

Methodology

October 2011 WPRI Political Poll

Prepared by Abt SRBI
for the Wisconsin Policy Research Institute

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SUMMARY

The October 2011 Political Poll, sponsored by the Wisconsin Policy Research Institute, obtained telephone interviews with a statewide representative sample of 605 adults living in Wisconsin. The survey was conducted by Abt SRBI in English from October 23 to October 26, 2011. Statistical results are weighted to correct known demographic discrepancies. The margin of sampling error for the complete set of weighted data is 5.1±%.

Details on the design, execution and analysis of the survey are discussed below.

DESIGN AND DATA COLLECTION PROCEDURES

Sample Design

A combination of landline and cellular random digit dial (RDD) samples was used to represent all adults in the state of Wisconsin who have access to either a landline or cellular telephone. Both samples were provided by Survey Sampling International, LLC (SSI) according to Abt SRBI specifications.

Numbers for the landline sample were drawn with equal probabilities from active blocks (area code + exchange + two-digit block number) that contained one or more residential directory listings. The cellular sample was not list-assisted, but was drawn through a systematic sampling from dedicated wireless 100-blocks and shared service 100-blocks with no directory-listed landline numbers.

Contact Procedures

Interviews were conducted from October 23 to October 26, 2011. As many as 6 attempts were made to contact every sampled telephone number. Sample was released for interviewing in replicates, which are representative subsamples of the larger sample. Using replicates to control the release of sample ensures that complete call procedures are followed for the entire sample. Calls were staggered over times of day and days of the week to maximize the chance of making contact with potential respondents.

For the landline sample, interviewers first asked to speak with the adult 18 or older with the next birthday. If not available then the interviewer asked to speak with the adult who had the last birthday. For the cellular sample, interviews were conducted with the person who answered the phone. Interviewers verified that the person was an adult and in a safe place before administering the survey.

WEIGHTING AND ANALYSIS

Weighting is generally used in survey analysis to compensate for sample designs and patterns of non-response that might bias results. A two-stage weighting procedure was used to weight this dual-frame sample. A first-stage weight was calculated and applied to respondents identified as dual-users, land line only or cell phone only.

The second stage of weighting balanced sample demographics to population parameters. The sample was balanced to match state population parameters for sex, age, education, race, region and, and telephone usage. The basic weighting parameters came from an analysis of the Census Bureau's 2010 Census and 2010 American Community Survey. The cell phone usage parameter for Wisconsin came from an analysis of the July 2009-June 2010 National Health Interview Survey.¹

Weighting was accomplished using Sample Balancing, a special iterative sample weighting program that simultaneously balances the distributions of all variables. Weights were trimmed to prevent individual interviews from having too much influence on the final results. The use of these weights in statistical analysis ensures that the demographic characteristics of the sample closely approximate the demographic characteristics of the state population. Table 1 compares weighted and unweighted sample distributions to population parameters.

¹ Blumberg SJ, Luke JV. Wireless substitution: State-level estimates from the National Health Interview Survey, January 2007-June, 2010. National Center for Health Statistics. April 2011.

Table 1: Sample Demographics

	Population Parameter	Unweighted Sample	Weighted Sample
<u>Gender</u>			
Male	49.2%	49.8%	49.2%
Female	50.8%	50.2%	50.8%
<u>Age</u>			
18-24	12.6%	4.6%	11.4%
25-44	33.3%	19.8%	33.1%
45-64	36.2%	44.8%	36.5%
65+	17.9%	29.9%	18.0%
<u>Education</u>			
Less than HS Graduate	10.3%	4.1%	9.0%
HS Graduate	33.2%	25.0%	33.3%
Some College	23.7%	14.9%	23.6%
Associates Degree	8.7%	17.0%	8.7%
Four Year College Degree	16.3%	22.5%	16.4%
Graduate or Professional Degree	7.9%	15.5%	8.0%
<u>Geographic Region</u>			
City of Milwaukee	10.0%	10.4%	9.8%
Milwaukee Media Market excluding city of Milwaukee	30.1%	29.6%	29.9%
Madison Media Market	17.0%	17.5%	17.1%
Green Bay Media Market	19.3%	18.8%	19.6%
Rest of State	23.7%	23.6%	23.6%
<u>Phone Use</u>			
Cell Only	25.6%	11.6%	24.7%
Landline Only	17.4%	16.4%	17.2%
Dual Service	57.0%	70.9%	57.2%

Effects of Sample Design on Statistical Inference

Post-data collection statistical adjustments require analysis procedures that reflect departures from simple random sampling. Abt SRBI calculates the effects of these design features so that an appropriate adjustment can be incorporated into tests of statistical significance when using these data. The so-called "design effect" or *deff* represents the loss in statistical efficiency that results from systematic non-response. The total sample design effect for this survey is 1.65.

