[OMNIBUS PUBLIC OPINION SURVEY, MAY 2018]

Methodological report

Content

1. Background

This report includes information regarding the methodology of the May edition of our quarterly omnibus public opinion survey 2018.

2. Target population

Mexican adults enrolled as voters, 18 years of age or older, who reside in housing units within the national territory.

3. Interviewing mode

Face-to face interviews with structured questionnaires administered by trained interviewers through personal electronic devices (tablet).

4. Brief summary of field incidents

- Sections 2358 in Chihuahua, 1645 in Tamaulipas, 4758 in Estado de México, 1580 in Jalisco and 944 in Chiapas were replaced due to security reasons.
- Section 1264 in Oaxaca was replaced because of the bad state of the road.
- Sections 3526 in Jalisco and 1564 in Chiapas were replaced because the interviewers were not allowed to work.

5. Sampling design

In order to achieve a representative sample, Buendía & Laredo used a multistage area probability sample design. The selection of each respondent requires a four step sampling process sketched in Tables 1, 5, 7, 8 and described under the following headlines.

6. First stage: selection of PSUs

Table 1: First stage	
Stage	**First**
Sampling units	Sección electoral
Sampling frame	Catálogo de Información Geoelectoral (EDMSLM, INE). Estadísticos de la Lista Nominal por sección electoral (Februrary, 2018). Cómputos distritales y de circunscripción plurinominal de la elección de Diputados Federales de 2015 por ambos principios (INE, July, 2015).

Selection method	Stratified probability proportional to size systematic sampling

Sampling units

The primary sampling units or (PSUs) are geographical areas termed electoral sections (secciones electorales). All land area in the country is divided into electoral sections, which constitute the basic territorial unit of single-member electoral districts for the registering of citizens to enroll as voters (lista nominal).

The most updated information (Februrary, 2018) shows that national territory is divided into 68,396 electoral sections whose geographical distribution is depicted in Table 2.

Table 2: Geographical distribution of PSUs (Februrary, 2018)		
State	**PSUs**	**Percent**
Aguascalientes	602	0.88
Baja California	1,949	2.85
Baja California Sur	486	0.71
Campeche	527	0.77
Chiapas	2,041	2.98
Chihuahua	3,208	4.69
Coahuila	1,689	2.47
Colima	371	0.54
Ciudad de México	5,536	8.09
Durango	1,419	2.08
Guanajuato	3,141	4.59
Guerrero	2,749	4.02
Hidalgo	1,782	2.61
Jalisco	3,570	5.22
Estado de México	6,461	9.45
Michoacán	2,692	3.94
Morelos	907	1.33
Nayarit	960	1.4
Nuevo León	2,688	3.93
Oaxaca	2,453	3.59
Puebla	2,656	3.88
Querétaro	860	1.26
Quintana Roo	944	1.38
San Luis Potosí	1,814	2.65
Sinaloa	3,804	5.56
Sonora	1,533	2.24
Tabasco	1,131	1.65

Tamaulipas	2,009	2.94
Tlaxcala	610	0.89
Veracruz	4,815	7.04
Yucatán	1,121	1.64
Zacatecas	1,868	2.73
Total	**68,396**	**100**

Sampling frame

The sampling frame is the listing of electoral sections. The sampling frame is based on electoral sections since the lista nominal is the most updated and complete data readily available. The most recent release date was Februrary 2018. Table 3 depicts the percentage of people living in their correct electoral section by state according to de Verificación Nacional Muestral (INE, 2015).

Table 3: People living in the correct electoral section according to the *Lista Nominal*

State code	State	Percentage of the population
	National Average	86.1
1	Aguascalientes	81.5
2	Baja California	77
3	Baja California Sur	80.2
4	Campeche	89.5
5	Coahuila	80.8
6	Colima	79.7
7	Chiapas	89.6
8	Chihuahua	80.9
9	Distrito Federal	88.8
10	Durango	84.6
11	Guanajuato	84.7
12	Guerrero	86.5
13	Hidalgo	89.5
14	Jalisco	81.8
15	México	89.1
16	Michoacán	85.4
17	Morelos	86.2
18	Nayarit	79.6
19	Nuevo León	83.6
20	Oaxaca	89
21	Puebla	88.1
22	Querétaro	88.2
23	Quintana Roo	84.5
24	San Luis Potosí	89.3
25	Sinaloa	83.3
26	Sonora	83.4
27	Tabasco	87.2

28	Tamaulipas	83.4
29	Tlaxcala	91.5
30	Veracruz	88.7
31	Yucatán	86.4
32	Zacatecas	84

Information from the Geoelectoral Information Catalog, acquired in Februrary 2018 from the National Electoral Institute, augmented with the following sources was assembled to create the sampling frame:

- Catálogo de Información Geoelectoral (EDMSLM, INE)

- Estadísticos de la Lista Nominal por sección electoral

- Cómputos distritales y de circunscripción plurinominal de la elección de Diputados Federales de 2015 por ambos principios (INE, July 2015).

