Annenberg Survey of Attitudes on Public Health (ASAPH)

Methods Report for the Annenberg Public Policy Center

ASAPH National Survey Wave 21

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Overview

The Annenberg Public Policy Center of the University of Pennsylvania (APPC) engaged SSRS to conduct the 21st wave of the Annenberg Survey of Attitudes on Public Health (ASAPH) National Survey. The survey focused on viruses such as RSV, the West Nile and dengue viruses, and also on food-safety practices, and panelists' impressions of the two main 2024 U.S. presidential candidates, Vice President Kamala Harris and former President Donald Trump, shortly after their September 10th, 2024 presidential debate. Additionally, Wave 21 featured a section introducing a new APPC youth panel, the National Annenberg Survey of Youth, or NASY, to parents of children aged 13 to 22.

This wave marked a panel name change from the *SSRS Opinion Panel* to the *Annenberg Science and Health Panel*, and included a new group of panelists, panelists recruited in August of 2024 as a part of a replenishment effort to address demographic imbalances due to natural panel attrition. The replenishment invited U.S. adults ages 18 or older to participate in a survey and then during the survey were asked to join the panel. Panelists who joined during the August 2024 replenishment effort supplemented the existing panel.

The Wave 21 survey invited U.S. adults aged 18 and older who had completed the ASAPH Wave 1 survey in April 2021, or who were recruited in ASAPH Wave 9 or the ASAPH Engagement Survey (both of which took place in 2023), or who were recruited during the August 2024 replenishment, to participate. Only panelists who previously reported NOT being a member of other U.S. opinion panels were invited. The invited sample size (i.e., the full panel size) was N = 2,616.

Data collection was conducted between September 13th – September 22nd, and between September 26th - September 30th, 2024 on 1,744 respondents. This included 1,721 respondents who took the survey in English, and 23 respondents who took the survey in Spanish. There were 1,705 web respondents and 39 telephone interview respondents. There were 1,320 panelists who joined the panel in 2021, 64 panelists who joined in 2023, and 360 panelists who joined in 2024. Data were weighted to represent the U.S. residential adult population. This report provides information about the sampling procedures and the methods used to collect, process, and weight data for ASAPH National Survey Wave 21.

Questionnaire Design

The questionnaire was developed by APPC in consultation with the SSRS project team. SSRS reviewed the questionnaire primarily to identify potential problems in the instrument that might increase respondent burden, cause respondents to refuse or terminate the interview, create problems with respondent comprehension, or pose practical challenges for mode-specific

administration such as complex skip patterns. The questionnaire was translated into Spanish so respondents could choose to take the survey in English or Spanish based on their preference. Prior to the field period, SSRS programmed the study into its Forsta Plus (formerly known as Confirmit) platform that allows data to be collected online or through Computer Assisted Telephone Interviewing (CATI). Extensive checking of the program was conducted to ensure that skip patterns and sample splits followed the design of the questionnaire.

Sample Design: The Annenberg Science and Health Panel

Annenberg Science and Health Panel members are recruited randomly based on nationally representative ABS (Address Based Sample) design (including Hawaii and Alaska). ABS respondents are randomly sampled by Marketing Systems Group (MSG) through the U.S. Postal Service's Computerized Delivery Sequence File (CDS), a regularly updated listing of all known addresses in the U.S. For the Annenberg Science and Health Panel, known business addresses are excluded from the sample frame.

The Annenberg Science and Health Panel is a multi-mode panel. Internet households participate via web while all non-internet households (including those who have internet but are unwilling to take surveys online) participate via phone.

Data Collection

Survey Sampling

The invited sample for the ASAPH National Survey Wave 21 consisted of *N*=2,616 Annenberg Science and Health Panelists who were recruited to the ASAPH panel through the Wave 1, Wave 9, the Engagement survey, or the August 2024 Replenishment effort, and were not members of other U.S. opinion panels. The sample from Wave 1 consisted of a probability-based address-based sample (ABS) of U.S. households, and was stratified by age, gender, race and ethnicity, education, region, party identification and language to ensure adequate representation of each. Sample recruited from Wave 9 or the Engagement Survey were SSRS Opinion Panelists who indicated their educational attainment was a high school degree or less. The sample for the replenishment likewise consisted of a probability-based address-based sample (ABS) of U.S. households, stratified to correct for expected differential recruitment rates and ensure adequate representation of key subpopulations, including adults ages 18-24, those with a high school education or less, and Republicans.

