Methodology

The American Trends Panel survey methodology

Overview

The American Trends Panel (ATP), created by Pew Research Center, is a nationally representative panel of randomly selected U.S. adults. Panelists participate via self-administered web surveys. Panelists who do not have internet access at home are provided with a tablet and wireless internet connection. Interviews are conducted in both English and Spanish. The panel is being managed by Ipsos.

Data in this report is drawn from the panel wave conducted Jan. 19 to Jan. 24, 2021. A total of 10,334 panelists responded out of 11,675 who were sampled, for a response rate of 89%. This does not include one panelist who was removed from the data due to extremely high rates of refusal or straightlining. The cumulative response rate accounting for nonresponse to the recruitment surveys and attrition is 4%. The break-off rate among panelists who logged on to the survey and completed at least one item is less than 1%. The margin of sampling error for the full sample of 10,334 respondents is plus or minus 1.6 percentage points.

Panel recruitment

The ATP was created in 2014, with the first cohort of panelists invited to join the panel at the end of a large, national, landline and cellphone random-digit-dial survey that was conducted in both English and Spanish. Two additional recruitments were conducted using the same method in 2015 and 2017, respectively. Across these three surveys, a total of 19,718 adults were invited to join the ATP, of whom 9,942 (50%) agreed to participate.

In August 2018, the ATP switched from telephone to address-based recruitment. Invitations were sent to a random, address-based sample of households selected

American Trends Panel recruitment surveys

Recruitment dates	Mode	Invited	Joined	Active panelists remaining
Jan. 23 to March 16, 2014	Landline/ cell RDD	9,809	5,338	2,186
Aug. 27 to Oct. 4, 2015	Landline/ cell RDD	6,004	2,976	1,244
April 25 to June 4, 2017	Landline/ cell RDD	3,905	1,628	622
Aug. 8 to Oct. 31, 2018	ABS/web	9,396	8,778	5,903
Aug. 19 to Nov. 30, 2019	ABS/web	5,900	4,720	2,333
June 1 to July 19, 2020	ABS/web	1,865	1,636	1,272
	Total	**36,879**	**25,076**	**13,560**

Note: Approximately once per year, panelists who have not participated in multiple consecutive waves or who did not complete an annual profiling survey are removed from the panel. Panelists also become inactive if they ask to be removed from the panel.

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from the U.S. Postal Service's Delivery Sequence File. Two additional recruitments were conducted using the same method in 2019 and 2020, respectively. Across these three address-based recruitments, a total of 17,161 adults were invited to join the ATP, of whom 15,134 (88%) agreed to join the panel and completed an initial profile survey. In each household, the adult with the next birthday was asked to go online to complete a survey, at the end of which they were invited to join the panel. Of the 25,076 individuals who have ever joined the ATP, 13,560 remained active panelists and continued to receive survey invitations at the time this survey was conducted.

The U.S. Postal Service's Delivery Sequence File has been estimated to cover as much as 98% of the population, although some studies suggest that the coverage could be in the low 90% range.[1] The American Trends Panel never uses breakout routers or chains that direct respondents to additional surveys.

Sample design

The overall target population for this survey was non-institutionalized persons ages 18 and older, living in the U.S., including Alaska and Hawaii.

This study featured a stratified random sample from the ATP. The sample was allocated according to the following strata, in order: Gen Z (born in year 1997 or later), tablet households, U.S.-born Hispanics, foreign-born Hispanics, high school education or less, foreign-born Asians, not registered to vote, people ages 18 to 34, uses internet weekly or less, non-Hispanic Black adults, nonvolunteers and all other categories not already falling into any of the above.

Questionnaire development and testing

The questionnaire was developed by Pew Research Center in consultation with Ipsos. The web program was rigorously tested on both PC and mobile devices by the Ipsos project management team and Pew Research Center researchers. The Ipsos 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.

Incentives

All respondents were offered a post-paid incentive for their participation. 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. Incentive amounts ranged from $5 to $15 depending on whether the respondent belongs to a part of the population that is harder or easier to reach.

[1] AAPOR Task Force on Address-based Sampling. 2016. "AAPOR Report: Address-based Sampling."

Differential incentive amounts were designed to increase panel survey participation among groups that traditionally have low survey response propensities.

Data collection protocol

The data collection field period for this survey was Jan. 19 to Jan. 24, 2021. Postcard notifications were mailed to all ATP panelists with a known residential address on Jan. 19, 2021.

On Jan. 19 and Jan. 20, invitations were sent out in two separate launches: Soft Launch and Full Launch. Sixty panelists were included in the soft launch, which began with an initial invitation sent on Jan 19, 2021. The ATP panelists chosen for the initial soft launch were known responders who had completed previous ATP surveys within one day of receiving their invitation. All remaining English- and Spanish-speaking panelists were included in the full launch and were sent an invitation on Jan. 20, 2021.

