2025 CSDI Nashville/Davidson County Poll Methods Report

Prepared for:

Center for the Study of Democratic Institutions (CSDI) at Vanderbilt University

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Overview

Beginning in 2015, the Center for the Study of Democratic Institutions (CSDI) at Vanderbilt University has conducted public opinion polls of Nashville/Davidson County residents to help inform community stakeholders, government officials, academics, the general public, etc. about important issues facing the Nashville Metro area. The 2025 survey marks Vanderbilt University's 10th poll of Metro Nashville.

The 2025 Nashville/Davidson County Poll obtained surveys via web and telephone with a representative sample of 1,008 adults, ages 18 or older, living in Nashville-Davidson County, Tennessee. Data collection was conducted in English from February 21 to March 16, 2025.

Implementing an Address-Based Sample (ABS) design, 1,008 respondents were first contacted via mail. Contacts were asked to complete the survey via web or call a toll-free number to complete the survey by phone. Limited targeted outbound dialing was conducted. In total, 925 surveys were completed via web and 83 surveys were completed via phone.

Statistical results are weighted to correct known demographic discrepancies. The margin of sampling error for the complete set of weighted data is ± 3.8 percentage points.

Details on the design, execution, and analysis of the survey are discussed below.

Sample Design

Target Population

The target population for this poll was non-institutionalized adults ages 18 or older living in Davidson County, Tennessee. SSRS used an Address-Based Sampling (ABS) design for this mixed-mode study. Our sampling approach ensured that we obtained a representative sample of the target population via a full probability design.

Address-Based Sampling (ABS) Design

The sampling frame under this design was the United States Postal Service (USPS) Computerized Delivery Sequence (CDS) File. The CDS File is a computerized file that contains information on all delivery addresses serviced by the USPS. The sample was provided by SSRS's sister company, Marketing Systems Group (MSG). For this poll, SSRS selected a random sample of addresses in Davidson County from the CDS File. We appended a Hispanic surname flag and a low education (HS grad or less) flag for possible targeted mailing effort.[1]

Hard-to-reach demographic groups such as Blacks/African Americans, Hispanics/Latinos, and those with lower educational attainment are less likely to participate in surveys. For this poll, SSRS combined the successful stratification used for the 2024 Nashville survey with predictive models created by the SSRS Methods, Analytics, and Data Science (MADS) group to account for the under-representation of these

[1] No targeted mailing effort was conducted.

groups. As was done for the 2024 Nashville Survey, we implemented a stratified design that sampled Census Block Groups (CBGs) with higher concentrations of African American (AA) or Hispanic residents at a slightly higher rate to ensure adequate African American and Hispanic representation in the sample. In addition to the geographic stratification, SSRS utilized predictive models specifically designed to identify addresses with a higher probability of having an adult household member with low educational attainment (HS grad or less). This model was built by appending commercially available data (at the address level) to the data collected from the 2024 Nashville Study. This ensured the applicability of the models to the specific study. These models were then applied to the new ABS sample such that addresses likely to include an adult household member with lower educational attainment could be sampled at a slightly higher rate to increase representativeness.

Table 1: Frame and Sample Distributions Across Sample Strata

Strata	Frame		Sample	
High AA (50%+ AA), not low educ	39514	11.0%	1,477	14.8%
High AA (50%+ AA), low educ	19735	5.5%	1,475	14.8%
Medium AA (30-50% AA), not low educ	57034	15.9%	1,482	14.8%
Medium AA (30-50% AA), low educ	15457	4.3%	803	8.0%
High Hispanic (20%+ Hispanic.), not low educ	23881	6.7%	870	8.7%
High Hispanic (20%+ Hispanic.), low educ	11483	3.2%	837	8.4%
Medium Hisp. (10-20% Hispanic.), not low educ	20012	5.6%	449	4.5%
Medium Hisp. (10-20% Hispanic.), low educ	2838	0.8%	127	1.3%
Residual, not low educ	165305	46.1%	2,376	23.8%
Residual, low educ	3592	1.0%	103	1.0%

For the selection of ABS records, the following addresses filters were imposed:

