (I+P+R+NC+O+[e1*e2*UH]+[e2*(UO_C+UO_{NC})])$		47.69%	41.41%
AAPOR COOP1 = $I / (I+P+R+O+[e2*UO_C])$		12.36%	13.77%
AAPOR REF2 = $R / (I+P+R+NC+O+[e1*e2*UH]+[e2*(UO_C +UO_{NC})])$		38.93%	0.22%
CONTACT x COOP		5.90%	5.70%