

Pew Research Center’s American Trends Panel

Wave 33

Methodology Report

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# Summary

The American Trends Panel (ATP) is a national, probability-based online panel of adults living in households in the United States living. On behalf of the Pew Research Center, GfK Custom Research, LLC (“GfK”) conducted the 33rd wave of the panel survey from March 27 to April 9, 2018. A subsample of the active panelists were invited to take Wave 33. In total, 2,541 ATP members (both English- and Spanish-language survey-takers) completed the Wave 33 survey. Survey weights were provided for the total sample. The margin of sampling error for the weighted estimates is ± 2.75 percentage points.

# Sample Definition

The overall target population for Wave 33 was non-institutionalized persons age 18 and over, living in the US, including Alaska and Hawaii. The sample consisted of 3,102 ATP members. This subsample was selected using the following approach:

1. Panelists were grouped into three stratum based on how under-represented they are demographically. Then we analyzed response rates to the last five panel survey waves (W28-32) to project the number of panelists in each stratum who would respond to the W33 survey.
2. We then determined how many panelists we wanted to sample from each stratum in W33 in order to finish with around 2,500 completed interviews and have a responding sample that is as representative as possible.
   1. Stratum A consists of panelists who are non-internet users, black non-Hispanic, Hispanic, or HS or less education. There were 1,819 total panelists in this stratum and they are sampled at a rate of 100% for W33. 1,806 were active panelists.
   2. Stratum B consists of panelists that are age 18-34 or are non-volunteers. The 1,684 total panelists in this stratum are subsampled at a rate of 63%, yielding 1,061 sampled for W33 (1,057 were active).
   3. Stratum C consists of the remaining 2,009 panelists not in stratum A or B. This group is subsampled at a rate of 12%, yielding 241 panelists sampled for W33 (239 were active).

All sample was pre-split into two forms (FORM\_W33) in order to better control the demographics within each form.

The ATP consisted of 9,942 members; however, 336 members were not included in the panel transition to GfK. An additional 4,120 panelists were considered withdrawn (no longer a part of the panel) or inactive (temporarily not available to take surveys during the Wave 33 field dates).

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| --- | --- | --- | --- |
| **Table 1. Wave 33 Panel Status** | | | |
| **Status** | | **Count** |
| Members | | 9,942 |
| Inactive or Withdrawn | | -4,120 |
| Not included in GfK transition | | -336 |
| **Active during Wave 33** | | **5,486** |
| **Subsampled for Wave 33** | | **3,102** |
|  |  | |

# Questionnaire Development and Testing

The questionnaire was developed by the Pew Research Center in consultation with GfK. The Web program was rigorously tested on both PC and mobile devices by the GfK project management team and Pew Research Center researchers. The GfK project management team also populated test data which was analyzed in SPSS to ensure the logic and randomizations were working as intended before launching the survey. The Pew Research Center has a copy of the final instruments in English and Spanish.

# Data Collection Protocol for Wave 33

Currently all ATP panelists have been recruited from three large (n=10,013, n=6,004 and n=3,905), national, overlapping, dual-frame landline and cellphone random-digit-dial (RDD) surveys conducted for the Pew Research Center. At the end of each RDD survey, respondents were invited to join the panel. The first RDD survey was conducted from January 23 to March 16, 2014, the second RDD survey was conducted from August 27 to October 4, 2015, and the third RDD survey was conducted from April 25 to June 4, 2017, all in English and Spanish. Sample for the RDD surveys was obtained from SSI. (See the Pew Research Center Political Typology/Polarization Survey Methodology Report, 2015 Pew Governance Survey Methodology Report, and 2017 Pew American Trends Panel Refresh Survey Methodology Report for additional information on the sample design for the RDD surveys.)