Survey Administration Procedures

A "soft launch" inviting a limited number of panelists to participate was conducted in the afternoon of Friday, September 13th, 2024. After checking soft launch data to ensure that all questionnaire content and skip patterns were correct, the remaining sample was released in the evening of September 13th, 2024.

Web panelists were emailed an invitation to complete the survey online. The email for each respondent included a unique passcode-embedded link. All web panelists who did not respond to their first invitation received up to four reminder emails, and non-responding web panelists who had opted to receive text messages received up to two text message reminders.

In appreciation for their participation, web panelists received a $15 incentive in the form of an electronic gift card. Telephone respondents received a $15 incentive in the form of a mailed check.

Median survey length was 16.9 minutes online and 33.6 minutes by phone.

Quality Control Checks

For APPC National Survey Wave 21, SSRS built in three closed-ended trap questions to the web version of the program. This included 1 sincerity check and 2 trap questions that were placed in random places in the survey to monitor if panelists were attentive or not. Respondents who failed the quality checks were not included in the final data set. This included:

1. Respondents who answered two or more trap questions incorrectly (n=4).
2. Respondents with a length of interview (LOI) less than 20% of the overall median LOI[1] (n=1).
3. Respondents who skipped more than 10% of the questions asked[2] (n=0).

A total of N=5 completed surveys were removed (0.3%)[3] after applying these cleaning standards.

For telephone surveys, interviews were closely monitored by interviewing staff and project staff for quality control. In addition, select recordings were reviewed by supervisors to monitor quality and interviewer procedures.

[1] LOI less than 3.35 minutes.
[2] 95.9% of respondents who count as completes answered 100% of questions asked.
[3] Panelists may fail multiple quality control checks; therefore, the total number of removals may be less than the cumulative number of failed tests.

Data Processing and Integration

Data from web and telephone modes were combined and thoroughly cleaned with a computer validation program written by one of SSRS's data processing programmers. This program established editing parameters in order to locate any errors, including data that did not follow skip patterns, out of range values, and errors in data field locations. No back-coding or code development was done.

Completion Rates/Response Rates

Tables 1 through 3 detail the survey completion rates for this study.

Table 1: Completion Rates/Response Rates for Full Sample

Touchpoint	Web	Telephone	Overall
Invited to Participate/Total Sample	2,487	129	2,616
Completed[4]	1,705	39	1,744
Survey Completion Rate	68.5%	30.2%	66.7%

Table 2: Completion Rates/Response Rates for Legacy Panelists

Touchpoint	Web	Telephone	Overall
Invited to Participate/Total Sample	1,897	66	1,963
Completed[5]	1,361	23	1,384
Survey Completion Rate	71.7%	34.8%	70.5%

Table 3: Completion Rates/Response Rates for Newly Recruited Panelists (Replenishment)

Touchpoint	Web	Telephone	Overall
Invited to Participate/Total Sample	590	63	653
Completed[5]	344	16	360
Survey Completion Rate	58.3%	25.4%	55.1%

Weighting Methods

Data were weighted to represent the residential adult population of the United States. The data were weighted by applying a base weight and balancing the demographic profile of the sample to target population parameters.

[4] Excludes cases removed for quality control reasons.

Base weight (BW)

Newly recruited Panelists

The base weight for the new panelists added as a part of the 2024 panel replenishment corrects for disproportionate probabilities of selection. A design weight began with a stratification weight that adjusted for different sample fractions across the design strata (geography by modelled strata).

Strata Adjustment

The base weight (d_{0i}) for each piece of sample drawn from stratum i is $d_{0i} = N_i/n_i$ where N_i is the size of stratum i and n_i is the amount of sample released in stratum i.

Eligibility and Nonresponse Adjusted Weight

The design weights were then adjusted for eligibility and nonresponse. Nonresponse adjustment cells will be defined by the geography strata.

The nonresponse adjustment factor is calculated as the inverse of AAPOR RR3 within the cell:

$$f = \frac{R + N + e * U}{R}$$

where:

$$e = \frac{R + N}{R + N + I}$$

and:

- *R* is the sum of d_0 among respondents
- *N* is the sum of d_0 among eligible nonrespondents
- *I* is the sum of d_0 among screenouts
- *U* is the sum of d_0 among unknown eligibility cases

The eligibility and nonresponse-adjusted base weight is calculated as:

$$d_1 = d_0 * f$$

for qualified respondents, and 0 otherwise.

Adults in Household Base Weight Adjustment

The eligibility and nonresponse-adjusted base weights were further adjusted to account for the probability of selection within the household. An individual's probability of being selected for the survey is calculated as 1/*y*, where *y* represents number of adults in the household. The inverse of this probability reflects the likelihood that a given person was chosen for the survey within their household.

