

# The General Social Survey



GSS 2022 AmeriSpeak  
Oversample

GSS Methodological  
Report #138 (Preliminary)  
May 2024

Authors:  
Brian M. Wells  
Rachel Sparkman



 **NORC** at the  
University of  
Chicago

## SUMMARY

This report details the inclusion of AmeriSpeak® panelists as an oversample population in the 2022 General Social Survey (GSS) and the implications of including Black, Hispanic, and Asian oversample from this sample source. This report provides an overview of the AmeriSpeak sample and its properties relevant for the 2022 GSS. We examine how the AmeriSpeak oversample cases compare to the baseline GSS sample and how they impact estimates at the population and oversampled group levels.

The high-level findings are as follows:

- The AmeriSpeak cases exhibit some demographic differences from their baseline counterparts, but often improve representation, particularly for racial and ethnic subgroups (e.g., South American Hispanic groups, Chinese).
- Given the AmeriSpeak sample only completed the GSS on the web, there are some differences in substantive responses consistent with previous GSS work suggesting sensitivity to mode.
- U.S. population estimates should exhibit minimal differences between the existing 2022 estimates without the AmeriSpeak oversample as with the AmeriSpeak oversample.
- Including the Black and Hispanic oversamples minimally change the overall estimates for their respective subpopulations, but including the Asian oversample does produce large estimate changes for Asian subpopulation given the oversample accounts for a majority of the total Asian sample.

The AmeriSpeak oversample offers increased sample sizes for Black, Hispanic, and Asian respondents in the 2022 GSS Cross-section. In particular, the sample size for Asian respondents more than doubles with the inclusion of the oversample given their low prevalence in the population. While the Asian subpopulation estimates see more movement than their Black and Hispanic counterparts, we see improved representation for Asian subgroups, suggesting a potential improvement in estimation more broadly given the small initial sample size. Researchers are encouraged to conduct their own research to determine additional impacts of including the AmeriSpeak oversample.

## GSS 2022 AMERISPEAK® OVERSAMPLE

The General Social Survey (GSS) is a nationally representative survey historically conducted face-to-face every two years to measure the attitudes and opinions of the general public in the United States. Given face-to-face interviews could not be conducted safely in 2020, the GSS was redesigned as a self-administered web survey (supplemented with phone interviews) for collection in 2021 and as a multi-mode administration in 2022. The new multi-mode design has allowed for innovative experiments and modifications to the historical GSS, such as including an oversample of under-surveyed racial and ethnic populations from NORC's AmeriSpeak® panel.

AmeriSpeak is a large-scale, probability-based panel of U.S. households conducted by NORC. AmeriSpeak attains a response rate significantly higher than any other multi-client panel due to its extensive recruiting protocol which includes multiple invitation mailings, phone calls, and a non-response follow-up sample that receives additional Federal Express invitations and in-person recruiting efforts (NORC, 2022).<sup>1</sup> For purposes of the GSS oversample, AmeriSpeak selected primary panelists aged 18 or older who were identified as Black, Hispanic, or Asian. Unlike the GSS baseline respondents, AmeriSpeak respondents were only offered the web survey mode and received a contingent post-paid incentive. The AmeriSpeak sample was asked all items on the baseline GSS, including ISSP

---

<sup>1</sup> For more details on the design of the AmeriSpeak panel, please see their technical overview at <https://amerispeak.norc.org/content/dam/amerispeak/research/pdf/AmeriSpeak%20Technical%20Overview%202019%2002%2018.pdf>

and sponsored modules, but were not asked questions outside of the Replicating Core and sponsored modules, such as the Household Enumerating Form roster (HEF) and follow-on modules.

GSS targeted a total of 600 completes from the AmeriSpeak panel, ultimately achieving a final sample of 605 completes. The AmeriSpeak oversample achieved a weighted response rate (AAPOR RR3) of 25.0%, below the 49.2% of the GSS baseline sample.

Equivalent weight variables to WTSSPS and WTSSNRPS were created to include the 605 cases from the AmeriSpeak oversample, with both weight variables scaled so that they sum to the number of total completed cases (4,149). These are WTSSPS\_AS and WTSSNRPS\_AS. WTSSPS\_AS does not account for differential response rates between the GSS baseline and AmeriSpeak samples and therefore under-represents AmeriSpeak cases. Therefore, WTSSNRPS\_AS is the recommended weight for analyzing the combined baseline and AmeriSpeak samples for the 2022 GSS.

AmeriSpeak oversample respondents can be identified via the variable `SAMPLE = 12` or the variable `AMERSTATUS = 1`. These cases are included in Release 3 single data year file but are not included in the GSS 1972-2022 Cumulative file at this time. For more details regarding the AmeriSpeak sample, how data collection compared to the baseline GSS sample, and further weighting details, please refer to the [GSS 1972-2022 Codebook](#) (Davern et al., 2024).

## METHODS

The purpose of this report is to measure the impact of the 2022 AmeriSpeak oversample in relation to the 2022 GSS baseline sample. The research questions we seek to answer are as follows:

1. Are the AmeriSpeak cases demographically different from their baseline GSS counterparts?
2. Do AmeriSpeak cases broadly differ in the attitudinal and behavioral responses provided by their baseline counterparts?
3. What impact does the inclusion of the AmeriSpeak oversample cases have on overall GSS estimates?
4. What impact does the inclusion of the AmeriSpeak oversample cases have on subgroup estimates for the three oversampled populations, Black, Hispanic, and Asian?
5. Does the inclusion of the AmeriSpeak oversample meaningfully increase the effective sample size for each oversampled population?

For these analyses, we used Release 3 of the 2022 GSS single-year data file which contains the AmeriSpeak oversample. We focus on the eight demographic variables associated with post-stratification weighting, though we consider different variations of Hispanic ethnicity and race based on the subgroup (e.g., specific Hispanic regions for the Hispanic subsample, Asian subgroups for the Asian subsample). In addition, we looked at 149 attitudinal and behavioral variables (see [Appendix](#) for a full list). We did not include or examine missing values (i.e., reserve codes) in this analysis.

