

# National Wellbeing Survey (NWS), 2021

## Methodology Report

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## Overview

The National Wellbeing Survey (NWS) is a non-probability cross-sectional survey of non-institutionalized adults aged 18 to 64 in the United States. The 2021 NWS was administered online from February 1 to March 18, 2021. The sample frame included non-institutionalized adults in the United States who ranged in age from 18 to 64 years old and who were able to read English. NWS sample participants were recruited online through Qualtrics Panels. Respondents were asked to complete a 25-minute survey. The survey was available only in English. Survey topics included psychosocial wellbeing, social relationships and support, participation in social activities, physical health, mental health, health behaviors, health care use, employment quality and experiences, COVID-19 experiences, socioeconomic measures, political orientation, and demographic measures. The final sample included 4,1014 respondents. The restricted use version of the data includes geographic identifiers for states (N=51) and counties (N=1,430). A post-stratification weight is included to make the analyses representative of the U.S. population ages 18-64 by age, sex, race, Hispanic ethnicity, educational attainment, and rural-urban continuum. Additional details about the NWS methodology are provided in the sections below.

## Motivation

Although there are several existing national health surveys that collect data from the U.S. working-age population (e.g., Behavioral Risk Factor Surveillance System, National Health and Nutrition Examination Survey, National Health Interview Survey, National Survey of Drug Use and Health), none include all three of the following features:

1. A comprehensive array of physical health, mental health, and psychosocial wellbeing measures.
2. A large enough sample of nonmetropolitan respondents to enable metro-nonmetro and within-nonmetro comparisons and a measure to identify a respondent's rural-urban continuum code.
3. State and county geographic identifiers to enable linkage to contextual data.

The NWS includes all three features. The NWS was designed to support research to assess population-level wellbeing, broadly defined (physical health, mental health, psychosocial wellbeing, social relationships, employment quality, financial wellbeing) and identify how wellbeing varies by demographic group and geography. Given that the 2021 NWS was administered within the first year of the COVID-19 pandemic, the survey also includes a module to assess respondents experiences during the pandemic.

## Sampling and Survey Administration

### Overview

Respondents were sampled from Qualtrics Panels. The sample source and procedures are described in the following sections. NWS 2021 aimed to have completed surveys from at least 4,000 respondents based on sampling quota described below. The final sample included 4,014 respondents.

### Sample Quotas

The target population for the NWS is the U.S. population ages 18-64. To create a demographically representative sample of adults ages 18-64 by age, sex, race, and Hispanic

ethnicity quotas were determined using the 2015-2019 American Community Survey estimates from the U.S. Census Bureau for each of these demographic characteristics.

In addition, we created quotas to recruit a sufficient sample of nonmetropolitan residents to enable statistical power to conduct robust metro-nonmetro and within-nonmetro analysis. We defined metropolitan status at the county level using the Rural-Urban Continuum Code (RUCC) classification from the USDA Economic Research Service (<https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/documentation/>). Below is the list of RUCC codes. We merged quotas for RUCCs 4 & 5, 6 & 7, and 8 & 9.

Metro counties:

- 1 Counties in metro areas of 1 million population or more
- 2 Counties in metro areas of 250,000 to 1 million population
- 3 Counties in metro areas of fewer than 250,000 population

Nonmetro counties:

- 4 Urban population of 20,000 or more, adjacent to a metro area
- 5 Urban population of 20,000 or more, not adjacent to a metro area
- 6 Urban population of 2,500 to 19,999, adjacent to a metro area
- 7 Urban population of 2,500 to 19,999, not adjacent to a metro area
- 8 Completely rural or less than 2,500 urban population, adjacent to a metro area
- 9 Completely rural or less than 2,500 urban population, not adjacent to a metro area

We sought to include an oversample of residents of nonmetropolitan counties, so that at least 22.5% of completed surveys would be from residents of nonmetropolitan counties as defined by the U.S. Department of Agriculture Economic Research Service (USDA ERS 2013). The final sample included 1,136 (28.3%) respondents whose reported county of residence was classified as nonmetropolitan.

## Overview of Qualtrics Panels

Qualtrics Panels comprise partner-based databases of several million U.S. adults who volunteer to participate in surveys. Qualtrics recruits participants from various sources, including website intercept recruitment, member referrals, targeted email lists, gaming sites, customer loyalty web portals, permission-based networks, and social media. Consumer panel members' names, addresses, and dates of birth are typically validated via third-party verification measures prior to their joining a panel. Some panel participants (e.g. via B2B) are subject to additional quality control measures such as LinkedIn matching, phone calls to the participant's place of business, and other third-party verification methods (TrueSample, RelevantID, Verity, etc.). Qualtrics compensates respondents in various ways (e.g., airline miles, gift cards) agreed upon when the member joins the panel. Online panels are increasingly used in social science research due to efficiency, cost, timeliness, and data quality (Hays 2015).

## Sample Recruitment

Panel members received an email invitation to complete the NWS from Qualtrics. Qualtrics targeted respondents based on demographics to meet our quotas. Qualtrics conducted all respondent recruitment in batches. Qualtrics first targeted populations that are more difficult to reach via online surveys, including Hispanic and rural respondents. As quotas for these populations were reached, recruitment shifted to easier to reach populations. Participants were only compensated for complete surveys, a condition agreed to before they began the survey. Qualtrics survey administrators determined whether a survey was completed to a satisfactory level to earn compensation.

A note on geographic identifiers: Although restricted data users are able to identify respondents' states and counties of residence, data users should not attempt to produce state- or county-level estimates from the survey data. The sampling procedure was not designed to attain within-state or within-county quotas. The quotas and post-stratification survey weight are designed to make results demographically representative *only at the national level*. Any state- or county-level estimates derived from the individual-level survey data would be prone to severe bias.

### Survey Administration

Data collection occurred from February 1, 2021 to March 18, 2021. The NWS survey was administered via Qualtrics using Syracuse University's branded Qualtrics account. We enabled the "prevent ballot box stuffing" feature to prevent multiple responses from the same device. While the Qualtrics platform enables collection of personal and location identifiers, Qualtrics does not share that information with us. This helps protect respondent anonymity.

### Sample Quality Control

As collected surveys began reaching 4,000, Qualtrics ran quality checks. These included checking for and deleting:

1. Flatliners: This measures for attention by evaluating respondents' selections to matrix style questions. Respondents are flagged for straight-lining when the same answer choice is selected across most or all of the entire grid(s).
2. Multi-Response Check: Respondents selected almost all options in at least one select-all-that-apply, displaying click-through behavior.
3. Inattentive: Respondents who take an inordinate amount of time (600+ minutes) completing the survey compared to others, provide signs of contradictory responses, or show signs of excessive selection in a multi-response set are flagged for inattention.
4. Speeder: Respondents who speed through the survey. This includes respondents who took less than 5.46 minutes to complete the survey (a point set by Qualtrics based upon the median survey completion time during pre-launch – the first 100 surveys).
5. Garbage and Profane Responses: Respondents who entered gibberish (keyboard banging), repetitive verbatims, and profanity to the text response options are flagged for signs of poor quality.
6. Suspicious Responses: Respondents who entered suspicious open-ended responses (e.g. irrelevant or similar responses across multiple text response options).

Qualtrics gives respondents an overall score, or "bad rate" based on the quality checks above. For example, if a respondent showed patterns of straight-lining for grid questions that would be expected to have varying response for the average individual, that offense would contribute to a higher "bad rate" than in a case where it's reasonable that someone might "Agree" with 5 statements in a row.

Following Qualtrics screening, we conducted additional internal data screening. This included the following:

1. False Veteran Information: Identifying respondents who indicated they served in the military prior to December 1969. This would not be possible based on respondent age.
2. Age-Veteran Mismatch: Identifying respondents who indicated they served in the military between 2001 and November 1969, but also indicated that they were under age 35 at the beginning of the survey.
3. Inattentiveness: Identifying respondents who failed 3 out of 3 additional internal checks. These checks consisted of 3 paired statements within a matrix to which respondents indicated the extent to which they agreed or disagreed with the statement. When

respondents agreed to both items in a pair or disagreed to both items in a pair, this resulted in a flag. The pairs consisted of the following:

- a. “It does not take me long to recover from a stressful event” (Q7\_3) and “It is hard for me to snap back when something bad happens” (Q7\_4)
- b. “I usually come through difficult times with little trouble” (Q7\_5) and “I tend to take a long time to get over setbacks in my life” (Q7\_6)
- c. “My job allows me to make a lot of decisions on my own” (Q46\_1) and “I have very little freedom to decide how to do my work” (Q46\_2)

Respondents who failed the false veteran information or age-veteran mismatch checks were automatically removed from the sample. In addition, respondents who failed all three of the inattentiveness checks were also removed from the sample.

### **Response Rate**

The traditional survey response rate is not a useful measure for considering the quality of opt-in online panels because they use passive recruitment (e.g., invitation could be embedded in a longer email, repeated invitations are not sent), and the traditional response rate does not account for whether the email was deleted without opening or sent to junk folders. The *traditional response rate* (# completed/# invited) was 18.1% (5,398/29,760). However, the *completion rate* is a better measure. Of the 13,635 panel members who accessed the NWS landing page and reviewed the informed consent, 5,398 met the eligibility criteria and completed the survey (39.6%) and 4,014 met the data quality threshold (described above), a quality completion rate of 29.4%. Average completion time for the accepted quality responses (N=4,014) was 22 minutes (median=16 minutes).

## **Survey Design**

### **Overview**

The 2021 NWS was designed by Principal Investigator Shannon Monnat and affiliates of the Syracuse University Lerner Center for Public Health Promotion and Population Health. Several survey questions were taken from gold standard surveys, such as the Behavioral Risk Factor Surveillance System, the National Health Interview Survey, and the Survey on Drug Use and Health, enabling comparisons of responses with those other surveys. The final NWS survey instrument was submitted for review (IRB #20-290) to the Institutional Review Board at Syracuse University. It received approval as an Exempt Protocol in December 2020.

### **Pretesting**

We pretested a draft of the survey on a convenience sample of 50 individuals we identified. Pretesters included Syracuse University faculty members, graduate students, staff, and friends and family. We asked pretesters to identify any issues or errors in the survey, including inaccurate skip patterns and confusing questions.

