National Public Opinion Reference Survey Methodology

Summary

Ipsos conducted the National Public Opinion Reference Survey (NPORS) for Pew Research Center using address-based sampling and a push-to-web protocol. The survey was fielded June 1, 2020, to Aug. 11, 2020. Participants were first mailed an invitation to complete an online survey. A paper survey was later mailed to a large subset (79%) of those who did not respond. In total, 1,862 respondents completed the survey online and 2,246 respondents completed the paper survey. The survey was administered in English and Spanish.[1]

Sample definition

The sample was drawn from the U.S. Postal Service Computerized Delivery Sequence File (DSF) and was provided by MSG (Marketing Systems Group). Occupied residential addresses (including "drop points") in all U.S. states (including Alaska and Hawaii) and the District of Columbia had a nonzero chance of selection. The draw was a national, stratified random sample, with differential probabilities of selection across the mutually exclusive strata. Ipsos designed the sample plan with the goal of obtaining in the recruited panel the distribution of age-by-race groups shown in the table to the right.

1	Hispanic 18-24	2.5%
2	Hispanic 25+	15.0%
3	Black-African American 18-24	1.9%
4	Black-African American 25+	11.8%
5	Other 18-24 (non-Hispanic, non-Black)	5.0%
7	All else 25+	63.8%
	Total	**100%**

Mailing protocol

Ipsos sent initial mailings in a 9-by-12-inch envelope via first class mail to the 14,387 sampled households. These packets included two $1 bills and a letter asking a member of the household to complete an online survey using the website and password provided. If two or more adults were in the household, the letter asked the adult with the next birthday to complete the survey. Sampled households were later sent a reminder postcard and then a reminder letter via first class mail.

In total 12,670 households did not respond to the online survey invitation but were deliverable addresses. A random 10,000 of these nonresponding households (79%) were selected for the paper survey stage and were sent a letter, $5 bill, paper version of the survey and a postage-paid return envelope via mail. The paper survey was one 11-by-17-inch page folded booklet-style. The within-

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[1] The online component was used to recruit members to Pew Research Center's national probability-based American Trends Panel, but the NPORS survey includes all completed interviews regardless of whether they were asked to join or agreed to join the panel.

household selection instructions were identical to those used in the earlier online survey request. These households were later sent a reminder postcard.

Households in Hispanic strata received all materials in English and Spanish. All other households received materials in English only. Those who completed the survey online or returned the completed paper survey were sent a $10 post-incentive.

As a quality control measure, Ipsos split the samples into two replicates. Replicate 1 had 2,873 mailings (20% of the total sample) and Replicate 2 had 11,514 (80% of the total sample). The mailing schedule is below:

Replicate 1		
	Date	Count
Recruitment packet	June 1, 2020	2,873
Reminder postcard	June 9, 2020	2,873
Reminder letter	June 23, 2020	2,873
Suspend reminder	July 6, 2020	20

Replicate 2		
	Date	Count
Recruitment packet	June 9, 2020	11,514
Reminder postcard	June 18, 2020	11,514
Reminder letter	June 30, 2020	11,514
Suspend reminder	July 6, 2020	60

Paper survey stage		
	Date	Count
Paper survey	July 17, 2020	10,000
Reminder postcard	July 29, 2020	10,000

Questionnaire development and testing

Pew Research Center developed the online questionnaire in consultation with Ipsos. The web questionnaire was tested on both desktop and mobile devices. The test data was analyzed to ensure the logic and randomizations were working as intended before the survey was launched. Pew Research Center developed the paper survey, which included all of the 38 questions on the online survey.

Weighting

The survey was weighted to support reliable inference from the sample to the target population of U.S. adults. The weight was created using a multistep process that includes a base weight adjusting for differential probabilities of selection and a raking calibration that aligns the survey with the population benchmarks. The process starts with the base weight, which accounted for the probability of selection of the address from the U.S. Postal Service Computerized Delivery Sequence File frame, as well as the number of adults living in the household.

Then the base weights are calibrated to population benchmarks using raking, or iterative proportional fitting. The raking dimensions and the source for the population parameter estimates are reported in the table below. All raking targets are based on the non-institutionalized U.S. adult population (ages 18 and older). These weights are trimmed at about the 1st and 99th percentiles to reduce the loss in precision stemming from variance in the weights.

Raking dimensions and source for population parameter estimates

Raking dimension^	Source
Gender(2) x Age(6)	2018 American Community Survey
Gender(2) x Education(3)	2018 American Community Survey
Age(3) x Education(3)	2018 American Community Survey
Education(3) x Race/ethnicity(4)*	2018 American Community Survey
Race/ethnicity(4) x Born inside or outside the U.S.(2)*	2018 American Community Survey
Census Region(4) by Metro Status(2)	2019 Current Population Survey ASEC March Supplement
Voter Registration(2) ^	2018 Current Population Survey Voting and Registration Supplement

^ Voter registration is calculated using procedures from Hur, Achen (2013) and rescaled to include the total US adult population.
* Education is collapsed for "Other/Non-Hispanic"

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 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 plus or minus 2.0 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 the table below.

Weight variable	Completed interviews	Approximate design effect	Effective sample size	Margin of error (95% confidence level)
WEIGHT	4,108	1.64	2,505	±2.0

Dispositions

The table below reports the disposition of all sampled households for the survey.

Final dispositions and rates	Code	Cases
Interview		
Complete	1.0/1.10	4,108
Partial	1.2	128
Eligible, non-interview		
Refusal	2.11	10
Unknown eligibility, non-interview		
Nothing returned	3.19	9407
USPS: Refused to accept	3.231	25
USPS: Insufficient address on mail from one post office to another post office	3.252	17
USPS: No mail receptacle	3.253	34
USPS: Undeliverable as addressed	3.310	28
USPS: Attempted – addressee not known at place of address	3.311	51
USPS: No such number	3.3131	28
USPS: No such street	3.3133	4
USPS: Vacant	3.3134	361
USPS: Unable to forward, not deliverable as addressed	3.3141	165
USPS: Returned for postage	3.33	1
USPS: Temporarily away, holding period expired	3.34	6
USPS: Unclaimed – failure to call for held mail	3.35	9
Not eligible		
Other	4.90	5
Total sample used		**14,387**
Complete interviews (1.1)	I	4,108
Partial interviews (1.2)	P	128
Refusal (2.1)	R	10
Unknown household (3.1)	UH	9407
Unknown other (3.2-3.9)	UO	729
TOTAL		
AAPOR RR3 = I/((I+P) + (R+NC+O) + e(UH+UO))		29%

AAPOR COOP1 = I/(I+P)+R+O)   97%

AAPOR REF2 = R/((I+P)+(R+NC+O) + e(UH + UO))   <1%

AAPOR CON2 = (I+P)+R+O / (I+P)+R+O+NC + e(UH+UO)   30%

CONTACT x COOP   29%

CORRECTION (April 2021): A previous version of this report incorrectly stated the number of completions by paper and number of completions overall. None of the study's findings or conclusions are affected.