To compare oversample subgroups with the baseline sample, we defined each of the racial/ethnic subgroups consistently across both samples using the variables `HISPANIC` and `RACEACS`. We defined Black respondents as `RACEACS2 = 1`, Asian respondents as having at least one affirmative response to `RACEACS4` through `RACEACS10`, and Hispanic respondents as those who provided any substantive response to `HISPANIC` apart from “No, not of Hispanic, Latino, or Spanish origin” (see Table 1). Given responses to `RACEACS` are based on a “select all that

**Table 1.** Subgroup analytic definitions and distributions

| Subgroup | Definition   | Baseline sample<br>(Percent of subgroup) | AmeriSpeak oversample<br>(Percent of subgroup) |
|----------|--|--|--|
| Black    | RACEACS2 = 1   | 590 (73.1%)                              | 217 (26.9%)                                    |
| Hispanic | HISPANIC > 1   | 577 (74.5%)                              | 197 (25.5%)                                    |
| Asian    | RACEACS4 = 1 or RACEACS5 = 1 or<br>RACEACS6 = 1 or RACEACS7 = 1 or<br>RACEACS8 = 1 or RACEACS9 = 1 or<br>RACEACS10 = 1 | 148 (43.0%)                              | 196 (57.0%)                                    |

Source: General Social Survey, 2022 (Release 3)

Note: Percentages are unweighted. Definition uses variable names and response values. HISPANIC = 1 is “Not Hispanic.”

apply” design, this means there is some overlap across groups and that there is a possibility of an AmeriSpeak respondent providing a response to a race variable inconsistent with their subgroup assignment.

When comparing demographic differences, we focused on demographics related to post-stratification weighting dimensions as these are matched to population estimates from the U.S. Census, American Community Survey (ACS), or Current Population Survey (CPS). We looked at unweighted differences by using a two-sample test for proportions with the baseline sample and AmeriSpeak oversample as our two sample groups specified as

$$z = \frac{\hat{\theta}_{AS} - \hat{\theta}_{BL}}{\sqrt{SE(\hat{\theta}_{AS})^2 + SE(\hat{\theta}_{BL})^2}} \tag{1}$$

where  $\hat{\theta}_{AS}$  is the AmeriSpeak oversample estimate (i.e., proportion) and  $\hat{\theta}_{BL}$  is the baseline sample estimate. In addition, we used likelihood ratio chi-square tests to look at overall variable differences for multiple category variables. For race and ethnicity, we examined slightly different combinations of these variables by subgroup (e.g., regions for Hispanic ethnicity). This same test was used for the sample comparison of the attitudinal and behavioral questions.

To compare weighted estimates, we wanted to evaluate the weighted estimate for just the baseline cases using the appropriate post-stratification weight versus the weighted estimate for the combined baseline and oversample cases using WTSSNRPS\_AS, per the recommendation. To properly correspond with this weight, we estimated the associated baseline-only proportions using WTSSNRPS. We compared the ratio of the difference between the two estimates to the standard error of the original estimate using WTSSNRPS to determine changes in estimate that were large relative to standard errors:

$$\frac{\hat{\theta}_{WTSSNRPS\_AS} - \hat{\theta}_{WTSSNRPS}}{SE(\hat{\theta}_{WTSSNRPS})} \tag{2}$$

We refer to the above quantity as the “difference-to-standard error ratio” or “ratio” in this brief. This ratio is not a formal statistical test, though it is patterned after many traditional statistical tests. We are unable to use standard statistical testing here given key assumptions are violated, chiefly independence of comparison groups. However, this ratio is informative regarding estimates with large differences relative to their standard errors, providing context for the full sample estimate in comparison to the baseline sample estimate. We refer to ratios greater than two as “large,” with the choice of 2 motivated by roughly approximating a 95% confidence interval around the baseline estimate.



Finally, for determining the effective sample size for each subgroup, we needed to calculate design effects for our subgroup estimates. Because design effects (and therefore effective sample sizes) are estimate specific, we determined the effective sample size by taking the median of the estimate-specific effective sample sizes using the analytic weights. Given the use of ballot and form in GSS, many questions were not asked of all respondents. To account for these differences, we applied the estimated design effect for specific estimates to the full sample size for each subgroup:

$$n_{eff,\hat{\theta}_d} = \frac{n_d}{DEFF_{\hat{\theta}_d}} \tag{3}$$

where  $n_d$  is the full subgroup (i.e., domain) sample size for subgroup  $d$  (i.e., Black, Hispanic, Asian),  $DEFF_{\hat{\theta}_d}$  is the estimated domain design effect for each estimate  $\hat{\theta}_d$ , and  $n_{eff,\hat{\theta}_d}$  is the effective sample size for estimate  $\hat{\theta}_d$ .

## RESULTS

### Demographic Comparison

Our first research question considers the demographic differences between the baseline and AmeriSpeak respondents. Beginning with the Black sample, we saw differences by age with the AmeriSpeak oversample having far more persons aged 26-34 (27.9 percent compared to 16.8 percent) as opposed to the baseline which had more persons aged 65 and older (21.2 percent compared to 10.3 percent) (see Table 2). Black respondents from AmeriSpeak were more often married and less often widowed compared to Black respondents obtained in the baseline sample. The AmeriSpeak sample also saw more from the East North Central census division (e.g., Michigan, Illinois) comparative to West North Central, East South Atlantic, and Mountain census divisions.

**Table 2.** Demographic comparison by sample type for Black GSS respondents

| Variable | Response                 | Baseline sample | AmeriSpeak oversample | Z-test | Chi-square |
|----------|--------------------------|-----------------|-----------------------|--------|------------|
| AGE      | 18-25                    | 13.9            | 12.7                  |        |            |
|          | 26-34                    | 16.8            | 27.9                  | **     |            |
|          | 35-44                    | 17.7            | 20.6                  |        | ***        |
|          | 45-54                    | 13.9            | 14.2                  |        |            |
|          | 55-64                    | 16.5            | 14.2                  |        |            |
|          | 65+                      | 21.2            | 10.3                  | ****   |            |
| BORN     | U.S. born                | 88.9            | 90.1                  |        |            |
|          | Not U.S. born            | 11.1            | 9.9                   |        | n.s.       |
| DEGREE   | Less than high school    | 12.0            | 8.3                   |        |            |
|          | High school              | 52.5            | 56.7                  |        |            |
|          | Associate/junior college | 9.7             | 7.8                   |        | n.s.       |
|          | Bachelor's               | 15.4            | 17.1                  |        |            |
|          | Graduate                 | 10.3            | 10.1                  |        |            |