### **Survey Components**

The 2021 NWS is divided into one consent and one screener component and 8 thematic modules (shown below). While demographic information was reserved for the second to last component of the survey, six questions (age, sex, Hispanic ethnicity, race, state of residence, and county of residence) were moved to the screener component to filter respondents based on characteristics that met specific demographic quotas.

## Domains

1. *Global Life Satisfaction and Psychological Wellbeing*. 16 out of 18 measures are adapted from “World Values Survey” (Ortiz-Ospina & Roser, 2013), “The Cantril Self-Anchoring Striving Scale” (Gallup, 2012), “Gallup” (Gallup, 2018), “The Satisfaction With Life Scale (Diener, Emmons, Larsen, & Griffin, 1985)”, and “The brief resilience scale: assessing the ability to bounce back” (Smith et al., 2008).
2. *Social Relationships and Support*. 11 out of 15 measures are adapted from “UCLA 20-Item Loneliness Scale & UCLA 3-Item Loneliness Scale” (Russell, 1996), “Pew Research Center 2014 Religious Landscape Study (RLS-II)” (Pew Research Center, 2022), and “National Social Life, Health, and Aging Project (NSHAP)” (Waite et al., 2011).
3. *Physical and Mental Health*. 7 out of 47 measures are adapted from “Midlife in the United States (MIDUS 2), 2004-2006” (Barger, 2006), “Behavioral Risk Factor Surveillance System” (Centers for Disease Control and Prevention, 2020), “Canadian Community Health Survey and Medical Expenditure Survey” (Ahmad, Jhaji, Stewart, Burghardt, & Bierman, 2014), and “PHQ-4: The Four-Item Patient Health Questionnaire for Anxiety and Depression” (Kroenke, Spitzer, Williams, & Löwe, 2009).
4. *Health Behaviors*. 6 of 22 measures are adapted from “2015 National Health Interview Survey Adult Questionnaire” (National Center for Health Statistics, 2016), “2007- 2008 National Health and Nutrition Examination Survey (NHANES)” (Centers for Disease Control and Prevention & National Center for Health Statistics), “2018 National Health Interview Survey Adult Questionnaire” (National Center for Health Statistics, 2019), and “Health Behavior in School-Aged Children (HBSC), 2005-2006” (Iannotti, 2012).
5. *Employment and Income*. 6 out of 78 measures are adapted from “2018 National Panel Survey of Demographic, Structural, Cognitive, and Behavioral Characteristics” (Bruce, Wu, Lustig, Russell, & Nemecek, 2019), “Consumer Financial Protection Bureau Questionnaire” (Consumer Financial Protection Bureau, 2015), and “American Community Survey” (U.S. Census Bureau, 2022)
6. *COVID-19* includes 35 measures.
7. *Demographic Information*. 15 out of 27 measures are adapted from “Behavioral Risk Factor Surveillance System” (Centers for Disease Control and Prevention, 2020), “National Survey of Veterans” (U.S. Department of Veterans Affairs, 2017), “American Community Survey” (U.S. Census Bureau, 2022), “National Health Interview Survey” (Pew Research Center, 2018), and “2018 Pew Research Center’s American Trends Panel” (Pew Research Center, 2018).
8. *Politics* includes 4 measures.

## Data Cleaning

We completed the following data cleaning procedures:

Removing Potentially Identifiable Text: While the survey did not ask questions intended to elicit identifiable information, it was possible for respondents to insert such information into the textual responses. Therefore, we combed the text responses to delete any such instances should they occur. No identifiable information was provided in any text response.

Recoding Missing Values: For questions that asked responses to ‘select all’ response options that apply to them, we created separate variables for each response option. In most cases, missing values originally indicated that the response was not chosen. We recoded these missing values to 0. In addition, due to skip patterns (see codebook), some questions were not asked of all respondents. In these cases, we assigned a value of ‘96’ to respondents who were

outside of the universe (i.e., were not asked the question). In cases where there was a skip pattern for a 'select all that apply' question, a '96' indicates the respondent is outside of the universe, and a '0' indicates that the response option was not selected.

Recoding Other Options: For several survey questions, respondents had the option to choose 'Other' and provide a follow-up text response. In some cases, the answer provided in the text box clearly aligned with one of the available response options. In these cases, we recoded the respondent's answer from 'Other' to the aligned response option. In all cases where we recoded a respondent from 'Other' to an available response option, we created a \_FLAG variable, where respondents are coded '1' if we changed the response from 'Other' to an available option. For some variables where a substantial number of respondents entered text that did not match an available response option but represented a common answer, we created a new variable and assigned those respondents a value of '1' on the new variable. An example of this is Q70\_PrecariousShelter. Over a dozen respondents indicated a precarious type of shelter (e.g. homeless, tent, camper, shelter) in their text response. Because we did not have an original response option for precarious shelter, we created a new variable to designate these respondents as having precarious shelter.

### Derived Variables

We created the following additional variables from other information available in the dataset. Additional information about each variable can be found in the codebook.

1. Variable Name: RUCC  
This variable assigns each respondent a Rural-Urban Continuum Code (USDA ERS 2013 designations) based on their responses to the state and county of residence questions. Scores from 1 to 9.
2. Variable Name: RaceRec  
This variable used responses to the HISPANIC and RACE\_ questions to create a combined Race/Ethnicity variable.
3. Variable Names: FIPS, State\_FIPS, County\_FIPS  
These variables were created to allow users to link respondents to other county- and state-level datasets. These variables are available only in the restricted use version of the data.
4. Variable Name: CountyState  
This variable allows respondents to see the full county and state names associated with each respondent's residence. This variable is available only in the restricted use version of the data.

## **Data Representativeness and Comparability**

### **Survey Weights**

Screening questions were used to ensure a demographically representative sample by age, sex, race, and Hispanic ethnicity. However, because we oversampled nonmetropolitan residents, Qualtrics created a final survey weight (final\_wgt). When the weight is applied to the analysis, the results are demographically representative of the U.S. population ages 18-64 by age, sex, race/ethnicity, educational attainment, and RUCC.

Table 1 below present the unweighted and weighted percentage distributions for sex, race/ethnicity, age, and RUCC as well as the target used to establish the weights and the



subsequent variance between the weighted percentage and target. Notes: Target population percentages were derived from the U.S. Census Bureau American Community Survey, 2015-2019.

<sup>1</sup> The U.S. Census Bureau does not provide estimates of the non-binary population.

<sup>2</sup> Educational attainment is excluded from the survey weight calculation for respondents ages 18-24.

Table 2 below includes the final sample size, weight efficiency, and min and max values for the weighting variable.

Table 1. Unweighted and Weighted Percentage Distributions of NWS (2021) Respondents

Sex	Unweighted		Weighted		Target	Variance
	Frequency	Percent	Frequency	Percent		
1 Male	1941	48.4	1959	48.8	48.8%	0.01%
2 Female	2040	50.8	2023	50.4	50.4%	0.00%
3 Non-binary/Others	33	0.8	33	0.8	NA <sup>1</sup>	NA
Total	4014	100.0	4014	100.0	100.0%	
Race/Ethnicity	Unweighted		Weighted		Target	Variance
	Frequency	Percent	Frequency	Percent		
1 Non-Hispanic – White	2409	60.0	2412	60.1	60.1%	0.00%
2 Non-Hispanic – Black	536	13.4	538	13.4	13.4%	0.00%
3 Non-Hispanic – American Indian/Alaskan Native	52	1.3	52	1.3	1.3%	0.00%
4 Hispanic	748	18.6	743	18.5	18.5%	0.00%
5 Non-Hispanic – Asian or Pacific Islander	238	5.9	237	5.9	5.9%	0.00%
6 Other and 2 or more race	31	0.8	32	0.8	0.8%	0.00%
Total	4014	100.0	4014	100.0	100.0%	
Age	Unweighted		Weighted		Target	Variance
	Frequency	Percent	Frequency	Percent		
1 Age 18-24	632	15.7	628	15.7	15.6%	-0.01%
2 Age 25-34	872	21.7	868	21.6	21.6%	0.00%
3 Age 35-44	833	20.8	824	20.5	20.5%	0.00%
4 Age 45-54	869	21.7	880	21.9	21.9%	0.00%
5 Age 55-64	808	20.1	813	20.3	20.2%	0.00%
Total	4014	100.0	4014	100.00	100.0%	
Education	Unweighted		Weighted		Target	Variance
	Frequency	Percent	Frequency	Percent		
Did not complete high school	133	3.3	369	10.9	10.9	0.00%
High school diploma or GED	776	19.3	871	25.7	25.7	0.00%
Attended college but did not complete	708	17.6	648	19.1	29.9	0.00%
Associates degree	392	9.8	364	10.8		
Bachelors degree	864	21.5	687	20.3		
Post-Bachelor's degree	509	12.7	445	13.1	33.5	-0.10%
Total	3382	84.3	3384	100.0		
System Missing <sup>2</sup>	632	15.7	630			
Valid Base	3382	84.3	3384			
Total Base	4014	100.0	4014			
RUCC	Unweighted		Weighted		Target	Variance
	Frequency	Percent	Frequency	Percent		
1	1850	46.1	2269	56.5	56.5%	0.00%
2	715	17.8	844	21.0	21.0%	0.00%

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3	313	7.8	357	8.9	8.9%	0.00%
4-5	385	9.6	224	5.6	5.6%	0.00%
6-7	420	10.5	266	6.6	6.6%	0.00%
8-9	331	8.2	53	1.3	1.3%	0.00%
Total	4014	100.0	4014	100.0	100.0%	

Notes: Target population percentages were derived from the U.S. Census Bureau American Community Survey, 2015-2019.

<sup>1</sup> The U.S. Census Bureau does not provide estimates of the non-binary population.

<sup>2</sup> Educational attainment is excluded from the survey weight calculation for respondents ages 18-24.

