

## **ABOUT THE NOVEMBER 2014 VANDERBILT UNIVERSITY POLL**

This survey sponsored and funded by the Center for the Study of Democratic Institutions at Vanderbilt University. It was conducted by interviewers at Princeton Survey Research Associates International (PSRAI; [www.psrai.com](http://www.psrai.com)), who also provided the sampling frame and calculated the appropriate sampling error (taking into account design effects) and associated weights to be used in analysis (described in greater detail below). Telephone interviews were conducted in English by Princeton Data Source from November 10-20, 2014.

This survey was the 10<sup>th</sup> iteration of the Vanderbilt Poll. The Poll routinely contracts with PSRAI in the manner mentioned above, and PSRAI uses probability methods to randomly select individuals to be interviewed.

The Poll's target population is that of adult residents over the age of 18 in the state of Tennessee. To reach respondents, PSRAI purchases a Random Digit Dialing sample of telephone numbers from Survey Sampling, Incorporated ([www.surveysampling.com](http://www.surveysampling.com)). In the goal of selecting respondents that represent the Tennessee population at large, we use a combination of both landline and cell phone samples. Numbers for the landline sample are drawn with equal probabilities from active blocks (area code + two digit block number). The phone numbers for the sample are generated by adding a pair of random digits to the active blocks as described. For example, area code 423 + exchange 266 + block 45 + two random digits XY generates phone number (423) 266-45XY. The cellular sample was not list-assisted, but was drawn through a systematic sampling from dedicated wireless 100-blocks and shared service 100-blocks with no directory-listed landline numbers. Ultimately, this survey's sample was of 1,201 adults living in Tennessee. Six hundred (600) interviews were conducted by landline and 601 were conducted via cell phone (320 of 601 cell phone interviewees did not have a landline phone).

As many as five attempts were made to contact every sampled telephone number. Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents. Each phone number received at least one daytime call when necessary. For the landline sample, interviewers asked to speak with the adult currently at home with the most recent birthday. For the cellular sample, interviews were conducted with the person who answered the phone. Interviewers verified that the person was an adult and in a safe place before administering the survey. Interviewers also confirmed that the respondent lived in Tennessee before conducting the full interview.

All statistical estimates are adjusted to account for systematic non-response as well as a disproportionate sample design in order to ameliorate any loss in statistical efficiency. A two-stage weighting procedure was used to weight this dual-frame sample. The first stage of weighting corrected for different probabilities of selection associated with the number of adults in each household and each respondent's telephone usage patterns. This weighting also adjusts for the overlapping landline and cell sample frames and the relative sizes of each frame and each sample. The second stage of weighting balanced sample demographics to population parameters. The sample is balanced by form to match Tennessee population parameters for sex, age, education, race, Hispanic origin, region, population density, number of adults in household, and telephone usage. The basic weighting parameters came from the US Census Bureau's 2012

American Community Survey data. The population density parameter was derived at the county level from 2010 Census data. The household phone use parameter was derived from an analysis of recent dual-frame interviewing conducted in Tennessee by PSRAI along with estimates provided by National Health Interview Survey. Table 1 compares weighted and unweighted sample distributions to population parameters.

**Table 1: Sample Demographics**

	<u>Parameter</u>	<u>Unweighted</u>	<u>Weighted</u>
<u>Gender</u>			
Male	47.7	46.3	48.0
Female	52.3	53.7	52.0
<u>Age</u>			
18-24	12.7	5.9	12.0
25-34	16.8	9.0	15.6
35-44	17.2	11.2	17.1
45-54	18.3	16.6	18.9
55-64	16.7	26.3	17.3
65+	18.3	31.0	19.0
<u>Education</u>			
HS Grad or less	47.0	36.5	45.6
Some College/Assoc Degree	30.1	28.6	30.5
College Graduate	22.9	35.0	23.9
<u>Race/Ethnicity</u>			
White/not Hispanic	77.7	83.7	78.4
Black/not Hispanic	15.5	11.5	14.8
Hisp/Other	6.8	4.8	6.7
<u>Region</u>			
East	36.8	38.6	37.3
Nashville	22.6	22.7	22.6
Central	20.9	21.4	21.1
Memphis/West	19.7	17.2	19.0
<u>County Pop. Density</u>			
1 - Lowest	24.3	24.1	24.1
2	29.6	30.6	30.1
3	21.6	22.9	21.9
4	24.5	22.4	23.8
<u>Household Phone Use</u>			
LLO	5.3	5.3	5.3
Dual	51.5	68.0	53.1
CPO	43.2	26.6	41.6
<u># of adults in HH</u>			
One	18.9	26.5	19.2
Two	55.0	53.9	55.1