| Variable | Response            | Baseline sample | AmeriSpeak oversample | Z-test | Chi-square |
|----------|---------------------|-----------------|-----------------------|--------|------------|
| HISPANIC | Not Hispanic        | 91.7            | 89.3                  |        | n.s.       |
|          | Hispanic            | 8.3             | 10.7                  |        |            |
| MARITAL  | Married             | 21.6            | 31.0                  | **     | **         |
|          | Widowed             | 8.9             | 3.7                   | **     |            |
|          | Divorced            | 16.7            | 12.0                  |        |            |
|          | Separated           | 4.3             | 5.6                   |        |            |
|          | Never married       | 48.6            | 47.7                  |        |            |
| REGION   | New England         | 0.7             | 2.8                   |        | **         |
|          | Middle Atlantic     | 14.6            | 11.5                  |        |            |
|          | East North Central  | 13.4            | 19.8                  | *      |            |
|          | West North Central  | 5.1             | 2.3                   | *      |            |
|          | South Atlantic      | 34.6            | 35.5                  |        |            |
|          | East South Atlantic | 10.5            | 6.0                   | *      |            |
|          | West South Central  | 8.3             | 12.4                  |        |            |
|          | Mountain            | 5.4             | 2.3                   | *      |            |
| Pacific  | 7.5                 | 7.4             |                       |        |            |
| SEX      | Male                | 39.2            | 43.5                  |        | n.s.       |
|          | Female              | 60.8            | 56.5                  |        |            |

Source: General Social Survey, 2022 (Release 3)

Note: Percentages are unweighted. n.s. = not significant, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001, \*\*\*\* p < 0.0001.

For Hispanic respondents, we observed differences in the proportion of those not U.S. born, with the baseline sample containing more born outside of the U.S. (38.1 percent) compared to the AmeriSpeak oversample (26.4 percent; see Table 3). While the overall education variable (DEGREE) does not show a significant difference, we did see at the individual category level that the baseline sample had slightly more Hispanic respondents with less than a high school education compared to the AmeriSpeak sample (24.3 percent compared to 16.4 percent). AmeriSpeak cases were more likely to come from Caribbean countries (e.g., Puerto Rico, Cuba) than Central American countries (e.g., El Salvador, Guatemala). Similar to Black respondents, we see more married persons in the AmeriSpeak sample. The variable RACECEN1 (first mentioned race) is an interesting case given “Hispanic” is essentially a write-in response for GSS given the current race question wording. AmeriSpeak cases were less likely to report Hispanic as their race (11.2 percent) relative to their baseline counterparts (26.0 percent) who reported a provided race category like White. The AmeriSpeak cases also saw more East North Central relative to West South Central (e.g., Texas, Oklahoma).

**Table 3.** Demographic comparison by sample type for Hispanic GSS respondents

| Variable | Response                 | Baseline sample | AmeriSpeak oversample | Z-test | Chi-square |
|----------|--------------------------|-----------------|-----------------------|--------|------------|
| AGE      | 18-25                    | 17.0            | 11.7                  |        | n.s.       |
|          | 26-34                    | 26.5            | 30.3                  |        |            |
|          | 35-44                    | 18.1            | 22.9                  |        |            |
|          | 45-54                    | 16.9            | 14.9                  |        |            |
|          | 55-64                    | 11.3            | 13.8                  |        |            |
|          | 65+                      | 10.2            | 6.4                   |        |            |
| BORN     | U.S. born                | 61.9            | 73.6                  | **     | **         |
|          | Not U.S. born            | 38.1            | 26.4                  | **     |            |
| DEGREE   | Less than high school    | 24.3            | 16.4                  | *      | n.s.       |
|          | High school              | 43.8            | 48.7                  |        |            |
|          | Associate/junior college | 10.7            | 11.3                  |        |            |
|          | Bachelor's               | 13.0            | 16.9                  |        |            |
|          | Graduate                 | 8.1             | 6.7                   |        |            |
| HISPANIC | Mexican                  | 53.9            | 51.3                  |        | *          |
|          | Caribbean                | 19.8            | 26.9                  | *      |            |
|          | Central American         | 9.9             | 5.6                   | *      |            |
|          | South American           | 7.1             | 9.6                   |        |            |
|          | Spanish (Spain)          | 8.1             | 4.6                   |        |            |
|          | Other Hispanic           | 1.2             | 2.0                   |        |            |
| MARITAL  | Married                  | 35.7            | 44.4                  | *      | *          |
|          | Widowed                  | 3.5             | 1.5                   |        |            |
|          | Divorced                 | 15.7            | 11.2                  |        |            |
|          | Separated                | 5.6             | 2.0                   | *      |            |
|          | Never married            | 39.7            | 40.8                  |        |            |
| RACECEN1 | White                    | 54.2            | 61.5                  |        | ****       |
|          | Black                    | 7.4             | 10.2                  |        |            |
|          | Asian                    | 1.6             | 5.9                   | *      |            |
|          | Hispanic                 | 26.0            | 11.2                  | ****   |            |
|          | Other race               | 10.8            | 11.2                  |        |            |
| REGION   | New England              | 4.0             | 3.6                   |        | *          |
|          | Middle Atlantic          | 9.2             | 10.7                  |        |            |

| Variable | Response            | Baseline sample | AmeriSpeak oversample | Z-test | Chi-square |
|----------|---------------------|-----------------|-----------------------|--------|------------|
|          | East North Central  | 5.5             | 11.7                  | *      |            |
|          | West North Central  | 1.7             | 1.5                   |        |            |
|          | South Atlantic      | 19.6            | 17.3                  |        |            |
|          | East South Atlantic | 3.3             | 1.5                   |        |            |
|          | West South Central  | 19.1            | 12.7                  | *      |            |
|          | Mountain            | 12.8            | 9.1                   |        |            |
|          | Pacific             | 24.8            | 32.0                  |        |            |
| SEX      | Male                | 45.2            | 50.5                  |        | n.s.       |
|          | Female              | 54.8            | 49.5                  |        |            |

Source: General Social Survey, 2022 (Release 3)

Note: Percentages are unweighted. n.s. = not significant, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001, \*\*\*\* p < 0.0001.