**Table 2. Statistical Description of Weight for 2021 NWS**

Variable	Obs	Mean	Std. dev.	Min	Max	Note
Final_wgt	4,014	1	0.58	0.07	5.76	Assigned weight based on age, sex, race/ethnicity, education (for ages 25-64), and RUCC

### Sample Representativeness

The sampling frame was adults ages 18-64 residing in the U.S. Qualtrics determined age, sex, race, Hispanic ethnicity, and metro status quotas using the 2015-19 American Community Survey and the 2013 USDA ERS Rural-Urban Continuum Codes. Table 3 shows that, when the final\_wgt is applied, the NWS sample is demographically representative of the overall U.S. population ages 18-64.

**Table 3. Distribution of NWS (2021) Respondents Compared to Overall U.S. Population ages 18-64**

	NWS Unweighted N (%)	NWS Weighted %	U.S. Population (ages 18-64) %
<b>SEX</b>			
Male	1,941 (48.4)	48.8	48.8
Female	2,040 (50.8)	50.4	50.4
Non-binary	33 (0.8)	0.8	unknown
<b>RACE/ETHNICITY</b>			
Non-Hispanic White	2409 (60.0)	60.1	60.1
Non-Hispanic Black	536 (13.4)	13.4	13.4
Hispanic	748 (18.6)	18.5	18.5
Other Race	321 (8.0)	8.0	8.0
<b>AGE</b>			
18-24	632 (15.7)	15.7	15.6
25-34	872 (21.7)	21.6	21.6
35-44	833 (20.8)	20.5	20.5
45-54	869 (21.7)	21.9	21.9
55-64	808 (20.1)	20.2	20.2
<b>EDUCATIONAL ATTAINMENT (ages 25-64)</b>			

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<High School	133 (3.9)	10.9	10.9
HS Grad	776 (19.3)	25.7	25.7
Some College/AA	1100 (32.5)	29.9	29.9
4-year degree+	1373 (40.6)	33.5	33.5
N/A (ages 18-24) <sup>a</sup>	632	--	--
<b>MARITAL STATUS</b>			
Never Married	1323 (33.0)	35.1	36.2
Currently Married	1761 (43.9)	42.0	49.2
Separated/Divorced	503 (12.5)	12.2	12.9
Widowed	102 (2.5)	2.6	1.6
Member of Unmarried Couple	323 (8.1)	8.1	NA <sup>b</sup>
<b>CHILDREN IN HOUSEHOLD</b>			
No children under age 18 in household	2384 (59.6)	61.0	61.1
<b>RURAL-URBAN CONTINUUM CODE</b>			
1 Counties in metro areas of 1 million population or more	1850 (46.1)	56.5	56.5
2 Counties in metro areas of 250,000 to 1 million population	715 (17.8)	21.0	21.0
3 Counties in metro areas of fewer than 250,000 population	313 (7.8)	8.9	8.9
4-5 Urban population of 20,000 or more	385 (9.6)	5.6	5.6
6-7 Urban population of 2,500 to 19,999	420 (10.5)	6.6	6.6
8-9 Completely rural or less than 2,500 urban population	331 (8.2)	1.3	1.3

Notes: U.S. population comparisons are based on American Community Survey estimates (2015-19);

a. The survey weight is based on educational attainment only for ages 25-64.

b. The Census Bureau's marital status distribution does not include a breakdown for members of an unmarried couple.

c. The presence of children in household comparison comes from the Current Population Survey (2018, <https://www.census.gov/programs-surveys/cps/data/data-tools.html>). The CPS provides data tables for related children under age 18 in the household. The NWS asks about the presence of any children under age 18 in the household. Therefore, the CPS and NWS are not directly comparable.

Table 4 compares the demographic characteristics (means) between all counties in the U.S. and the 1,430 counties in which NWS (2021) respondents live. Although differences are not large, some differences are statistically significant at  $p < .05$ . Counties represented by NWS respondents have a lower average percent NH White population, higher average NH Black population, lower average age 65+ population, lower average percentage with less than high school, higher average percentage with a 4-year college degree or more, lower percentage not in the labor force, higher median household income, and lower percentage of owner-occupied housing units.

**Table 4. Comparison of Counties Represented in 2021 NWS versus All U.S. Counties**

County Characteristic	All U.S. Counties N=3,143 (Means)	Counties Represented in NWS N=1,430
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		(Means)
<i>Racial/Ethnic Composition</i>		
Percent non-Hispanic White	76.2	75.1*
Percent non-Hispanic Black	8.9	9.9*
Percent Hispanic	9.4	9.4
<i>Age Composition</i>		
Percent under age 18	22.2	22.0
Percent age 65+	18.8	18.1*
<i>Educational Composition</i>		
Percent 25+ with less than high school	13.1	12.8*
Percent 25+ with a 4 year college degree or more	22.0	23.9*
<i>Employment Composition</i>		
Percent employed (among ages 16+)	55.1	55.3
Percent not in labor force (among ages 16+)	41.6	41.1*
<i>Socioeconomic Composition</i>		
Median household income	53,475	55,284*
Percent families in poverty	10.8	10.8
Percent owner-occupied housing units	71.6	70.2*

*Note:* County characteristics are from the 2015-19 American Community Survey; \*difference is statistically significant at  $p < .05$  based on t-test.

A note on geographic identifiers: Although restricted data users are able to identify respondents' states and counties of residence, data users should not attempt to produce state- or county-level estimates from the survey data. The sampling procedure was not designed to attain within-state or within-county quotas or representativeness. The quotas and post-stratification survey weights are designed to make results demographically representative *only at the national level*. Any state- or county-level estimates derived from the individual-level survey data would be prone to severe bias.

### Comparisons to Other National Surveys

This section summarizes how prevalences of different chronic conditions, mental health and psychosocial wellbeing outcomes, and substance use behaviors in the 2021 NWS compare to similar measures in large nationally representative gold-standard surveys of health in the United States.

The NWS is an annual cross-sectional survey of adults aged 18-64, designed to collect information on working-age adult wellbeing, broadly defined. As such, we limited our comparison to gold-standard national surveys which: (a) use a cross-sectional design; (b) include respondents aged 18-64; (c) collected data in the same year (2021); and (d) have comparable survey items on health and wellbeing. Based on these criteria, we identified the Behavioral Risk Factor Surveillance System (BRFSS), the National Health Interview Survey (NHIS), and the National Survey on Drug Use and Health (NSDUH) as the most suitable datasets for comparison. As described below, these surveys do not use a research design identical to NWS – or each other – but are among the most reputable and most widely used

sources of data on U.S. population health patterns and trends. Consequently, they provide a reliable standard to compare against NWS.

The Behavioral Risk Factor Surveillance System (BRFSS) – administered by the Centers for Disease Control and local state agencies – draws on annual telephone surveys from over 400,000 adult respondents to collect state data on U.S. residents' health-related risk behaviors and chronic health conditions, among other measures (National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health, 2024).

The National Health Interview Survey (NHIS) – administered by the National Center for Health Statistics – is a large, annual national survey of health covering all 50 U.S. states, using an in-person household interview survey to provide information on the health of U.S. adults across a broad range of health outcomes (NCHS, 2024).

The National Survey on Drug Use and Health (NSDUH) – administered by the Substance Abuse and Mental Health Services Administration – draws on both in-person household interviews and web-based interviews to provide annual, nationally representative data on substance use, substance use disorders, and mental health issues, among other substance use-related outcomes (Substance Abuse and Mental Health Services Administration, 2024).

Given NWS's focus on *working-age* adult health and wellbeing, we focus our comparison on three broad domains that have been identified as focal areas of population health risk and concern among this population (National Academy of Sciences, Engineering, and Medicine, 2021): chronic conditions, mental health and psychosocial wellbeing, and substance use. Specifically, we limit our comparison to measures that have *at least one* analogous measure in either BRFSS, NHIS, or NSDUH; in some cases, we have multiple measures that we can compare. There are also instances where NWS items are not perfectly comparable to similar measures in these other surveys. When possible, we “harmonized” the data in the NWS and the other survey(s) to facilitate comparisons. Any such harmonizations are documented below. Finally, BRFSS, NHIS, and NSDUH are not explicitly studies of working-age populations; they include adults over the age of 65. Thus, we limited the analytic comparison sample for all three to adults 18-64 years old.

The resulting non-exhaustive set of health and wellbeing measures includes the following, separated across the three domains noted above:

**Chronic conditions:** self-reported physical health; high blood pressure; high cholesterol; diabetes; heart attack, angina or coronary heart disease; COPD; neck or back pain; joint pain; severe headaches or migraines.

**Mental health and psychosocial wellbeing:** satisfied with life; depression (condition); anxiety (condition); (bothered by) little interest or pleasure in doing things; (bothered by) feeling down, depressed, or hopeless; (bothered by) feeling nervous, anxious, or on edge; (bothered by) not being able to control worrying.

**Substance use:** alcohol consumption status; number of alcoholic drinks; smoking status; and past-year marijuana use, powder cocaine use, crack cocaine use, methamphetamine use, heroin use, prescription opioid misuse, prescription tranquilizer misuse, prescription sedative misuse, and prescription stimulant misuse.

For each of the measures above, we first provide a summary of the distribution of the survey item in the NWS data, using frequencies, unweighted proportions, and weighted proportions with 95% confidence intervals. For comparability, “refusals” or “don’t know” responses (or their equivalents) were recoded as missing; it is possible that differences in survey design may affect how/why respondents provide these types of responses. Both unweighted and weighted results are shown. We then provide the identical set of estimates for comparable measures in the comparison survey(s), using the comparison final survey weight provided in those datasets. We briefly discuss similarities and differences in estimates between the NWS and the other survey(s). We also note any additional information that readers should be aware of in comparing the survey items across surveys (e.g., collapsing categories; differences in wording; data availability).

Our goal is for researchers using the NWS data to draw on this document to provide necessary context for their results, especially if/when comparing their findings to similar extant work using other cross-sectional nationally representative survey data.

### *General Summary of Findings*

Direct comparisons were often challenging due to the relatively limited number of identical survey items across these studies. There were often differences based on survey item wording/framing, response options, and survey logic/design (e.g., use of screening questions). However, we tried to harmonize measures across surveys to better understand how NWS compares to three gold standard national random surveys across key metrics. In this section, we provide a high-level overall summary. Users interested in the specific comparisons across individual items should see the sections below. Users should also be aware that the comparison is not exhaustive of all items in the NWS.