The first 20 waves of the ATP featured a simultaneous mixed-mode design, in which panelists who used the Internet and provided an email address participated via self-administered Web survey, and adults who did not use the Internet (or did but did not provide an email address) participated via a mail survey (Waves 3-4 and 6-20) or computer-assisted telephone interviewing (CATI, Waves 1 and 5 only). Wave 18 was the first wave where a subset of the non-Internet panelists was converted to Web mode. The conversion process involved calling all active mail mode respondents (n=616) and asking them to report their Internet and device status and then asking them to convert to Web. Those who already had the means for taking Web surveys were simply asked to convert. Those without the means for taking Web surveys (no device and/or Internet access) were offered an Internet-connected tablet computer at no cost to the panelist. Tablets were shipped to the panelists who accepted, and they were given a follow-up call to ensure they understood how to use the tablet to access the ATP surveys through a pre-installed Mobile Panel Application.

Wave 21 was the first wave conducted only in Web mode. However, the conversion effort was ongoing through Wave 26. By Wave 26, 238 of 616 (39%) mail panelists had converted to web. Of these, 197 received tablets and 41 made the mode switch using their own devices.

Wave 31 was the first wave conducted with GfK. At the end of Wave 30, panelists were notified of the change in survey administration. In addition, GfK sent out email and text message notifications in early January 2018 letting ATP members know about the updated support phone number and email address. Device panelists received a separate communication letting them know how to install a Messaging app on their tablet in order to receive invitations and reminders for future surveys. The GfK panel management team reached out to Device panelists via phone to ensure they had the Messaging app set up properly and to help set up an email address if the panelist did not have one already.

The data collection field period for Wave 33 was March 27, 2018 to April 9, 2018 (the field closed at midnight PST). Postcards were mailed to all ATP panelists with a known residential address on March 26, 2018.

On March 27 and March 28, invitations to Wave 33 were sent out in two separate launches: Soft Launch and Full Launch. Sixty-eight ATP panelists were included in the initial soft launch, which began with an initial invitation sent on the afternoon of March 27, 2018. The panelists chosen for the initial soft launch were known responders who had completed their previous ATP surveys within one day of receiving their invitation. All remaining panelists were included in the full launch and were sent an invitation the day after the soft launch, March 28, 2018.

All panelists with an email address received an email invitation and up to four email reminders if they did not respond to the survey. All ATP panelists that consented to SMS messages received an SMS invitation and up to four SMS reminders.

|  |  |  |
| --- | --- | --- |
| **Table 2. Invitation and Reminder Dates for Wave 33 Panelists** | | |
|  | **Soft Launch** | **Full Launch** |
| Advance Post Card | March 26, 2018 | March 26, 2018 |
| Initial invitation | March 27, 2018 | March 28, 2018 |
| 1st reminder | March 29, 2018 | March 30, 2018 |
| 2nd reminder | April 2, 2018 | April 2, 2018 |
| 3rd reminder | April 4, 2018 | April 4, 2018 |
| Final reminder | April 6, 2018 | April 6, 2018 |

ATP panelists who completed their survey in Spanish and all converted panelists who had received a tablet were offered a $20 post-paid incentive for completing the Wave 33 survey. Panelists who were age 18-29, African American, with high school education or less, were not registered to vote, or reported being Hispanic but taking the survey in English in the RDD recruitment survey were offered a $10 post-paid incentive for completing the Wave 33 survey. All other panelists who completed the survey were offered a $5 post-paid incentive. Respondents could choose to receive the post-paid incentive in the form of a check or a gift code to Amazon.com or could choose to decline the incentive. The differential incentive amounts were designed to increase panel survey participation among groups that traditionally have low survey response propensities.

# Data Quality Check

As part of the effort to provide the highest quality data, the GfK project management team conducted an initial analysis of respondent paradata. To identify sub-optimal responses, GfK identified respondents that either 1) completed the survey in under three minutes or 2) refused a high percentage of questions. GfK identified five respondents that met these criteria and shared the findings with Pew Research Center researchers. The Pew Research Center requested to remove one respondent from the final weighted dataset and to withdraw them from the panel. Five additional ATP respondents were added to an internal watch list for future review.

# Weighting

Survey weights are needed to support reliable inference from the panel to the target population of US adults. The final survey dataset contains a total sample weight variable (WEIGHT\_W33). The design of this weight is described below.