Selection method

Stratification Each PSU in the sampling frame is assigned to a nonoverlapping sample stratum based on the following variables:

1. **Region of the country**
2. **Urban/ not urban status**

Strata based on region encompass five geographical regions (multi-member districts or *circunscripciones*). These regions are used to assign representatives with a Proportional Representation criteria and have a very similar number of registered voters. The main purpose of this stratification is to increase the regional dispersion of the sample.

Table 4: Geographical regions (*Circunscripciones*)	
Circunscripción	States
One	Baja California, Baja California Sur, Chihuahua, Durango, Jalisco, Nayarit, Sinaloa, Sonora
Two	Aguascalientes, Coahuila, Guanajuato, Nuevo León, Querétaro, San Luis Potosí, Tamaulipas, Zacatecas
Three	Campeche, Chiapas, Oaxaca, Quintana Roo, Tabasco, Veracruz, Yucatán
Four	Ciudad de México, Guerrero, Morelos, Puebla, Tlaxcala
Five	Colima, Hidalgo, Estado de México, Michoacán

Figure 1: *Regional strata (Circunscripciones electorales)*

Strata are also defined according to the state of urbanity of the electoral section (Urban/Not Urban). The purpose of this stratification is to reduce the variance of estimates that may be statistically related with the urbanity of electoral sections.

Urban section: It is located in an urban locality and it is formed by well-defined blocks. Urban sections have street names and a series of public services such as tap water and electricity. Usually both street names and public services are officially recognized by the local authorities. These sections are graphically represented on the sectional urban map.

Rural section: A rural electoral section is constituted by one or many rural localities that on their own cannot form an electoral section. These sections are characterized by the preeminence of open places that are dedicated to primary economic sectors. The public services in these localities are either limited or inexistent. We collapse rural and mixed section together to form strata.

Mixed section: These sections are geographical areas that are divided by a series of blocks that form part of an urban locality; however, one or many rural localities are also present. Due to the fact that these sections are a combination of the characteristics described in urban and rural sections, it is common to witness an interaction of spaces dedicated to primary economic sectors and housing units. We collapse rural and mixed section together to form strata.

Sampling method Within each stratum, electoral sections are selected conducting a systematic sampling with probability proportional to its size (PPS). The size of electoral sections is the number of registered voters (lista nominal). As the number of registered voters varies from one electoral section

to other, PPS enables selecting individuals with equal chances controlling the sample size so it is the same across other hypothetical samples. This is done by changing the first and further selection chances in such a way that when multiplied together, the probability is equal for every element. We combine PPS with a systematic sampling approach.

7. Second stage: area segments sampling

| Table 5: *Second stage*	
Stage	Second
Sampling units	In urban electoral sections, blocks are our second-stage sampling units (SSUs). In rural and mixed sections, the SSUs are clusters of homes.
Sampling frame	Catálogo de Manzanas del INE (AC-01R, INE). Estadísticos de la Lista Nominal por manzana (INE). Planos por sección individual (INE).
Selection method	Systematic sampling method with probability proportional to size.

Sampling units

In urban electoral sections, blocks are our second-stage sampling units (SSUs). A block is defined as a geographic space delimited by streets or avenues. In rural and mixed sections, the SSUs are clusters of homes.