First, working-age adults (ages 18-64) in the NWS generally appear to have *comparable or worse physical health* across multiple chronic conditions than respondents in the BRFSS, NHIS, and NSDUH in the same survey year (2021). NWS respondents report higher prevalences of ever being told they have high blood pressure and diabetes compared to respondents in the other three surveys. High cholesterol and COPD prevalence were also higher in the NWS compared to the NHIS, but comparable to the BRFSS. Prevalence of heart conditions was also generally higher in NWS than NHIS and BRFSS, but comparable to if not slightly lower than NSDUH. However, this set of measures was challenging to standardize across surveys.

Second, working-age adults in the NWS also generally have *worse mental health and psychosocial wellbeing outcomes*, though this comparison is mostly limited to NHIS, with a few comparable items in BRFSS. NWS respondents have almost twice the reported prevalence of diagnosed depression and anxiety and do worse on questions about depression and anxiety symptoms. NWS respondents also appear to be less satisfied with their lives than NHIS respondents, but this measure was challenging to harmonize.

Third, working-age adults in NWS have a *mixed profile on substance use outcomes* compared to their BRFSS, NHIS, and NSDUH counterparts. On the one hand, NWS respondents reported higher prevalences of never drinking. However, the proportion of NWS respondents who occasionally or frequently smoke was greater than in the comparison surveys. Comparisons of drug use behaviors (e.g., marijuana, cocaine, heroin, misuse of prescribed substances) were limited to NSDUH. Substance use in the past year was generally higher in NWS than in NSDUH, with some variation in the magnitude of the difference based on individual items.

There are several potential explanations for these differences. First, the NWS is not administered to a random sample. Online survey panelists opt-in to complete the survey and

may be different in many ways to the overall U.S. population. Second, differences in question wording and response sets across the surveys may have influenced respondents' interpretations and answers. Third, the NWS was collected during a condensed period (February 1 – March 18, 2021) – a period when the COVID-19 pandemic was still at its height and when many people across the U.S. were experiencing adverse winter weather conditions. Such factors may have resulted in worse actual health or worse perceived health and wellbeing. Conversely, the three comparison surveys are collected continuously throughout the year, meaning responses are concentrated in a particular period.

Differences in prevalence rates across surveys does not suggest that the data are low quality or should not be used. Rather, users should fully describe the NWS data collection and sampling methods in their papers (or point readers to this document) and should acknowledge in their limitations sections how NWS respondents compare to national gold standard random samples (e.g., they appear to have slightly worse physical and mental health) and the potential implications of these differences for the research findings.

**Chronic Conditions**

***Self-reported physical health***

In lieu of a single, global measure of self-rated health, NWS respondents are asked about self-reported physical health and self-reported mental health, separately. Thus, a direct comparison between NWS and BRFSS, NHIS, and NSDUH is challenging, as the latter surveys each ask about overall or general health. We felt that physical health was a closer analogue to this overall/general measure used in other surveys. However, the distribution of this measure is much different in NWS than the other three surveys. Approximately 87% of respondents reported good to excellent health in BRFSS, NHIS, and NSDUH – with little variation across surveys – compared to 73% in NWS. Lacking a more direct comparison, it is difficult to definitively conclude whether/how NWS differs on self-reported physical health compared to other, large national surveys of adults ages 18-64.

National Wellbeing Survey (2021) - *Self-reported physical health*

*“In general, would you say your physical health is: excellent, very good, good, fair, poor.”*

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Excellent</i>	517	0.130	0.132	0.120	0.144
<i>Very good</i>	1,056	0.265	0.253	0.238	0.268
<i>Good</i>	1,317	0.331	0.335	0.319	0.353
<i>Fair</i>	807	0.203	0.205	0.190	0.220
<i>Poor</i>	281	0.071	0.075	0.065	0.086
<i>Missing</i>	36				
<b>Total</b>	<b>4,104</b>				

Behavioral Risk Factor Surveillance System (2021) - *Self-reported health*

*“In general, would you say your health is: excellent, very good, good, fair, poor.”*

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Excellent</i>	56,918	0.207	0.213	0.210	0.216
<i>Very good</i>	96,379	0.350	0.332	0.328	0.335

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<i>Good</i>	83,151	0.302	0.313	0.309	0.317
<i>Fair</i>	30,004	0.109	0.112	0.109	0.114
<i>Poor</i>	9,169	0.033	0.031	0.030	0.032
<i>Missing</i>	529				
<b>Total</b>	<b>276,150</b>				

National Health Interview Survey (2021) - *Self-reported health*

“Would you say your health in general is excellent, very good, good, fair, or poor?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Excellent</i>	5,385	0.263	0.276	0.268	0.285
<i>Very good</i>	7,323	0.357	0.352	0.344	0.359
<i>Good</i>	5,432	0.265	0.262	0.254	0.270
<i>Fair</i>	1,850	0.090	0.086	0.082	0.091
<i>Poor</i>	523	0.025	0.024	0.021	0.026
<i>Missing</i>	6				
<b>Total</b>	<b>20,519</b>				

National Survey on Drug Use and Health (2021) - *Self-reported health*

“This question is about your overall health. Would you say your health in general is excellent, very good, good, fair, or poor?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Excellent</i>	8,890	0.212	0.201	0.192	0.210
<i>Very good</i>	15,839	0.379	0.351	0.342	0.359
<i>Good</i>	12,519	0.299	0.310	0.300	0.319
<i>Fair</i>	3,955	0.095	0.117	0.109	0.125
<i>Poor</i>	636	0.015	0.022	0.018	0.026
<i>Missing</i>	14				
<b>Total</b>	<b>41,853</b>				

**High blood pressure**

Approximately 31% (weighted) of NWS respondents reported having ever received a diagnosis of high blood pressure, which is higher than the corresponding proportions in BRFSS (25%), NHIS (23%), and NSDUH (15%). Unweighted proportions in the BRFSS and NWS are closer. However, some caution needs to be taken in comparing the BRFSS and NSDUH measures. Respondents in BRFSS are specifically asked if they have been told they are pre-hypertensive or are borderline hypertensive; this option is *not* coded as having received a diagnosis of hypertension. Thus, it is possible that NWS respondents meeting these criteria, but lacking a separate response option, may have reported a diagnosis. A comparison with NSDUH is more challenging as the questionnaire logic first asks if respondents have had ANY of a list of conditions, before asking about specific diagnoses; consequently, respondents not reporting any condition are also coded as not having a specific condition – in this case, hypertension. The more complicated survey logic may contribute to the lower prevalence in NSDUH.



National Wellbeing Survey (2021) – *high blood pressure*

“Have you ever been told by a health care professional that you have any of the following:  
High Blood Pressure?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	2,661	0.686	0.690	0.672	0.706
Yes	1,218	0.314	0.310	0.294	0.328
<i>Missing</i>	135				
Total	4,104				

Behavioral Risk Factor Surveillance System (2021) – *high blood pressure*

“Have you ever been told by a doctor, nurse or other health professional that you have high blood pressure?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	197,041	0.716	0.752	0.749	0.755
Yes	78,307	0.284	0.248	0.245	0.251
<i>Missing</i>	802				
Total	276,150				

National Health Interview Survey (2021) – *high blood pressure*

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

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	15,331	0.748	0.770	0.763	0.778
Yes	5,160	0.252	0.230	0.222	0.237
<i>Missing</i>	28				
Total	20,519				

National Survey on Drug Use and Health (2021) – *high blood pressure*

“Below is a list of health conditions that you may have had during your lifetime.  
Please read the list and type in the numbers of all of the conditions that a doctor or other health care professional has ever told you that you had. Ever told had high blood pressure.”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	36,102	0.893	0.851	0.842	0.860
Yes	4,333	0.107	0.149	0.140	0.158
<i>Missing</i>	1,418				
Total	41,853				

**High cholesterol**

Approximately one-quarter (25.6%) of NWS respondents reported ever being told by a healthcare provider that they have high cholesterol – right in between the higher proportion in BRFSS (29.4%) and the lower proportion in NHIS (19.8%). While the wording of the item is comparable across all three surveys, BRFSS only asks this question of respondents who reported having had their cholesterol checked within the past five years (based on a prior item), hence the larger number of missing cases in those data. It is not clear how this might have affected the estimate; on the one hand, the BRFSS estimate may be biased downward on account of higher cholesterol among adults who do not regularly have their cholesterol checked. On the other hand, those who check their cholesterol more regularly may have health reasons for doing so. A comparable question was not available in the NSDUH.

National Wellbeing Survey (2021) – *high cholesterol*

“Have you ever been told by a health care professional that you have any of the following: High Cholesterol?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	2,877	0.748	0.744	0.727	0.760
Yes	971	0.252	0.256	0.240	0.273
Missing	166				
Total	4,104				

Behavioral Risk Factor Surveillance System (2021) – *high cholesterol*

“Have you ever been told by a doctor, nurse or other health professional that your cholesterol is high?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	153,481	0.681	0.706	0.702	0.710
Yes	71,753	0.319	0.294	0.290	0.298
Missing	50,916				
Total	276,150				

National Health Interview Survey (2021) – *high cholesterol*

“Have you ever been told by a doctor or other health professional that you had high cholesterol?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	16,019	0.782	0.802	0.796	0.808
Yes	4,456	0.218	0.198	0.192	0.204
Missing	44				
Total	20,519				

**Diabetes**

Compared to the other three surveys, a substantially larger proportion of NWS respondents reported ever being told by a healthcare provider that they had diabetes: 14% vs. ~8%. As with the prior question about high blood pressure/hypertension, direct comparisons between the NWS and the BRFSS and NSDUH are complicated on account of: (1) BRFSS providing respondents with a “pre/borderline” diabetes response option; and (2) NSDUH first asking respondents if they have ANY of a list of conditions before specifically asking about diabetes.

