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LAPOP

AmericasBarometer
Barómetro de las Américas

AmericasBarometer, 2018/2019

Technical Information

Country	Year	Sample Size	Weighted/Unweighted	Fieldwork dates
Bolivia	2019	1,682	Weighted	March 14th -May 12th, 2019

LAPOP AmericasBarometer 2018/19 round of surveys

The Latin American Public Opinion Project (LAPOP) is a pioneer in survey research methods The AmericasBarometer by LAPOP is a unique tool for assessing the public's experiences with democratic governance. The survey permits valid comparisons across individuals, subnational and supranational regions, countries, and time, via a common core questionnaire and standardized methods.

The 2018/19 AmericasBarometer represents the 8th round of this project. Fieldwork for the 2018/19 round of the AmericasBarometer began in late 2018 and continued into the summer of 2019. A total of 20 countries were included in this wave. The full dataset for this round includes 31,050 interviews, conducted based on national sample designs and implemented with the assistance of partners across the region. LAPOP makes all country datasets and reports available for download for free from its website at www.LapopSurveys.org.

In the 2018/19 round of the AmericasBarometer, LAPOP has continued this tradition of innovation, with heretofore unprecedented improvements in monitoring interview quality on a daily basis during the course of fieldwork. Handheld devices for data collection were used in 100% of face-to-face interviews. As in prior rounds of the AmericasBarometer, the U.S. and Canada studies were conducted online while all other interviews were conducted face-to-face. In the 2018/19 round, we used the SurveyToGo© (STG) software, running on Android tablets and phones, to conduct field interviews

As per the sample design, the 2018/19 round of the AmericasBarometer continues to use the sample strategy introduced for the first time in the 2012 round of the surveys and that was also employed in the 2014 and 2016/17 rounds. This sample design continues to use, in almost all cases, the same stratification employed since 2004, making adjustments where necessary when census information is updated. The samples are all representative at the stratum level, urban/rural areas

and by size of the municipalities. The current design (implemented since 2012), however, stabilized the primary sampling unit (PSU) and cluster sizes, with the selection of each PSU based on PPS (Probability Proportional to Size). Within PSUs, clusters are also standardized (typically 6 interviews) to minimize intra-class correlation while taking advantage of economies of fieldwork that simple random selection of interviews within the entire PSU would not make possible.

The remaining pages of this technical note describe the sample design of the 2018/19 AmericasBarometer survey in Bolivia.

Bolivia 2018/19 AmericasBarometer Round

This survey was carried out between March 14th and May 12rd of 2019, as part of the LAPOP AmericasBarometer 2018/19 wave of surveys. It is a follow up of the national surveys of 2004, 2006, 2008, 2010, 2012, 2014 and 2017 carried out by the Latin America Public Opinion Project (LAPOP). The 2019 survey fieldwork was carried out by Ciudadania -Comunidad de Estudios Sociales y Acción Pública - on behalf of LAPOP. Key funding came from Vanderbilt University and Ciudadanía.

Questionnaire pretesting took place in La Paz on February 18th and 19th, 2019 and interviewer training took place on March 8th and 9th, 2019. A full copy of the Bolivia 2018/19 AmericasBarometer questionnaire can be found at LAPOP's website at.www.LapopSurveys.org.

The project used a national probability sample design of voting-age adults, with a total N of 1,682 people involving face-to-face interviews conducted in Spanish. In the 2018/19 round, LAPOP used the SurveyToGo© (STG) software, running on Android tablets and phones, to conduct 100% of the interviews.

The survey used a complex sample design, taking into account stratification and clustering. The sample was developed by LAPOP, using a multi-stage probability design and was stratified by the 3 major departments of the country: La Paz, Santa Cruz, Cochabamba and 3 regions Beni-Pando, Potosi-Oruro and Chuquisaca-Tarija (in the 2017 survey in Bolivia LAPOP changed the stratification of the sample grouping the departments of Beni and Pando, Oruro and Potosi and Tarija and Chuquisaca, this stratification was also used in the 2018/19 round). The sample is representative at the national level and of the 6 regions as shown in the map below (see Figure 1). Each stratum was further sub-stratified by size of municipality[1] and by urban and rural areas within municipalities. Respondents were selected in clusters of 6 in urban and rural areas. Reported statistics or statistical analyses should be adjusted for the design effect due to the

