

GALLUP®

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Bolivia Methodology Report

Phase 1 Baseline Harmful Alcohol Use Survey



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Project Background

Research Objective

The research objective for the Baseline Harmful Alcohol Use Survey is to develop a Global Harmful Use of Alcohol Module and collect baseline data for AB InBev's initiative to reduce the harmful use of alcohol in pilot cities in seven countries. These seven countries include Belgium, Bolivia, Brazil, China, Mexico, South Africa and the U.S. Gallup selected control cities in each of the seven countries to allow for a comparison between program and control cities in each country. This technical report covers methodological details for the fieldwork conducted in Santa Cruz District 7 and District 8 (Bolivia) during the Phase 1 Baseline Harmful Alcohol Use Survey.

Research Impact

AB InBev aims to improve the health and well-being of its consumers and their communities by meaningfully reducing alcohol-related harm and its effects on individuals and society. The Global Harmful Use of Alcohol Module will assist AB InBev in achieving its Global Smart Drinking Goals, which include reducing the harmful use of alcohol in nine cities by 2020, creating global best practices by 2025, increasing alcohol health literacy by 2025 and creating social marketing campaigns by 2025. The Global Harmful Use of Alcohol Module will assist AB InBev in achieving its Global Smart Drinking Goals because it measures harmful alcohol use and knowledge about the harms of excessive alcohol use. As a result, AB InBev will be able to better target specific at-risk populations, along with their respective alcohol-related behaviors and attitudes, to design interventions that inform the public about harmful alcohol use and reduce the harmful use of alcohol in various cities around the world.

Bolivia Methodology

Program Area: Santa Cruz District 8

Control Area: Santa Cruz District 7

Dates of Interviewing: Dec. 7, 2016–Jan. 31, 2017

Mode of Interviewing: Face-to-face CAPI

Languages: Spanish

AB InBev selected the city of Santa Cruz as its program area in Bolivia. Santa Cruz is the main financial and industrial center in Bolivia, and it is also significantly larger than any other major urban area in the country. The districts of Santa Cruz are different among themselves, with most wealth concentrated in the central districts. AB InBev also noted that some districts should be excluded due to the presence of informal drinking locales ("rockolas") in the zones of La Colorada (District 9) and Virgen de Luján (District 6 and industrial district). District 8 and District 7 were eventually selected as program and control areas, respectively.

Sampling

The target population for this study was the civilian, non-institutionalized adult population living in Santa Cruz District 8 and Santa Cruz District 7. The population information for the sampling frame was derived from the 11th Census of Bolivia conducted by the National Institute of Statistics (INE) in November, 2012¹.

¹ More information about the Bolivia census of 2012 is available here: <http://censosbolivia.ine.gob.bo/>

Cartography from the census was used to select the primary sampling units (PSUs) which in this case are also the ultimate clusters. District 7 has a total of 187 clusters available and District 8 has 291. The clusters were formed depending on the number of households in each block. It was established that each of them would be composed of blocks with 150-200 household. Exceptionally, some PSUs may have more than 200 homes due to geographic adjustments needed when analyzing each PSU (main avenues, landforms). The number of blocks of each PSU is related to the population weight, so there are some PSUs with fewer blocks than others.

Population Parameters per District (18+)

District	Total population	Number of Households
Santa Cruz District 8	116,939	32414
Santa Cruz District 7	79,754	49319

Sample Allocation Across Districts

District	Total PSUs in sampling frame	PSUs selected
Santa Cruz District 8	291	150
Santa Cruz District 7	187	150

The sample was stratified by district. Researchers selected PSUs by means of a Probability Proportional to Size method (PPS) — that is, by assigning each PSU a probability of being selected that is proportional to the size of its population. 10 interviews were allocated in each PSU, therefore a total of 150 PSUs per district were selected.

Household selection within blocks. Once a starting block was identified, households per block were selected using a systematic random sampling method. Blocks were covered by walking clockwise and using Gallup’s random route procedure for selecting households.

Respondent selection within households. One person per household was selected using a random selection method – a Kish-grid method, which consisted of listing all eligible respondents in a household (starting from the oldest one) and then matching the number of eligible persons (row) with the last digit of the questionnaire number (column). The random number generated during this matching represents the selected respondent. In cases where the selected respondent was not available, two more attempts were made to interview her/him. If the third attempt failed as well, the interviewer moved on to the next household using the random route procedure.

Fieldwork

All interviewers went through rigorous training which covered topics such as interview protocol, screening, probing, remaining neutral, expressing appreciation, and handling refusals appropriately.

Fieldwork Stats	
Average total interviews/interviewer	55
Number of interviewers	55
Number of days in the field	46
Min interviews/day	1
Max interviews/day	186
One attempt	2179
Two attempts	508
Three attempts	313

Interviewers made at least three attempts to reach a person in each household, spread over different days and times of the day. When needed, interviewers made appointments for a return visit that fell within the survey data collection period. Fieldwork took place between December 7, 2016 and January 31, 2017.