- Inclusions:
  - Address Types: Residential (single family dwelling or multi-family dwelling), Residential with some business.
  - Primary Address Filters: City style, Rural route (a non-city style address), Highway contract route (routes located on the highway that are contracted out for delivery), Only Way to Get Mail PO Boxes (OWGM).
  - Secondary Address Filters: Throwback (address is an actual street address, but delivery is made to a customer's PO Box), Drop points (central mail receptacle for multiple units, and limited, if any, information in the ABS frame at the unit level, such as apartment or unit numbers).
- Exclusions:
  - Address Types: Business, Business with some residential.
  - Primary Address Filters: Traditional PO Boxes (box holders who have a deliverable street address but choose to have their mail delivered to a PO Box and therefore could be sampled more than once).
  - Secondary Address Filters: Seasonal (addresses where mail is delivered only during a specific season such as a summer residence), Educational (non-dormitory housing units near the campus of an academic institution), Vacant (delivery points that have been unoccupied for 90 days or longer), No Stat (addresses not currently receiving mail delivery [for example, planned development] and are not in the CDS).

Questionnaire Design and Letter Development

Questionnaire Development

The questionnaire was developed by the Principal Investigators at the Center for the Study of Democratic Institutions (CSDI) at Vanderbilt University in consultation with the SSRS project team. SSRS reviewed the questionnaire primarily to identify potential problems in the instrument that might increase respondent burden, cause respondents to refuse or terminate the interview, create problems with respondent comprehension, or pose practical challenges for mode-specific administration such as complex skip patterns.

Letter and Postcard Design

The text for the study invitation letter, reminder postcard, and reminder letter were developed by SSRS in consultation with Vanderbilt University investigators. SSRS sent Vanderbilt University the final mailing materials for approval before printing and mailing the materials to sampled households.

Contact Procedures

Multi-Wave Approach

To ensure all survey programs and data collection systems were operating as expected, SSRS implemented a multi-wave approach for the contact protocol. Each of the 4 waves consisted of a sample of 2,500 households, for a total of 10,000. After some surveys from Wave #1 had been completed and the system thoroughly tested in the live environment, the remaining 7,500 pieces of sample were released in three batches of 2.500 each. All waves followed the same general contact protocol.

Description of Mailings

All sampled households were first mailed an initial invitation letter. This invitation letter was one-page, single-sided, and printed in English. This letter was printed on Vanderbilt University's stationery (produced by SSRS). The text of the letter was developed in collaboration with Vanderbilt University investigators and included a web link for the survey, a QR code, and a unique password to access the secure web survey. The letter also included a $1 bill as a pre-incentive and an offer of $10 payment after completion of the survey. Inclusion of a pre-incentive generally improves the overall study participation rate by acting as a token of appreciation and encouraging participation in the survey. To maximize response by offering invitees more than one way of completing the survey, this letter included a toll-free number that potential respondents could call to complete the survey via phone if they did not have internet access or preferred to complete the survey via phone.

Approximately 2-3 business days after mailing the invitation letter, a reminder postcard was sent to all sampled households. The purpose of this mailing was simply to remind an eligible adult in the household to complete the survey if they hadn't yet had an opportunity to do so. The postcard was a fold-over style

that was sealed and contained the survey web link, QR code, and a unique password to access the secure web survey.

Approximately two weeks after the study invitation letters were mailed, a reminder letter was mailed to non-responders. This letter stressed the urgency of this final contact and included a web link for the survey, a QR code, and a unique password to access the secure web survey. This letter also included a toll-free number that potential respondents could call to complete the survey via phone.

All mailings were sent via USPS first-class mail.

Table 2: Contact Schedule

Date	Mailing	Count
February 20, 2025	Wave #1 invitation letters mailed	2,500
February 21, 2025	Wave #2 invitation letters mailed	2,500
February 24, 2025	Wave #3 invitation letters mailed	2,500
February 26, 2025	Wave #4 invitation letters mailed	2,500
February 28, 2025	All postcard reminders mailed	10,000
March 10, 2025	All reminder letters mailed	9,525

Post-compensation

For those completing the web survey, $10 via an electronic gift code was sent to each respondent immediately after the survey, enabling them to use the gift card as soon as they received it. For those completing via phone, a check was mailed. Mailed post-incentives were sent on a weekly basis during data collection.

Data Collection

Web Data Collection

All contacted households were invited to take the survey online, accessing the survey using a unique password to avoid duplication of interviews by the same person.