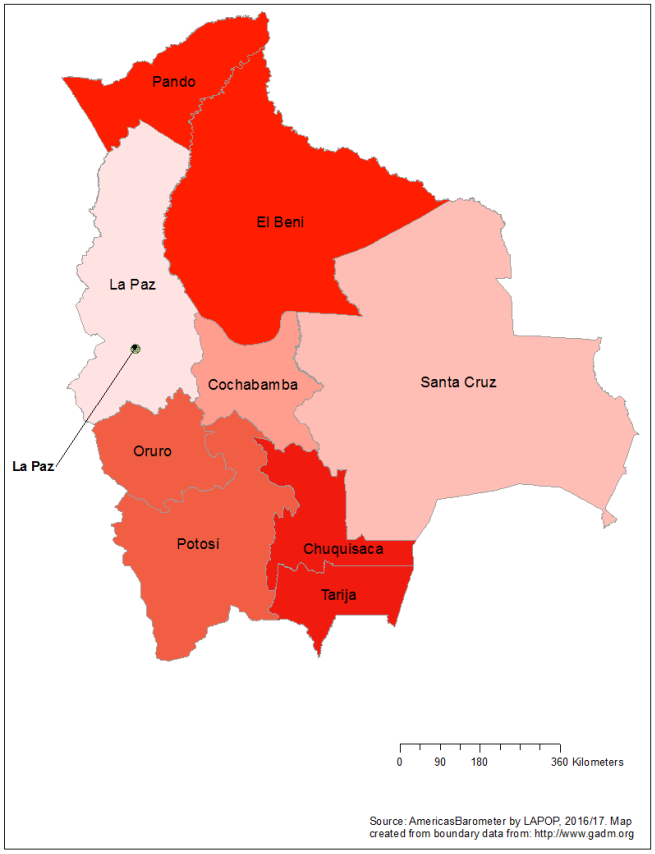
[1] The new sample design included three different strata of municipalities classified according to their size. Municipalities were grouped in sizes as follow: (1) Small municipalities with less than 25,000 inhabitants, (2) Medium-sized municipalities with between 25,000 and 100,000 inhabitants, (3) Large municipalities with more than 100,000 inhabitants.

complex design of the sample[2]. Due to the change in the sample stratification and sample size compared to previous rounds of the AmericasBarometer in Bolivia, the 2017 Bolivia dataset needs to be weighted for cross-time and cross-country comparisons (see section on weights).

The sample frame used for the sample is the 2012 Population Census in Bolivia. The sample is representative of voting age population at the stratum level, urban/rural areas and by size of the municipalities. No areas or regions of the country were excluded from the survey.

During fieldwork a total of 14 cluster (84 interviews) were substituted in Bolivia. Fieldwork substitutions were requested by our partners in Bolivia based on their knowledge of current local conditions. Most of the substitutions were because the selected enumeration areas no longer contain households as a result of urban renewal or spreading commerce. Following LAPOP's substitution protocols[3], the replacement sampling points were located within the same primary sampling unit (PSU) and in the case of Bolivia in the same census sector.

Figure 1: Sample stratification in Bolivia



[2] For more information visit http://www.vanderbilt.edu/lapop/survey-designs.php

[3] See LAPOP's methodological note "Sample Substitutions in the AmericasBarometer 2016/17" by Facundo Salles Kobilanski, Georgina Pizzolitto, and Mitchell Seligson Vanderbilt University August 14, 2019. Available at https://www.vanderbilt.edu/lapop/insights/IMN006en.pdf

Table 1: Sample sizes by Strata and Municipality Size in the 2018/19 AmericasBarometer Survey in Bolivia

Strata	Sample Size by design	Number of Interviews (Unweighted)
La Paz	360	364
Santa cruz	360	360
Cochabamba	288	284
Potosi-Oruro	192	191
Chuquisaca- Tarija	240	243
Beni- Pando	240	240
Total	**1,680**	**1,682**
Size of Municipality		
More than 100,000 inhabitants	792	801
Between 25,000 and 100,000 inhabitants	198	197
Less than 25,000	690	684
Total	**1,680**	**1,682**

The sample consists of 87 primary sampling units and 280 final sampling units including all departments in Bolivia. A total of 1,157 respondents were surveyed in urban areas and 525 in rural areas. The estimated margin of error for the survey is ± 2.5. Margin of sampling errors are not adjusted for weights. Table 1 shows the sample size in each of the regions (strata) and by municipality size.