Asian respondents saw far fewer significant differences between the baseline and AmeriSpeak samples, though some of this may be due to small sample sizes (see Table 4). The only overall variable with a significant difference was first-mentioned race which we divided into Asian subgroups. Asian AmeriSpeak cases were more likely to identify with a specific Asian subgroup compared to White like their baseline counterparts, resulting in a significant difference for the White category. While not statistically significant, we see larger proportions of Chinese and Japanese in the AmeriSpeak sample. The AmeriSpeak oversample also had significantly more Asian respondents from the Pacific census division (e.g., California, Washington) than the baseline sample.

**Table 4.** Demographic comparison by sample type for Asian GSS respondents

| Variable | Response                 | Baseline sample | AmeriSpeak oversample | Z-test | Chi-square |
|----------|--------------------------|-----------------|-----------------------|--------|------------|
| AGE      | 18-25                    | 10.1            | 9.9                   |        | n.s.       |
|          | 26-34                    | 21.7            | 19.9                  |        |            |
|          | 35-44                    | 23.9            | 24.6                  |        |            |
|          | 45-54                    | 18.8            | 19.3                  |        |            |
|          | 55-64                    | 9.4             | 12.3                  |        |            |
|          | 65+                      | 15.9            | 14.0                  |        |            |
| BORN     | U.S. born                | 37.4            | 42.5                  |        | n.s.       |
|          | Not U.S. born            | 62.6            | 57.5                  |        |            |
| DEGREE   | Less than high school    | 8.8             | 8.2                   |        | n.s.       |
|          | High school              | 23.0            | 25.1                  |        |            |
|          | Associate/junior college | 7.4             | 5.1                   |        |            |
|          | Bachelor's               | 32.4            | 29.2                  |        |            |
|          | Graduate                 | 28.4            | 32.3                  |        |            |



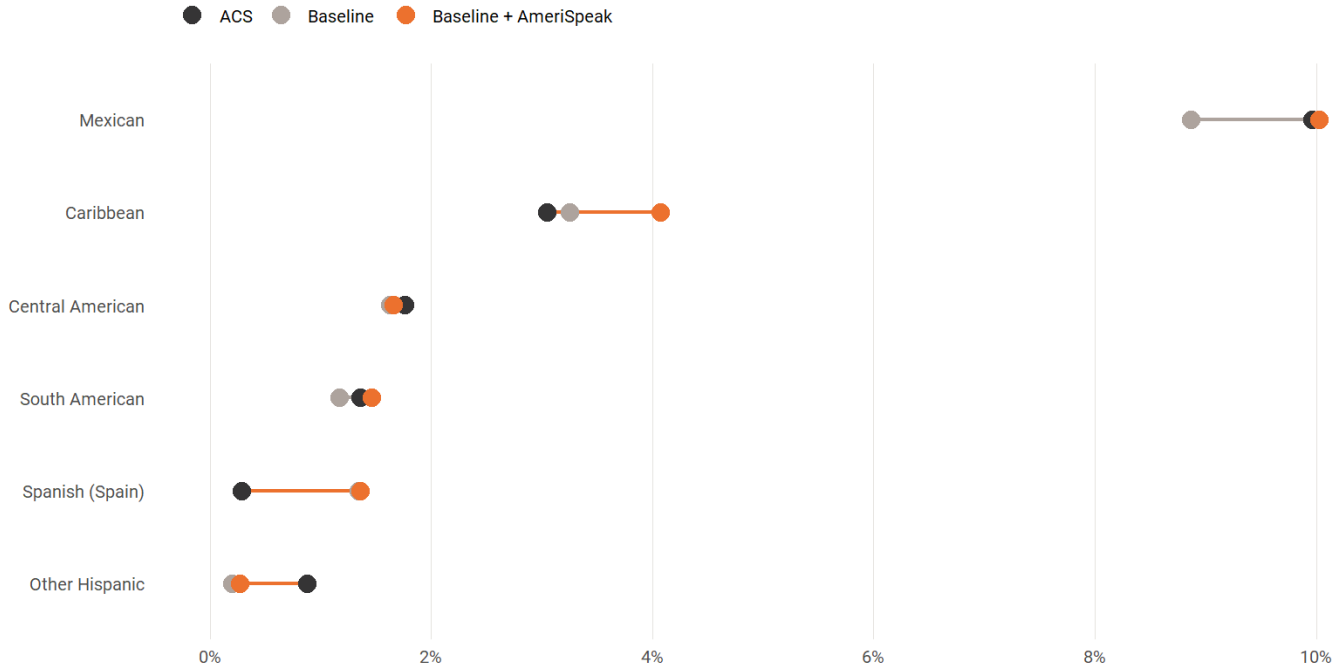
| Variable | Response            | Baseline sample | AmeriSpeak oversample | Z-test | Chi-square |
|----------|---------------------|-----------------|-----------------------|--------|------------|
| MARITAL  | Married             | 52.4            | 57.7                  |        |            |
|          | Widowed             | 2.7             | 2.0                   |        |            |
|          | Divorced            | 11.6            | 8.2                   |        | n.s.       |
|          | Separated           | 1.4             | 1.5                   |        |            |
|          | Never married       | 32.0            | 30.6                  |        |            |
| RACECEN1 | White               | 6.2             | 0.5                   | **     |            |
|          | Asian Indian        | 24.7            | 22.1                  |        |            |
|          | Chinese             | 17.8            | 25.6                  |        |            |
|          | Filipino            | 17.1            | 14.9                  |        |            |
|          | Japanese            | 5.5             | 10.3                  |        | *          |
|          | Korean              | 7.5             | 9.7                   |        |            |
|          | Vietnamese          | 6.2             | 5.6                   |        |            |
|          | Other Asian         | 11.0            | 9.7                   |        |            |
|          | Other race          | 4.1             | 1.5                   |        |            |
| REGION   | New England         | 5.4             | 3.1                   |        |            |
|          | Middle Atlantic     | 16.2            | 11.7                  |        |            |
|          | East North Central  | 10.8            | 15.8                  |        |            |
|          | West North Central  | 1.4             | 1.0                   |        |            |
|          | South Atlantic      | 16.9            | 9.7                   |        | n.s.       |
|          | East South Atlantic | 0.7             | 1.0                   |        |            |
|          | West South Central  | 9.5             | 6.6                   |        |            |
|          | Mountain            | 6.8             | 6.1                   |        |            |
|          | Pacific             | 32.4            | 44.9                  | *      |            |
| SEX      | Male                | 50.7            | 48.2                  |        |            |
|          | Female              | 49.3            | 51.8                  |        | n.s.       |

Source: General Social Survey, 2022 (Release 3)

Note: Percentages are unweighted. n.s. = not significant, \* p < 0.05, \*\* p < 0.01, \*\*\* p < 0.001, \*\*\*\* p < 0.0001.