Telephone Data Collection

Invitation letters included a toll-free number for non-internet or internet-reluctant eligible contacts to participate in the study via telephone. If an interviewer was available at the time of the call, the inbound call was routed to the interviewer for an immediate response. If an interviewer was not available at the time of the call, interested contacts could leave a voicemail message to request a callback for a phone interview.

Interviewers received written materials about the survey instrument and received formal training for this particular project. The written materials were provided prior to commencement of data collection and included an annotated questionnaire that contained information about the goals of the study, detailed

explanations about why questions were being asked, the meaning and pronunciation of key terms, potential obstacles to be overcome in getting good answers to questions, and respondent problems that could be anticipated ahead of time, as well as strategies for addressing the potential problems.

Interviewer training was conducted before the study was launched. Interviewers were given instructions to help them maximize response rates and ensure accurate data collection.

In total, 41 phone interviews were completed from inbound requests and 42 phone surveys were completed from outbound dialing.

Targeted Outbound Dialing

Several days into the field period, SSRS began conducting targeted outbound dialing for harder-to-reach populations, specifically lower-educated adults (high school graduate or equivalent, or less education) and Hispanics. Targeted outbound dialing was limited to these groups because they are typically under-represented in general population public opinion surveys. Outbound dialing for both batches of sample began on March 10.

Programming, Data Processing, and Integration

Programming

Prior to the field period, SSRS programmed the study into its Forsta Plus (formerly known as Confirmit) platform for web and CATI administration in English. The web program was optimized for administration via smartphone or other handheld mobile devices. Extensive checking of the program was conducted to ensure that skip patterns followed the design of the questionnaire. The web program was checked on multiple devices, including desktop computers and handheld mobile devices, and different web browsers to ensure consistent and optimized visualization across devices and web browsers. SSRS generated unique survey passwords that were assigned at the sample level and provided via mail to potential respondents. The web survey was accessed directly by respondents, using their unique passwords. This also gave them the ability to return to their survey later if they chose to suspend their interview.

Quality Control Checks

Quality checks were incorporated into the survey. Respondents who failed the following quality checks were not included in the final dataset:

1. Web respondents who answered two or more trap questions incorrectly (n=3).
2. Respondents who answered less than 90% of the questions asked of them if web or answered less than 70% of the questions asked of them if phone (n=0).
3. Respondents who completed the survey in less than 30% of the median length[2] (n=4).

A total of N=7 completed surveys were removed after applying these cleaning standards.

[2] A speeder was a complete achieved in 4.1 minutes or less.

Data Processing and Integration

Prior to running cross-tabulations, data were cleaned and checked using standard procedures. This program establishes editing parameters in order to locate any errors. No back-coding was done for open-end responses.

Prior to running cross-tabulations, data from web and telephone modes were combined and thoroughly cleaned with a computer validation program written by one of SSRS's data processing programmers. This program established editing parameters in order to locate any errors, including data that did not follow skip patterns, out of range values, and errors in data field locations.

After quality control procedures were carried out, SSRS provided a clean, processed, fully labeled and weighted final SPSS dataset to Vanderbilt University.

Weighting and Analysis

Weighting Strategy

Data is weighted to represent adult residents of Davidson County in TN. The sample is weighted in stages. The first stage of the weighting is the application of a design weight to account for initial selection probabilities from the sample fame. We then apply a nonresponse adjustment to the design weight, followed by an adjustment to account for the sampling of one adult in each household. In the final weighting stage, sample demographics are calibrated to match target population benchmark distributions.

Design Weight

The design weight is the ratio of the frame size to the sample size within sample strata. There are a total of 10 sample strata, 5 geographic strata crossed by two modeled strata. The geographic strata are based on densities of Black and Hispanic residents at the block group level and are used to help increase the number of Black and Hispanic respondents. The modeled strata are based on predictive models developed by SSRS to reach households that are more likely to have lower-educated residents.

The design weight can be expressed as:

$$d0_h = N_h/n_h$$

where N_h is the size of the sample frame in stratum h and n_h is the number of addresses sampled in stratum h.