National Wellbeing Survey (2021) – *diabetes*

“Have you ever been told by a health care professional that you have any of the following: Diabetes?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	3,326	0.858	0.857	0.843	0.869
Yes	549	0.142	0.143	0.131	0.157
Missing	139				
Total	4,104				

Behavioral Risk Factor Surveillance System (2021) – *diabetes*

“(Ever told) (you had) diabetes?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	250,617	0.909	0.918	0.916	0.921
Yes	25,088	0.091	0.082	0.079	0.084
Missing	445				
Total	276,150				

National Health Interview Survey (2021) – *diabetes*

“Has a doctor or other health professional ever told you that you had diabetes?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	19,007	0.927	0.932	0.927	0.936
Yes	1,492	0.073	0.068	0.064	0.073
Missing	20				
Total	20,519				

National Survey on Drug Use and Health (2021) – *diabetes*

“Below is a list of health conditions that you may have had during your lifetime. Please read the list and type in the numbers of all of the conditions that a doctor or other health care professional has ever told you that you had. Ever told had diabetes/sugar diabetes.”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	38,146	0.943	0.914	0.908	0.920

Yes	2,289	0.057	0.086	0.080	0.092
Missing	1,418				
Total	41,853				

**Heart attack, angina, or coronary heart disease**

The proportion of NWS respondents who reported ever having been told by a healthcare provider that they have had a heart attack, angina, or coronary heart disease (6%) is comparable to NSDUH (6.8%), but almost double the prevalence found in the BRFSS and NHIS (3.4% in both). However, caution should be taken in comparing these proportions as all four surveys approach this set of conditions differently. Namely, whereas the NWS asks a single question about all three conditions, BRFSS respondents are separately asked about (1) heart attacks and (2) angina or coronary heart disease, NHIS respondents are separately asked about (1) heart attacks, (2) angina, and (3) coronary heart disease, and NSDUH respondents are asked only whether they have been told they have a heart condition, after first being asked if they have ANY condition from a list of conditions. It is unclear how this may affect reported prevalences, though the similar logic in BRFSS and NHIS may help explain the comparable prevalence in those two surveys.

National Wellbeing Survey (2021) – *heart attack, angina, or coronary heart disease*  
 “Have you ever been told by a health care professional that you have any of the following:  
 Heart Attack, Angina, or Coronary Heart Disease?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	3,619	0.938	0.940	0.931	0.948
Yes	241	0.062	0.060	0.052	0.069
Missing	154				
Total	4,104				

Behavioral Risk Factor Surveillance System (2021) – *heart attack, angina, or coronary heart disease*  
 “(Ever told) you had a heart attack, also called a myocardial infarction?”; “(Ever told) (you had) angina or coronary heart disease?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	263,289	0.960	0.966	0.965	0.967
Yes	11,009	0.040	0.034	0.033	0.035
Missing	1,852				
Total	276,150				

National Health Interview Survey (2021) – *heart attack, angina, or coronary heart disease*  
 “Have you ever been told by a doctor or other health professional that you had  
 ...A heart attack, also called myocardial infarction?” “...Angina, also called angina pectoris?”  
 “...Coronary heart disease?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	19,727	0.963	0.966	0.963	0.968
Yes	758	0.037	0.034	0.032	0.037
Missing	34				
Total	20,519				

National Survey on Drug Use and Health (2021) – *heart condition*

“Below is a list of health conditions that you may have had during your lifetime.

Please read the list and type in the numbers of all of the conditions that a doctor or other health care professional has ever told you that you had. Ever told had heart condition.”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	38,457	0.951	0.932	0.927	0.936
Yes	1,978	0.049	0.068	0.064	0.073
Missing	1,418				
Total	41,853				

**Chronic obstructive pulmonary disease (COPD)**

The proportion of NWS respondents who reported ever being told by a healthcare provider that they have COPD (6.2%) is closest to the reported prevalence in BRFSS (4.8%). While higher in NWS, the lower end of the 95% confidence interval in NWS and upper end of the 95% confidence interval in BRFSS are nearly overlapping. Prevalences in the NHIS and NSDUH are considerably lower, at 2.9% and 3.3%, respectively. However, the higher prevalence in BRFSS may be due to respondents being asked if they have COPD, emphysema, OR chronic bronchitis, rather than exclusively about COPD. Interestingly, despite their lower prevalence, NSDUH respondents are also asked about COPD OR chronic bronchitis. As with the chronic health conditions discussed earlier, the caveat for interpreting the NSDUH prevalence is the use of an initial screening question for ANY conditions before asking about COPD or chronic bronchitis, specifically.

National Wellbeing Survey (2021) – *Chronic obstructive pulmonary disease (COPD)*

“Have you ever been told by a health care professional that you have any of the following: Chronic Obstructive Pulmonary Disease?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	3,602	0.938	0.938	0.928	0.947
Yes	237	0.062	0.062	0.053	0.072
Missing	175				
Total	4,104				

Behavioral Risk Factor Surveillance System (2021) – *COPD, emphysema, or chronic bronchitis*

“(Ever told) (you had) C.O.P.D. (chronic obstructive pulmonary disease), emphysema or chronic bronchitis?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	259,971	0.945	0.952	0.951	0.954
Yes	15,165	0.055	0.048	0.046	0.049
Missing	1,014				
Total	276,150				

National Health Interview Survey (2021) – *Chronic obstructive pulmonary disease (COPD)*  
 “Have you ever been told by a doctor or other health professional that you had ...Chronic Obstructive Pulmonary Disease, C.O.P.D., emphysema, or chronic bronchitis?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	19,785	0.965	0.971	0.968	0.973
Yes	715	0.035	0.029	0.027	0.032
Missing	19				
Total	20,519				

National Survey on Drug Use and Health (2021) – COPD or chronic bronchitis  
 “Below is a list of health conditions that you may have had during your lifetime. Please read the list and type in the numbers of all of the conditions that a doctor or other health care professional has ever told you that you had. Ever told had chronic bronchitis or COPD.”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	39,646	0.980	0.967	0.963	0.971
Yes	789	0.020	0.033	0.029	0.037
Missing	1,418				
Total	41,853				

**Neck or back pain**

The proportion of NWS respondents reporting experiencing neck or back pain lasting more than a few hours in the past three months is 52%, compared to 39% of NHIS respondents reporting back pain in the past three months. However, this is not a one-to-one comparison on account of two differences in survey logic and question text. First, NHIS respondents are asked only about back pain, with no separate item on neck pain. Second, the survey logic is different. NHIS respondents are asked about HOW MUCH back pain they had in the past three months. To best correspond with NWS, we coded "not at all" as '0', and all other responses ("a little"+) as '1'. Further, in the NHIS, only adults reporting pain some days, most days, or every day in the past three months – in response to a prior question – are then asked about back pain; thus, anyone marked as "not in universe" for the back pain question in NHIS is coded as 0 rather than missing.

## National Wellbeing Survey (2021) – Neck or back pain

“During the **past 3 months**, did you have any of the following types of pain that lasted more than a couple of hours: Neck or back pain?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	1,932	0.482	0.484	0.466	0.502
Yes	2,078	0.518	0.516	0.498	0.534
<i>Missing</i>	4				
Total	4,104				

## National Health Interview Survey (2021) – Back pain

“Over the past three months, how much have you been bothered by ...Back pain? Would you say not at all, a little, a lot, or somewhere in between?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Not at all</i>	12,263	0.598	0.615	0.605	0.624
<i>A little/somewhere in between/a lot</i>	8,242	0.402	0.385	0.376	0.395
<i>Missing</i>	14				
Total	20,519				

**Joint pain**

Just over 43% of NWS respondents reported experiencing joint pain for at least a few hours in the last three months. A specific question about joint pain was not available in any of the comparison surveys, though NHIS asked separate questions about arm or leg pain in the past three months. When combining responses from those two items, we found that a similar 44% of NHIS respondents report having either. Critically, these separate questions in NHIS – one asking about arm, shoulder, or hand pain and the other asking about hip, knee, or feet pain – are not limited to “joints,” as in the NWS. Also, as described above, the survey logic in the NHIS differs from BRFSS, such that only adults reporting pain some days, most days, or every day in the past three months – in response to a prior question – are then asked about arm or leg pain, and anyone marked as “not in universe” for the either item is coded as 0 rather than missing.

## National Wellbeing Survey (2021) – Joint pain

“During the **past 3 months**, did you have any of the following types of pain that lasted more than a couple of hours: Pain, aching, stiffness, or swelling around a joint?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	2,281	0.569	0.569	0.551	0.587
Yes	1,728	0.431	0.431	0.413	0.449
<i>Missing</i>	5				
Total	4,104				

## National Health Interview Survey (2021) – Arm or leg pain

“Over the past three months, how much have you been bothered by  
 ... Pain in your hands, arms, or shoulders?”; “Pain in your hips, knees, or feet?”  
 “Would you say not at all, a little, a lot, or somewhere in between?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	11,114	0.542	0.564	0.554	0.574
A little/somewhere in between/a lot	9,388	0.458	0.436	0.426	0.446
Missing	17				
Total	20,519				

### Severe headaches or migraines

Just over 35% of NWS respondents reported experiencing pain lasting more than a few hours in the past three months from severe headaches or migraines, compared to 28% of NHIS respondents. Caution should be taken in interpreting the NHIS proportion, as the survey logic first asks about experiencing any pain in the past three months, before specifically asking about severe headaches or migraines.

National Wellbeing Survey (2021) – Severe headaches or migraines

“During the **past 3 months**, did you have any of the following types of pain that lasted more than a couple of hours: Severe headaches or migraines?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	2,593	0.646	0.653	0.636	0.670
Yes	1,419	0.354	0.347	0.330	0.364
Missing	2				
Total	4,104				

National Health Interview Survey (2021) – Severe headaches or migraines

“Over the past three months, how much have you been bothered by  
 ... Headache or migraine? Would you say not at all, a little, a lot, or somewhere in between?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	14,765	0.720	0.724	0.716	0.733
A little/somewhere in between/a lot	5,733	0.280	0.276	0.267	0.284
Missing	21				
Total	20,519				

## Mental Health and Psychosocial Wellbeing

### Life satisfaction

Only NWS and NHIS ask respondents how satisfied they are with their lives. The two surveys use different approaches, making a direct comparison between the two surveys challenging.