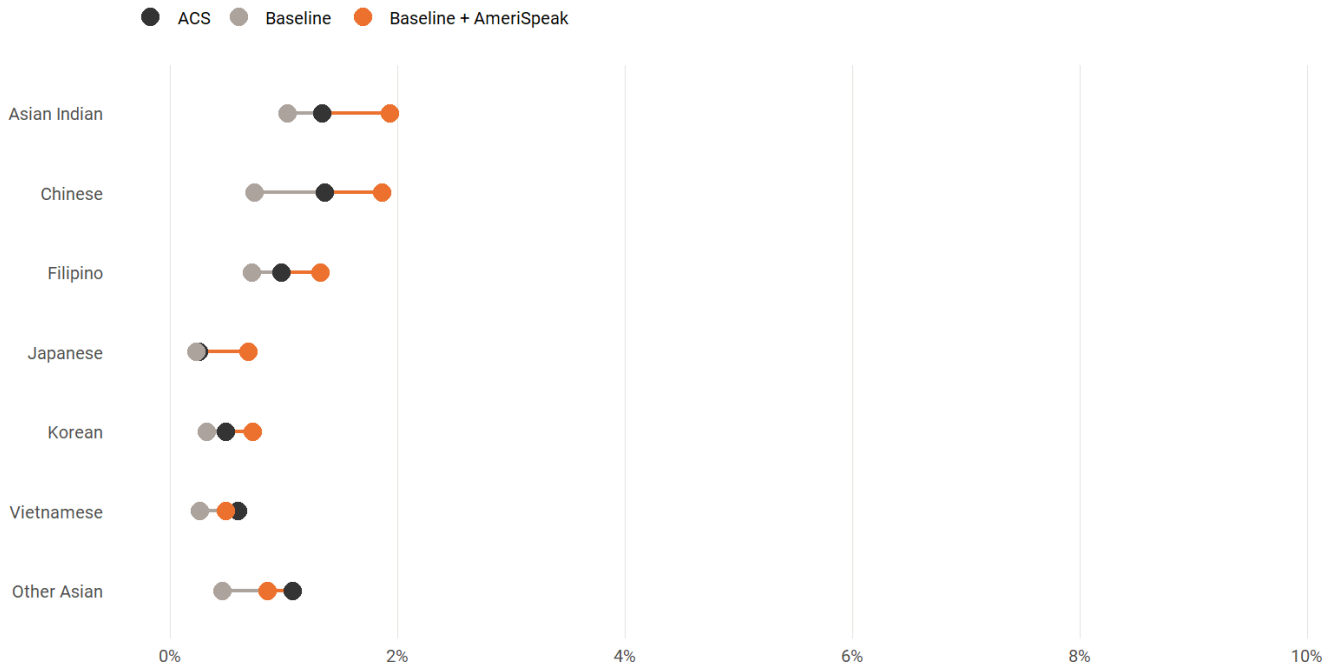
Given differences (significant or otherwise) for Hispanic origin for the Hispanic subgroup and Asian origin for the Asian subgroup, we benchmarked the unweighted baseline cases to the 2022 American Community Survey (ACS) 1-year estimates to see where there were specific improvements in subgroup representation. For Hispanic subgroups, we saw that the addition of the AmeriSpeak cases helped improve representation for those from Mexico and South America (see Exhibit 1). The larger proportion of Caribbean Hispanics from AmeriSpeak resulted in some overrepresentation. For Asian subgroups, the baseline sample consistently underrepresented almost all groups (see Exhibit 2). The inclusion of the AmeriSpeak oversample overrepresented most of the Asian subgroups but was, on average, closer to the benchmark values than with the baseline sample alone.

**Exhibit 1.** Unweighted GSS 2022 estimates for Hispanic subgroups benchmarked to ACS 2022



Source: General Social Survey, 2022 (Release 3); American Community Survey, 2022 1-year estimates

**Exhibit 2.** Unweighted GSS 2022 estimates for Asian subgroups benchmarked to ACS 2022



Source: General Social Survey, 2022 (Release 3); American Community Survey, 2022

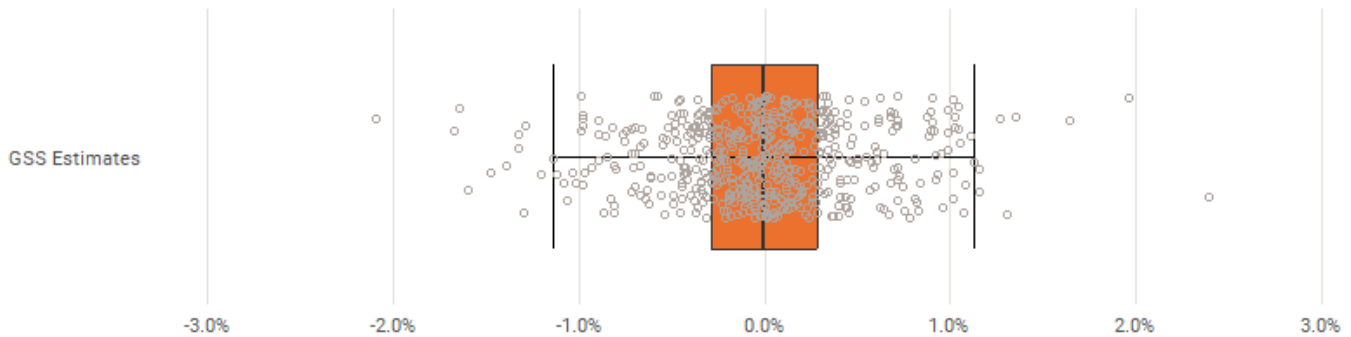
## Response Comparisons

Our second research question asked whether the AmeriSpeak cases responded differently than their baseline GSS counterparts. In general, we expected some differences given known mode sensitivities (Davern et al., 2024) and that all AmeriSpeak cases were completed via web. Of the 149 variables we conducted chi-square tests on, there were 30 significant differences for the Black subsample, 33 significant differences for the Hispanic subsample, and 13 significant differences for the Asian subsample. The limited number of differences for Asian was likely due to small sample sizes. A number of these differences are consistent with earlier findings on mode sensitivity (see Appendix B of Davern et al., 2024) which may suggest that these are related to measurement differences related to the web mode, as other explanations for the baseline sample like mode sequence and nonresponse follow-up are not applicable explanations for the AmeriSpeak sample. These include variables like ATTEND, MARBLK, MEOVRWRK, NATFAREY, NATRACE, SOCBAR, VOTE16, and XMARSEX.