All panelists with an email address received an email invitation and up to two 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 one SMS reminder.

Invitation and reminder dates

	Soft Launch	Full Launch
Initial invitation	Jan. 19, 2021	Jan. 20, 2021
First reminder	Jan. 22, 2021	Jan. 22, 2021
Final reminder	Jan. 24, 2021	Jan. 24, 2021

Data quality checks

To ensure high-quality data, the Center's researchers performed data quality checks to identify any respondents showing clear patterns of satisficing. This includes checking for very high rates of leaving questions blank, as well as always selecting the first or last answer presented. As a result of this checking, one ATP respondent was removed from the survey dataset prior to weighting and analysis.

Weighting

The ATP data was weighted in a multistep process that accounts for multiple stages of sampling and nonresponse that occur at different points in the survey process. First, each panelist begins with a base weight that reflects their probability of selection for their initial recruitment survey (and the probability of being invited to participate in the panel in cases where only a subsample of

respondents were invited). The base weights for panelists recruited in different years are scaled to be proportionate to the effective sample size for all active panelists in their cohort. To correct for nonresponse to the initial recruitment surveys and gradual panel attrition, the base weights for all active panelists are calibrated to align with the population benchmarks identified in the accompanying table to create a full-panel weight.

Weighting dimensions

Variable	Benchmark source
Age x Gender Education x Gender Education x Age Race/Ethnicity x Education Born inside vs. outside the U.S. among Hispanics and Asian Americans Years lived in the U.S.	2019 American Community Survey
Census region x Metro/Non-metro	2019 CPS March Supplement
Volunteerism	2017 CPS Volunteering & Civic Life Supplement
Voter registration	2016 CPS Voting and Registration Supplement
Party affiliation Frequency of internet use Religious affiliation	2020 National Public Opinion Reference Survey

Note: Estimates from the ACS are based on non-institutionalized adults. The 2016 CPS was used for voter registration targets for this wave in order to obtain voter registration numbers from a presidential election year. Voter registration is calculated using procedures from Hur, Achen (2013) and rescaled to include the total U.S. adult population. The 2020 National Public Opinion Reference Survey featured 1,862 online completions and 2,247 mail survey completions.

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For ATP waves in which only a subsample of panelists are invited to participate, a wave-specific base weight is created by adjusting the full-panel weights for subsampled panelists to account for any differential probabilities of selection for the particular panel wave. For waves in which all active panelists are invited to participate, the wave-specific base weight is identical to the full-panel weight.

In the final weighting step, the wave-specific base weights for panelists who completed the survey are again calibrated to match the population benchmarks specified above. These weights are trimmed (typically at about the 1st and 99th percentiles) to reduce the loss in precision stemming from variance in the weights. Sampling errors and test of statistical significance take into account the effect of weighting.

The following table shows the unweighted sample sizes and the error attributable to sampling that would be expected at the 95% level of confidence for different groups in the survey.

Group	Unweighted sample size	Plus or minus ...
Total sample	10,334	1.6 percentage points
Unemployed adults	715	6.0 percentage points

Sample sizes and sampling errors for other subgroups are available upon request. In addition to sampling error, one should bear in mind that question wording and practical difficulties in conducting surveys can introduce error or bias into the findings of opinion polls.

Defining income tiers

To create upper-, middle- and lower-income tiers, respondents' 2019 family incomes were adjusted for differences in purchasing power by geographic region and for household size. "Middle-income" adults live in families with annual incomes that are two-thirds to double the median family income in the panel (after incomes have been adjusted for the local cost of living and for household size). The middle-income range for the American Trends Panel is about $38,900 to $116,800 annually for an average family of three. Lower-income families have incomes less than roughly $38,900, and upper-income families have incomes greater than roughly $116,800 (all figures expressed in 2019 dollars).

Based on these adjustments, among respondents who provided their income and household size, 32% are lower income, 45% are middle income and 19% fall into the upper-income tier. An additional 5% either didn't offer a response to the income question or the household size question.

For more information about how the income tiers were determined, please see here.