Start with the adjusted base weights of ATP (which account for the stratum sub-sampling rate), respondents are weighted to represent the ages 18+ population with geodemographic distributions balanced separately within the two forms with respect to the following characteristics:

* Gender (Male, Female) x Age (18-24, 25-34, 35-44, 45-54, 55-64, 65+)
* Gender (Male, Female) x Education (HS grad or less, Some college, College grad +)
* Age (18-34, 35-54, 55+) x Education (HS grad or less, Some college, College grad +)
* Census Region (Northeast, Midwest, South, West)
* Race/Ethnicity (White Non-Hisp, Black Non-Hisp, Hispanic, Other/Multi-race Non-Hisp)
* Pop Density (lowest - 106.69 people/MI2, 106.7 - 344.9 people/MI2, 344.91 - 881.41 people/MI2, 881.42 - 2029.42 people/MI2, 2029.43-highest)
* Access the Internet from anywhere (Yes, No)
* Party ID (Republican, Democrat, Independent/Other/DK/REF)
* Volunteerism (Volunteered, Did not Volunteer)

The weighting benchmarks are provided by Pew. Weights are trimmed on the overall level (not separately by form) and scale to sum to the un-weighted sample size of total respondents (WEIGHT\_W33).

***Weights Definition:***

WEIGHT\_ W33:  ATP cases (trimmed weights)

***Trimming:***

(1.02%, 99.01%)

***Design Effect:***

|  |  |
| --- | --- |
|  | WEIGHT\_W33 |
| Overall | 1.9944 |
| Form 1 | 1.9594 |
| Form 2 | 2.0260 |

## *Base Weight*

A base weight was computed for all ATP members. The base weight adjusted for factors affecting the probability that the individual was selected for the panel. This probability came from the survey in which the respondent was recruited. Currently, all ATP members were recruited through three probability-based, national, overlapping, dual-frame landline and cell phone RDD surveys. In the landline sample of the RDD surveys, one adult was randomly selected from within the household. Interviewers asked to speak with either the youngest male or youngest female at home at the time of the call. In the cell sample of the RDD surveys, interviews were conducted with the person who answered the phone, provided they were age 18+ and spoke English or Spanish.

All but two groups of respondents to the RDD surveys were invited to join the panel. The first exception was some individuals who did not use the Internet, as this group was initially subsampled for the panel in the Typology Survey prior to all non-Internet households being invited. Non-Hispanic white Internet users with a more than a high school education were also subsampled in the 2017 Panel Refresh Survey. The panel invitation featured a $10 post-paid incentive for agreeing to join and a fixed post-paid incentive for each panel survey completed. Hispanics/Latinos and adults age 18 to 25 recruited in the Typology Survey were offered $10 per panel survey. Hispanics/Latinos taking the survey in Spanish recruited in the Governance Survey were offered $20 per panel survey. Respondents recruited in the Governance Survey and Panel Refresh Survey who were Hispanics/Latinos taking the survey in English, African Americans, age 18 to 29, with high school education or less, or not registered to vote were offered $10 per panel survey. All other respondents in both surveys were offered $5 per survey. The differential incentives were designed to preemptively offset anticipated differential response rates across these groups.

For most ATP members, their base weight was computed using single frame estimation to adjust for the probability that the respondent’s phone number was selected from the sampling frame, the overlap in the landline and cell phone frames, and the within-household selection in the landline sample. For most panel members, the base weight can be expressed as:

Where:

