

Methodological Note #011

Response Rates in LAPOP's 2021 AmericasBarometer

Oscar Castorena, J. Daniel Montalvo, Georgina Pizzolitto,
Luke Plutowski, Valerie Schweizer-Robinson, and Carole J. Wilson
Vanderbilt University

October 25, 2022

Key Findings:

- LAPOP Lab adopted a new five-step procedure for calculating response rates using phone surveys for its AmericasBarometer surveys
- First, LAPOP administered computer-assisted telephone interviews (CATI) using the SurveyToGo platform and Private Branch eXchange software/hardware (where applicable) to register the result of calls for every attempted interview
- Second, all interviews were audited for quality in real time with the lab's new FALCON-CATI program, which is an adaptation of LAPOP's FALCON© system to the CATI mode
- Third, using AAPOR's Standard Definitions, the lab classified all dispositions into four groups: interviews, non-interviews with an eligible respondent, non-interviews with a respondent of unknown eligibility, and non-interviews with ineligible respondents
- Fourth, LAPOP calculated an estimated eligibility ratio, or the proportion of unknown eligibility cases that were likely to be eligible
- Finally, LAPOP calculated response rates by adapting AAPOR's Standard definitions for completed interviews, partial interviews, eligible respondents that did not lead to interviews, unknown eligibility cases, and the eligibility rate
- Consistent with other CATI studies, the overall response rate for the 2021 AmericasBarometer is considerably lower than the previous face-to-face interview response rates for the project



In 2010, the American Association for Public Opinion Research (AAPOR) created the Transparency Initiative to set standards for the routine disclosure of survey methodology.¹ LAPOP is a charter member of this program and is dedicated to making information about data collection and reporting available to the public. Measuring and reporting survey response rates is a key part of this process. This *Methodological Note* describes how LAPOP calculates response rates for the 2021 round of the AmericasBarometer. This report updates a previous *Methodological Note* on LAPOP's calculation of response rates for face-to-face surveys,² with a focus on calculating response rates for phone surveys.

Step 1: Gather Data on Attempted Interviews

Standard rounds of the AmericasBarometer survey are conducted via face-to-face interviewing in the Latin America and Caribbean (LAC) region. In 2021, LAPOP instead conducted interviews via computer-assisted telephone interviewing (CATI) in response to the COVID-19 pandemic. Although phone interviewing was uncommon in population surveys at the time in the region, LAPOP determined CATI as the next-best option and one that minimized risk to public health. The lab invested in technology and training, on our own and with partner firms, to build capacity for this approach.

In all LAC countries in the 2021 AmericasBarometer,³ interviews were conducted over the phone by enumerators via CATI. These CATI interviews were administered using the SurveyToGo (STG) platform in addition to Private Branch eXchange software/hardware (hereafter referred to as PBX) implemented by firms in each country to register the result of calls for every attempted interview (hereafter, dispositions). The disposition information was stored in PBX logs and merged by the LAPOP staff with interview information captured in the STG software so that disposition information was available for every phone number dialed by survey firms.

The PBX software differed from country to country and therefore the exact dispositions recorded in the PBX logs also differed. In general, the logs captured the following disposition categories for each attempted interview:

1. Phone out of service
2. Line busy
3. Call blocked
4. No answer
5. Answering machine
6. Interviewee not available to take the call
7. Answered

The protocols for carrying out the project were as follows: If the call is answered, the respondent is asked a series of screening questions to determine the eligibility (business/personal phone, age, residency, citizenship) and is asked to consent to the interview. If all these conditions are met, the interview proceeds unless or until the call is terminated. However, if the respondent does not meet the necessary criteria or does not consent to the interview, the interviewer records the failed attempt and moves on to another phone number.

Step 2: Process the Sample for Quality

All phone interviews were monitored in real time with the lab's new FALCON-CATI program, which is an adaptation of LAPOP's FALCON© system to the CATI mode. Using audio files from the calls, auditors carefully review the interviews and record quality scores for each interview.⁴ When the FALCON-CATI system detects an interview of deficient quality, we remove the interview; this review includes an assessment of the recruitment phase (the "attempt"). In total, 691 attempts (0.02% of interviews attempted in the LAC region in 2021) are excluded from the response rate calculations due to quality control reasons. All other attempts at recruiting individuals (whether the individual is determined to be eligible, ineligible, or with unknown eligibility) are counted in the response rates. This results in conservative response rate calculations that likely overestimate non-response, as attempts that may have been entered in error or did not lead to an interview for unknown reasons are still included.