The base weight adjusted for the number of adults in the household is determined as follows:

$$d_2 = d_1 * y$$

Existing Panelists

The base weight for existing panelists is their final weight from their initial recruitment.

Combined Panelist Base Weights

The final base weights for existing and new panelists were merged into a single variable. The weights were trimmed by 5% to reduce outliers and then re-normalized to the number of completes in each group.

Raking

With the base weight applied, the data were weighted to balance the demographic profile of the sample to the target population parameters.

Missing data in the raking variables were imputed using hot decking. Hot deck imputation replaces the missing values of a respondent randomly with another similar respondent without missing data. Hot decking was done using an SPSS macro detailed in 'Goodbye, Listwise Deletion: Presenting Hot Deck Imputation as an Easy and Effective Tool for Handing Missing Data' (Myers, 2011).

Weighting was accomplished using iterative proportional fitting. This procedure balances each calibration variable to target benchmarks individually and iteratively. The entire set of calibration variables was cycled through until the weights converge across all dimensions.

Data were weighted to distributions of: sex by age, sex by education, age by education, detailed education, race/ethnicity, census region, home tenure, number of adults per household, civic engagement, population density, party ID[5], voter registration, religious affiliation, and internet use frequency. The main demographic benchmarks were obtained from the 2023 Annual Social and Economic Supplement (ASEC) of Current Population Survey (CPS)[6]. The civic engagement benchmark was derived from September 2021 CPS Volunteering and Civic Life Supplement data[7] [8]. Population density was derived from the Claritas Pop-Facts Premier 2023[9]. The registered voter

[5] The party ID used in weighting was measured during this survey.
[6] Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler and Michael Westberry. IPUMS CPS: Version 11.0 [dataset]. Minneapolis, MN: IPUMS, 2023. https://doi.org/10.18128/D030.V11.0
[7] https://www.census.gov/programs-surveys/cps/about/supplemental-surveys.html
[8] Civically engaged respondents are defined as those who have volunteered in the past 12 months or who talk to their neighbors daily.
[9] https://environicsanalytics.com/data/demographic/pop-facts-premier.

benchmark is from the 2023 Annual Social and Economic Supplement (ASEC) of Current Population Survey (CPS)'s 2022 Voting and Registration Supplement[10]. The party ID, internet frequency, and religious affiliation benchmarks came from the 2024 NPORS annual dataset released by Pew Research Center[11].

Weights were trimmed at the 4th and 96th percentiles to prevent individual interviews from having too much influence on survey-derived estimates.

Effects of Sample Design on Statistical Inference

Post-data collection statistical adjustments require analysis procedures that reflect departures from simple random sampling. SSRS 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 disproportionate sample design and systematic non-response. The total sample design effect for this survey is 2.26.

SSRS calculates the composite design effect for a sample of size n, with each case having a weight, w, as:[12]

$$deff = \frac{n\sum w^2}{(\sum w)^2}$$

The survey's margin of error is the largest 95% confidence interval for any estimated proportion based on the total sample — the one around 50%. For example, the margin of error for the entire sample for is ± 3.5 percentage points. This means that in 95 out of every 100 samples drawn using the same methodology, estimated proportions based on the entire sample will be no more than 3.5 percentage points away from their true values in the population. Margins of error for subgroups will be larger. It is important to remember that sampling fluctuations are only one possible source of error in a survey estimate. Other sources, such as respondent selection bias, questionnaire wording, and reporting inaccuracy, may contribute additional error of greater or lesser magnitude.

[10]Sarah Flood, Miriam King, Renae Rodgers, Steven Ruggles, J. Robert Warren, Daniel Backman, Annie Chen, Grace Cooper, Stephanie Richards, Megan Schouweiler and Michael Westberry. IPUMS CPS: Version 11.0 [dataset]. Minneapolis, MN: IPUMS, 2023. https://doi.org/10.18128/D030.V11.0

[11] https://www.pewresearch.org/methods/fact-sheet/national-public-opinion-reference-survey-npors/ - Feb 1 to Jun 10, 2024.

[12] Kish, L. (1992). Weighting for Unequal Pi. Journal of Official Statistics, Vol. 8, No.2, 1992, pp. 183-200.