LL =1 if respondent has a landline phone

=0 if respondent has no landline phone

CP =1 if respondent has a cell phone

=0 if respondent has no cell phone

Sll= number of cases released in the landline sample

Scp=number of cases released in the cell phone sample

Ull=size of the landline RDD frame

Ucp=size of the cell phone RDD frame

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

For a subset of the ATP members, an additional adjustment was included in the base weight to account for the fact that they belong to a group that was subsampled for invitation to the panel. In the Typology Survey, non-Internet users were subsampled at a rate of 25% from January 23, 2014 through February 5, 2014, but they were not subsampled (100% invited) from February 6, 2014 through the end of the field period. Internet users who agreed to join the panel in the Typology Survey but did not have an email address were taken at 100% from January 23, 2014 through February 5, 2014, but they were subsampled at a rate of 25% from February 6, 2014 through the end of the field period. The base weight of the affected cases was multiplied by the inverse of the subsampling rate (1 / .25 = 4). In the Panel Refresh Survey, non-Hispanic white Internet users with more than a high school education were subsampled at 50%. The base weight of such cases was also multiplied by the inverse of the subsampling rate (1 / .5 = 2).

For Wave 33, we computed a new base weight to account for the stratum sub-sampling rate as follows and use the new base weights to compute the final Wave 33 weights.

* if stratum=A, new base weights = original base weights x 1 -> select with 100% certainty
* if stratum=B, new base weights = original base weights x (1/.63) -> 63% sub-sampling rate
* if stratum=C, new base weights = original base weights x (1/.12) -> 12% sub-sampling rate

## *Adjusting for Attrition*

In total, 19,719 RDD survey respondents were invited to join the ATP and 9,942 accepted, yielding a panel acceptance rate of 50.4%. A majority of those who agreed to join the panel were still active at the start of Wave 33 (5,486/9,942=55.2%). To the extent that active panel members may be different from individuals who are not active (either because they declined to join or because they dropped out), there is a risk that estimates from the panel could be subject to nonresponse bias. A propensity score adjustment was computed to adjust for this attrition.

Most of the information available for individuals who either declined the panel invitation or were dropped from the panel comes from the recruitment surveys. A logistic regression model was estimated in which being an active panel member was regressed on recruitment survey sampling frame, incentive amount ($10/20 vs $5 per survey), Internet user, race, child in the household, age, education, religious service attendance, survey recruitment (Typology vs. Governance/Panel Refresh), registered to vote, party identification (Republican vs. Democrats/Independent/Others), and statistically significant two-way interactions (*p* < .05). The model was estimated using the respondents in the recruitment surveys who were invited to join the panel. Hispanic ethnicity was excluded from the model because it was collinear with the incentive variable. Number of adults in the household, child in the household and incentive were not predictive and ultimately excluded from the model. The set of predictors considered for the model are variables that are routinely measured in surveys conducted for the Pew Research Center for the People & the Press. The significant predictors used in the final model are presented in Table 3.

The estimated propensities were used to divide cases into approximately equal-size groups using the quintiles of the estimated propensity score. Quintiles have been found to be effective in capturing most of the variation. The propensity score adjustment was computed as the inverse of the active status rate in each quintile. This approach helps to protect against model misspecification, relative to using the inverse of the propensity score.