LAPOP uses "frequency matching," a technique that permits one to obtain a sample with similar distribution of age and gender to that of the national census or electoral registration lists. Frequency matching avoids the extremely costly effort involved in making multiple callbacks to each missed unit within each PSU in an effort to obtain a balanced sample. In national, face-to-face interviewing, multiple callbacks are often impractical from a cost standpoint. Our experience reveals that even three callbacks leave the sample with a notable gender imbalance (more women than men, since women are more likely to be at home than men). Rather than having to include post-hoc weights to adjust for this sample error, which can be large, we resolve the problem in the field via using a distribution of interviews among gender and ages that reflects the structure of the population.[4]

[4] An alternative strategy is to post hoc weight such samples in order to force the sample to correspond to the census distributions. However, if the fieldwork produces a substantial deviation from those distributions, the result could be placing excessive confidence on a very small number of respondents for some population group (e.g., older males). The resulting widening of confidence intervals for these weighted small sample group could limit inferences drawn from such weighted samples.

A single respondent was selected in each household, following the frequency matching distribution programmed into the sample design, by gender and age as mentioned above. Respondents are limited to household members who reside permanently in that household (thus excluding visiting relatives), who fit the age and residency requirements (limited to adult citizens and permanent residents). If two or more people of the same sex and age group were present in the household at the moment of the visit of our interviewer, the questionnaire was applied to the person who most recently celebrated a birthday (i.e., the "last birthday" system) in order to avoid selection bias.

Participation in the AmericasBarometer survey is anonymous and voluntary[5]. Eligible respondents agree to participate in the survey after giving their formal consent to interviewers[6].

Weighting of the Bolivia datasets

The dataset contains a variable called "wt" which is the "country weight" variable. Since in the case of Bolivia the sample is not self-weighted, weight factors should be used to produce representative national results. When using this dataset for cross-country comparisons, in order to give each country in the study an identical weight in the pooled sample, LAPOP reweights each country data set in the merged files so that each country has an N of 1,500. The weight variable for cross-country comparisons is called "weight1500." In SPSS, this is done via the "weight" command. Weights are already activated in SPSS datasets. In Stata, one should use the svyset command to weight the data and declare the sampling information to correctly compute standard errors that take into account the design effects. The command for single country, single year studies is**: svyset upm [pw=wt], strata(estratopri)**. For cross-country and/or cross-time studies, the command is: **svyset upm [pw=weight1500], strata(strata)**. These declarations have been made in Stata datasets. However, you must use the svy prefix with estimation commands to compute the weighted statistics and correct standard errors (see help svy_estimation within Stata for more information).

Response Rates

In 2010, LAPOP joined the Transparency Initiative, a system of guidelines and standards for the disclosure of methodological information in survey research introduced by the American Association for Public Opinion Research (AAPOR). In this section we present the number of attempts that interviewers did to obtain an interview as well as the survey response rates[7]. LAPOP's response rates are based on AAPOR's Standard Definitions. The response rate is the number of complete interviews with reporting units divided by the number of eligible reporting

[5] No incentives (cash or in-kind) are provided to respondents for participating in the survey.
6 Interviewers are required to read an informant consent letter before starting the interview.
7 For additional information on how response rates are estimated see Warner Z. and Camargo-Toledo G. "How Does LAPOP Calculate Response Rates?", Methodological Note#005, June 2019.
https://www.vanderbilt.edu/lapop/methods-005rev.pdf

units in the sample. LAPOP has programmed in SurveyToGo an entire module of questions and skips that allows for computing the number of refusals, ineligible respondents, or non-contact. This in turn allows for estimating the response rates in each country. Two definitions of response rates are provided below, ranging from the definition that yields the lowest rate to the definition that yields the highest rate, depending on how partial interviews are considered and how cases of unknown eligibility are handled.

Response rates reported below are:

Response Rate 1 (RR1) $=\frac{C}{C+P+R+N+O+UH+UO}$

Response Rate 3 (RR3) $=\frac{C}{C+P+R+N+O+e(UH+UO)}$

Where: where C refers to completed interviews, P to partial interviews, R to refusals, N for non-contacts, O for others, UH for unknown if household, UO to unknown others, and e is the eligibility rate calculated using the CASRO method: e=Eligible/(Eligible + Ineligible).