Namely, NWS respondents are asked whether they agree with the statement “I am satisfied with my life,” with a Likert response scale ranging from strongly disagree to strongly agree. This item is part of a series of items that includes all five items that comprise the Diener Satisfaction with Life Scale. NHIS asks respondents how satisfied they are with their lives, with four response categories: Very satisfied; Satisfied; Dissatisfied; Very dissatisfied. In 2021, NHIS respondents also provided a satisfaction with life score from 0 to 10, with higher scores indicating higher levels of satisfaction.

Accordingly, we created two versions of a life satisfaction measure to compare the surveys. First, we created a dichotomous measure from both the NWS and NHIS. For the NWS, we combined strongly agree, somewhat agree, and neither agree nor disagree and we combined strongly disagree and somewhat disagree. For the NHIS respondents, we combined very satisfied with satisfied and combined very dissatisfied with dissatisfied. On these dichotomous measures, 25% of NWS respondents expressed dissatisfaction compared to 5% of NHIS respondents.

Using an ordinal version of this measure – allowing for a “middle” response options – 25% of NWS respondents are dissatisfied with life, 20% are neutral (i.e., neither satisfied or dissatisfied), and 55% are satisfied. Among NHIS respondents, 1% reported a score of 0-3, 23% reported a score of 4-7, and 75% reported a score of 8-10. These comparisons suggest that NWS and NHIS respondents are fairly comparable when it comes to being neutral on life satisfaction but differ considerably when comparing the ends of the distribution.

National Wellbeing Survey (2021) – *satisfied with life*

“Now please think about your life as a whole. How satisfied are you with it? Please indicate the extent to which you agree with each of the following statements: I am satisfied with my life.”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Strongly agree, somewhat agree, neither agree nor disagree</i>	2,986	0.754	0.753	0.737	0.768
<i>Strongly disagree, somewhat disagree</i>	974	0.246	0.247	0.232	0.263
<i>Missing</i>	54				
<b>Total</b>	<b>4,104</b>				

National Health Interview Survey (2021) – *satisfied with life*

“In general, how satisfied are you with your life? Would you say very satisfied, satisfied, dissatisfied, or very dissatisfied?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Very satisfied or satisfied</i>	18,978	0.947	0.952	0.948	0.955
<i>Very dissatisfied or dissatisfied</i>	1,070	0.053	0.048	0.045	0.052

Missing	471
Total	20,519

National Wellbeing Survey (Wave 1) – *life satisfaction (ordinal)*

“Now please think about your life as a whole. How satisfied are you with it? Please indicate the extent to which you agree with each of the following statements: I am satisfied with my life.”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Strongly disagree, somewhat disagree</i>	974	0.246	0.247	0.232	0.263
<i>Neither agree nor disagree</i>	744	0.188	0.201	0.186	0.217
<i>Strongly agree, somewhat agree</i>	2,242	0.566	0.552	0.534	0.570
Missing	54				
Total	4,104				

National Health Interview Survey (2021) – *life satisfaction scale (single item)*

“Using a scale of 0 to 10, where 0 means “very dissatisfied” and 10 means “very satisfied”, how do you feel about your life as a whole these days?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
0-3	301	0.015	0.014	0.012	0.016
4-7	4,985	0.247	0.234	0.227	0.242
8-10	14,911	0.738	0.752	0.744	0.760
Missing	322				
Total	20,519				

**Depression – Diagnoses**

The percentage of NWS respondents reporting ever being told by a healthcare provider that they have depression is much higher (35%) compared to the percentage of BRFSS respondents (21%) and NHIS respondents (18%). There are some slight differences in the wording and presentation of these items across surveys – with NWS and NHIS explicitly mentioning being told by a healthcare provider, as compared to BRFSS simply asking whether they have been told they have a depressive disorder. However, it does not seem likely that this discrepancy would account for the higher prevalence in NWS.

National Wellbeing Survey (2021) – *diagnosed with depression*

“Have you ever been told by a health care professional that you have any of the following: Depression?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	2,477	0.644	0.648	0.630	0.665
Yes	1,370	0.356	0.352	0.335	0.370

<i>Missing</i>	167				
<b>Total</b>	<b>4,104</b>				

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Behavioral Risk Factor Surveillance System (2021) – *diagnosed with depression*  
“(Ever told) (you had) a depressive disorder (including depression, major depression, dysthymia, or minor depression)?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>No</i>	212,944	0.775	0.789	0.786	0.792
<i>Yes</i>	61,760	0.225	0.211	0.208	0.214

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<i>Missing</i>	1,446				
<b>Total</b>	<b>276,150</b>				

National Health Interview Survey (2021) – *diagnosed with depression*  
“Have you ever been told by a doctor or other health professional that you had ...Any type of depression?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>No</i>	16,527	0.807	0.820	0.813	0.827
<i>Yes</i>	3,957	0.193	0.180	0.173	0.187

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<i>Missing</i>	35				
<b>Total</b>	<b>20,519</b>				

### **Depression – Self assessed**

The NWS includes both items in the PHQ-2 depression inventory (being bothered by having little interest or pleasure in doing things and being bothered by feeling down, depressed, or hopeless). These measures are not available in our comparison surveys. Below we show comparisons between the NWS measure of feeling down, depressed, or hopeless and the separate NHIS measures of feeling depressed and feeling hopeless. The NWS and NHIS also differ in their reference time periods (past two weeks in NWS versus past 30 days in NHIS) and in their response options. The NWS uses the standard PHQ response set of ‘not at all’, ‘some days’, ‘more than half the days’, and ‘nearly every day’. For feeling depressed, the NHIS uses the response set of ‘daily’, ‘weekly’, ‘monthly’, ‘a few times a year’, and ‘never’. For feeling hopeless, the NHIS uses the response set of ‘none of the time’, ‘a little of the time’, ‘some of the time’, ‘most of the time’, and ‘all of the time’.

To try and harmonize the two measures and approximate a “none-sometimes-regularly” distribution, we collapsed the ‘more than half the days’ and ‘nearly every day’ response options in NWS. We combined the depression ‘daily’ and ‘weekly’ response options and ‘monthly’ and ‘few times a year’ response options in NHIS. For hopeless, we combined ‘a little of the time’ and ‘some of the time’ and combined ‘most of the time’ and ‘all of the time.’

Among NWS respondents, 39.5% selected ‘not at all’ for being bothered by feeling down, depressed, or hopeless in the past two weeks, 34% selected ‘some days’, and 26% selected ‘more than half the days’ or ‘nearly every day’. In NHIS, 52% of respondents selected ‘never,

37% selected ‘monthly’ or ‘a few times a year’, and 10.5% selected ‘daily’ or ‘weekly’ for feeling depressed. For feeling hopeless, 86% of NHIS respondents selected ‘most of the time’ or ‘all of the time’, 12% selected ‘a little of the time’ or ‘some of the time’, and 2% selected ‘most of the time’ or ‘all of the time.’

Overall, NWS respondents appear to have a higher level of depression than NHIS respondents.

National Wellbeing Survey (2021) – *(bothered by) feeling down, depressed, or hopeless (past two weeks)*

“During the **past two weeks**, how often have you been bothered by...Feeling down, depressed, or hopeless: not at all, some days, more than half the days, nearly every day?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Not at all</i>	1,582	0.400	0.395	0.378	0.413
<i>Some days</i>	1,348	0.341	0.344	0.327	0.362
<i>More than half the days/nearly every day</i>	1,021	0.258	0.261	0.245	0.277
<i>Missing</i>	63				
<b>Total</b>	<b>4,104</b>				

National Health Interview Survey (2021) – *feeling depressed*

“How often do you feel depressed? Would you say daily, weekly, monthly, a few times a year, or never?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Never</i>	10,175	0.507	0.524	0.514	0.534
<i>Monthly/few times a year</i>	7,688	0.383	0.372	0.362	0.381
<i>Daily/weekly</i>	2,202	0.110	0.105	0.100	0.110
<i>Missing</i>	454				
<b>Total</b>	<b>20,519</b>				

National Health Interview Survey (2021) – *feeling hopeless (past 30 days)*

“During the past 30 days, how often did you feel: ...Hopeless? Would you say all of the time, most of the time, some of the time, a little of the time, or none of the time?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>None of the time</i>	17,106	0.855	0.859	0.853	0.865
<i>A little of the time/some of the time</i>	2,469	0.123	0.121	0.115	0.127
<i>Most of the time/all of the time</i>	437	0.022	0.020	0.018	0.023

<i>Missing</i>	507
<b>Total</b>	<b>20,519</b>

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### **Anxiety – Diagnosis**

The percentage of NWS respondents reporting ever being told by a healthcare provider that they have anxiety (40%) is much larger than NHIS respondents (18%). In both surveys, respondents are explicitly asked if they have ever been told this information by a healthcare professional/provider.

National Wellbeing Survey (2021) – *diagnosed with anxiety*

“Have you ever been told by a health care professional that you have any of the following:  
Anxiety?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>No</i>	2,295	0.597	0.605	0.587	0.623
<i>Yes</i>	1,547	0.403	0.395	0.377	0.413
<i>Missing</i>	172				
<b>Total</b>	<b>4,104</b>				

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National Health Interview Survey (2021) – *diagnosed with anxiety*

“Have you ever been told by a doctor or other health professional that you had ...Any type of anxiety disorder?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>No</i>	16,722	0.816	0.824	0.817	0.830
<i>Yes</i>	3,771	0.184	0.176	0.170	0.183
<i>Missing</i>	26				
<b>Total</b>	<b>20,519</b>				

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### **Anxiety – Self assessed**

The NWS includes both items in the PHQ-2 anxiety inventory (being bothered by feeling nervous, anxious, or on edge and being bothered by not being able to control worrying). These exact measures are not available in our comparison surveys. Below we show comparisons between the NWS measure of feeling nervous, anxious, or on edge and the NHIS measure of feeling nervous. We also compare the NWS measure of being bothered by not being able to control worrying and the NHIS measure of feeling worried, nervous, or anxious.

