

Democracy Fund + UCLA Nationscape Methodology and Representativeness Assessment

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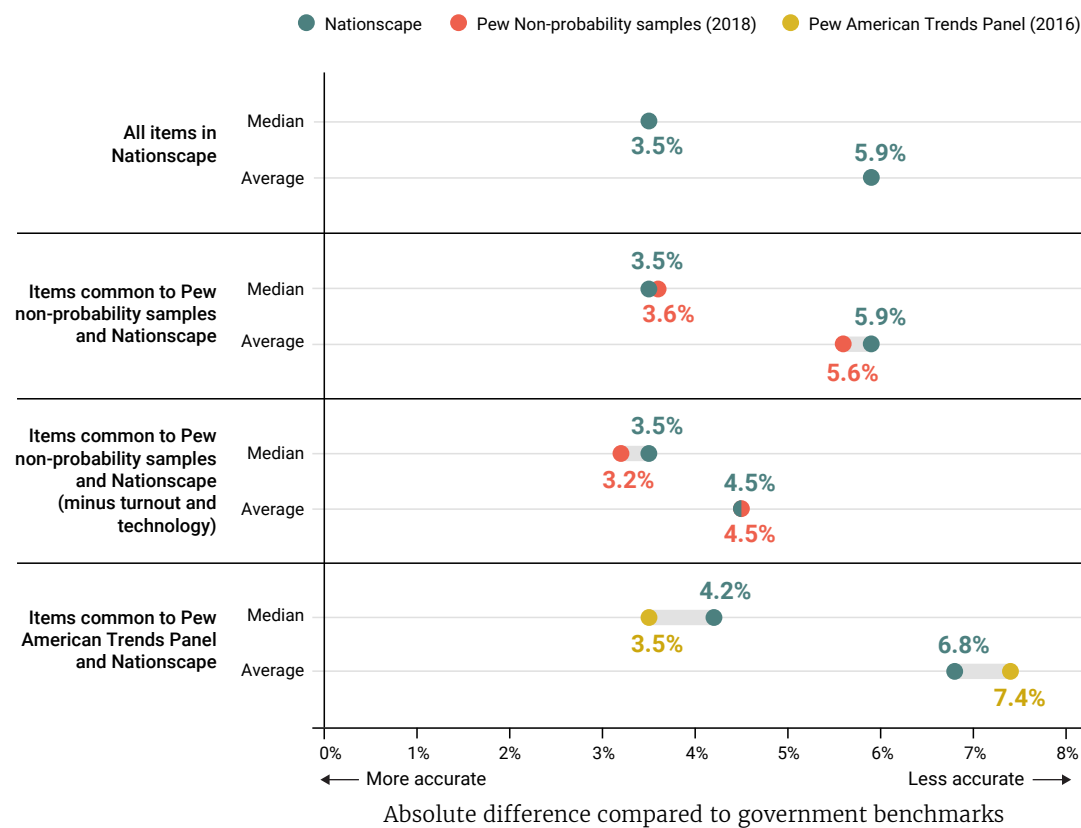
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Executive Summary

In this report, we explain the methodology of Nationscape and the procedures used to estimate population quantities. We evaluate the representativeness of Nationscape by replicating the process used by the Pew Research Center to evaluate the representativeness of online samples. To do so, we asked respondents a set of questions that are also asked on reliable large-sample government surveys. We produced estimates based on responses to these questions using the same procedures that we use to produce our weekly estimates regarding public opinion and the 2020 election. We compare the differences between our estimates and government survey targets to the differences between the online samples that Pew examined and the same government targets. We find that our procedures for Nationscape return estimates that are as close to the government survey targets as the other online samples tested by the Pew Research Center. The median difference between our estimates and the government survey targets was 3.5 percent while the Pew analysis found a median difference of 3.6 percent.

Figure 1

Representativeness of Nationscape Compared to Government Benchmarks, Pew Samples



Methodology

Nationscape is a survey conducting 500,000 interviews of Americans from July 2019 through December 2020, covering the 2020 campaign and election. The survey has been in the field since July 10, 2019, and it includes interviews with roughly 6,250 people per week.

