

GALLUP®

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Brazil 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 Brasília (Brazil) 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.

Brazil Methodology

Program Districts: Brasília: Ceilândia and Taguatinga

Control Districts: Brasília: Guarά, Samambaia and São Sebastião

Dates of Interviewing: Nov. 24–Dec. 30, 2016

Mode of Interviewing: Face-to-face CAPI

Languages: Portuguese

AB InBev selected the city of Brasília as its program area in Brazil. As the nation's capital, Brasília is the main administrative and political center in Brazil. It also has a fundamentally different history and socio-economic composition from other cities in the country, as it was designed and built in the 1950s for the purpose of moving governmental offices and institutions from Salvador de Bahia and Rio de Janeiro. Gallup recommended the district of **Guará**, which, although smaller in population, is also centrally located, densely urban and has a similar socio-demographic profile to the combined districts of Ceilândia and Taguatinga. Due to the small size of **Guará**, additional possibilities with which to supplement fieldwork were the districts of Samambaia and São Sebastião.

Socio-demographic characteristics of program and control districts in Brasília

District name	Total population	Average monthly income	Literacy rate	% Heads of household with 15+ years of schooling	Median income, as % of average income
Ceilândia	394,631	737	93.7%	2%	70%
Taguatinga	359,459	1,917	97.3%	14%	68%
Ceilândia + Taguatinga	754,090	1,299	95.4%	8%	69%
Guará	142,701	1,721	95.8%	2%	62%
São Sebastião	92,578	1,048	94.0%	6%	48%
Samambaia	198,025	742	93.7%	2%	69%

Sampling

The target population for this study was the civilian, non-institutionalized adult population living in the districts of Ceilândia, Taguatinga, Guará, Samambaia and São Sebastião within the capital Brasília. The population information for the sampling frame was derived from the Brazilian Institute of Geography and Statistics (IBGE), National Census of 2010. The census was carried out by 191 thousand enumerators who visited 67.6 million housing units in the 5,565 Brazilian municipalities in order to obtain demographic information. The census statistics contains information about enumerated households, by type, and about resident population in the country, by Federation Unit and municipality¹. All five districts in the current study are comprised of predominantly urban clusters.

Sampling Frame: total available census clusters in each district

District	Total clusters in sample	Total clusters - urban	Total clusters - rural
Ceilândia	605	587	18
Taguatinga	699	686	13
Guará	217	215	2
São Sebastião	157	146	11
Samambaia	308	301	7

The sample was then stratified by district and by urban/rural areas. Researchers selected PSUs by means of a probability-proportional-to-size (PPS) procedure — that is, by assigning each PSU a probability of selection that is proportional to the size of its population. PSUs with a larger population had a greater probability of being selected. PSUs could be selected only once. If the random selection algorithm selected a given PSU twice, the PSU was replaced.

¹ Further information about the 2010 census and population statistics in Brazil can be accessed here: <http://www.ibge.gov.br/english/estatistica/populacao/censo2010/default.shtm>

Total Population per Strata

District	Total population	Urban population	%	Rural population	%
Ceilândia	402,242	394,176	98.0	8,066	2.0
Taguatinga	360,414	358,832	99.6	1,582	0.4
Guará	141,720	141,588	99.9	132	0.1
São Sebastião	94,679	90,893	96.0	3,786	4.0
Samambaia	200,559	197,736	96.6	2,823	1.4
Total	1,199,614	1,893,225	98.6	16,389	1.4

Initially, the districts of Ceilândia and Taguatinga had been selected as the program areas, with the district of Guará as the only control area. However, field feedback after 14 days of data collection indicated that productivity was significantly lower than expected in the districts of Guará and Taguatinga. Field feedback indicated that 51 PSUs had already been replaced. In Taguatinga, out of 69 PSUs selected for the sample, 29 had already been replaced. In Guará, out of 115 PSUs selected for the initial sample, 22 had already been replaced. Field feedback indicated the main reasons for the low productivity in Guará and Taguatinga were the following:

- High concentration of commercial areas
- High concentration of high-income residential areas where residents would not open doors for interviewers or entry was not possible due to restricted access at the front gates
- Risk zones with high incidence of violence or drug traffic
- Frequent heavy rain, which caused floods in sections of Brasília

Following this feedback, and in consultation with AB InBev, Gallup staff updated the sampling plan to include the following changes:

- Among the districts in Brasília that resembled Guará in terms of socio-economic status, Gallup staff selected and added two districts as control areas: Samambaia and São Sebastião.
- Part of the program sample allocated for Taguatinga (210 interviews) was moved to Ceilândia. Researchers made adjustments for this shift of sample allocation between the two program districts during data weighting.