Sampling frame

SSUs are identified and assigned to interviewers through cartographic maps extracted from the sources below:

Plano por sección individual urbano (Source: INE): This product represents the blocks and physical features of a single electoral section. The level of detail in each map allows identifying with more precision the addresses of respondents.
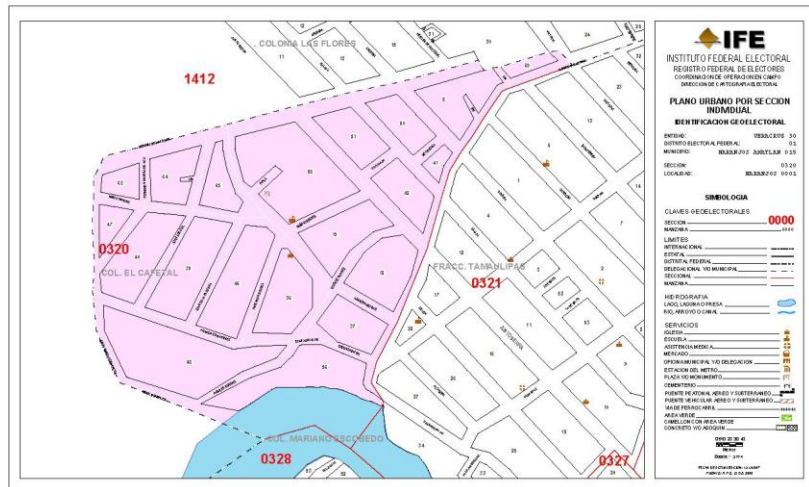
Figure 2: *Individual section representation*

To identify and analyze rural sections, the following product is used:

Plano por sección individual rural/mixto (Source: INE): These maps contain the rural and mixed sections individually. There are certain items exclusive of rural sections such as codes and names of the rural cities, head of section, main road links, physical and cultural features, borders and various codes.
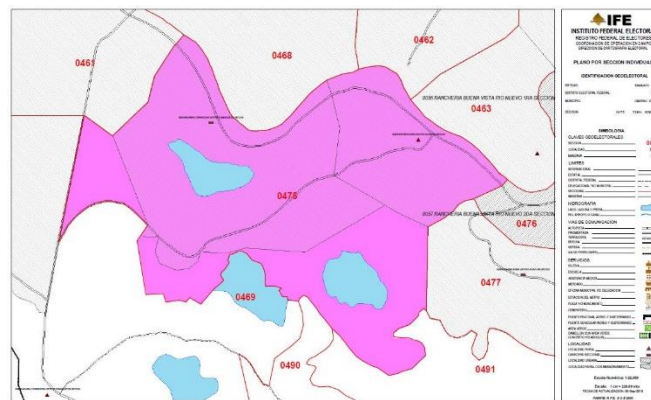
Figure 3: *Individual section representation (Rural section)*

Selection method

Within each sampled PSU, two blocks are selected through a systematic sampling method with probability proportional to size from the Catálogo de Manzanas (INE).

In rural PSUs, the human settlement is divided into quadrants using boundaries such as roads, rail-road tracks, rivers, or other reference relatively fixed and easily identified. Two "main" quadrants are selected in which 5 interviews will be conducted; the rest of the interviews will be conducted in the quadrants left (two, each). We propose to number the quadrants starting with the upper-left quadrant and continuing clockwise. Then, select the main quadrants (in which 5 interviews will be conducted) depending on the questionnaire number. If the last digit of the questionnaire number is even, then the selected quadrants will be 2 and 4; on the other hand, if we have an odd number as last digit, then the selected quadrants will be 1 and 3. Human settlements in selected areas (SSUs) are identified and assigned to interviewers through the "Ubica tu casilla" Google-IFE app, which offers a map/satellite/terrain view of all electoral sections in the country. Housing units that are widely separated from others may be left out of the eligible units.

After stage one and two of selecting PSUs and SSU, the original sample was the following:

Table 6: Original sample			
State	N° of seccion	Municipality name	Number of SSUs
Aguascalientes	161	Aguascalientes	2
Aguascalientes	555	Aguascalientes	2
Baja California	854	Tijuana	2
Baja California	929	Tijuana	2
Baja California Sur	312	Los Cabos	2
Campeche	357	Escarcega	2
Campeche	456	Escarcega	2
Chiapas	944	Palenque	2
Chiapas	1512	Tonala	2
Chiapas	1564	La Trinitaria	2
Chiapas	1672	Tuxtla Gutierrez	2
Chihuahua	450	Chihuahua	2
Chihuahua	1434	Juarez	2
Chihuahua	2358	Namiquipa	2
Ciudad de México	148	Azcapotzalco	2
Ciudad de México	688	Coyoacan	2
Ciudad de México	898	Gustavo A. Madero	2
Ciudad de México	2596	Iztapalapa	2
Ciudad de México	3911	Tlalpan	2
Ciudad de México	5127	Miguel Hidalgo	2
Ciudad de México	5250	Venustiano Carranza	2
Ciudad de México	5287	Venustiano Carranza	2
Coahuila	282	Matamoros	2
Coahuila	755	Saltillo	2