Nonresponse Adjustment

A cell-based nonresponse adjustment is applied to the full sample file. This adjustment distributes the design weights of cases with unknown eligibility among the cases with known eligibility. It also distributes the weights of eligible non-responders across the responding cases. Nonresponse adjustment cells were

defined by the ten sampling strata. Within each cell c, the nonresponse adjustment factor, f, was calculated as:

$$f = \frac{\sum_{R,c} d_0 + \sum_{N,c} d_0 + e * \sum_{U,c} d_0}{\sum_{R,c} d_0}$$

where:

$$e = \frac{\sum_{R,c} d_0 + \sum_{N,c} d_0}{\sum_{R,c} d_0 + \sum_{N,c} d_0 + \sum_{I,c} d_0}$$

That is, the adjustment factor is the sum of the design weights for eligible completes (*R*), eligible nonrespondents (*N*), and eligibility-adjusted unknown eligibles (*U*), divided by the sum of the design weights for completes. The eligibility factor, e, is the design-weighted percentage of cases with known eligibility status that are in fact eligible (with I indicating ineligibles).

The nonresponse-adjusted weight $d1_i$ can be expressed as:

$$d1_i = \begin{cases} d0_i \times f, & i \in R \\ 0, & i \notin R \end{cases}$$

Within Household Probability of Selection Adjustment

At this point, an adjustment is made to account for the fact that one adult was interviewed within each household. If the number of adults in household i is denoted by A_i, then the probability that any adult is interviewed is $1/A_i$ and the probability of selection adjustment, a_i, is $(1/A_i)^{-1} = A_i$. The adjusted base weight is $d2_i = d1_i \times A_i = d0_i \times f \times A_i$.

Calibration

With the base weight applied, the data were calibrated to balance the demographic profile of the sample to target population benchmark distributions.

Data was calibrated by raking sample distributions to target population distributions using iterative proportional fitting. This procedure balances each dimension to target benchmarks individually and iteratively. The entire set of calibration variables is cycled through until the distributions converge across all dimensions.

Data were weighted to distributions of gender by age, gender by education, race/ethnicity, internet access status, and geographic sampling strata. Missing data in the raking variables were imputed using hot decking. Hot deck imputation replaces the missing values of a respondent randomly with another similar respondent without missing data. Hot decking was done using an SPSS macro detailed in 'Goodbye, Listwise Deletion: Presenting Hot Deck Imputation as an Easy and Effective Tool for Handing Missing Data' (Myers, 2011). The following table shows the data sources used for calibration totals.

Table 3. Calibration Variable Sources

DIMENSIONS	SOURCE

Sex	ACS 2023 microdata[3]
Age	
Education	
Race	
Internet access	
Sample Strata	2023 Census Planning Database[4]

Weights were trimmed at the 4th and 96th percentiles to prevent individual interviews from having too much influence on survey-derived estimates. The table below compares unweighted and weighted sample distributions to target population benchmarks.

Table 4. Sample Demographics

CATEGORY	VALUES	BENCHMARK	UNWEIGHTED	WEIGHTED
SEX BY AGE	Male, 18-24	4.9%	2.2%	3.5%
	Male, 25-34	12.5%	8.4%	12.1%
	Male, 35-44	9.5%	9.6%	9.6%
	Male, 45-54	7.1%	4.8%	7.1%
	Male, 55-64	6.3%	5.6%	6.0%
	Male, 65+	7.3%	9.1%	7.2%
	Female, 18-24	5.1%	4.5%	4.9%
	Female, 25-34	13.6%	16.5%	14.4%
	Female, 35-44	9.7%	12.4%	10.3%
	Female, 45-54	7.2%	7.8%	7.4%
	Female, 55-64	7.1%	8.3%	7.4%
	Female, 65+	9.7%	10.8%	10.1%
SEX BY EDUCATION	Male, HS grad or less	14.0%	5.7%	10.7%
	Male, some college	10.9%	8.8%	11.1%
	Male, college grad+	22.6%	25.2%	23.8%
	Female, HS grad or less	14.1%	10.1%	13.7%
	Female, some college	11.4%	15.0%	12.1%
	Female, college grad+	27.0%	35.2%	28.7%
RACE / ETHNICITY	White, non-Hispanic	58.1%	63.0%	59.9%
	Black, non-Hispanic	22.9%	20.1%	21.5%
	Hispanic	11.2%	9.6%	10.9%
	Other, non-Hispanic	7.9%	7.2%	7.7%
INTERNET ACCESS	Yes	96.4%	95.8%	96.4%
	No	3.6%	4.2%	3.6%
GEO SAMPLE STRATA	High density AA	15.5%	26.0%	16.3%
	Medium density AA	19.9%	19.1%	19.4%