Because of the changes in sampling plan, the distribution of selected census clusters (PSUs) per strata was updated to the following:

Sample composition: number of clusters selected per district

District	PSUs selected	Urban PSUs selected	Rural PSUs selected
Ceilândia	85	83	2
Taguatinga	62	61	1

Guará	51	49	2
São Sebastião	32	30	2
Samambaia	54	52	2

Sampling procedure: Program Area

Step 1: The sample was distributed proportionate to population size, with 53% of the interviews in Ceilândia (N=790) and 47% of the interviews in Taguatinga (N=710).

Step 2: A total of 10 interviews were allowed per PSU, resulting in the selection of 79 PSUs in Ceilândia and 71 PSUs in Taguatinga.

Step 3: Urban/rural distribution of PSUs followed the proportion of urban/rural clusters in each district, resulting in 2 rural plus 77 urban PSUs in Ceilândia and 1 rural plus 70 urban PSUs in Taguatinga.

Step 4: From the full list of 1,304 Census Enumeration Clusters, Primary Sampling Units (PSU's) are selected by means of a PPS procedure. That is, by assigning each PSU a probability of being selected that is proportional to the size of its population.

Step 5: Selection of households within each PSU follows a systematic selection procedure. A map is provided to interviewers for each census area, identifying the starting points and the route to be followed, as well as the guidelines for replacement of households according to Gallup's fieldwork manual instructions.

Step 6: Respondents are randomly selected from the eligible household members selected through the Kish grid tool. Three attempts are made to contact the selected respondent, each attempt with a minimum interval of 2 hours. In the case where the respondent selected could not be located after three attempts, the household was replaced.

Sampling procedure: Control Area

Step 1: The sample is distributed proportionate to size, with 46% of the interviews in Samambaia (N=690), 32% of the interviews in Guará (N=490), and 22% of the interviews in São Sebastião (N=320).

Step 2: A total of 10 interviews are allowed per PSU, resulting in the selection of 69 PSUs in Samambaia, 49 PSUs in Guará and 32 PSUs in São Sebastião.

Step 3: Given the small number of rural PSUs available in the research universe for the control sample in Guará (0.9%), 100% of the clusters identified as rural are arbitrarily included (N=2 PSUs). Urban/rural distribution of PSUs for Samambaia and São Sebastião follows the proportion of urban/rural clusters in each district, resulting in 2 rural plus 67 urban PSUs in Samambaia and 2 rural plus 30 urban PSUs in São Sebastião.

Step 4: From the full remaining list of 682 Census Enumeration Clusters, Primary Sampling Units (PSU's) are selected by means of a PPS procedure. That is, by assigning each PSU a probability of being selected that is proportional to the size of its population.

Step 5: Selection of households within each PSU follows a systematic selection procedure. A map is provided to interviewers for each census area, identifying the starting points and the route to be followed, as well as the guidelines for replacement of households according to Gallup's fieldwork manual instructions.

Step 6: Respondents are randomly selected from the eligible household members selected through the Kish grid tool. Three attempts are made to contact the selected respondent, each attempt with a minimum interval of 2 hours. In the case where the respondent selected could not be located after three attempts, the household was replaced.

As a result of the sampling plan change during fieldwork, data collection in a few PSUs was interrupted, resulting in 23 PSUs with less than 10 interviews.

Due to the small number of rural clusters in the sample and their small sizes in certain districts, interviewers were not able to collect any interviews in some rural clusters despite walking the entire area. Some rural clusters were, therefore, replaced with urban clusters.

The program sample final distribution consisted of 62% of the interviews in Ceilândia (N=939) and 38% of the interviews in Taguatinga (N=564). The control sample final distribution consisted of 43% of the interviews in Samambaia (N=652), 35% of the interviews in Guará (N=532), and 21% of the interviews in São Sebastião (N=320).

Fieldwork

As described above, due to low productivity and corresponding interviewer attrition, Gallup staff adjusted the sampling plan during fieldwork.