Coahuila	841	Saltillo	2
Coahuila	869	Saltillo	2
Coahuila	1156	San Pedro	2
Colima	318	Tecoman	2
Durango	119	Durango	2
Durango	619	Guadalupe Victoria	2
Estado de México	43	Acolman	2
Estado de México	302	Atizapan De Zaragoza	2
Estado de México	1298	Donato Guerra	2
Estado de México	1533	Ecatepec De Morelos	2
Estado de México	2362	Jocotitlan	2
Estado de México	3150	Nezahualcoyotl	2
Estado de México	3259	Nezahualcoyotl	2
Estado de México	3739	Nicolas Romero	2
Estado de México	3741	Nicolas Romero	2
Estado de México	4758	Tlalnepantla De Baz	2
Estado de México	4986	Tlalnepantla De Baz	2
Estado de México	5837	Zinacantepec	2
Estado de México	5970	Chimalhuacan	2
Guanajuato	1275	Leon	2
Guanajuato	1372	Leon	2
Guanajuato	2261	Salamanca	2
Guerrero	1287	Chilpancingo De Los Bravo	2
Guerrero	2494	Tixtla De Guerrero	2
Hidalgo	259	Cuautepec De Hinojosa	2
Jalisco	1580	La Huerta	2
Jalisco	1959	Puerto Vallarta	2
Jalisco	2043	El Salto	2
Jalisco	2754	Tototlan	2
Jalisco	2950	Zapopan	2
Jalisco	3434	Tlajomulco De Zuñiga	2
Jalisco	3526	Zapopan	2
Michoacán	475	Gabriel Zamora	2
Michoacán	851	Lazaro Cardenas	2
Michoacán	1168	Morelia	2
Michoacán	1200	Morelia	2
Michoacán	1387	Ocampo	2
Morelos	725	Tlaltizapan De Zapata	2
Nayarit	117	Bahia De Banderas	2
Nuevo León	455	Gral. Escobedo	2
Nuevo León	586	Guadalupe	2
Nuevo León	1811	San Nicolas De Los Garza	2
Nuevo León	2263	Apodaca	2
Nuevo León	2623	Gral. Zuazua	2

Oaxaca	86	El Barrio De La Soledad	2
Oaxaca	405	Matias Romero Avendaño	2
Oaxaca	1264	San Lucas Ojitlan	2
Oaxaca	1506	San Pedro Mixtepec	2
Oaxaca	1712	Santa Cruz Xoxocotlan	2
Oaxaca	2092	Santiago Pinotepa Nacional	2
Puebla	64	Ahuacatlan	2
Puebla	185	Atlixco	2
Puebla	435	Chichiquila	2
Puebla	1127	Puebla	2
Puebla	1186	Puebla	2
Puebla	1938	Tehuacan	2
Puebla	2321	Tulcingo	2
Querétaro	92	Colon	2
Quintana Roo	278	Jose Maria Morelos	2
San Luis Potosí	1185	Santa Catarina	2
San Luis Potosí	1749	Xilitla	2
Sinaloa	264	Ahome	2
Sinaloa	1568	Culiacan	2
Sinaloa	2422	Guasave	2
Sonora	223	Nogales	2
Sonora	1352	Hermosillo	2
Tabasco	349	Centro	2
Tamaulipas	1645	Victoria	2
Tlaxcala	435	Tlaxcala	2
Veracruz	1893	Xalapa	2
Veracruz	2680	Orizaba	2
Veracruz	3377	San Andres Tuxtla	2
Yucatán	178	Hunucma	2
Yucatán	779	Santa Elena	2
Zacatecas	109	Cuauhtemoc	2
Zacatecas	1335	Sombrerete	2

8. Third stage: Sampling of housing units

Table 7: Third stage

Stage	Third
Sampling units	Housing units represent our sampling units
Sampling frame	Household cluster within the block selected.
Selection method	Random start systematic method

Sampling units

Housing units represent our sampling units. A housing unit is defined as a house, apartment, mobile home, group of rooms, or single room that is occupied (or, if vacant, is intended for occupancy) as separate living quarters. Separate living quarters are those in which the occupants live and eat separately from any other persons in the building and which have direct access from the outside of the building or through a common hall.