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| **Table 3. Parameter Estimates from the Attrition Propensity Model^** | | | | |
| **Variable (reference group)** | **Estimate** | **s.e.** | **p-value** |  |
| Intercept | -2.299 | 0.532 | <.001 | \*\*\* |
| Frame (landline) | -0.314 | 0.126 | 0.013 | \* |
| Gender (male) | 0.742 | 0.133 | <.001 | \*\*\* |
| Internet User (non-user) | -0.143 | 0.488 | 0.770 |  |
| Race (other race) |  |  | <.001 | \*\*\* |
| White | 0.358 | 0.075 | <.001 | \*\*\* |
| African American | 0.239 | 0.088 | 0.007 | \*\* |
| Asian | 0.060 | 0.120 | 0.616 |  |
| Multi-racial | 0.359 | 0.110 | 0.001 | \*\* |
| Child in HH (no children) | -0.267 | 0.121 | 0.027 | \* |
| Age | -0.026 | 0.006 | <.001 | \*\*\* |
| Education | 0.066 | 0.054 | 0.223 |  |
| Religious Attendance | 0.263 | 0.067 | <.001 | \*\*\* |
| Recruitment Survey |  |  | <.001 | \*\*\* |
| Governance | 0.251 | 0.154 | 0.104 |  |
| Panel Refresh | 0.875 | 0.174 | <.001 | \*\*\* |
| Registered to Vote | -0.941 | 0.167 | <.001 | \*\*\* |
| Party Identification |  |  | <.001 | \*\*\* |
| Democrat | 1.387 | 0.264 | <.001 | \*\*\* |
| Independent/Others | 0.848 | 0.266 | 0.001 | \*\* |
| Frame x Age | 0.009 | 0.002 | <.001 | \*\*\* |
| Internet User x Age | 0.024 | 0.005 | <.001 | \*\*\* |
| Internet User x Education | 0.155 | 0.053 | 0.003 | \*\* |
| Internet User x Religious Attendance | -0.149 | 0.050 | 0.003 | \*\* |
| Internet User x Party Identification |  |  | 0.034 | \* |
| Internet User x Democrats | -0.620 | 0.238 | 0.009 | \*\* |
| Internet User x Independent/Others | -0.481 | 0.242 | 0.047 | \* |
| Gender x Age | -0.007 | 0.002 | 0.001 | \*\* |
| Gender x Education | -0.052 | 0.019 | 0.005 | \*\* |
| Child in HH x Age | 0.006 | 0.003 | 0.017 | \* |
| Age x Religious Attendance | -0.002 | 0.001 | 0.004 | \*\* |
| Education x Registered to Vote | 0.062 | 0.026 | 0.017 | \* |
| Religious Attendance x Registered to vote | 0.090 | 0.030 | 0.003 | \*\* |
| Religious Attendance x Party Identification |  |  | <.001 | \*\*\* |
| Religious Attendance x Democrats | -0.136 | 0.029 | <.001 | \*\*\* |
| Religious Attendance x Independent/Others | -0.079 | 0.028 | 0.005 | \*\* |
| Recruitment Survey x Age |  |  | 0.002 | \*\* |
| Governance x Age | -0.002 | 0.002 | 0.302 |  |
| Panel Refresh x Age | -0.009 | 0.003 | <.001 | \*\*\* |
| Recruitment Survey x Education |  |  | 0.013 | \* |
| Governance x Education | -0.036 | 0.021 | 0.093 |  |
| Panel Refresh x Education | -0.072 | 0.026 | 0.005 | \*\* |
| \*\*\* *p*<.001, \*\* *p*<.01, \* *p*<.05 |  |  |  |  |
| ^Variables are coded such that the model predicts active status in the panel. Positive coefficients are associated with a higher probability of being active. Negative coefficients are associated with lower probability of being active. | | | | |

## *Calibration to Target Population Controls*

In the final stage of weighting, the attrition-adjusted base weights for the panelists responding to a particular panel survey are calibrated to population benchmarks using raking, or iterative proportional fitting. This adjustment is designed to reduce the risk of nonresponse bias stemming from nonresponse at the various stages of the panel design. The raking dimensions and the source for the population parameter estimates are reported in Table 4. All raking targets are based on the non-institutionalized U.S. adult (age 18+) population.

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| **Table 4. Raking Dimensions and Source for Population Parameter Estimates** | |
| **Raking Dimension^** | **Source** |
| Gender(2) x Age(6) | 2016 American Community Survey |
| Gender(2) x Education (3) | 2016 American Community Survey |
| Age(3) x Education(3) | 2016 American Community Survey |
| Census Region(4) | 2016 American Community Survey |
| Race/Ethnicity(4) | 2016 American Community Survey |
| Population Density(5) | 2010 Decennial Census |
| Internet Usage(2) | 2017 ATP Panel Refresh Survey |
| Party Affiliation(3) | Average from the three most recent monthly surveys conducted for the Pew Research Center for the People & the Press |
| Volunteerism(2) | September 2015 Current Population Survey Volunteer Supplement |
| ^ The numbers of categories (prior to any collapsing from small cell size) are shown in parentheses. | |