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

Fieldwork Stats	
Average total interviews/interviewer	131
Number of interviewers	23
Number of days in the field	36
Min interviews/day	5
Max interviews/day	160
One attempt	2794
Two attempts	199
Three or more attempts	14

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 callbacks that fell within the survey data collection period. Fieldwork took place over five weeks between November 24, 2016 and December 30, 2016.

Date	Brasília-Ceilândia	Brasília-Taguatinga	Brasília-Guará	Brasília-Samambaia	Brasília-São Sebastião	Total
11/24/2016	39	11	0	0	0	50
11/25/2016	99	23	8	0	0	130
11/26/2016	23	10	61	0	0	94
11/27/2016	19	0	42	0	0	61
11/28/2016	88	28	7	0	0	123
11/29/2016	54	27	41	0	0	122
11/30/2016	13	43	53	0	0	109

12/1/2016	0	21	64	0	0	85
12/2/2016	17	37	50	0	0	104
12/3/2016	18	14	43	0	0	75
12/4/2016	23	3	6	0	0	32
12/5/2016	29	20	12	0	0	61
12/6/2016	19	20	51	0	0	90
12/7/2016	3	12	39	0	0	54
12/8/2016	23	18	1	0	0	42
12/9/2016	14	27	7	10	0	58
12/10/2016	24	13	0	10	0	47
12/11/2016	0	8	2	20	0	30
12/12/2016	4	0	6	118	0	128
12/13/2016	2	0	5	80	6	93
12/14/2016	1	0	1	77	32	111
12/15/2016	15	0	5	26	97	143
12/16/2016	32	16	10	2	72	132
12/17/2016	10	58	0	0	7	75
12/18/2016	9	30	9	4	13	65
12/19/2016	11	40	8	16	27	102
12/20/2016	20	0	0	60	63	143
12/21/2016	38	13	0	42	0	93
12/22/2016	68	5	0	68	0	141
12/23/2016	56	53	1	50	0	160
12/24/2016	2	0	0	0	3	5
12/26/2016	28	0	0	20	0	48
12/27/2016	58	0	0	10	0	68
12/28/2016	41	0	0	13	0	54
12/29/2016	19	14	0	0	0	33
12/30/2016	20	0	0	26	0	46
Total	939	564	532	652	320	3007

The average length of a completed interview was between 7 minutes and 25 seconds in Samambaia to 9 minutes and 52 seconds in Ceilândia. Length of interview excludes the screening portion of the interview (respondent selection, age verification, 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

	Brasília-Ceilândia	Brasília-Taguatinga	Brasília-Guará	Brasília-Samambaia	Brasília-São Sebastião
Mean	0:09:52	0:07:33	0:08:56	0:07:25	0:07:33
Median	0:09:32	0:07:32	0:08:28	0:07:21	0:07:06

Interviewers report that show cards had been extremely helpful for implementation of the questionnaire.

Interviewers report that A23/WP19422 and A43/WP19448 (questions about driving a vehicle after alcohol consumption) may have made some respondents uneasy — perhaps over worries about the legal ramifications. Gallup’s local partner in Brazil reports that on Nov. 1, 2016, Federal law no.13.281 came into effect — its provisions include more serious punishment for drunk driving such as raising the fine for driving while intoxicated from R\$1,915.40 to R\$2,934.70. In the case of a second offense within 12 months, the fine will double to R\$5,869.40.

Questions about personal income were sensitive for many respondents and/or made them suspicious about the interviewer’s intent.

Some urban clusters in Brasília presented safety concerns. Two interviewers were robbed, and an attempt on a third one was made.

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.

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

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 for the program and control area, as well as the total response rate for Brazil, were as follows :

Brazil Total	46%
Program Area	43%
Control Area	50%

Program Area: Brasília: Ceilândia and Taguatinga

Control Area: Brasília: Guar, Samambaia and São Sebastião

Weighting

To ensure that the two samples were representative of the adult population of the program and control areas of Brazil, Gallup staff prepared weights separately for each area based on available population demographics². The program area includes Ceilândia and Taguatinga. The control area includes Guarã, Samambaia and São Sebastião.

The weighting process of the two areas was as follows:

- Gallup staff constructed base sampling weights to take household size into account. They capped household size at four 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, education and population per district due to any asymmetries arising from non-response.