Step 3: Classify Attempts Into Categories

Using AAPOR's Standard Definitions, we classify all dispositions into four broad groups: interviews, non-interviews with an eligible respondent, non-interviews with a respondent of unknown eligibility, and non-interviews with ineligible respondents.⁵ These four categories are numbered 1 to 4, with more specific classifications represented by the first and second decimal places. For example, all unknown eligibility non-interviews are given a code that begins with 3. AAPOR guidelines specify that if a call is made but there is no way to determine if it is a phone line for a person (or "housing unit"), it is given a code that begins with 3.1. This code is further distinguished with the second decimal place, examples being if the phone has a busy signal (3.12), or no one answers (3.13). These codes are classified differently from other unknown eligibility cases. An example is if some type of contact was made on the phone, but whether it is an eligible person's phone line is unknown (3.20). However, response rates rarely involve these levels of specification. Accordingly, LAPOP maps dispositions to the following reduced set of codes:

- Interviews (1.0)
 - Complete (1.1)
 - Partial (1.2)
- Eligible, Non-Interview (2.0)
 - Refusal (2.11)
 - Break-off (2.12)
 - Call quality (2.34)
 - Impairment (2.32)
 - Language (2.33)
- Unknown eligibility, non-interview (3.0)
 - Busy signal (3.12)
 - No answer (3.13)
 - Telephone answering device (3.14)
 - Incomplete screening (3.21)
 - Incomplete screening because of hang up (3.21)
 - Incomplete screening because of impairment (3.21)
 - Incomplete screening because of language (3.21)
 - Call quality (3.16)
- Ineligible, non-interview (4.0)
 - Out of sample (non-resident, underage, business line, etc.) (4.10)
 - Non-working/Disconnected number (4.30)

After merging the sample information and the PBX log, each disposition is coded into one of these four groups based on the PBX log information and the screening information registered in STG.

There is a subtle distinction between a partial interview and a break-off. A break-off is an initiated interview where consent is withdrawn; or the interview is terminated early by a hang up, a refusal, or call disconnection, and the respondent answers fewer than 50% of questions. Break-offs are coded as “Eligible, Non-Interview” since they are not included in the final dataset of completed interviews. A partial interview is an initiated interview that is sufficiently complete (greater than or equal to 50% but less than 70% of questions asked) to be approved and included in the dataset; this is coded as a “Partial Interview.” Interviews where more than 70% of questions are answered and are included in the dataset, are considered and coded as “Complete.” There are relatively few partial interviews included in the dataset (900 cases out of 60,651 interviews in the entire AB2021 wave).

As with many phone surveys, there are many attempted interviews that are coded as unknown eligibility.⁶ This is mainly due to respondents either not picking up the phone when interviewers call (3.10 through 3.14) or respondents terminating the interview before eligibility information is collected (3.20). Some of these unknown eligibility cases likely

would have met the requirements of the sample, therefore we do not report AAPOR's response rates 5 and 6 (RR5 and RR6), which assume no unknown eligibility cases were eligible for the survey.

Step 4: Estimate Eligibility Ratio

Given the large number of unknown eligibility cases, it is important to employ a conservative strategy while still accounting for many unknown cases. The most conservative approach is to assume that unknown eligibility respondents were all eligible, while the least conservative is to calculate these cases as if none were eligible. LAPOP follows a middle ground by using the method employed by the Council of American Survey Research Organizations (CASRO) to estimate an eligibility ratio – that is, calculating the proportion of unknown eligibility cases that were likely to be eligible (*e*). While the ideal calculation would take country-specific demographic information into account, such data are often not available at all, or are outdated and are therefore unreliable. The CASRO method assumes the ratio of eligible to ineligible respondents in the observed data is likely similar to the ratio among unknown eligibility respondents. Following this standard, we calculate the eligibility ratio as:

$$e = \text{Eligible} / (\text{Eligible} + \text{Ineligible})$$

We estimate eligibility rates for the region as a whole at 50%, though the figure ranges substantially from 9% in Honduras to 98% in Brazil.⁷