## Full Sample Weighted Estimate Comparisons

Next, we compared the full sample estimates from the baseline sample to the revised estimates including the AmeriSpeak cases. We start with the raw percentage point differences. The interquartile range of differences (middle 50 percent of observed differences) is a difference of 0.3 percentage points or less, with 93 percent of differences being within one percentage point (see Exhibit 3). Only two estimates we examined exceeded a two-

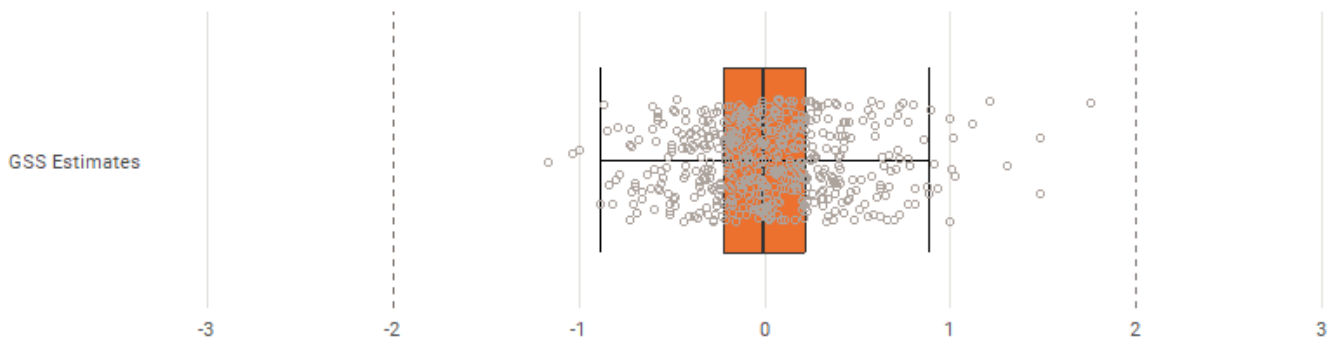
**Exhibit 3.** Difference in weighted estimates with and without the AmeriSpeak oversample



Source: General Social Survey, 2022

Note: Difference is the WTSSNRPS estimate subtracted from the WTSSNRPS\_AS estimate.

**Exhibit 4.** Difference-to-standard error ratio in weighted estimates with and without the AmeriSpeak oversample



Source: General Social Survey, 2022

Note: Difference-to-standard error ratio is the WTSSNRPS estimate subtracted from the WTSSNRPS\_AS estimate divided by the standard error of the WTSSNRPS estimate. We include dashed reference lines at ratio values -2 and 2 to provide context for a “large” difference, roughly approximate to a 95% confidence interval around the baseline only estimates.

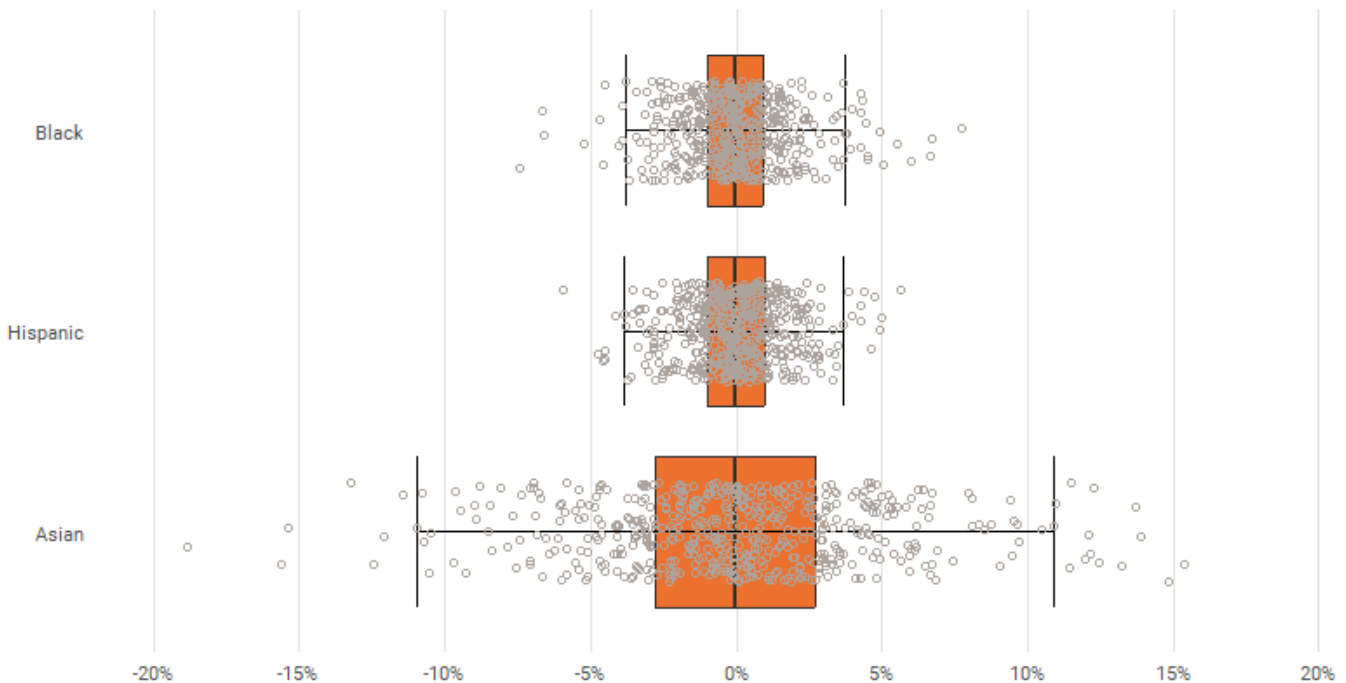
percentage point difference when including the AmeriSpeak cases. When looking at the difference-to-standard error ratio (see Formula (2)), no differences exceeded a ratio of 2 (see Exhibit 4). This suggests that most users should notice little difference in national estimates for 2022 when including the AmeriSpeak cases.