Nationscape samples are provided by Lucid, a market research platform that runs an online exchange for survey respondents. The samples drawn from this exchange match a set of demographic quotas on age, gender, ethnicity, region, income, and education. Respondents are sent from Lucid directly to survey software operated by the Nationscape team. All respondents take the survey online and must complete an attention check before taking the survey. The survey is conducted in English.

The survey data are then weighted to be representative of the American population. Our weights are generated using a simple raking technique, as there is little benefit to more complicated approaches (Mercer et al. 2018). One set of weights is generated for each week’s survey. The targets to which Nationscape is weighted are derived from the adult population of the 2017 American Community Survey of the U.S. Census Bureau. The one exception is the 2016 vote, which is derived from the official election results released by the Federal Election Commission.

We weight on the following factors: gender, the four major census regions, race, Hispanic ethnicity, household income, education, age, language spoken at home, nativity (U.S.- or foreign-born), 2016 presidential vote, and the urban-rural mix of the respondent’s ZIP code. We also weight on the following interactions: Hispanic ethnicity by language spoken at home, education by gender, gender by race, race by Hispanic origin, race by education, and Hispanic origin by education.

Table 1

Weighting Targets (%)

Gender			
Male	48.3	Female	51.7
Census region			
Midwest	20.9	Northeast	17.6
South	37.8	West	23.7
Hispanic ethnicity			
Not Hispanic	83.9	Mexican	9.7
Other	6.4		
Race			
White	74.2	Asian/Pacific	6.8
Black	12.0	Other	7.0
Education			
No diploma	11.9	High school	27.5
Some college	22.2	Associate’s	8.3
Bachelor’s	19.0	Graduate	11.2

Age			
18–23	9.5	24–29	10.9
30–39	17.4	40–49	16.4
50–59	17.4	60–69	15.0
70+	13.3		
Household language			
English only	78.3	Spanish	12.9
Other	8.8		
Country of birth			
United States	82.2	Other	17.8
Household income			
<\$20k	10.7	\$20–35k	11.6
\$35–50k	11.8	\$50–65k	11.3
\$65–80k	9.8	\$80–100k	11.0
\$100–125k	10.5	\$125–200k	14.6
≥\$200k	8.7	Unanswered	*
Metropolitan status			
Pure rural	0.9	Rural metro	23.2
Suburban	24.2	Urb.-suburb.	42.2
Pure urban	9.5		
2016 vote			
Trump	27.2	Clinton	28.4
Other	3.3	No vote	41.0

Additional Notes

Voting

Voting rates for 2016 are adjusted to reflect the inclusion of younger respondents who were not eligible to vote in 2016 and because some survey respondents report voting even though they did not. A -2.7 percentage point adjustment is made for young respondents and a 6.0 percentage point adjustment is made for over-reporting, yielding a target turnout rate of $55.7 - 2.7 + 6.0 = 59.0$ percent.

Income

Nationscape respondents may choose not to provide household income. The target for non-response is constructed as the proportion of Nationscape respondents who did not provide an answer. Targets for response categories are based on American Community Survey responses multiplied by the proportion of who chose to answer the Nationscape income question. In effect, this means non-respondents are not weighted for income.

Metropolitan Status

Metropolitan status is derived by cross-walking Nationscape respondents' ZIP codes to the Census Bureau's Public Use Microdata Areas (PUMAs) using the [2012 MABLE Geocorr](#). Crosswalk is based on population percentage. PUMAs are assigned a metropolitan status based on the average status of American Community Survey respondents within them (see table below). Nationscape respondents' PUMA-level metropolitan statuses are weighted to American Community Survey respondents' PUMA-level metropolitan statuses.

Table 2

Metropolitan Status Translations

	Indiv.	PUMA avg.
Pure rural	0	0.0–0.8
Rural metro	1	0.8–1.6
Suburban	2	1.6–2.4
Urban-suburban	3	2.4–3.2
Pure urban	4	3.2–4.0

Representativeness Assessment

As in almost all contemporary survey research, we do not have a random sample of the population of interest. Instead, we have a convenience sample selected on a set of demographic criteria. Indeed, even true random-digit-dial surveys now typically have such low response rates that theorems based on random sampling do little to ensure the representativeness of the set of people who actually respond to the survey (Kennedy and Deane 2019). Previous evaluations of the samples Lucid provides have found them to be of high quality (Coppock and Green 2016, Coppock and McClellan 2019), although these are not evaluations of all the procedures used here. The purpose of this exercise is to evaluate the capability of Nationscape data to estimate arbitrary population quantities using the procedures that we have put in place.