Most of the dimensions are commonly observed in weighting protocols for general population household surveys in the US. One exception is the raking for Internet usage. This was included in the algorithm so that the panel survey estimates reflect the target population with respect to the proportion of people who use the Internet and the proportion who do not. In Wave 33, all ATP interviews were completed via self-administered Web survey. Therefore, there was a concern that Internet users could be over-represented in the survey estimates if this dimension was not controlled for in the raking. To correct for this potential over-representation, panelists who reported at the time of the recruitment survey that they did not use the Internet were used to represent non-Internet users in the raking. Currently, the estimated population parameter for the percent of U.S. adults who use the Internet is 90.2%, based on the 2017 ATP Panel Refresh Survey conducted for the Pew Research Center. (While it would have been preferable to use a large, federal, in-person survey (such as the American Community Survey or the Current Population Survey) to obtain this parameter estimate, the federal government does not routinely measure Internet access from any location.[[1]](#footnote-1),[[2]](#footnote-2)) Another dimension that is not typically used in weighting protocols for general population household surveys in the US is volunteering. This variable was included in the calibration to adjust for some potential bias due to the over-representation of more politically- and civically-engaged adults of the panel identified in some recent analysis.

# 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 ± 2.75 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 5 below.

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| **Table 5. Design Effect and Effective Sample Size** | | |  |  |
| **Weight Variable** | **Completed Interviews** | **Approximate Design Effect** | **Effective Sample Size** | **Margin of Error (95% confidence level)** |
|
| WEIGHT\_W33 | 2,541 | 1.99 | 1,274 | ± 2.75 |

# Dispositions

The final dispositions and AAPOR rates are reported in Table 6. The survey cooperation rate for Wave 33 itself was 81.9%. Table 7 reports the cumulative response rate for Wave 33 when all stages of recruitment into the panel are taken into account.

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| **Table 6. Final Dispositions for the Wave 33 Web Survey** | | |
| **Final Disposition** | **AAPOR Code1** | **ATP**  **only** |
| Completed interview | 1.1 | 2,541 |
| Logged onto survey; broke-off | 2.12 | 40 |
| Logged onto survey; did not complete any items | 2.1121 | 18 |
| Never logged on (implicit refusal) | 2.11 | 503 |
| **Total Panelists in the Wave 33 Web Survey** | | **3,102** |
| Completed interviews | I | 2,541 |
| Partial interviews | P |  |
| Refusals | R | 561 |
| Non-contact | NC |  |
| Other | O |  |
| Unknown household | UH |  |
| Unknown other | UO |  |
| Not eligible | NE |  |
| **Total** |  | **3,102** |
| AAPOR RR1 = I / (I+P+R+NC+O+UH+UO) |  | 81.9% |

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| --- | --- | --- | --- |
| **Table 7. Cumulative Response Rate** | **ATP only** | | |
| Weighted Response Rate to Recruitment Surveys^ | 10.1% | | |
| Percent of Recruitment Survey Respondents Who Agreed to Join the ATP, Among Those Invited | 50.0% | | |
| Percent of Those Agreeing to Join Who Were Active Panelists at Start of Wave 33 | 56.3% | | |
| Response Rate to ATP Wave 33 Survey | 81.9% | | |
| **Cumulative Response Rate for the Wave 33 Survey** | **2.3%** | | |
| ^ Weighted by the total phone numbers used in each survey | |  |  | |  |  |

\*Note for W33, we calculated the Response Rates by computing the mean rates for the sub-sampled respondents (based on the rates from the recruitment survey they joined the panel on).

1. The July 2011 Current Population Survey estimated that 73% of US residents age 15 and older access the internet from some location. Given the increasing trends in internet access, particularly on mobile devices, this 2011 CPS estimate was deemed too out-of-date to be helpful in the ATP weighting. [↑](#footnote-ref-1)
2. Starting in 2013 the American Community Survey is measuring internet access, but it only measures access inside the sample household. Members of the ATP are permitted to complete the surveys from any location. So the more relevant parameter for the ATP is the proportion of adults who can access the internet from any location, not just at home. [↑](#footnote-ref-2)