Sampling frame

Housing units may not be easily seen when walls or other barriers are present. For example, housing units in multi-units structures are difficult to identify. The presence of mail boxes, utility meters (water, gas or electricity) and multiple entrances are used as observational clues on the presence of multiple units. However, hidden entrances, gated communities, or locked buildings may be missed.

Selection method

Once blocks in urban electoral sections have been identified and selected, housing units per block are selected using a systematic method by means of a spiral method and clockwise walking. Each block is covered starting by the northeast corner using a sampling interval of 3 housing units, while the blocks are walked clockwise. Once a questionnaire is completed, the interviewer moves to the next side of the block; therefore only one interview is conducted on each side of the block.

To complete five interviews per SSU, interviewers move to an adjacent block using the spiral method. In multi-story buildings the selection process of households is done in the same way as regular households. The maximum number of interviews to be applied inside the same building is four. However, this is only when the building occupies a whole block. When the building is located on one side of the block, the maximum number of interviews to be applied inside the building is one. After getting the interview, the interviewer will not only have to move from the building but from that side of the block as well.

9. Fourth stage: Respondent selection

Table 8: Fourth stage	
Stage	Fourth
Sampling units	The sampling units are the individuals in the previously selected households.
Sampling frame	Eligible household inhabitants
Selection method	Random selection

Sampling units

The sampling units are the individuals in the previously selected households.

Sampling frame

Each sample housing unit is then contacted in person by an interviewer. Within each cooperating sample household, the interviewer conducts a short screening interview with a knowledgeable adult to determine if household members meet the study eligibility criteria. A household includes all the persons that occupy a housing unit. The occupants may be a single family, one person living alone, two or more families living together, or any other group of related or unrelated persons who share living arrangements.

Selection method

Since the tablet can be programmed to pick a respondent from the total pool of house hold inhabitants, the interviewer simply asks to speak to the adult selected by the program. This turns previous pseudo-random procedures into a fully random selection within the household.

10. Sample size

100 electoral sections or PSUs were drawn from the sample frame and 10 interviews were conducted in each PSU.

Strata allocation

Sample size is allocated in each stratum proportional to the size of the lista nominal. Sample allocation is shown on table 9:

Table 9: Sample allocation			
Region (circunscripción)	**Urbanity**	**Population size**	**Number of PSUs selected**
1	Not urban	4,418,409	5
1	Urban	13,561,167	16
2	Not urban	5,684,682	7
2	Urban	12,680,312	14
3	Not urban	8,062,283	9
3	Urban	8,842,324	10
4	Not urban	3,596,005	4
4	Urban	13,119,135	15
5	Not urban	5,479,717	6
5	Urban	12,112,145	14
Total		**87,556,179**	**100**

11. Design effect

The design effects of survey estimates can be used as tools for measuring simple efficiency and for survey planning. Typically, cluster sampling causes an increase in the variance of estimates because variance within cluster is generally lower than the variance of the population. This event tends to happen due to the fact that people living close to each other in certain zones share some life conditions (i.e. cost of rent, quality of services in a neighborhood). The "design effect", better known as deff, is then used to summarize the effect of cluster sampling in the precision of the estimates.

Therefore, the deff can be defined as the ratio of the variance of an estimate under the complex sample design to the variance of the same estimate that would apply with a simple random sample (SRS) of the same size. In other words, it can be interpreted as the number of units collected by means of cluster sampling that are equivalent to a unity selected by means of SRS. Approximately, the deff of cluster sampling can be expressed as:

$$DEFF = 1 + \rho(K - 1)$$

K is the number of elements selected in a cluster, and ρ the coefficient of the correlation within clusters. For example, the deff for each answer to the question "In your opinion, México should continue in NAFTA or Mexico should leave NAFTA?" are the following:

	Prop.	Std. error	Lower limit	Upper limit	Margin of error	*deff*
México should continue in NAFTA	67.8	1.7	64.5	71.1	3.3	1.3
Mexico should leave NAFTA	20.7	1.5	17.8	23.6	2.9	1.3
Does not know/ No answer	11.6	1.1	9.4	13.8	2.2	1.2

12. Nonresponse

Item nonresponse

Interviewers are instructed to accept "Don't know" and "Refused" without further probing to avoid introducing a bias in the answers. Interviewers are trained to distinguish the difference between both response categories. While the "refused" category is for respondents who explicitly do not want to give an answer to a specific question (for instance, when they do not feel comfortable with a topic), the "don't know" category is for respondents who cannot answer the question due to lack of information or for respondents who have an evident cognitive difficulty to respond it.