Strategy

Our strategy for assessing representativeness closely follows the Pew Research Center’s evaluations of online non-probability samples in 2016 and 2018. In particular, Pew compares the estimates generated by several online vendors to estimates of the same quantities in census data and other high-quality sources, primarily the American Community Survey and supplements to the Current Population Study. Pew’s 2016 report assessed the quality of these samples (Kennedy et al. 2016) and its 2018 report assessed how various choices impact quality (Mercer et al. 2018).

Our assessment compares Nationscape results to the results featured in the 2018 Pew report. For a smaller number of items, we also compare Nationscape results to the results from Pew’s American Trends Panel, which was recruited using probability sampling. This comparison uses data from the 2016 report. Following Pew, we calculate the difference between the targets and the estimates across all of our items to assess the survey’s representativeness. Our expectation was to have the same amount of error as Pew, on average.

In a survey conducted from July 11 to 17, 2019, we asked all of the questions from the 2018 Pew report, with the exception of a question asking respondents whether they were citizens.¹

1 This survey was fielded when President Donald Trump was trying to add a citizenship question to the U.S. Census and the U.S. Supreme Court was denying his request to do so. We felt asking this question, which had gotten tremendous news coverage, could potentially lead some people to drop out of the survey.

We also asked 12 additional questions that were not used in the Pew report but can be compared to census sources.

Types of Questions

This exercise involves three main types of survey questions. Some ask respondents to report attitudes, such as whether they trust their neighbors. Other questions are about reported behaviors, such as voter turnout, which depend on respondents' recall. A final type of question asks people to report facts about their lives, such as how many children they have, whether they own their home, or how many cigarettes they have smoked in their lives. In each case, we compare Nationscape results to the results from large government surveys, but there is not a truly verifiable benchmark to be found in administrative data, such as voter or vehicle registrations.

Naturally, any divergence between Nationscape results and government surveys may depend on the type of question. Prior to fielding the assessment survey, we suspected there would be two categories of questions for which survey estimates might be further from census estimates than were the surveys analyzed by the Pew Research Center: voting in prior elections and the use of technology. The surveys analyzed by Pew were conducted immediately following the election about which they asked — thereby reducing memory errors relative to our assessment, which occurred months, and in one case years, from the elections about which we asked.

Similarly, the technologies the census asks about, such as tablets, are changing rapidly. Although we use the most recent census source available, these sources are usually a year old or more, in one case coming from as early as 2013.

The Appendix provides the full list of sources and description of questions used.

Findings

For every question, we first compared the estimates from the online samples analyzed by Pew with the estimates from the government source Pew used for comparison. We computed the absolute value of the difference between those numbers. Then we did the same thing for the Nationscape estimates, comparing them to the most recent estimates provided by the same government sources used by Pew.

We begin by reporting the average and median differences across all of the response categories for every question. Note that this procedure gives equal weight to all response categories, so questions with many categories play a greater role in the average or median.

For the samples analyzed by Pew, the median absolute difference from the government survey benchmarks was 3.6 percent, and the average was 5.6 percent (Table 3). For this same set of survey questions, the median absolute difference between Nationscape and the government survey benchmarks was slightly lower (3.5 percent) and the mean absolute difference was slightly higher (5.9 percent).

If we exclude questions about past voter turnout and technology use, the median and average differences from the government survey benchmarks are slightly lower, both in the

online samples analyzed by Pew and in Nationscape. But again, these online samples and Nationscape perform about equally well.

Table 3

Representativeness of Surveys Compared to Government Benchmarks

	Absolute difference between online samples in Pew report and government benchmarks	Absolute difference between Nationscape and government benchmarks
All items in Nationscape		
Median	NA	3.5%
Average	NA	5.9%
Items common to Pew non-probability samples and Nationscape		
Median	3.6%	3.5%
Average	5.6%	5.9%
Items common to Pew non-probability samples and Nationscape (minus turnout and technology)		
Median	3.2%	3.5%
Average	4.5%	4.5%

Finally, we computed the average and mean differences between the Nationscape estimates and the government sources for all of the questions that we asked, including those not asked by Pew in its assessments. The absolute differences here are similar (a median of 3.5 percent and an average of 5.9 percent).