Besides differing in question wording, the NWS and NHIS also differ in their reference time periods (past two weeks in NWS versus past 30 days or general frequency in NHIS) and in their response options. The NWS uses the standard PHQ response set of ‘not at all’, ‘some days’, ‘more than half the days’, and ‘nearly every day’. For feeling nervous, the NHIS references the last 30 days and uses the response set of ‘none of the time’, ‘a little of the time’, ‘some of the time’, ‘most of the time’, and ‘all of the time.’” For feeling worried, there is no timeframe provided, and the response options are “daily,” “weekly,” “monthly,” “a few times a year,” and “never.”

To try and harmonize measures across the two days sets and approximate a "none-sometimes-regularly" distribution, we collapsed the 'more than half the days' and 'nearly every day' response options in NWS. For the NHIS, we combined 'a little of the time' with 'some of the time' and combined 'most of the time' with 'all of the time' for the item on feeling nervous. We also combined "monthly" and "a few times a year" and "daily" and "weekly" for the item on feeling worried.

On the NWS question about the frequency of being bothered by feeling nervous, anxious, or on edge in the past two weeks, 36% selected not at all, 36% selected some days, and 28% selected more than half or nearly every day. By comparison, for an NHIS item asking about feeling nervous in the past 30 days, 55% of respondents selected none of the time, 40% selected a little or some of the time, and 6% selected most or all of the time.

On the NWS question about the frequency of not being able to control worrying in the past two weeks, 43% of respondents selected not at all, 29% selected some days, and 28% selected more than half or nearly all days. In comparison, on the NHIS question on the frequency of feeling worried, nervous, or anxious, 26.5% selected never, 43% selected a few times a year or monthly, and 30% selected daily or weekly.

As with the depression measures, users should take caution in interpreting these differences, as the questions have important wording and response set differences.

National Wellbeing Survey (2021) – *(bothered by) feeling nervous, anxious, or on edge (past two weeks)*

“During the **past two weeks**, how often have you been bothered by... Feeling nervous, anxious, or on edge: not at all, some days, more than half the days, nearly every day?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Not at all</i>	1,441	0.365	0.360	0.343	0.377
<i>Some days</i>	1,406	0.356	0.358	0.341	0.375
<i>More than half the days/nearly every day</i>	1,106	0.280	0.282	0.266	0.299
<i>Missing</i>	61				
<b>Total</b>	<b>4,104</b>				

National Health Interview Survey (2021) – *feeling nervous (past 30 days)*

“During the past 30 days, how often did you feel ...Nervous? Would you say all of the time, most of the time, some of the time, a little of the time, or none of the time?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>None of the time</i>	10,823	0.540	0.546	0.536	0.555
<i>A little of the time/some of the time</i>	8,055	0.402	0.396	0.387	0.405
<i>Most of the time/all of the time</i>	1,147	0.057	0.058	0.054	0.063

Missing	494
Total	20,519

National Wellbeing Survey (2021) - *(bothered by) not being able to control worrying (past two weeks)*

“During the **past two weeks**, how often have you been bothered by... Not being able to control worrying: not at all, some days, more than half the days, nearly every day”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Not at all</i>	1,712	0.436	0.429	0.412	0.447
<i>Some days</i>	1,121	0.286	0.289	0.273	0.306
<i>More than half the days/nearly every day</i>	1,090	0.278	0.282	0.265	0.299
Missing	61				
Total	4,104				

National Health Interview Survey (2021) – feeling worried, nervous, or anxious

“How often do you feel worried, nervous or anxious? Would you say daily, weekly, monthly, a few times a year, or never?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Never</i>	5,162	0.257	0.265	0.257	0.274
<i>A few times a year/monthly</i>	8,717	0.434	0.431	0.423	0.439
<i>Daily/weekly</i>	6,206	0.309	0.304	0.296	0.312
Missing	434				
Total	20,519				

## **Substance Use**

### **Alcohol Use**

For alcohol use questions, we compared responses from the NWS and NSDUH. The questions and response options differ, which prohibits direct comparison. Namely, the NWS response option for "former" explicitly states 'no longer drink,' while NSDUH has no formal category of "former" drinkers, but instead asks if respondents have used alcohol in the past year. To maximize comparability, we recoded the NWS measure to 'never', 'former', and 'current'. Within the NSDUH, we classified as current drinkers respondents who used alcohol within the past year. We classified as former drinkers respondents who last consumed alcohol more than 12 months ago. This classification may carry some bias, as it is possible that a share of respondents who did not drink in the past year would classify themselves as current drinkers.

Just under one-quarter of NWS respondents reported never having consumed alcohol (24%) compared to 15% in the NSDUH. 21% of NWS respondents reported being former drinkers and

55% reported being current drinkers. In the NHIS, 15% reported being former drinkers, and 70% reported being current drinkers (consumed alcohol within past year).

National Wellbeing Survey (2021) – alcohol use status

“When it comes to alcohol, which of the following best describe you?: I have never drunk alcohol or have only tried it once or twice, I used to drink but no longer drink alcohol, I typically drink alcohol less often than once a month, I typically drink alcohol more than once a month but not weekly, I typically drink alcohol 1-2 days per week, I typically drink alcohol 3-5 days per week, I typically drink alcohol 6-7 days per week.”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Never</i> <sup>1</sup>	953	0.238	0.241	0.226	0.257
<i>Former</i>	832	0.208	0.206	0.192	0.221
<i>Current</i>	2,224	0.555	0.553	0.535	0.570
<i>Missing</i>	5				
<b>Total</b>	<b>4,104</b>				

<sup>1</sup> I have never drunk alcohol or have only tried it once or twice.

<sup>2</sup> I used to drink but no longer drink.

National Survey on Drug Use and Health (2021) – alcohol use status

“How long has it been since you last drank an alcoholic beverage?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Never</i>	7,144	0.171	0.154	0.145	0.163
<i>Former</i> <sup>3</sup>	5,040	0.120	0.149	0.141	0.156
<i>Current</i> <sup>4</sup>	29,663	0.709	0.698	0.685	0.709
<i>Missing</i>	6				
<b>Total</b>	<b>20,519</b>				

<sup>3</sup> Consumed alcohol in the past, but not within the past year.

<sup>4</sup> Consumed alcohol within the past year.

**Smoking Status**

Smoking status was available in all three comparison surveys. The NWS is nearly directly comparable to BRFSS and NHIS on this measure. The NSDUH does not explicitly ask about former smoking status, so we assumed that anyone not having smoked in the past year was a former smoker. The NSDUH also does not enable distinguishing between daily and occasional smokers, so we combined anyone who reported smoking within the past year into a ‘current smoker’ category. We also coded an alternate version of the NWS smoking status question where we combined occasional and daily smokers into a ‘current smoker’ category for better comparison to NSDUH.

The prevalence of occasional or current smoking is generally higher in NWS (30%) compared to BRFSS (15%), NHIS (12%), and NSDUH (23%). The proportion of respondents reporting being former smokers is approximately 20% in NWS, BRFSS, and NHIS, compared to 32% in NSDUH. NWS is closest to NSDUH with respect to never smoking (51% vs 44%), though both



the NWS and NSDUH have much lower percentages of never smokers than the BRFSS and NHIS.

National Wellbeing Survey (2021) – *smoking status (original)*

“When it comes to smoking, which of the following describe you. Here we are specifically referring to smoking tobacco cigarettes: I have never smoked tobacco/have only tried smoking once or twice, I used to smoke but no longer smoke, I smoke tobacco occasionally (e.g., some days, only when out socially, just on weekends), and I smoke tobacco regularly (e.g., daily or almost daily)”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Never</i>	2,063	0.515	0.512	0.495	0.530
<i>Former</i>	792	0.198	0.192	0.179	0.206
<i>Occasional</i>	353	0.088	0.087	0.078	0.097
<i>Daily</i>	801	0.200	0.209	0.193	0.225
<i>Missing</i>	5				
<b>Total</b>	<b>4,104</b>				

National Wellbeing Survey (2021) – *smoking status (recoded)*

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Never</i>	2,063	0.515	0.512	0.495	0.530
<i>Former</i>	792	0.198	0.192	0.179	0.206
<i>Current</i>	1,154	0.288	0.296	0.279	0.313
<i>Missing</i>	5				
<b>Total</b>	<b>4,104</b>				

Behavioral Risk Factor Surveillance Survey (2021) – *smoking status*

“Four-level smoker status: Everyday smoker, Someday smoker, Former smoker, Non-smoker.” Note: this is a constructed variable pulling from other items.

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Never</i>	162,457	0.624	0.654	0.650	0.658
<i>Former</i>	56,919	0.219	0.197	0.194	0.200
<i>Occasional</i>	11,437	0.044	0.045	0.044	0.047
<i>Current</i>	29,594	0.114	0.103	0.101	0.106
<i>Missing</i>	15,743				
<b>Total</b>	<b>276,150</b>				

National Health Interview Survey (2021) – *smoking status*

“For sample adults 18 and over, this is a recoded variable indicating the respondent's *current* smoking status in categories of current smoker, every day current smoker, some day current smoker, current smoker--unknown frequency of smoking, and also

indicates former smoker, never smoked and "has smoked, current smoking status unknown."  
 Note: this is a constructed variable pulling from other items.

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Never</i>	13,132	0.660	0.686	0.677	0.696
<i>Former</i>	4,093	0.206	0.189	0.182	0.196
<i>Occasional</i>	668	0.034	0.031	0.028	0.034
<i>Current</i>	2,018	0.101	0.094	0.089	0.099
<i>Missing</i>	608				
<b>Total</b>	<b>20,519</b>				

National Survey on Drug Use and Health (2021) – *smoking status*

"Now think about the past 30 days, that is, from [DATEFILL] up to and including today. During the past 30 days, have you smoked part or all of a cigarette? How long has it been since you last smoked part or all of a cigarette?"

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>Never</i>	20,884	0.499	0.444	0.431	0.458
<i>≤12 months</i>	12,151	0.290	0.322	0.309	0.334
<i>12 months+</i>	8,798	0.210	0.234	0.224	0.244
<i>Missing</i>	20				
<b>Total</b>	<b>41,853</b>				

### **Marijuana use**

The proportion of respondents who reported using marijuana in the past year (30%), is higher than that in NSDUH, where just under a quarter of respondents (23%) reported having ever used marijuana. One caveat is that NSDUH asks about any marijuana use, whereas for the NWS, we combined smoking and the use of edibles – which are separate variables in the NWS.