Table 2: Response Rates in the 2018/19 AmericasBarometer Survey

Country	AB2018/19		
	RR1	RR3	Eligibility
Uruguay	0.11	0.18	0.55
Argentina	0.12	0.15	0.78
El Salvador	0.12	0.13	0.86
Bolivia	0.15	0.2	0.67
Mexico	0.15	0.2	0.71
Peru	0.15	0.19	0.73
Chile	0.18	0.2	0.92
Paraguay	0.20	0.22	0.82
Ecuador	0.21	0.27	0.69
Colombia	0.22	0.27	0.76
Costa Rica	0.23	0.26	0.85
Nicaragua	0.24	0.25	0.92
Brazil	0.26	0.3	0.83
Dominican Republic	0.26	0.31	0.77
Panama	0.36	0.38	0.93
Honduras	0.38	0.39	0.94
Guatemala	0.46	0.48	0.92
Jamaica	0.50	0.51	0.96

Quality Control in Bolivia

Geo-fences were programmed at the municipal level in Bolivia and compliance reviewed in near real time to assure that interviews took place in the correct location.

Also, in the 2018/19 round LAPOP continues with the implementation of the FALCON© (Fieldwork Algorithm for LAPOP's Control over Survey Operations and Norms) system, that includes, but is not limited to, an interviewer identity monitoring check, a geo-fencing system, time checks, a reading control check, and data fabrication and falsification audits. In this round LAPOP developed a quality control score that assign penalties or demerits to interviews during their audit. In this system, higher scores indicate more serious errors, and we refuse to accept (that is, we require the cancelation of) low quality interviews.

The local firm audited 100% of interviews according to our protocols. All interviews are also run through LAPOP's automatic flagging system, and then LAPOP's team manually audits a subset of the interviews. A total of 121 interviews were canceled in Bolivia in the 2018/19 round of the Americas Barometer. The most predominant reasons for canceling an interview were poor reading of questions and skipping of questions. The quality control report for Bolivia 2018/19 is included in Annex 1. For more information on LAPOP's quality control and interview auditing system see: www.LapopSurveys.org.

For additional information on the survey design contact Georgina Pizzolitto at georgina.pizzolitto@vanderbilt.edu.

Annex 1: Quality Control Report

Introduction

Producing high quality survey data is a core mission at the Latin American Public Opinion Project (LAPOP). The LAPOP research team implements and constantly updates a set of rigorous fieldwork protocols that both office personnel and fieldwork operators are required to follow closely. These include state-of-the-art sampling techniques; iterative pre-testing; interviewer, supervisor and quality control officer training; and standardized methods of data processing and analysis. They further include a sophisticated monitoring algorithm of data collection in real time. LAPOP's fieldwork monitoring system – FALCON © (Fieldwork Algorithm for LAPOP Control over survey Operations and Norms) – includes, but is not limited to, data fabrication and falsification audits, a geo-fencing system, a reading control check, an interviewer identity monitoring check, and timestamp checks. FALCON works with SurveyToGo (STG) software that is customized for LAPOP fieldwork. FALCON enables quality control teams at LAPOP and in the survey firms to assess the quality of interviews while fieldwork is in progress, and to provide feedback to interviewers throughout fieldwork.

During fieldwork, the system automatically flags interviews in which enumerators appear to be fabricating data. Trained quality control officers meticulously study these flagged interviews to assess the extent to which there is enough evidence of fraud. Auditors then communicate their findings to country coordinators in LAPOP central. After making a decision, LAPOP communicates with the survey company so they can replace the fraudulent interviews and adjust interviewer behavior, or at the extreme, separate faulty interviewers from the project.

The geo-fencing system flags interviews conducted in the wrong location. If a location flag is triggered, then we consult with the firm and use the GPS coordinates to check whether the interview took place at a residence in the assigned location. We regularly check mobile device logs to ensure that interviewers have not altered phone settings to impede, for example, the collection of GPS coordinates, and an automatic feature flags the use of GPS masking apps. We also audit interviewer routes, to assess whether they correctly followed rules for selecting dwellings and individual respondents.