We also compared Nationscape performance to the Pew American Trends Panel which, as noted earlier, was recruited using probability sampling rather than the non-probability sampling used in many online surveys and in Nationscape. For the items common to both surveys, the American Trends Panel and Nationscape had similar absolute differences from the government survey benchmarks (Table 4).² The median absolute difference was slightly lower in the American Trends Panel (3.5 percent vs. 4.2 percent in Nationscape) but the average difference was slightly higher (7.4 percent vs. 6.8 percent).

Table 4

Representativeness of Pew American Trends Panel and Nationscape Compared to Government Benchmarks

	Absolute difference between Pew American Trends Panel and government benchmarks	Absolute difference between Nationscape and government benchmarks
Median	3.5%	4.2%
Average	7.4%	6.8%

2 The median and average differences in Tables 3 and 4 are different for the Nationscape data because a smaller set of questions was available for comparison with the American Trends Panel estimates.

The Appendix lists all of the estimates for every survey question and all response categories in the online samples analyzed by Pew, the American Trends Panel, and Nationscape. For each response category, we report the government benchmark (“baseline”), the survey result, and the difference between the two. These results show that the Nationscape sample appears to be more civically engaged than the samples analyzed by Pew, relative to government benchmarks. And as we anticipated, the Nationscape data is particularly different from a 2017 government benchmark on the use of tablets or streaming audio.

On some other metrics, such as financial status, Nationscape is closer to these benchmarks — e.g., a difference of 7.7 percent on full-time employment (vs. 14.5 percent in the samples analyzed by Pew) and a difference of 6.4 percent in the number of people collecting food assistance (vs. 12.9 percent). Nationscape is similarly close to benchmarks on questions such as the number of cars that people own, the percentage of the population with a driver’s license, and the percentage with various disabilities.

Conclusion

The methodology employed in Nationscape generates estimates of general population characteristics that are as closely aligned with government survey benchmarks as an average of other online non-probability samples and as one online probability sample. Thus, we believe that Nationscape estimates should be construed as no more or less valid than the estimates from many commercial non-probability samples, including those from vendors used regularly in political polling, as long as conclusions based on Nationscape estimates are tempered with the appropriate degree of uncertainty (as all estimates from surveys must be).

This analysis also speaks to the capacity of Nationscape to generate findings based on more sophisticated methods, particularly as we accumulate large numbers of cases. Given that we can accurately estimate many quantities using a weighted weekly sample, we are optimistic about our ability to estimate trends over time and differences across groups and places once a larger sample is available.

References

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Appendix: Complete results by question

CIVIC ENGAGEMENT

talk_neighbors

Source: Current Population Survey September 2017

https://cps.ipums.org/cps-action/variables/CESOCIALIZE#description_section

During a typical month in the past year, how often did you talk with any of your neighbors?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
A few times a week or more	39.0	51.0	12.0				34.2	49.4	15.2
Basically every day				12.8	15.7	2.9	10.6	13.1	2.5
A few times a week				30.6	32.7	2.1	23.5	36.3	12.8
A few times a month				22.9	23.1	0.2	20.2	24.6	4.4
Once or less than once a month				20.7	12.1	-8.6	22.0	16.0	-6.0
Not at all				13.0	16.2	3.2	23.6	10.0	-13.6

trust_neighbors

Source: Current Population Survey November 2013

https://cps.ipums.org/cps-action/variables/CENEIGHCONF#description_section

How much do you trust the people in your neighborhood? In general, do you trust...

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
All or most of the people in your neighborhood	51.0	52.0	1.0				56.2	58.8	2.6
All of the people in your neighborhood				14.8	13.0	-1.8	15.6	11.7	-3.9
Most of the people in your neighborhood				40.2	43.6	3.4	40.6	47.1	6.5
Some of the people in your neighborhood				35.8	33.0	-2.8	35.0	32.4	-2.6
None of the people in your neighborhood				9.3	10.0	0.7	8.8	8.8	0.0

comm_assoc

Source: Current Population Survey November 2013

https://cps.ipums.org/cps-action/variables/CEORGCOR#description_section

In the last 12 months, that is since July 2018, have you participated in a school group, neighborhood, or community association such as PTA or neighborhood watch group?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
No				85.7	79.1	-6.6	86.0	75.8	-10.2
Yes	13.0	22.0	9.0	14.3	20.5	6.2	14.0	24.2	10.2

volunteer

Source: Current Population Survey September 2017
https://cps.ipums.org/cps-action/variables/VLSTATUS#description_section

In the last 12 months, that is since July 2018, have you done any volunteer activities through or for an organization?