Step 5: Calculate Response Rates

To calculate response rates, we use the following formulae provided by AAPOR's Standard Definitions and adapted to the LAPOP data:

$$\begin{aligned} \text{Response Rate 1 (RR1): } & C / (C + P + \text{ENI} + \text{UE}) \\ \text{Response Rate 2 (RR2): } & C + P / (C + P + \text{ENI} + \text{UE}) \\ \text{Response Rate 3 (RR3): } & C / [C + P + \text{ENI} + e(\text{UE})] \\ \text{Response Rate 4 (RR4): } & C + P / [C + P + \text{ENI} + e(\text{UE})] \end{aligned}$$

Where C represents completed interviews, P is partial interviews, ENI is eligible respondents that did not lead to interviews, UE is unknown eligibility cases, and *e* is the eligibility rate (calculated using the CASRO method). RR2 and RR4 calculate partial interviews as successful responses. Conversely, RR1 and RR3 do not. The only difference between RR1/RR2 and RR3/RR4 is whether respondents of unknown eligibility are assumed to be always eligible (RR1), or sometimes eligible (RR3).

While in previous LAPOP publications, we have typically reported the most conservative estimates, RR1 and RR2, the numerator in RR2 and RR4 is the actual number of interviews included in the final datasets. Moving forward, LAPOP will provide all four response rates.

LAPOP's Response Rates

Table 1 below shows the number of all attempted interviews conducted during the 2021 round of the AmericasBarometer and Table 2 presents all four response rates for each country.

Table 1: Attempts Conducted in the AmericasBarometer 2021

Country	All Attempts	Ineligible Attempts
ARG	437,197	1133
BOL	38,883	924
BRA	13,652	68
CHL	40,200	3,078
COL	28,965	116
CRI	56,808	503
DOM	18,819	803
ECU	28,691	2,057
GTM	32,339	1,956
GUY	15,225	761
HND	402,935	31,215
HTI	21,797	212
JAM	43,460	1,231
MEX	457,278	763
NIC	298,697	1,295
PAN	64,321	301
PER	168,527	1,772
PRY	247,878	391
SLV	77,670	1,351
URY	217,490	101
LAC REGION	2,711,533	50,229

Table 2: Response Rates by Country

Country	RR1 (%)	RR2 (%)	RR3 (%)	RR4 (%)
ARG	0.7	0.7	1.0	1.0
BOL	7.9	7.9	10.0	10.0
BRA	22.2	22.2	22.5	22.5
CHL	8.0	8.0	14.9	14.9
COL	10.3	10.4	10.7	10.7
CRI	5.3	5.3	6.1	6.1
DOM	16.6	16.7	19.7	19.8
ECU	11.3	11.3	17.1	17.1
GTM	9.7	9.9	14.9	15.1
GUY	20.4	20.8	23.5	23.9
HND	0.8	0.8	8.0	8.0
HTI	11.8	14.3	12.6	15.3
JAM	7.2	7.4	9.8	10.0
MEX	0.7	0.7	0.8	0.8
NIC	1.0	1.0	1.4	1.4
PAN	5.0	5.0	5.4	5.4
PER	1.8	1.8	2.9	2.9
PRY	1.2	1.2	1.4	1.4
SLV	4.2	4.3	5.8	5.8
URY	1.4	1.4	1.4	1.4
LAC REGION	2.3	2.3	4.0	4.1

The overall response rate is considerably lower than the face-to-face interview response rate reported in the previous *Methodological Note* prepared for the 2016/17 LAPOP AmericasBarometer. In 2016/17, for the LAC region, RR1 was 20% and RR3 was 23% compared to 2.3% and 4.0% respectively for 2021.^{8,9} This is not unexpected given that cell phone users often do not answer calls from unknown callers and will frequently hang up on calls given that they might be reached while unavailable to talk (working, driving, in a public setting, etc.). The lower response rates in LAPOP's CATI surveys compared to face-to-face surveys is consistent with the literature,¹⁰ which shows that face-to-face surveys achieve the highest response rate, followed by telephone surveys, while mail surveys show the lowest response rates.