### Weighted Subgroup Estimate Comparisons

For our fourth research question, we looked at the estimates for each of the three oversampled subgroups. Looking at the raw percentage point differences, we saw that the interquartile range of differences is within one percentage point for both Black and Hispanic subsamples (see Exhibit 5). Similarly, both of these subgroups saw approximately 90 percent of their differences within three percentages points, with notable outliers out towards an absolute difference of eight. However, the range of differences was much wider for the Asian subsample. The interquartile range of differences expands out to almost three percentage points in either direction. In order to encapsulate 90 percent of differences centered on zero, we needed to go out to a nine-percentage point difference.

When we looked at the difference-to-standard error ratio (see Exhibit 6), we saw the majority of the Black and Hispanic ratios within a ratio of 2 (97 percent and 98 percent, respectively). Ten percent of ratios for the Asian subsample exceeded a ratio of 2, suggesting a lot of “large” differences. However, the reduction in range for the Asian subsample, when accounting for standard errors, is reassuring. Eighty percent of all ratios exceeding a ratio of 2 had small weighted sample sizes ( $n < 10$ ) with the baseline cases alone.

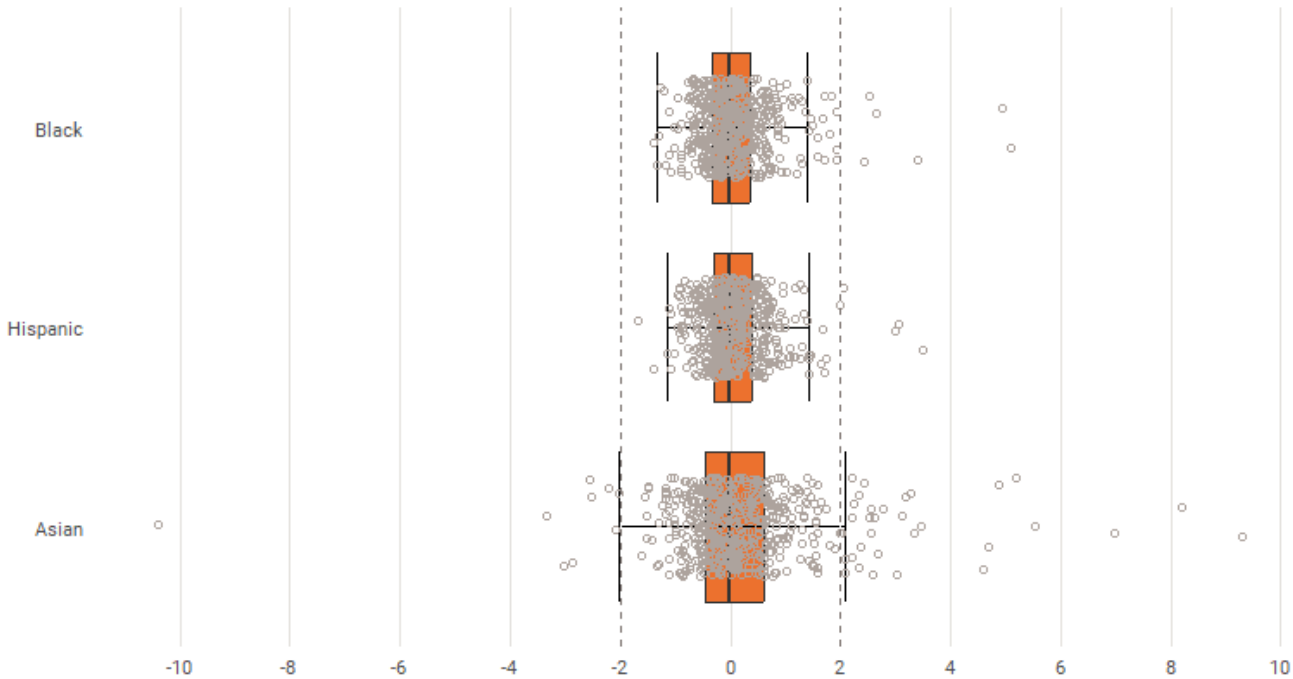
**Exhibit 5.** Difference in weighted estimates with and without the AmeriSpeak oversample by subgroup



Source: General Social Survey, 2022 (Release 3)

Note: Difference is the WTSSNRPS estimate subtracted from the WTSSNRPS\_AS estimate.

**Exhibit 6.** Difference-to-standard error ratio in weighted estimates with and without the AmeriSpeak oversample by subgroup



Source: General Social Survey, 2022 (Release 3)

Note: Difference-to-standard error ratio is the difference between the WTSSNRPS\_AS estimate and WTSSNRPS estimate divided by the standard error of the WTSSNRPS estimate. We include dashed reference lines at ratio values -2 and 2 to provide context for a “large” difference, roughly approximate to a 95% confidence interval around the baseline only estimates.

### Effective Sample Size

Finally, we looked at the effective sample sizes for each of the subgroups. Examining the baseline sample alone, the three subgroups saw some variation in the ratio of median effective sample size to the full subgroup sample size, ranging from around 40 percent for both Black and Hispanic up to 53 percent for Asian (see Table 5). The inclusion of the AmeriSpeak cases increased the raw sample sizes by around 200 cases per group, but the increases in median effective sample size range between 75 and 125 per group. Overall, the inclusion of the oversample did little to change the ratio of effective sample sizes to full subgroup sample sizes, though the Asian subgroup saw the largest increase in the sample size ratio, going up from 53 to 58 percent followed by the Black subgroup from 40 to 42 percent. The Hispanic sample size ratio dropped slightly. This suggests that the inclusion of the AmeriSpeak cases was more helpful for increasing sample size relative to a simple random sample for the Asian and Black subgroups.