	Pew ATP 2016			Pew 2018			Nationscape		
No				75.0	52.4	-22.5	71.9	48.7	-23.3
Yes	25.0	58.0	33.0	24.8	47.2	22.5	28.1	51.3	23.3

Note: The variable used to produce this estimate is a recode of two questions from the CPS. The second question clarifies the definition of 'volunteer activities' and is asked if respondents skipped or answered no to the first question.

FINANCIAL

employ_status

Source: General Social Survey 2018
<https://gssdataexplorer.norc.org/variables/3/vshow>

Last week, were you working full time, part time, going to school, keeping house, or what?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
In school				3.3	4.2	0.9	4.8	3.4	-1.4
Keeping house				10.6	12.9	2.3	10.8	12.1	1.3
Retired				17.5	23.0	5.5	15.6	21.3	5.7
Unemployed, laid off, looking for work				4.3	10.9	6.6	3.6	7.2	3.6
With a job, but not at work because of temporary illness, vacation, or strike				2.0	2.1	0.1	2.5	2.5	0.0
Working full time				48.7	34.2	-14.5	49.7	42.0	-7.7
Working part time				13.6	12.4	-1.2	11.2	11.3	0.1

housing

Source: American Community Survey 2017
https://usa.ipums.org/usa-action/variables/OWNERSHP#description_section

Is your house, apartment, or mobile home...

	Pew ATP 2016			Pew 2018			Nationscape		
Occupied without payment or rent				1.6	3.1	1.4	1.5	1.8	0.3
Owned by you or someone in your household free and clear				22.6	22.7	0.1	23.2	21.9	-1.3
Owned by you or someone in your household with a mortgage or loan				43.8	39.2	-4.6	44.1	46.0	1.9
Rented				31.9	34.6	2.7	31.1	30.2	-0.9

food_stamp

Source: Current Population Survey Annual Social and Economic Supplement 2018
https://cps.ipums.org/cps-action/variables/FOODSTMP#description_section

Did anyone in your household get food stamps or use a food stamp benefit card at any time during 2018?

	Pew ATP 2016			Pew 2018			Nationscape		
No				89.4	76.0	-13.4	91.3	84.9	-6.4
Yes				10.6	23.5	12.9	8.7	15.1	6.4

insured

Source: Current Population Survey Annual Social and Economic Supplement 2018
https://cps.ipums.org/cps-action/variables/ANYCOVNW#description_section

Are you covered by any kind of health insurance or some other kind of health care plan? This includes health insurance obtained through employment or purchased directly as well as government programs like Medicare and Medicaid that provide medical care or help pay medical bills.

	Pew ATP 2016			Pew 2018			Nationscape		
No				10.4	14.1	3.7	10.5	14.2	3.7
Yes	86.0	84.0	-2.0	89.0	85.3	-3.7	89.5	85.8	-3.7

FAMILY

marital_status

Source: Current Population Survey May 2019
https://cps.ipums.org/cps-action/variables/MARST#description_section

What is your marital status?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
Divorced				11.5	12.7	1.2	10.6	10.4	-0.2
Never married/single	30.0	25.0	-5.0	30.0	31.1	1.2	28.9	25.9	-3.0
Now married				50.5	48.1	-2.4	52.3	57.1	4.8
Separated				2.1	2.3	0.2	2.0	2.5	0.5
Widowed				5.9	5.4	-0.5	6.1	4.1	-2.0

children_household

Source: American Community Survey 2017
 Constructed from https://usa.ipums.org/usa-action/variables/SERIAL#description_section and https://usa.ipums.org/usa-action/variables/AGE#description_section

How many children, younger than 18 years of age, live in your household?