Dispositions and response rates

Final dispositions	AAPOR code	Total
Completed interview	1.1	10.334
Logged onto survey; broke off	2.12	67
Logged onto survey; did not complete any items	2.1121	65
Never logged on (implicit refusal)	2.11	1.206
Survey completed after close of the field period	2.27	2
Completed interview but was removed for data quality		1
Screened out		N/A
Total panelists in the survey		**11,675**
Completed interviews	I	10,334
Partial interviews	P	0
Refusals	R	1,339
Non-contact	NC	2
Other	O	0
Unknown household	UH	0
Unknown other	UO	0
Not eligible	NE	N/A
Total		**11,675**
AAPOR RR1 = I / (I+P+R+NC+O+UH+UO)		89%

Cumulative response rate	Total
Weighted response rate to recruitment surveys	11%
% of recruitment survey respondents who agreed to join the panel, among those invited	73%
% of those agreeing to join who were active panelists at start of Wave 81	57%
Response rate to Wave 81 survey	89%
Cumulative response rate	**4%**

Employment analysis

The Current Population Survey (CPS) is the main source of data utilized for this analysis. Conducted jointly by the U.S. Census Bureau and the Bureau of Labor Statistics (BLS), the CPS is the government's official source for monthly estimates of unemployment. The CPS sample covers the civilian, non-institutionalized population. In this report, 12 monthly CPS files in each year were either combined or analyzed separately to generate monthly and annual estimates of employment and unemployment in 2007, 2009, 2019 and 2020. The Census Bureau incorporates updated population estimates in the CPS each January, and this may affect the comparability of some statistics over time. Seasonally adjusted unemployment data was extracted directly from the BLS. Some of the CPS microdata files used in this report are the Integrated Public Use Microdata Series (IPUMS-CPS) provided by the University of Minnesota.[2]

Grouping occupations by wage tiers

Occupations are grouped into three wage tiers – lower, middle and higher – using data from the National Occupational Employment and Wage Estimates program. Based on the semiannual Occupational Employment Statistics (OES) survey conducted by the BLS, the program reports employment and wage data for up to 790 detailed occupations annually. For 2019, annual hourly wage data was available for 730 occupations. Any detailed occupation with missing hourly wage data was assigned the hourly wage from the next higher level of aggregation. For example, the occupation of "legislators, 11-1031" was assigned an hourly wage of $61.09, which is the wage for "top executives, 11-1000."

Because the OES does not report monthly estimates or demographic information, it is necessary to match the OES data to CPS data. Although both the OES and the CPS use the 2010 standard occupational classification, there is one key difference: The OES lists 790 occupations coded at the six-digit level, whereas the CPS lists fewer than 500 occupations coded at the four-digit level, many encompassing more than one six-digit occupation. Thus, the occupational data in the OES must be aggregated to match up to the CPS data. This was done in three steps, as detailed below:

Step 1: The wages for six-digit occupations were aggregated to the four-digit level using an occupational crosswalk from the Bureau of Labor Statistics. For example, "computer support specialists, 1050," a four-digit occupation, consists of the following two six-digit occupations: "computer network support specialists, 15-1151" and "computer user support specialists, 15-1152." In this step of the aggregation process, the wages for these two six-digit occupations are averaged using the share of total employment in each occupation as the weight. In this case, network

[2] Flood, Sarah, Miriam King, Renae Rodgers, Steven Ruggles and J. Robert Warren. Integrated Public Use Microdata Series, Current Population Survey: Version 6.0 [dataset]. IPUMS, 2018.

support specialists have an employment weight of 0.223, which represents 22.3% of total employment in the combined four-digit occupation. The result of this process was the average hourly wage for some 480 four-digit occupations that could be matched to the CPS.

Step 2: Because occupational classifications are frequently revised, an additional step was necessary to match the wages to a harmonized occupation coding scheme that could be used to trace employment and wage trends going back in time. The scheme in the IPUMS-CPS data (OCC2010) provides a consistent, long-term classification of occupations based on the 2010 standard occupational classification. Because of some inconsistencies between the latest CPS occupational codes and the harmonized occupation coding in OCC2010, additional aggregation was needed. For example, the wages for "advertising and promotions managers," "marketing and sales managers" and "public relations managers" – three distinct four-digit occupations in the current CPS – were averaged using employment weights to estimate the wage for "managers in marketing, advertising and public relations" – a single occupation in the time-consistent OCC2010 classification.

Step 3: Finally, some occupations listed in the CPS are not present in the OES data. These occupations were grouped with other similar occupations to ensure all employed individuals in the CPS were assigned to an occupational wage tier. For example, "explosives workers, ordnance handling experts, and blasters, 6830" was reassigned the code "extraction workers, nec, 6940."

The final dataset consisted of 433 time-consistent occupations that were then grouped into three wage tiers. Lower-wage occupations include those with an average hourly wage less than $15 per hour, or less than $30,000 annually for those working 2,000 hours in a year. Middle-wage occupations pay an average hourly wage from $15 to $45 ($30,000 to $90,000 annually), and higher-wage occupations pay more than $45 per hour ($90,000 annually). In 2019, lower-wage occupations accounted for 24% of total employment, middle-wage occupations accounted for 65% and higher-wage occupations employed 11%.