[3] ACS 2023 IPUMS (1-year estimates) Steven Ruggles, Sarah Flood, Matthew Sobek, Daniel Backman, Grace Cooper, Julia A. Rivera Drew, Stephanie Richards, Renae Rodgers, Jonathan Schroeder, and Kari C.W. Williams. IPUMS USA: Version 16.0 [dataset]. Minneapolis, MN: IPUMS, 2025. https://doi.org/10.18128/D010.V13.0

[4] 2017-2021 American Community Survey Data from 2023 Census Planning Database https://www.census.gov/data/developers/data-sets/planning-database.html

	High density Hispanic	11.6%	15.8%	11.7%
	Medium density Hispanic	9.8%	5.2%	8.9%
	Residual	43.2%	33.9%	43.6%

Effects of Sample Design on Statistical Inference

Post-data collection statistical adjustments require analysis procedures that reflect departures from simple random sampling. SSRS calculates the effects of these design features so that an appropriate adjustment can be incorporated into tests of statistical significance when using these data. The so-called "design effect" or *deff* represents the loss in statistical efficiency that results from a disproportionate sample design and systematic non-response. The total sample design effect for this survey is 1.49.

SSRS calculates the composite design effect for a sample of size n, with each case having a weight, w, as:[5]

$$deff = \frac{n \sum w^2}{(\sum w)^2}$$

The survey's margin of error is the largest 95% confidence interval for any estimated proportion based on the total sample — the one around 50%. For example, the margin of error for the entire sample is ± 3.8 percentage points. This means that in 95 out of every 100 samples drawn using the same methodology, estimated proportions based on the entire sample will be no more than 3.8 percentage points away from their true values in the population. Margins of error for subgroups will be larger. It is important to remember that sampling fluctuations are only one possible source of error in a survey estimate. Other sources, such as respondent selection bias, questionnaire wording, and reporting inaccuracy, may contribute additional error of greater or lesser magnitude.

Sample Disposition and Response Rate

The following table reports the disposition of all sampled ABS records that were contacted. The response rate estimates the fraction of all eligible sample that was ultimately surveyed. Response rates are computed according to American Association for Public Opinion Research (AAPOR) standards. The response rate (RR3) for the ABS sample was 12.2%.

[5] Kish, L. (1992). Weighting for Unequal Pi. Journal of Official Statistics, Vol. 8, No.2, 1992, pp. 183-200.

Table 5: ABS Sample Disposition

Disposition	N
Complete (I)	**1,008**
Web	925
Phone	83
Eligible, non-interview (R)	**124**
Refusal & Break-off	124
Unknown eligibility, non-interview (UH)	**8,634**
Nothing ever returned	6,097
Refused, unknown if eligible	2,182
Fax/Data line	6
Non-working/disconnected number	349
Not eligible, returned (IN)	**234**
Does not live in Davidson County, TN	6
Not age 18 or older	6
Other ineligible	5
Business/Commercial	23
Undeliverable	194
Total records contacted	**10,000**
Response Rate 3 **I/((I+P)+(R+NC+O)+e(UH+UO))**	**12.2%**

Deliverables

SSRS delivered to Vanderbilt University:

- Final questionnaire instrument
- Weighted dataset in SPSS
- Weighted banners in PDF
- Topline
- A detailed methods report

About SSRS

SSRS is a full-service survey and market research firm managed by a core of dedicated professionals with advanced degrees in the social sciences. Service offerings include the SSRS Opinion Panel and other Online Solutions, SSRS Business Insights Panel, and SSRS Text Message Panel, as well as custom research programs – all driven by a central commitment to methodological rigor. The SSRS team is renowned for its multimodal approach, as well as its sophisticated and proprietary sample designs. Typical projects for the company include complex strategic, tactical, and public opinion initiatives in the U.S. and in more than 40 countries worldwide. SSRS is research, refined. Visit www.ssrs.com for more information.