Population sources used for constructing weights were as follows:

- Age, gender, education, district population (Source: IBGE — Demographic Census 2010)

Program Area — Ceilândia and Taguatinga

Age	Sample %	Population %	Weighted %
18 to 24	13	17	17
25 to 34	20	30	29
35 to 44	23	22	23
45 to 54	16	14	14
55+	29	16	17
Gender	Sample %	Population %	Weighted %
Male	38	46	46
Female	62	54	54
Education	Sample %	Population %	Weighted %
Illiterate	4	3	3
Literate	96	97	97
District	Sample %	Population %	Weighted %

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

Ceilândia	62	51	52
Taguatinga	38	49	48

Control Area — Guar, Samambaia and So Sebastio

Age	Sample %	Population %	Weighted %
18 to 24	13	20	20
25 to 34	21	30	29
35 to 44	22	22	22
45 to 54	19	15	15
55+	25	13	14

Gender	Sample %	Population %	Weighted %
Male	41	48	47
Female	59	52	53

Education	Sample %	Population %	Weighted %
Illiterate	4	4	4
Literate	96	96	96

District	Sample %	Population %	Weighted %
Guar	35	34	34
Samambaia	43	44	44
So Sebastio	21	22	22

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 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.

Program Area: Brasília: Ceilândia and Taguatinga

Control Area: Brasília: Guará, Samambaia and São Sebastião

			Program Area	Control Area
Gender	Male	Estimate	45.7%	47.2%
		Lower	42.4%	44.2%
		Upper	49.1%	50.2%
Age	18 to 29	Estimate	31.9%	33.8%
		Lower	29.1%	30.3%
		Upper	34.9%	37.4%
	30 to 49	Estimate	44.3%	44.8%
		Lower	41.3%	41.2%
		Upper	47.3%	48.5%
	50 to 64	Estimate	13.5%	15.1%
		Lower	11.8%	13.3%
		Upper	15.4%	17.0%
65+	Estimate	10.3%	6.3%	
	Lower	8.7%	5.3%	
	Upper	12.1%	7.6%	
Years of Education	0 to 8 years	Estimate	23.5%	22.3%
		Lower	20.4%	19.3%
		Upper	26.8%	25.7%

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

		Program Area	Control Area	
Wealth Quintiles	9 to 15 years	Estimate	64.2%	62.6%
		Lower	61.0%	59.6%
		Upper	67.2%	65.6%
	16+ years	Estimate	11.9%	14.2%
		Lower	9.7%	11.8%
		Upper	14.5%	17.0%
	Poorest 20%	Estimate	18.0%	22.0%
		Lower	14.9%	18.4%
		Upper	21.5%	26.1%
	Second 20%	Estimate	19.4%	20.6%
		Lower	16.7%	17.9%
		Upper	22.3%	23.5%
	Middle 20%	Estimate	22.7%	17.3%
		Lower	19.8%	15.0%
		Upper	26.0%	19.9%
	Fourth 20%	Estimate	21.5%	18.5%
		Lower	18.9%	16.1%
		Upper	24.3%	21.3%
Richest 20%	Estimate	18.4%	21.5%	
	Lower	15.5%	18.1%	
	Upper	21.8%	25.4%	
Marital Status	Single/Never married	Estimate	43.2%	46.9%
		Lower	39.5%	43.0%
		Upper	47.1%	50.8%
	Married/ Domestic partner	Estimate	38.9%	39.8%
		Lower	35.4%	36.2%
		Upper	42.4%	43.6%
	Separated/ Divorced/ Widowed	Estimate	17.9%	13.3%
		Lower	15.6%	11.5%
		Upper	20.4%	15.3%

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.

		Program Area	Control Area
Gender	Male	1.80	1.44
Age	18 to 29	1.54	2.21
	30 to 49	1.45	2.11
	50 to 64	1.09	1.09
	65+	1.22	0.84
Years of Education	0 to 8 years	2.17	2.29
	9 to 15 years	1.62	1.49
	16+ years	2.12	2.21
Income Quintile	Poorest 20%	2.92	3.32
	Second 20%	1.94	1.90
	Middle 20%	2.10	1.63
	Fourth 20%	1.65	1.75
	Richest 20%	2.52	3.07
Marital Status	Single/Never married	2.11	2.18
	Married/Domestic partner	1.84	2.04
	Separated/Divorced/Widowed	1.37	1.12
Average DEFF		1.84	1.92