Quality control officers also compare images silently captured via front-facing cameras to interviewer photos to ensure that the enumerators in the field are those trained by LAPOP staff.[8] The background of those images also provides information about the environment in which the

[8] All images use a front-facing camera to ensure that respondent anonymity is not compromised (that is, the camera only records images of the interviewers). Study participants are informed prior to consenting to be interviewed that some of their answers are recorded for quality control.

interview takes place, permitting detection of interviews conducted in odd places (e.g., at parks or shops).

Our quality control personnel audit "Key Performance Indicators," which provide detailed information about fieldwork start and end times each day, the number of interviews carried out in a particular timeframe, and the average duration of interviews, among other metrics. Finally, we listen to audio recordings to ensure that enumerators read items completely and correctly, without interpreting the question, skipping items, or influencing respondents' answers.

Based on these audits, we assign each interview a quality control score using a "demerit" system. In this system, higher scores indicate more serious errors, and we refuse to accept (that is, we require the cancelation of) low quality interviews. Local firms audit 100% of all interviews according to our protocols. All interviews are also run through LAPOP's automatic flagging system, and then LAPOP's team manually audits a subset of the interviews. When low quality interviews are identified by the local firm or LAPOP, the firm is obligated to replace them. Because FALCON works in real time (meaning, while fieldwork is in progress), canceled interviews can be and are replaced by high quality interviews.

In this report, we summarize the results of this quality control process as implemented in the 2019 Bolivia AmericasBarometer national survey.

LAPOP worked with the local survey firm Ciudadania, Comunidad de Estudios Sociales y Accion Publica to collect data from 1,682 voting-age adults in 57 municipalities in Bolivia. For more information on the sample design, see the project's website. The fieldwork yielded:

- 1,682 approved interviews
    - Ciudadania CESAP audited 100% of these interviews
    - LAPOP's automatic quality control system audited 100% of the interviews.[9]
    - LAPOP audited manually approximately 600 interviews.[10]
- 121 canceled interviews
    - The most predominant reasons for canceling an interview were poor reading of questions and skips of questions.

Quality Assurance Chapter (QuAC)

The Quality Assurance Chapter log reports on the most common problems found by the auditing team during fieldwork. The items in the QuAC are listed below:

[9] LAPOP has developed an automatic quality control system that reviews 100% of interviews as soon as they are uploaded to the cloud. The automatic system checks location and timestamps, the latter of which is used to identify data fabrication.
[10] As part of our protocols, LAPOP Central manually audits approximately 1/3 of initially approved interviews.

Items in the Quality Assurance Chapter (QuAC)[11]
The enumerator interviews himself/herself[12]
Audio files are attached, but no one is heard speaking - or only the interviewer can be heard[13]
The interviewer sets the device to "Airplane Mode"[14]
The interviewer turns off the device's GPS[15]
The interviewer covers or disables the camera to avoid photo captures[16]
The interviewer interviews another enumerator[17]
The interviewer interviews someone that he/she knows[18]
The photographs do not correspond to those of the interviewer or there are inconsistencies in the photographs[19]
The voice in the audio files does not correspond to the interviewer's voice[20]
The attempts are exhausted[21]
The respondent does not complete the interview and leaves it[22]
The interviewer decides to end the interview for any other reason[23]
The interview is carried out in an incorrect location (a shopping mall, store, park, gas station, school, etc.)[24]
The interview starts and ends in different locations[25]
The net interview duration is less than 25 minutes or more than 2 hours[26]
The interviewer does not read the complete study information sheet[27]
The interviewer reads only parts of the study information sheet[28]
The interviewer changes words from the study information sheet[29]

[11] Each item has a predetermined score that STG automatically computes after the auditing process is completed. Based on our protocols, if an interview reaches a score of 20 or more, the interview is canceled and replaced by the local firm.
[12] This item refers to an interviewer who asks and responds to questions by himself/herself without the present of a valid respondent.
[13] This point refers to interviewers who complete an interview without asking questions.
[14] This point refers to interviewers turning on "airplane mode" on the device deliberately.
[15] This point refers to interviewers turning off the GPS of the device deliberately.
[16] This point refers to interviewers covering the front camera of the device deliberately.
[17] This point refers to interviewers who fake interviews by interviewing another member of the interviewer's team.
[18] This point refers to interviewers who fake interviews by not interviewing a respondent within selected households.
[19] This point refers to cases in which the interviewer is not part the team trained by LAPOP Central.
[20] This point refers to cases in which the voice of the interviewer does not match with his/her voice in previous interviews.
[21] This point refers to cases in which interviewers could not find a valid respondent after completing 100 attempts.
[22] This point refers to respondents abandoning the interview before it is completed.
[23] This point refers to interviewers abandoning the interview before it is completed.
[24] This point refers to interviewers who conducted an interview in public places and not residential zones.
[25] This point refers to interviewers who started an interview in one location and completed it in a different location.
[26] This point refers to interviews that lasted less than a minimal amount of time pre-set by LAPOP.
[27] This point refers to interviewers not reading the information sheet to respondents at the beginning of the interview.
[28] This point refers to interviewers not reading completely the information sheet at the beginning of the interview.
[29] This point refers to interviewers changing the information sheet at the beginning of the interview.