	Pew ATP 2016			Pew 2018			Nationscape		
No children / NA				65.0	65.2	0.2	66.2	61.5	-4.7
One or more	35.0	27.0	-8.0	35.0	33.9	-1.1	33.8	38.5	4.7

Note: This figure is calculated by counting the number of children under 18 in each ACS household.

family_size

Source: Current Population Survey May 2019

https://cps.ipums.org/cps-action/variables/FAMSIZE#description_section

How many family members, including yourself, live in your household? Family members include anyone related to you by blood, marriage, or adoption.

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
Only me							19.1	20.0	0.9
2							33.4	32.8	-0.6
3							17.2	18.2	1.0
4							16.4	16.8	0.4
5 or more							14.0	12.3	-1.7

total_household

Source: American Community Survey 2017

Constructed from https://usa.ipums.org/usa-action/variables/SERIAL#description_section and https://usa.ipums.org/usa-action/variables/AGE#description_section

How many adults, ages 18 and older, including yourself, live in your household? AND, how many children, younger than 18 years of age, live in your household?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
1				15.2	21.1	5.9	16.4	13.1	-3.3
2				32.9	32.7	-0.2	32.6	34.3	1.7
3 or more				51.9	45.0	-6.9	51.0	52.3	1.3

Note: This figure is calculated by adding the number of adults in each ACS household to the number of children under 18 in each ACS household.

PERSONAL

active_duty

Source: Current Population Survey May 2019

https://cps.ipums.org/cps-action/variables/UH_VETEVR_1#description_section

Have you ever served on active duty in the U.S. Armed Forces, Reserves, or National Guard?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
Have been on active duty				8.0	11.2	3.2	7.2	11.9	4.7
Have never been on active duty				92.0	88.4	-3.6	92.8	88.0	-4.8

Note: The variable used to produce this estimate is a recode that collapses people who are currently on active duty and people who were on active duty in the past, and does not consider Reserves or National Guard as active duty.

gun_ownership

Source: General Social Survey 2018

<https://gssdataexplorer.norc.umd.edu/variables/679/vshow>

Do you happen to have in your home or garage any guns or revolvers?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
No				67.4	69.8	2.4	64.7	68.2	3.5
Yes				32.6	29.4	-3.2	35.3	31.8	-3.5

food_allergy

Source: National Health and Nutrition Examination Survey 2010
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4623408/>

Do you have any food allergies?

	Pew ATP 2016			Pew 2018			Nationscape		
No				89.8	86.1	-3.7	87.0	85.6	-1.4
Yes				10.0	13.7	3.6	13.0	14.4	1.4

smoked1

Source: National Health Interview Survey 2018
https://www.cdc.gov/nchs/nhis/nhis_2018_data_release.htm

Have you smoked at least 100 cigarettes in your entire life?

	Pew ATP 2016			Pew 2018			Nationscape		
Never smoked				62.8	53.9	-8.9	60.2	58.8	-1.4
No longer smoke				21.8	20.4	-1.3	24.7	20.4	-4.3
Smoke every day	13.0	15.0	2.0	11.4	18.8	7.4	11.2	16.0	4.8
Smoke some days				3.7	6.5	2.8	3.6	4.8	1.2

Note: The variable used to produce this estimate collapses two questions from the NHIS.

lived_home_1year

Source: Current Population Survey Annual Social and Economic Supplement 2018
https://cps.ipums.org/cps-action/variables/MIGRATE1#description_section

Did you live in your house or apartment one year ago?

	Pew ATP 2016			Pew 2018			Nationscape		
Different house or apartment	15.0	17.0	2.0				9.9	11.7	1.8
Different house or apartment in the United States				13.6	10.3	-3.3	9.5	10.5	1.0
Different house or apartment outside of the United States				0.7	1.6	0.9	0.4	1.2	0.8
Same house or apartment				85.7	87.5	1.8	90.2	88.3	-1.9

POLITICAL

contacted_official

Source: Current Population Survey September 2017
https://cps.ipums.org/cps-action/variables/CEPUBOFF#description_section

In the last 12 months, that is since July 2018, have you contacted or visited a public official — at any level of government — to express your opinion?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
No				88.4	80.1	-8.3	87.8	79.7	-8.1
Yes				11.6	19.4	7.8	12.2	20.3	8.1

voted_2016

Source: Current Population Survey Voting and Registration Supplement 2016
https://cps.ipums.org/cps-action/variables/VOTED#description_section

In the 2016 presidential election between Donald Trump and Hillary Clinton, did things come up that kept you from voting, or did you happen to vote?