Conclusion

The COVID-19 pandemic forced many face-to-face surveys to switch to telephone-based surveys, and LAPOP's AmericasBarometer was no exception. The lab used this change as an opportunity to build knowledge and capacity in telephone surveys in a region that did not often use this mode of data collection for national representative public opinion surveys. This note serves as a companion to our previous *Methodological Note* on response rates in face-to-face surveys. Moving forward, the lab will continue to deploy, and report, on telephone surveys as needed, while also returning to face-to-face surveys in most contexts.

LAPOP and other members of AAPOR's Transparency Initiative continue to be at the forefront of public opinion survey methodology advances. This *Methodological Note* is part of LAPOP's series of reports on our research methods, which manifests our commitment to this initiative, and facilitates a core component of our mission: to advance the quality of survey research in the Americas and beyond.

Notes

1. See: https://www.aapor.org/Transparency_Initiative.htm
2. See <https://www.vanderbilt.edu/lapop/insights/IMN005en.pdf>
3. The United States and Canada are not included in this report on response rates because these surveys used internet survey panels.
4. For more information on how LAPOP's FALCON-CATI system works, see Larrea, Schweizer, and Zechmeister, 2021. <https://www.vanderbilt.edu/lapop/insights/IMN008en.pdf>
5. The American Association for Public Opinion Research. 2016. "Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys (9th ed.)" [http://www.aapor.org/Standards-Ethics/Standard-Definitions-\(1\)](http://www.aapor.org/Standards-Ethics/Standard-Definitions-(1))
6. See <https://www.aapor.org/Education-Resources/Reports/Cell-Phone-Task-Force-Report/Coverage-and-Sampling-%281%29.aspx>
7. The differences observed in eligibility rates across countries are due, in large part, to the availability of validated telephone samples in only some countries (which reduce the number of non-working/disconnected/business telephone numbers).
8. See <https://www.vanderbilt.edu/lapop/insights/IMN005en.pdf>
9. Only RR1 and RR3 were reported in previous LAPOP analyses.
10. See for example, Dillman et.al "Internet, Mail, and Mixed-Mode Surveys: The Tailored Design Method, Third Edition, Hox, J.J., De Leeuw, E.D. A comparison of nonresponse in mail, telephone, and face-to-face surveys. *Qual Quant* 28, 329–344 (1994) or <https://www.pewresearch.org/methods/2017/05/15/what-low-response-rates-mean-for-telephone-surveys/>

Oscar Castorena (oscar.castorena@vanderbilt.edu) is Senior Statistician and Online Research Lead at LAPOP Lab.

J. Daniel Montalvo (daniel.montalvo@vanderbilt.edu) is Director of Survey Research Operations at LAPOP Lab.

Georgina Pizzolitto (georgina.pizzolitto@vanderbilt.edu) is Senior Statistician and Sampling Lead at LAPOP Lab.

Luke Plutowski (luke.plutowski@vanderbilt.edu) is Senior Statistician and Research Lead at LAPOP Lab.

Valerie Schweizer-Robinson (valerie.j.schweizer-robinson@vanderbilt.edu) is Statistician and Student Programs Co-Lead at LAPOP Lab.

Carole J. Wilson (c.j.wilson@vanderbilt.edu) is Senior Data Scientist at LAPOP Lab.

This report was edited by Laura Sellers. This report was translated by Margarita Corrales and Sebastián Larrea. Formatting, production, copy editing, graphics, and report distribution were handled by Mariana Rodríguez and Laura Sellers. Our data and reports are available for free download on the project website. Please follow us on Twitter to stay in touch.

As a charter member of the American Association for Public Opinion Research (AAPOR) Transparency Initiative, LAPOP is committed to routine disclosure of our data collection and reporting processes. More information about the AmericasBarometer sample designs can be found at vanderbilt.edu/lapop/core-surveys.

This *Methodological Note* is made possible by the support of the American People through the United States Agency for International Development (USAID) and Vanderbilt University. The contents of this Methodological Note report are the sole responsibility of its authors and LAPOP and do not necessarily reflect the views of USAID, the United States Government or any other supporting organization. LAPOP's AmericasBarometer surveys are supported predominantly by USAID and Vanderbilt University.

vanderbilt.edu/lapop 

@LAPOP_Lab 

lapop@vanderbilt.edu 

+1-615-322-4033 

230 Appleton Place, PMB 505, Suite 304, Nashville, TN 37203, USA 