Completed interviews by date

Date	Santa Cruz District 8	Santa Cruz District 7	Total
12/7/2016	16	0	16
12/8/2016	31	0	31
12/9/2016	19	0	19
12/12/2016	26	2	28
12/13/2016	13	10	23
12/14/2016	29	21	50
12/15/2016	9	27	36
12/16/2016	27	20	47
12/17/2016	10	4	14
12/18/2016	2	0	2
12/19/2016	30	21	51
12/20/2016	12	42	54
12/21/2016	17	31	48
12/22/2016	13	38	51
12/23/2016	25	34	59
12/24/2016	19	69	88
12/25/2016	15	27	42
12/26/2016	37	66	103
12/27/2016	36	56	92
12/28/2016	45	87	132
12/29/2016	37	79	116
12/30/2016	37	76	113
12/31/2016	17	54	71
1/1/2017	6	6	12
1/2/2017	36	50	86
1/3/2017	51	42	93

1/4/2017	62	31	93
1/5/2017	83	72	155
1/6/2017	67	45	112
1/7/2017	51	33	84
1/8/2017	44	18	62
1/9/2017	53	30	83
1/10/2017	46	64	110
1/11/2017	85	88	173
1/12/2017	117	36	153
1/13/2017	138	48	186
1/14/2017	44	63	107
1/15/2017	64	16	80
1/16/2017	12	23	35
1/17/2017	1	5	6
1/18/2017	1	0	1
1/20/2017	0	30	30
1/21/2017	0	21	21
1/22/2017	0	10	10
1/26/2017	10	3	13
1/31/2017	7	2	9
	1500	1500	3000

The average length of a completed interview was 15 minutes and 22 seconds in District 8 and 16 minutes and 14 seconds in District 7. Length of interview excludes the screening portion of the interview (respondent selection, obtaining respondent consent). Interview start time is recorded when an eligible respondent has been located and has consented to participate. Thus, the total length of the household visit may be slightly longer for each respondent.

Interview lengths per district

	District 7	District 8
Mean	0:16:14	0:15:22
Median	0:15:07	0:13:58

Occurrences during fieldwork and interviewer feedback

Some respondents indicated that questions about personal income were too sensitive.

Gallup’s local partner in Bolivia reported that the end-of-year holidays (Christmas and New Year’s) made fieldwork somewhat difficult for both interviewers and respondents because many people had travel plans or were outside of their homes.

There was heavy rain for part of the fieldwork period.

The districts where the surveys were conducted are known to be areas of high public insecurity. In some neighborhoods it was necessary to work in groups and in others to leave the area before the end of the day. Due to such safety issues, heavy rain and end-of-year holidays, fieldwork progressed at a slower rate than expected.

Response Rates

The face-to-face response rate for this study is calculated according to the American Association of Public Opinion Research guidelines (AAPOR, 2000. Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys. Lenexa, Kansas: AAPOR). This represents the number of completed interviews divided by the total number of eligible households. Ineligible households are removed from the calculation. Ineligible households include the following categories:

- No eligible respondent lives there
- The house/dwelling is not occupied.

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

Where:

I= Complete Interviews

P= Partial Interviews

R= Refusals

NC= Non-Contact

O= Other

UH= Unknown if household/occupied housing unit

UO= Unknown other

Final response rates per district, and the total response rate for Bolivia were as follows:

Bolivia Total	40%
District 7	42%
District 8	38%

Weighting

The program area was Santa Cruz District 8, and the control area was Santa Cruz District 7. To ensure that the two samples were representative of the adult population of the program and control areas, Gallup staff prepared weights separately for each area based on available population demographics².

The weighting process of the two areas proceeded as follows:

² A combined weight was also constructed at a later stage and added to the dataset.

- Gallup staff constructed base sampling weights to take household size into account. Gallup staff capped household size at five respondents aged 18 and older. They used this step to adjust for unequal probability of selection as residents of relatively large households have a lower probability of selection for the survey.
- Gallup staff constructed post-stratification weights to correct for age, gender and education due to non-response.

Population sources used for constructing weights were as follows:

- Age, gender (Source: Bolivia Census 2012, District information)
- Education (Source: Bolivia Census 2012, Santa Cruz Municipality — Urban Areas)

Program District — Santa Cruz District 8

Age	Sample %	Population %	Weighted %
18 to 19	7	9	9
20 to 34	43	48	46
35 to 45	22	21	21
46 to 60	19	16	16
61+	9	7	7

Gender	Sample %	Population %	Weighted %
Male	40	49	48
Female	60	51	52

Education	Sample %	Population %	Weighted %
None/Illiterate/Incomplete primary school	22	21	21
Complete primary/ Incomplete and complete secondary/ Incomplete university studies	64	49	51
Middle and superior technical	8	12	12
Complete university studies/ Postgraduate/Master's	7	19	16

Control District — Santa Cruz District 7

Age	Sample %	Population %	Weighted %
18 to 19	7	8	8
20 to 34	38	47	46

35 to 45	24	20	21
46 to 60	18	16	17
61+	12	8	8

Gender	Sample %	Population %	Weighted %
Male	39	49	48
Female	61	51	52

Education	Sample %	Population %	Weighted %
None/Illiterate/Incomplete primary school	18	21	21
Complete primary/ Incomplete and complete secondary/ Incomplete university studies	61	49	50
Middle and superior technical	11	12	12
Complete university studies/ Postgraduate/Master's	9	19	17

Gallup staff also constructed a second weight variable which combined the program and control areas and re-weighted the new combined Brasilia dataset to the correct proportions. The combined weight is used for reporting purposes in the final city deliverables. Users can use either one of the two weights depending on the goals of any future analysis.