	Pew ATP 2016			Pew 2018			Nationscape		
Did not vote				49.8	40.8	-9.1	44.0	40.0	-4.0
Voted				50.2	58.8	8.6	56.0	60.0	4.0

Note: NS did not make the same Pew or CPS adjustments noted here <https://assets.pewresearch.org/wp-content/uploads/sites/12/2018/01/24160939/Appendix-D.pdf>

voted_2018

Source: Current Population Survey Voting and Registration Supplement 2018
https://cps.ipums.org/cps-action/variables/VOTED#description_section

In the 2018 midterm election, did things come up that kept you from voting, or did you happen to vote?

	Pew ATP 2016			Pew 2018			Nationscape		
Did not vote				67.3	48.1	-19.1	46.6	43.2	-3.4
Voted				32.7	51.1	18.4	53.4	56.8	3.4

TECHNOLOGY

social_networking

Source: Current Population Survey Computer and Internet Supplement November 2017
https://thedataweb.rm.census.gov/ftp/cps_ftp.html
<https://www2.census.gov/programs-surveys/cps/techdocs/cpsnov17.pdf>

What about social networks, such as Facebook, Twitter, or Instagram? Do you use social networks?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
No				32.5	22.1	-10.4	11.6	14.3	2.7
Yes				67.5	77.5	10.0	88.4	85.7	-2.7

tablet

Source: Current Population Survey Computer and Internet Supplement November 2017
https://thedataweb.rm.census.gov/ftp/cps_ftp.html
<https://www2.census.gov/programs-surveys/cps/techdocs/cpsnov17.pdf>

Do you use a tablet or e-book reader?

	Pew ATP 2016			Pew 2018			Nationscape		
No				62.6	47.9	-14.7	68.7	41.4	-27.3
Yes				37.4	51.5	14.1	31.3	58.6	27.3

texting

Source: Current Population Survey Computer and Internet Supplement November 2017

https://thedataweb.rm.census.gov/ftp/cps_ftp.html

<https://www2.census.gov/programs-surveys/cps/techdocs/cpsnov17.pdf>

What about texting or instant messaging? Do you text or use instant messaging?

	Pew ATP 2016	Pew 2018			Nationscape		
No		17.6	22.5	5.0	4.6	7.2	2.6
Yes		82.4	77.1	-5.3	95.4	92.8	-2.6

streaming_video

Source: Current Population Survey Computer and Internet Supplement November 2017

https://thedataweb.rm.census.gov/ftp/cps_ftp.html

<https://www2.census.gov/programs-surveys/cps/techdocs/cpsnov17.pdf>

What about streaming or watching videos? Do you watch videos over the internet? Examples include YouTube and Netflix.

	Pew ATP 2016	Pew 2018			Nationscape		
No					14.0	13.1	-0.9
Yes					86.0	86.9	0.9

streaming_audio

Source: Current Population Survey Computer and Internet Supplement November 2017

https://thedataweb.rm.census.gov/ftp/cps_ftp.html

<https://www2.census.gov/programs-surveys/cps/techdocs/cpsnov17.pdf>

What about streaming or downloading music, radio programs, or podcasts? Do you stream or download music, radio programs, or podcasts?

	Pew ATP 2016	Pew 2018			Nationscape		
No					21.3	37.4	16.1
Yes					78.7	62.6	-16.1

financial_services

Source: Current Population Survey Computer and Internet Supplement November 2017

https://thedataweb.rm.census.gov/ftp/cps_ftp.html

<https://www2.census.gov/programs-surveys/cps/techdocs/cpsnov17.pdf>

What about financial services such as banking, investing, or paying bills online? Do you use the Internet for financial services such as banking, investing, or paying bills online?

	Pew ATP 2016	Pew 2018			Nationscape		
No					13.5	15.5	2.0
Yes					86.5	84.5	-2.0

internet_access

Source: American Community Survey 2016

<https://www.census.gov/content/dam/Census/library/publications/2018/acs/ACS-39.pdf>

Do you or any member of your household have access to the Internet using a...