Abt SRBI calculates the composite design effect for a sample of size n , with each case having a weight, w_i as:

$$deff = \frac{n \sum_{i=1}^n w_i^2}{\left(\sum_{i=1}^n w_i \right)^2} \quad \text{formula 1}$$

In a wide range of situations, the adjusted *standard error* of a statistic should be calculated by multiplying the usual formula by the square root of the design effect (\sqrt{deff}). Thus, the formula for computing the 95% confidence interval around a percentage is:

$$\hat{p} \pm \left(\sqrt{deff} \times 1.96 \sqrt{\frac{\hat{p}(1-\hat{p})}{n}} \right) \quad \text{formula 2}$$

where \hat{p} is the sample estimate and n is the unweighted number of sample cases in the group being considered.

The survey's margin of error is the largest 95% confidence interval for any estimated proportion based on the total sample—the one around 50%. For example, the margin of error for the entire sample is $\pm 5.1\%$. This means that in 95 out every 100 samples drawn using the same methodology, estimated proportions based on the entire sample will be no more than five percentage points away from their true values in the population. It is important to remember that sampling fluctuations are only one possible source of error in a survey estimate. Other sources, such as respondent selection bias, questionnaire wording and reporting inaccuracy, may contribute additional error of greater or lesser magnitude.

RESPONSE RATES AND SAMPLE DISPOSITIONS

Table 2 reports the disposition of all sampled telephone numbers ever dialed from the original telephone number samples. Abt SRBI calculates four component rates:² Response rate, Cooperation rate, Refusal rate and Contact rate.

The response rate for the land line samples ranged from 14.2 to 21.3 percent. The response rate for the cellular samples ranged from 13.7 to 15.7 percent.

² Abt SRBI's disposition codes and reporting are consistent with the American Association for Public Opinion Research standards.

Table 2: Sample Disposition

		TOTAL	TOTAL
Complete	1.000	483	122
Screen-outs	1.100	24	83
Partial	1.200	24	12
Eligible, non-interview (Category 2)			
Refusal and breakoff	2.100	18	3
Refusal	2.110	695	303
Respondent never available	2.210	17	23
Answering machine household-no message left	2.221	708	651
Physically or mentally unable/incompetent	2.320	112	12
Household-level language problem	2.331	27	12
Unknown eligibility, non-interview (Category 3)			
Always busy	3.120	55	12
No answer	3.130	833	108
Call blocking	3.150	1	1
Technical phone problems	3.160	1	0
No screener completed	3.210	417	153
Not eligible (Category 4)			
Fax/data line	4.200	291	4
Non-working/disconnect	4.300	6075	736
Temporarily out of service	4.330	206	31
Cell phone	4.420	2	0
Business, government office, other organizations	4.510	498	77
Other	4.900	3	0
Total phone numbers used		10466	2343
Completes and Screen-Outs (1.0/1.1)	I	483	205

Partial Interviews (1.2)	P	24	12
Refusal and break off (2.1)	R	713	306
Non Contact (2.2)	NC	725	674
Other (2.3)	O	139	24
Unknown household (3.1)	UH	890	121
Unknown other (3.2, 3.9)	UO	417	153
Not Eligible (4.0)	NE	7075	848
e = Estimated proportion of cases of unknown eligibility that are eligible.	$(I+P+R+NC+O)/((I+P+R+NC+O)+NE)$	0.228	0.590
Response Rate 1	$I/(I+P) + (R+NC+O) + (UH+UO)$	0.142	0.137
Response Rate 2	$(I+P)/(I+P) + (R+NC+O) + (UH+UO)$	0.150	0.145
Response Rate 3	$I/((I+P) + (R+NC+O) + e(UH+UO))$	0.203	0.148
Response Rate 4	$(I+P)/((I+P) + (R+NC+O) + e(UH+UO))$	0.213	0.157
Cooperation Rate 1	$I/(I+P)+R+O)$	0.355	0.375
Cooperation Rate 2	$(I+P)/((I+P)+R+O))$	0.373	0.397
Cooperation Rate 3	$I/((I+P)+R))$	0.396	0.392
Cooperation Rate 4	$(I+P)/((I+P)+R))$	0.416	0.415
Refusal Rate 1	$R/((I+P)+(R+NC+O) + UH + UO))$	0.210	0.205
Refusal Rate 2	$R/((I+P)+(R+NC+O) + e(UH + UO))$	0.299	0.221
Refusal Rate 3	$R/((I+P)+(R+NC+O))$	0.342	0.251
Contact Rate 1	$(I+P)+R+O / (I+P)+R+O+NC+ (UH + UO)$	0.401	0.366
Contact Rate 2	$(I+P)+R+O/(I+P)+R+O+NC + e(UH+UO)$	0.571	0.396