Table 2 reports the disposition of all sampled telephone numbers ever dialed from the original telephone number samples. This study's response rate for the landline samples was 8 percent; the response rate for the cellular samples was 10 percent. Response rates are computed according to AAPOR standards using the formula below.

**Table 2. Sample Disposition**

<u>Landline</u>	<u>Cell</u>	
868	137	Non-residential/Business
7	0	Cell in landline frame
875	137	OF = Out of Frame
19,173	6,403	Not working
878	15	Computer/fax/modem
20,051	6,418	NWC = Not working/computer
2,894	712	UHUO <sub>NC</sub> = Non-contact, unknown if household/unknown other (NA/busy all attempts)
2,945	3,957	Voice mail
28	10	Other non-contact (deaf/disabled/deceased)
2,973	3,967	UO <sub>NC</sub> = Non-contact, unknown eligibility
3,145	3,366	Refusals
235	1,089	Callbacks
3,380	4,455	UO <sub>R</sub> = Refusal, unknown if eligible
17	125	O = Other (language)
0	30	Child's cell phone
42	553	Out of state
42	583	SO = Screen out
155	199	R = Refusal, known eligible (breakoffs and qualified CBs)
600	601	I = Completed interviews
30,987	17,197	T = Total numbers dialed
25.5%	60.2%	$e1 = (I+R+SO+O+UO_R+UO_{NC}) / (I+R+SO+O+UO_R+UO_{NC}+OF+NWC)$ - Est. frame eligibility of non-contacts
94.7%	57.8%	$e2 = (I+R) / (I+R+SO)$ - Est. screening eligibility of unscreened contacts

$$\begin{array}{lll}
53.1\% & 57.6\% & \text{CON} = [I + R + (e2*[O + UO_R])]/[I + R + (e2*[O + UO_R + UO_{NC}]) + (e1*e2*UHUO_{NC})] \\
15.1\% & 17.4\% & \text{COOP} = I/[I + R + (e2*[O + UO_R])] \\
\mathbf{8.0\%} & \mathbf{10.0\%} & \mathbf{AAPOR\ RR3} = I/[I + R + [e2*(UO_R + UO_{NC} + O)] + [e1*e2*UHUO_{NC}]] = \text{CON} * \text{COOP}
\end{array}$$


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Including adjustments for design effects, the resulting margin of sampling error for the complete set of weighted data in this survey is  $\pm 3.4$  percentage points at a confidence level of 95%. We also calculated results among a subsample of registered voters, which included 989 individuals (527 contacted by landline phone, 462 by cell phone). The adjusted appropriate margin of error for this population is  $\pm 3.7$  percentage points. In analysis of questions that required random half samples of respondents, we further adjusted the margin of error to reflect the greater imprecision associated with smaller samples.<sup>1</sup> Appropriately weighted data were used for all analyses [11]. All data analysis was conducted using STATA SE Version 13, which allows for adjustment of standard errors for complex sample designs.

The questionnaire used in this survey, along with topline results, is available at <http://www.vanderbilt.edu/csdi/November2014VUPollQuestionnaire.pdf>.

For more information, please contact Shannon Meldon-Corney, Program Coordinator, at the Center for the Study of Democratic Institutions at (615)-875-6954 or at [csdi@vanderbilt.edu](mailto:csdi@vanderbilt.edu).

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<sup>1</sup> For more information about these questions and their corresponding sample sizes, please refer to the questionnaire and our topline results here: <http://www.vanderbilt.edu/csdi/November2014VUPollQuestionnaire.pdf>