	Pew ATP 2016			Pew 2018			Nationscape		
Broadband (high speed) internet service such as cable, fiber optic, or DSL service installed in your household							82.2	86.6	4.4
Cellular data plan for a smartphone or other mobile device							83.3	90.8	7.5
Satellite internet service installed in your household							7.7	23.1	15.4
Dial-up internet service installed in your household							2.6	8.9	6.3

VEHICLES

vehicles

Source: American Community Survey 2017

https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_17_5YR_B08201&prodType=table 2017

How many automobiles, vans, and trucks of one-ton capacity or less are kept at home for use by members of your household?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
None							8.8	10.4	1.6
One							33.2	31.8	-1.4
Two							37.4	39.2	1.8
Three							14.2	12.7	-1.5
Four or more							6.4	6.0	-0.4

DISABILITY

deaf

Source: Current Population Survey May 2019

https://cps.ipums.org/cps-action/variables/DIFFHEAR#description_section

Are you deaf or do you have serious difficulty hearing?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
No							96.5	93.8	-2.7
Yes							3.5	6.2	2.7

mobility

Source: Current Population Survey May 2019

https://cps.ipums.org/cps-action/variables/DIFFPHYS#description_section

Do you have serious difficulty walking or climbing stairs?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
No							92.9	88.4	-4.5
Yes							7.1	11.6	4.5

ARTS

arts

Source: National Endowment of the Arts Survey of Public Participation in the Arts 2017
<https://www.arts.gov/sites/default/files/2017-sppapreviewREV-sept2018.pdf>

In the last 12 months, have you done any of the following?

		Pew ATP 2016			Pew 2018			Nationscape		
		Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
Go out to the movies or go see any films	No							41.3	30.6	-10.7
	Yes							58.7	69.4	10.7
Read any books of any type	No							47.3	25.1	-22.2
	Yes							52.7	74.9	22.2
Visit an art museum or gallery	Yes							23.7	34.3	10.6
	No							76.3	65.7	-10.6
Visit a historic park or monument or tour a building/neighborhood for historic design	Yes							28.3	50.3	22.0
	No							71.7	49.7	-22.0
Visit a crafts fair or visual arts festival	No							76.2	61.2	-15.0
	Yes							23.8	38.8	15.0

MISCELLANEOUS

license

Source: American Community Survey 2016/Current Population Survey 2017
<https://www.pewresearch.org/methods/2018/10/09/rbs-and-rdd-surveys-show-similar-levels-of-accuracy-when-compared-with-population-benchmarks/>

Do you currently have a valid driver's license, or not?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
Yes	86.0	86.0	0.0				88.0	87.5	-0.5
No							12.0	12.5	0.5

sleep

Source: American Community Survey 2016/Current Population Survey 2017
<https://www.pewresearch.org/methods/2018/10/09/rbs-and-rdd-surveys-show-similar-levels-of-accuracy-when-compared-with-population-benchmarks/>

On average, how many hours of sleep do you get in a 24-hour period?

	Pew ATP 2016			Pew 2018			Nationscape		
	Baseline	Result	Difference	Baseline	Result	Difference	Baseline	Result	Difference
Less than 7 or more than 9 hours							36.0	48.5	12.5
7 to 9 hours							64.0	51.5	-12.5

yoga

Source: American Community Survey 2016/Current Population Survey 2017

<https://www.pewresearch.org/methods/2018/10/09/rbs-and-rdd-surveys-show-similar-levels-of-accuracy-when-compared-with-population-benchmarks/>

During the past 12 months, did you practice Yoga for yourself?

	Pew ATP 2016			Pew 2018			Nationscape		
No							86.0	80.1	-5.9
Yes							14.0	19.9	5.9

high_bp

Source: American Community Survey 2016/Current Population Survey 2017

<https://www.pewresearch.org/methods/2018/10/09/rbs-and-rdd-surveys-show-similar-levels-of-accuracy-when-compared-with-population-benchmarks/>

Have you ever been told by a doctor or other health professional that you had hypertension, also called high blood pressure?

	Pew ATP 2016			Pew 2018			Nationscape		
No							69.0	65.0	-4.0
Yes							31.0	35.0	4.0