The interviewer changes the expected duration in the information sheet[30]
The interviewer is overly pushy with respect to continuing with the interview, in response to an individual expressing reservations about participating[31]
The interviewer reads 1, 2, or 3 (or more) questions incompletely/incorrectly[32]
The interviewer reads 1, 2, or 3 (or more) too quickly/unintelligibly[33]
The interviewer interprets a question meaning 1, 2, or 3 (or more) times[34]
The interviewer skips 1, 2, or 3 (or more) questions without reading , or the interviewer does not give the interviewee time to respond[35]

Problems reported during the quality control process

Our efforts to identify the different types of errors that occur during interviews allow insight into the prevalence of serious errors like those consistent with fabrication. We are pleased to report that such errors account for a very small portion of all errors in our interviews. The vast majority of errors, such as misreading questions, are consistent with sloppy or forgetful interviewing, not with data fabrication.[36]

Problems found during the quality control process	**% of total interviews (approved and canceled)**
Abandoned interviews	0.17%
GPS disabled	0.05%
Interviews conducted in public places	0.2%
Change of interview duration on the consent information sheet	7.9%
Interviewers not reading the consent information sheet	1.44%
Interpretation of questions	3.3%
Partial reading of the consent information sheet	4.3%
Skips of questions	2.7%
Interviews flagged for questions' time by the automatic quality control system[37]	69.4%
Poor reading of multiple questions[38]	20.9%

[30] This point refers to interviewers changing the anticipated duration of the interview on the information sheet at the beginning of the interview.
[31] This point refers to interviewers who continue an interview even though the respondent definitively rejected his/her participation on the consent information sheet.
[32] This point refers to interviewers reading incorrectly and incompletely at least one question of the questionnaire.
[33] This point refers to interviewers reading too fast, on at least one question of the questionnaire.
[34] This point refers to interviewers interpreting the meaning of a question asked of respondents.
[35] This point refers to interviewers skipping and not asking at least one question on the questionnaire.
[36] For information about these procedures and interview quality in the AmericasBarometer 2016/17, please click here.
[37] This item refers to flagged questions captured by the automatic quality control system because the time stamps suggest a possible skip of the full question reading. In these cases, an auditor reviews the flagged questions by verifying the time duration and listening to the audio (if available).
[38] This item includes cases of questions read too fast, incompletely, or incorrectly.

Key performance indicators:

Key performance indicators are STG measures that help us track fieldwork progress and analyze teams' efficiency. Below are results for interview average duration, GPS information, and geo-fencing data.

Interview average duration (minutes)	% of approved interviews	% of canceled interviews	% of total interviews (approved and canceled)
<25	0.06%[39]	9.32%	0.67%
25 – 45	32.22%	21.19%	31.5%
45 - 60	28.6%	20.34%	28.06%
60+	39.12%	49.15%	39.78%

GPS information available on interviews	% of approved interviews	% of canceled interviews	% of total interviews (approved and canceled)
No	0.41%	5.08%	0.72%
Yes	99.58%	94.91%	99.27%

Interviews within and outside the geo-fencing system	% of approved interviews	% of canceled interviews	% of total interviews (approved and canceled)
Interviews conducted outside the assigned geo-fence	25.2%[40]	29.8%	25.5%
Interviews conducted inside the assigned geo-fence	74.8%	70.2%	74.5%

[39] This percentage corresponds to one interview that was conducted between 20 and 25 minutes. After the quality control review, this interview was approved since all the questions were done correctly.

[40] These interviews were analyzed and reviewed by the team and LAPOP. All of them were manually confirmed to be in the right location.