## DISCUSSION

The AmeriSpeak oversample offers increased sample sizes for Black, Hispanic, and Asian respondents in the 2022 GSS Cross-section. Our analysis shows that there are some demographic and substantive differences between the oversample cases and their baseline counterparts, including evidence of some improvements in representation of racial and ethnic subgroups. However, the use of web only for the AmeriSpeak sample may

**Table 5.** Effective sample sizes by subgroup with and without AmeriSpeak oversample

| Subgroup | Baseline sample        |                              |   | Baseline + AmeriSpeak sample                          |   |   |
|----------|------------------------|------------------------------|---|---|---|---|
|          | Unweighted sample size | Median effective sample size | Ratio of effective sample size and unweighted sample size | Unweighted sample size (increase from baseline alone) | Median effective sample size (increase from baseline alone) | Ratio of effective sample size and unweighted sample size |
| Black    | 590                    | 234                          | 0.40  | 807 (+217)  | 341 (+107)  | 0.42  |
| Hispanic | 577                    | 239                          | 0.41  | 774 (+197)  | 313 (+74)   | 0.40  |
| Asian    | 148                    | 78                           | 0.53  | 344 (+196)  | 198 (+120)  | 0.58  |

Source: General Social Survey, 2022 (Release 3)

Note: Effective sample sizes are calculated using final analysis weights (WTSSNRPS and WTSSNRPS\_AS).

increase previously observed mode sensitivities for certain variables. In general, weighted U.S. population estimates will see a minimal impact with the inclusion of the AmeriSpeak sample. The oversampled racial and ethnic groups are more likely to see differences in estimates, particularly for the Asian subpopulation. However, the more than doubled sampled size for Asian respondents and improved representation for Asian subgroups suggests a potential improvement in estimation broadly for these subpopulations.

This analysis has some limitations. Our analytic set of variables is limited and does not represent the full list of possible variables including certain web specific variables (e.g., -V and -NV experimental variables). While we benchmarked Hispanic and Asian subgroups to the American Community Survey, additional benchmarking based on other demographic characteristics (e.g., age, U.S. born status, marital status) may be beneficial.

This report only seeks to provide initial evaluations of the AmeriSpeak oversample. Researchers are encouraged to conduct their own research to determine additional impacts of including the AmeriSpeak oversample. Based on additional analyses and feedback from other researchers, the AmeriSpeak cases may be fully incorporated into the Cumulative data file in the future.

## ACKNOWLEDGEMENT

The authors wish to acknowledge our reviewers for their contributions to this report: René Bautista, Ipek Bilgen, Michael Davern, David Dutwin, Susan Paddock, and Heather Sawyer. We would also like to thank the other members of the GSS Statistics Team who provided guidance during the initial phases of this analysis: Ned English, Beth Fisher, Colm O’Muircheartaigh, Steven Pedlow, Zachary Seeskin, and Jodie Smylie. This report was prepared with support from the National Science Foundation grant award 2049169.

The recommended citation for this report is:

Wells, B. M., & Sparkman, R. (2024). *GSS 2022 AmeriSpeak Oversample* (General Social Survey Methodological Report No. 138). NORC at the University of Chicago.  
<https://gss.norc.org/Documents/reports/methodological-reports/GSS%20MR138%20AmeriSpeak%20Oversample.pdf>



## REFERENCES

- Davern, M., Bautista, R., Freese, J., Herd, P., & Morgan, S. L. (2024). *General Social Survey, 1972-2022* (Release 3) [Data set and code book]. NORC.  
<https://gss.norc.org/Documents/codebook/GSS%202022%20Codebook.pdf>
- NORC. (2022). *Technical overview of the AmeriSpeak panel: NORC's probability-based household panel*. NORC.  
<https://amerispeak.norc.org/content/dam/amerispeak/research/pdf/AmeriSpeak%20Technical%20Overview%202019%2002%2018.pdf>

## APPENDIX

The 149 attitudinal and behavioral variables examined:

|          |          |           |          |          |           |           |           |
|----------|----------|-----------|----------|----------|-----------|-----------|-----------|
| ABANY    | ABDEFECT | ABHLTH    | ABNOMORE | ABPOOR   | ABRAPE    | ABSINGLE  | ATTEND    |
| CAPPUN   | CHILDS   | CHLDIDEL  | CLASS    | COLATH   | COLMSLM   | COLRAC    | COMPUSE   |
| CONARMY  | CONBUS   | CONCLERG  | CONEDUC  | CONFED   | CONFINAN  | CONJUDGE  | CONLABOR  |
| CONLEGIS | CONMEDIC | CONPRESS  | CONSCI   | CONTV    | DISCAFF   | DIVORCE   | DWELOWN   |
| EQWLTH   | EVWORK   | FEAR      | FECHLD   | FEFAM    | FEHIRE    | FEJOBFAFF | FEPRESCH  |
| FINALTER | FINRELA  | FUND16    | GOD      | GUNLAW   | HAPMAR    | HAPPY     | HEALTH    |
| HELPBLK  | HELPNOT  | HELPPOOR  | HELPSICK | HOMOSEX  | JOBFIND   | JOBLOSE   | LETDIE1   |
| LETIN1A  | LIBATH   | LIBCOM    | LIBMSLM  | LIBRAC   | LIFE      | MARBLK    | MARHOMO   |
| MEOVRWRK | NATAID   | NATAIDY   | NATARMS  | NATARMSY | NATCHLD   | NATCITY   | NATCITYY  |
| NATCRIMY | NATDRUG  | NATDRUGY  | NATEDUC  | NATEDUCY | NATENRGY  | NATENVIR  | NATENVIIY |
| NATFARE  | NATFAREY | NATHEAL   | NATHEALY | NATMASS  | NATPARK   | NATRACE   | NATRACEY  |
| NATROAD  | NATSCI   | NATSOC    | NATSPAC  | NATSPACY | NEWS      | OWNGUN    | PARTYID   |
| PILLOK   | POLABUSE | POLATTAK  | POLESCAP | POLHITOK | POLMURDR  | POLVIEWS  | POPESPKS  |
| PORNLAW  | POSSLQ   | POSSLQY   | PRAY     | PREMARSX | PRES16    | RACDIF1   | RACDIF2   |
| RACDIF3  | RACDIF4  | RACLIVE   | RACWORK  | RANK     | REBORN    | RELIG     | RELIG16   |
| RELPERSN | RICHWORK | SATFIN    | SATJOB   | SAVESOUL | SEXBIRTH1 | SEXEDUC   | SEXNOW1   |
| SEXORNT  | SOCBAR   | SOCFRIEND | SOCOMMUN | SOCREL   | SPANKING  | SPKATH    | SPKMSLM   |
| SPKRAC   | SPRTPRSN | SUICIDE4  | TAX      | TEENSEX  | UNEMP     | VOTE16    | WIDOWED   |
| WORDSUM  | WRKSLF   | WRKSTAT   | WRKWAYUP | XMARSEX  |           |           |           |