Deliverables

Final deliverables for this study are as follows:

- Weighted SPSS dataset
- Weighted SPSS dataset for Waves 1-21
- Methods Report

About SSRS

SSRS is breaking the mold on what research companies can do. A full-service market and survey research firm, we use the latest data collection best practices and apply cutting-edge survey methodologies backed by insight from our industry-leading team. We have genuine enthusiasm for our work and a shared goal to connect people through research. Our solutions include groundbreaking approaches fit for purpose: the SSRS Opinion Panel, Encipher, SSRS Virtual Insights, the SSRS Text Message panel, and more. Our research areas focus on Health Care and Health Policy, Public Opinion and Policy, Political and Election Polling, Consumer and Lifestyle, and Sports and Entertainment. Visit www.ssrs.com to learn more about how we can work together.

Appendix I: Sample Demographics

Category	Values	Parameter	Unweighted	Weighted
Sex by age	Male 18-24	6.0%	0.8%	2.8%
	Male 25-34	8.8%	6.8%	8.5%
	Male 35-44	8.5%	8.1%	8.8%
	Male 45-54	7.7%	7.3%	7.8%
	Male 55-64	7.8%	7.7%	8.3%
	Male 65+	10.2%	15.0%	10.9%
	Female 18-24	5.8%	2.1%	4.8%
	Female 25-34	8.6%	10.0%	8.7%
	Female 35-44	8.4%	10.3%	9.0%
	Female 45-54	7.8%	9.2%	8.5%
	Female 55-64	8.2%	9.6%	9.1%
	Female 65+	12.2%	13.1%	12.8%
Education	Less than HS	9.4%	2.4%	6.4%
	HS grad	28.8%	19.8%	29.2%
	Some college/Assoc. degree	26.4%	24.8%	25.5%
	College grad +	35.4%	53.0%	38.9%
Sex by education	Male HS grad or less	20.0%	9.2%	17.8%
	Male Some college	12.4%	9.7%	11.1%
	Male College grad +	16.5%	26.8%	18.0%
	Female HS grad or less	18.2%	13.0%	17.8%
	Female Some college	14.0%	15.1%	14.3%
	Female College grad +	18.9%	26.2%	20.8%
Age by education	18-34 HS grad or less	11.5%	4.8%	8.7%
	18-34 Some college	8.8%	4.1%	6.7%
	18-34 College grad +	8.9%	10.8%	9.4%
	35-54 HS grad or less	10.9%	6.9%	10.8%
	35-54 Some college	7.8%	8.7%	7.9%
	35-54 College grad +	13.7%	19.3%	15.3%
	55+ HS grad or less	15.7%	10.5%	16.1%
	55+ Some college	9.9%	12.0%	10.9%
	55+ College grad +	12.8%	22.9%	14.2%

Category	Values	Parameter	Unweighted	Weighted
Race/ethnicity	White non-Hisp	61.3%	68.5%	64.2%
	Black non-Hisp	12.1%	8.5%	10.7%
	Hispanic, US Born	8.4%	8.4%	8.4%
	Hispanic, Foreign Born	9.1%	3.9%	8.3%
	Asian, non-Hisp	6.5%	7.6%	5.6%
	Other non-Hisp	2.6%	3.0%	2.8%
Census region	Northeast	17.3%	18.8%	18.5%
	Midwest	20.5%	19.4%	19.6%
	South	38.6%	37.1%	38.1%
	West	23.6%	24.7%	23.8%
Home Tenure	Owns home	69.8%	70.4%	72.4%
	Rents/Does not own	30.2%	29.6%	27.6%
Number of Adults per Household	1 adult	16.9%	25.2%	18.1%
	2 adults	52.6%	55.3%	54.7%
	3 or more adults	30.5%	19.4%	27.3%
Civic engagement	Not engaged	73.0%	53.4%	73.2%
	Civically engaged	27.0%	46.6%	26.8%
Population density	1 Lowest 20%	20.0%	16.7%	20.3%
	2	20.0%	20.5%	18.7%
	3	20.0%	21.4%	19.9%
	4	20.0%	21.4%	21.1%
	5 Highest 20%	20.0%	19.8%	20.0%
Party ID (panel)	Rep	29.1%	23.8%	28.8%
	Dem	29.3%	34.7%	30.9%
	Ind/Other	41.7%	41.5%	40.4%
Voter Registration	Registered to vote	74.8%	88.2%	79.8%
	Not registered	25.2%	11.8%	20.2%
Religion	Affiliated	71.0%	69.5%	71.6%
	Not Affiliated	29.0%	30.5%	28.4%
Internet Frequency	Almost constantly	41.9%	48.5%	42.2%
	Several times a day	44.1%	42.4%	45.6%
	About once a day or less	5.3%	4.8%	5.4%