Margin of Error

The design effect calculation reflects the influence of data weighting and includes the effect of stratification and, in the face-to-face interviewing countries, the cluster selection methodology. In all face-to-face interviewing countries, the sampling design is a single-stage cluster sampling. Each Primary Sampling Unit (PSU) in the current face-to-face samples represents a cluster of individuals sampled at the first stage of selection³ whose responses may be correlated with each other on some outcome variables. Taking the clustered sampling design into account when calculating variance estimates, researchers used intraclass correlation coefficients (ICC).

The margins of error (MOEs) presented in this report are calculated based on reported proportions for each program/control area, assuming a 95% confidence level. The MOE also includes the approximate design effect (DEFF) due to weighting for the total program/control sample. The DEFF is a measure that compares the ratios of sampling variance from the actual survey sample to a simple random sample of the same overall sample size. For example, a DEFF of two (2) indicates that the survey estimate has twice as much sampling variance as a simple random sample (SRS) of the same size. Since MOEs and design effects are different for different variables

³ In all six countries, this was also the only stage of selection.

and depend on the level of clustering (ICC) exhibited by each variable, the MOEs and DEFFs for key demographic variables by area appear below.

The first table shows the weighted percentage estimates for each demographic variable by area, along with the design-adjusted 95% confidence interval for the estimate. The MOE shows the range around which the estimate can be expected to vary from the true value in the population, taking into account the standard error. Researchers compute the MOE by adding and subtracting twice the standard error (for 95% level of confidence) to the indicator estimate.

			District 8 (Program)	District 7 (Control)
Gender	Male	Estimate	48.1%	48.1%
		Lower	45.0%	45.1%
		Upper	51.3%	51.2%
Age	18 to 29	Estimate	40.5%	40.1%
		Lower	37.5%	37.2%
		Upper	43.7%	43.0%
	30 to 49	Estimate	40.3%	41.0%
		Lower	37.2%	38.2%
		Upper	43.5%	43.8%
	50 to 64	Estimate	14.2%	12.9%
		Lower	12.2%	11.1%
		Upper	16.5%	14.9%
	65+	Estimate	4.9%	6.1%
		Lower	3.8%	5.0%
		Upper	6.4%	7.3%
Years of Education	0 to 8 years	Estimate	25.2%	24.1%
		Lower	22.4%	21.6%
		Upper	28.2%	26.9%
	9 to 15 years	Estimate	58.1%	58.3%
		Lower	54.9%	55.3%
		Upper	61.3%	61.3%
	16+ years	Estimate	15.8%	16.8%
		Lower	12.8%	14.2%
		Upper	19.3%	19.8%
Wealth Quintiles	Poorest 20%	Estimate	21.3%	18.7%
		Lower	18.6%	16.1%
		Upper	24.3%	21.6%
	Second 20%	Estimate	20.6%	19.4%

		District 8 (Program)	District 7 (Control)	
Marital Status	Lower	18.3%	17.1%	
		Upper	23.0%	21.8%
	Middle 20%	Estimate	17.8%	22.2%
		Lower	15.7%	19.8%
		Upper	20.1%	24.8%
		Fourth 20%	Estimate	21.4%
	Lower		19.0%	16.0%
		Upper	24.1%	21.3%
		Richest 20%	Estimate	18.9%
	Lower		16.4%	18.7%
		Upper	21.7%	24.0%
		Single/Never married	Estimate	34.8%
	Lower		31.7%	32.0%
	Upper		37.9%	37.7%
	Married/ Domestic partner	Estimate	57.5%	56.4%
Lower		54.2%	53.6%	
Upper		60.8%	59.3%	
Separated/ Divorced/ Widowed	Estimate	7.7%	8.8%	
	Lower	6.4%	7.4%	
	Upper	9.3%	10.4%	

The second table shows the DEFFs for each variable by area, along with the average. Researchers calculate the average DEFF over the 16 values presented for each area.

		District 8 (Program)	District 7 (Control)
Gender	Male	1.54	1.45
Age	18 to 29	1.57	1.36
	30 to 49	1.63	1.28
	50 to 64	1.47	1.28
	65+	1.30	0.85
Years of Education	0 to 8 years	1.75	1.48
	9 to 15 years	1.65	1.48
	16+ years	3.09	2.16
Income Quintile	Poorest 20%	1.91	1.94

	District 8 (Program)	District 7 (Control)
Second 20%	1.31	1.35
Middle 20%	1.27	1.39
Fourth 20%	1.54	1.81
Richest 20%	1.79	1.63
Marital Status		
Single/Never married	1.69	1.36
Married/Domestic partner	1.76	1.28
Separated/Divorced/Widowed	1.12	1.11
Average DEFF	1.65	1.45