Unit nonresponse

First stage

In case a PSU is not available to conduct interviews, due to security reasons or otherwise, a new PSU with the same stratum characteristics and probability of selection, were drawn from an independent sample.

Table 11 depicts a list of substitutions implemented in this study:

Table 11: Substitutions			
Original state	**Original PSU**	**Replacement state**	**Replacement PSU**
Chihuahua	2358	Durango	739
Jalisco	1580	Baja California	1741
Jalisco	3526	Jalisco	1332
Tamaulipas	1645	Guanajuato	1848
Chiapas	1564	Chiapas	1385
Chiapas	944	Quintana Roo	417
Oaxaca	1264	Tabasco	440
Estado de México	4758	Estado de México	3366

Second stage

A new block is selected from an independent sample within the PSU.

Third stage

In cases in which nobody opens the door of the selected household, the interviewer has to return later. One attempt will be made to interview the selected respondent before another household is substituted. In case no one opens the door again, the household will have to be replaced with the one to the right. If none answers the door of the new household or if the family members refuse to answer the interview, the interviewer will have to move to the following household. If the interview cannot be completed at the new household, the interviewer will move again and so on.

Fourth stage

If the selected respondent were to be absent or unavailable at the time, one additional attempt to interview the selected person will be made. If the respondent refuses to answer or if he or she is absent or unavailable once again, the interviewer will have to register this contact and proceed to replace the respondent with another one of the same gender and in the same age group.

13. Response rates

Regarding outcome rates, Buendía & Laredo adheres to the guidelines established by the American Association of Public Opinion Research. Reasons for non-response will be documented by category

with response rates reported by geographic location. We will provide 4 different measures of outcome rates: 1) Response Rates; 2) Cooperation Rates; 3) Refusal Rates and 4) Contact Rates.

Table 12: Dispositions	
Final disposition	Code
Complete interviews	**I**
Partial Interview	**P**
Refusal and Break off	**R**
Non-contact	**NC**
Other	**O**
Unknown if household/occupied	**UH**
Unknown, other	**UO**

Response rate

$$= \frac{I}{(I + P) + (R + NC + O) + (UH + UO)}$$

$$= \frac{1000}{(1000 + 0) + (183 + 628 + 0) + (6 + 0)}$$

$$= 55\%$$

Cooperation rate

$$= \frac{I}{(I + P) + R + O}$$

$$= \frac{1000}{(1000 + 0) + 183 + 0}$$

$$= 84.5\%$$

Refusal rate

$$= \frac{R}{(I + P) + (R + NC + O) + (UH + UO)}$$

$$= \frac{183}{(1000 + 0) + (183 + 628 + 0) + (6 + 0)}$$

$$= 10.1\%$$

Contact rate

$$= \frac{(I + P) + R + O}{(I + P) + (R + NC + O) + (UH + UO)}$$

$$= \frac{(1000 + 0) + 183 + 0}{(1000 + 0) + (183 + 628 + 0) + (6 + 0)}$$

$$= 65.1\%$$

A summary of the different disposition codes is presented on the table below:

Table 13: Summary of dispositions		
Code	Status	Frequencies
1	Interviews	1,000
1.1	Complete	1,000
1.2	Partial	0
2	Eligible, not interviewed	811
2.1	Refusals	183
2.111	Household refusals	176
2.112	Refusals with known respondent	7
2.12	Breakoffs	0
2.2	No contact	628
2.23	Unable to enter the building	13
2.24	No one at home	341
2.25	Unavailable respondent	274
2.3	Other	0
2.31	Dead	0
2.32	Physically or mentally unable	0
2.33	Language problem	0
2.36	Other	0
3	Unknown eligibility, not interviewed	6
3.1	Does not know if household	0
3.17	Unsafe/Unable to reach area	6
3.2	Does not know if respondent is eligible	0
3.9	Other	0
4	Not eligible	10
4.5	Not a household	1
4.6	Vacant household	4
4.7	No eligible respondent	0
4.9	Other	5