National Wellbeing Survey (2021) – *used marijuana in past year*

"Have you used any of the following substances in the past year: Marijuana, smoked (do not include medical marijuana); Marijuana, edibles or gummies (do not include medical marijuana)."

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>No</i>	2,761	0.702	0.698	0.682	0.715
<i>Yes</i>	1,173	0.298	0.302	0.285	0.318
<i>Missing</i>	80				
<b>Total</b>	<b>4,104</b>				

Note: Respondents are told to exclude medical marijuana. Combines smoking and edibles.

National Survey on Drug Use and Health (2021) – *used marijuana in past year*

"How long has it been since you last used marijuana or hashish?"

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>12 months+</i>	30,827	0.737	0.766	0.754	0.777
<i>≤12 months</i>	11,026	0.263	0.234	0.223	0.246
<i>Missing</i>	-				
<b>Total</b>	<b>41,853</b>				

**Powder cocaine use**

6% of NWS respondents reported using powder cocaine in the past year, compared to 2% of NSDUH respondents. However, a challenge in making a direct comparison is that NSDUH respondents were first asked about any cocaine use – including powder and crack cocaine – and then probed further on crack use. Thus, it is not possible to distinguish separate instances of powder or crack cocaine use; only whether crack was used *among* those indicating any cocaine use. Thus, for the initial comparison, the NWS items on powder and crack cocaine are combined. A separate comparison is made for crack cocaine, below.

National Wellbeing Survey (2021) – *used crack or powder cocaine in the past year*  
 “Have you used any of the following substances in the past year: Powder cocaine; Crack cocaine”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>No</i>	3,663	0.936	0.938	0.928	0.946
<i>Yes</i>	251	0.064	0.062	0.054	0.072
<i>Missing</i>	100				
<b>Total</b>	<b>4,104</b>				

National Survey on Drug Use and Health (2021) – *used cocaine in the past year*  
 “How long has it been since you last used cocaine?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>12 months+</i>	40,781	0.974	0.977	0.974	0.980
<i>≤12 months</i>	1,072	0.026	0.023	0.020	0.026
<i>Missing</i>	5				
<b>Total</b>	<b>41,853</b>				

**Crack cocaine use**

There is a very large difference between NWS and NSDUH in the proportion of respondents reporting using crack cocaine in the past year, with 3.9% in NWS and 0.5% in NSDUH.

National Wellbeing Survey (2021) – *used crack cocaine in the past year*  
 “Have you used any of the following substances in the past year: Crack cocaine”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
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No	3,783	0.960	0.961	0.954	0.968
Yes	157	0.040	0.039	0.032	0.046
<i>Missing</i>	74				
Total	4,104				

National Survey on Drug Use and Health (2021) – *used crack cocaine in the past year*  
 “How long has it been since you last used ‘crack’?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>12 months+</i>	41,697	0.996	0.995	0.994	0.997
<i>≤12 months</i>	156	0.004	0.005	0.003	0.006
<i>Missing</i>	13				
Total	41,853				

### **Methamphetamine use**

The prevalence of past year methamphetamine use is substantially higher in NWS (6.3%) than in NSDUH (1.2%).

National Wellbeing Survey (Wave 1) – *used methamphetamine in the past year*  
 “Have you used any of the following substances in the past year: Methamphetamine”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	3,682	0.933	0.937	0.928	0.945
Yes	265	0.067	0.063	0.055	0.072
<i>Missing</i>	67				
Total	4,104				

National Survey on Drug Use and Health (2021) – *used methamphetamine in the past year*  
 “How long has it been since you last used methamphetamine?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>12 months+</i>	41,384	0.989	0.988	0.985	0.991
<i>≤12 months</i>	469	0.011	0.012	0.009	0.015
<i>Missing</i>	19				
Total	41,853				

### **Heroin use**

The prevalence of past year heroin use is much higher in NWS (3.1%) than in NSDUH (0.4%).

National Wellbeing Survey (2021) – *used heroin in past year*  
 Have you used any of the following substances in the past year: Heroin”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	3,813	0.968	0.969	0.962	0.975
Yes	125	0.032	0.031	0.025	0.038
Missing	76				
Total	4,104				

National Survey on Drug Use and Health (2021) – *used heroin in past year*  
 “How long has it been since you last used heroin?”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
12 months+	41,651	0.995	0.995	0.993	0.996
≤12 months	202	0.005	0.005	0.004	0.007
Missing	7				
Total	41,853				

### Prescription opioid misuse

The prevalence of past year prescription opioid misuse is approximately twice as high in NWS (7.7%) as in NSDUH (3.7%), and it should be noted that NSDUH asks about prescription pain relievers rather than the more specific category of prescription opioids asked about in the NWS.

National Wellbeing Survey (2021) – *misused prescription opioids in the past year*  
 “Have you misused any of the following prescription medications in the past year? By misused, we mean used pills that were not prescribed to you or taken them in a way that was not prescribed by a physician. This includes things like taking them more frequently than prescribed, taking them to get high, or crushing them to get the dose faster: Opioids (e.g., oxycodone, hydrocodone, OxyContin, Percocet, Vicodin, Lortab, Dilaudid, methadone).”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	3,640	0.922	0.923	0.913	0.933
Yes	308	0.078	0.077	0.067	0.087
Missing	66				
Total	4,104				

National Survey on Drug Use and Health (2021) – *misused prescription pain relievers in the past year*

“The variable PNRNMREC is a recoded variable that was created from PNRNMLIF, the 12-month misuse variables of specific pain relievers, and PNRLVNM30DY.”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
12 months+	40,247	0.965	0.963	0.959	0.966
≤12 months	1,447	0.035	0.037	0.034	0.041

Missing	159
Total	41,853

**Prescription tranquilizer misuse**

The prevalence of past year prescription tranquilizer misuse is higher in NWS (6.2%) than in NSDUH (1.9%).

National Wellbeing Survey (2021) – *misused prescription tranquilizers in the past year*  
 “Have you misused any of the following prescription medications in the past year? By misused, we mean used pills that were not prescribed to you or taken them in a way that was not prescribed by a physician. This includes things like taking them more frequently than prescribed, taking them to get high, or crushing them to get the dose faster: Tranquilizers (e.g., Benzodiazepines, Xanax, Ativan, Valium, Klonopin, Clonazepam, Soma).”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	3,703	0.937	0.938	0.929	0.946
Yes	247	0.063	0.062	0.054	0.071
Missing	64				
Total	4,104				

National Survey on Drug Use and Health (2021) – *misused prescription tranquilizers in the past year*

“The variable TRQNMREC is a recoded variable that was created from TRQNMLIF, the 12-month misuse variables of specific tranquilizers, and TRANQNM30DY.”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
12 months+	40,724	0.978	0.981	0.978	0.983
≤12 months	927	0.022	0.019	0.017	0.022
Missing	202				
Total	41,853				

**Prescription sedative misuse**

The prevalence of past year prescriptive sedative misuse is higher in NWS (4.2%) than in NSDUH (0.4%).

National Wellbeing Survey (2021) – *misused prescription sedatives in the past year*  
 “Have you misused any of the following prescription medications in the past year? By misused, we mean used pills that were not prescribed to you or taken them in a way that was not prescribed by a physician. This includes things like taking them more frequently than prescribed, taking them to get high, or crushing them to get the dose faster: Sedatives (e.g., Methaqualone, Nembutal, Pentobarbital, Phenobarbital)”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
No	3,738	0.956	0.958	0.951	0.965
Yes	171	0.044	0.042	0.035	0.049

<i>Missing</i>	105
<b>Total</b>	<b>4,104</b>

National Survey on Drug Use and Health (2021) – *misused prescription sedatives in the past year*

“The variable SEDNMREC is a recoded variable that was created from SEDNMLIF, the 12-month misuse variables of specific sedatives, and SEDTVNM30DY.”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>12 months+</i>	41,380	0.995	0.996	0.995	0.997
<i>≤12 months</i>	191	0.005	0.004	0.003	0.005

<i>Missing</i>	282
<b>Total</b>	<b>41,853</b>

**Prescription stimulant misuse**

The prevalence of lifetime prescription stimulant misuse is approximately three times greater in NWS (5.7%) than in NSDUH (1.8%).

National Wellbeing Survey (Wave 1) – *misused prescription stimulants in the past year*

“Have you misused any of the following prescription medications in the past year? By misused, we mean used pills that were not prescribed to you or taken them in a way that was not prescribed by a physician. This includes things like taking them more frequently than prescribed, taking them to get high, or crushing them to get the dose faster: Stimulants (e.g., Amphetamines, Methylphenidate, Adderall, Ritalin).”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>No</i>	3,694	0.939	0.943	0.934	0.950
<i>Yes</i>	239	0.061	0.057	0.050	0.066

<i>Missing</i>	81
<b>Total</b>	<b>4,104</b>

National Survey on Drug Use and Health (2021) – *misused prescription stimulants in the past year*

“The variable STMNMREC is a recoded variable that was created from STMNMLIF, the 12-month misuse variables of specific stimulants, and STIMNM30DY.”

	N	Unweighted Proportion	Weighted Proportion	95% Confidence Interval	
<i>12 months+</i>	40,650	0.977	0.982	0.979	0.984
<i>≤12 months</i>	965	0.023	0.018	0.016	0.021

<i>Missing</i>	238
<b>Total</b>	<b>41,853</b>

## **Data Dissemination**

The data, questionnaire, and codebook are available through the ICPSR National Addiction & HIV Data Archive Program (NAHDAP). There are two versions of the data available. The public use version does not include any geographic identifiers except the USDA ERS Rural-Urban Continuum Codes (RUCCs). The public-use data files in this collection are available for access by the general public. Access does not require affiliation with an ICPSR member institution. The restricted use version includes state and county identifiers. Users interested in obtaining these data must complete a Data Use Agreement with ICPSR, specify the reason for the request, and obtain IRB approval or notice of exemption for their research.

Anyone who publishes from these data should cite:

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