14. Fieldwork

Fieldwork personnel

The number of interviewers used was 90. Their characteristics were the following

Table 14: Fieldwork personnel characteristics

Schooling	
Complete middle-school	27.8%
High school	68.9%
University	3.3%
Total	100%
Gender	
Men	50%
Women	50%
Total	100%
Age	
18 to 25	20%
26 to 35	24.5%
36 to 45	33.3%
46 or more	22.2%
Total	100%

Scheduling and assignment of interviews

Interviews had the following time and day distribution:

Table 15: Time distribution

Time		Number of interviews	%
8:00	- 8:59	3	0.3
9:00	- 9:59	32	3.2
10:00	- 10:59	143	14.3
11:00	- 11:59	135	13.5
12:00	- 12:59	111	11.1
13:00	- 13:59	78	7.8
14:00	- 14:59	91	9.1
15:00	- 15:59	85	8.5
16:00	- 16:59	99	9.9
17:00	- 17:59	90	9
18:00	- 18:59	88	8.8
19:00	- 20:59	43	4.3
20:00	- 20:59	2	0.2
Total		**1,000**	**100**

Table 16: Date distribution

Date	Number of interviews	%
05/18/2018	90	9
05/19/2018	160	16
05/20/2018	190	19
05/21/2018	200	20
05/22/2018	240	24
05/23/2018	120	12
Total	**1,000**	**100**

Selection and training of interviewers

The interviewers were chosen among our full-time most experienced personnel. All interviewers received full training before they begin conducting actual interviews. Training consisted on helping interviewers achieve good face-to-face interviewing skills. First, our fieldwork office focuses on teaching the interviewers some basic techniques. During this process, interviewers learned how to make contact, how to deal with reluctant respondents, how to conduct interviews in a proper and respectful manner and how to avoid influencing responses.

Secondly, practice interviews were conducted inside the office. The goal is to prepare the interviewers for all the possible scenarios they may encounter when conducting real interviews. Finally, one of the persons involved with the project met with both supervisors and interviewers to discuss each of the questions.

Methods for ensuring quality control in the field

All questionnaires were submitted to a strict monitoring process during and after fieldwork. In addition, each team of interviewers (3) had supervisor whose main responsibility will be to revise in situ the interviews conducted. Supervisions, whether verified in situ, or back checked (once the interview was finished), had the following distribution:

Table 17: Supervisions

Type	%
In situ	24.9
Back checked	33.2
No supervision	41.9

15. Data processing

Adjustments

The weighting variable incorporates the marginal frequencies of the sociodemographic distributions adjustment factor and the sampling selection weight with a raking algorithm. This algorithm performs iterative proportional fitting, or raking, to produce a set of calibrated survey weights such that the sample weighted totals of control variables match the known population totals. **In this case, sex, age, education, and labor.**

The adjustment of the weights is performed by adjusting each of the given control margins sequentially until convergence is achieved. In other words, for a given control variable (for example, gender), the total sizes of subpopulations are estimated, and the weights in separate categories (males, females) are multiplied by a group-specific factor (ratio of the known population total to the estimated total) so that the new set of weights produces total estimates conforming to the known totals. With the variable between 0 and 1, the weights are then multiplied by an expansion factor, so they reflect an approximate count of the total population.

According to the 2015 "Encuesta intercensal" gathered by INEGI. The total population of 18 years and more is 84,327,100.

The adjusted and unweighted percentages of age and gender are presented below:

Table 18: Age and gender percentages

Age-sex groups	Weighted	Unweighted
M-18-29	14.6	11.9
F-18-29	14.7	16.5
M-30-39	10.2	7
F-30-39	10.9	11.8
M-40-49	9.1	7.5
F-40-49	9.9	13.3
M-50-59	6.6	7.2
F-50-59	7.4	8.1
M-60 and more	7.6	8.4
F-60 and more	8.9	8.3
Total	**100**	**100**

Weighted and unweighted frequencies of labor and education appear as follows:

Table 19: Education percentages

Education	Weighted	Unweighted
Elementary-middle school	59.5	57.4
High school	20.3	22.6
University	20.1	20
Total	**100**	**100**

Table 20: Labor percentages

Labor	Weighted	Unweighted
Worker	54.9	59.2
Students	5.3	3.3
Housekeepers	26	27.4
Other (not working)	13.8	10.1
Total	**100**	**100**

16. Contact information

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