Ipsos Poll Conducted for Reuters

National Security Agency 6.12.13

These are findings from an Ipsos poll conducted for Thomson Reuters from June 8-12, 2013. For the survey, a sample of 1,377 Americans 18+ were interviewed online. The precision of the Reuters/Ipsos online polls is measured using a credibility interval. In this case, the poll has a credibility interval of plus or minus 3.0 percentage points. For more information about credibility intervals, please see the appendix.

The data were weighted to the U.S. current population data by gender, age, education, and ethnicity. Statistical margins of error are not applicable to online polls. All sample surveys and polls may be subject to other sources of error, including, but not limited to coverage error and measurement error. Figures marked by an asterisk (*) indicate a percentage value of greater than zero but less than one half of one per cent. Where figures do not sum to 100, this is due to the effects of rounding.

NATIONAL SECURITY AGENCY

Q1. As you may know, it was recently revealed that the National Security Agency (NSA) has been collecting detailed phone records from Verizon on its customers, including the customer phone number and the numbers called. In your opinion, is this collection of phone records by the NSA….

Completely acceptable	6%
Acceptable under most circumstances	12%
Acceptable under only a few circumstances	33%
Completely unacceptable	37%
Unsure	12%
TOTAL - Acceptable under some circumstances	*51%*
TOTAL - Not unacceptable	*37%*

Q2. Which of the following statements comes closest to your personal opinion?

I would have no problem with the NSA reviewing my phone records regardless of the circumstances	16%
I would prefer the NSA not review my phone records, but I believe it is acceptable if they have a good reason for doing so	47%
There is no acceptable reason for the NSA to review my phone records under any circumstances	37%

Q3. It was also recently revealed that the National Security Agency has an internet surveillance program to monitor email, stored data, and log-in information of individuals. Which of the following statements comes closest to your personal opinion?

I would have no problem with the NSA reviewing my internet usage regardless of the circumstances	12%
I would prefer the NSA not review my internet usage, but I believe it is acceptable if they have a good reason for doing so	45%
There is no acceptable reason for the NSA to review my internet usage under any circumstances	43%

Q4. Do you think that the NSA's collection of phone records and surveillance of the Internet makes the USA safer from terrorism? *(Data collected June 10-12; Base size = 716; Credibility interval = ±4.2)*

Yes, a lot safer	11%
Yes, a little safer	31%
No, no safer than before	39%
Unsure	18%
TOTAL - Safer	*42%*
TOTAL - Not safer	*39%*

Q5. An American contractor to the NSA, Edward Snowden, recently revealed that he was the one who leaked the information about the NSA's monitoring of phone and internet usage to the press. In your opinion, is Edward Snowden a patriot or a traitor? *(Data collected June 11-12; Base size = 645; Credibility interval = ±4.4)*

Patriot	31%
Traitor	23%
Don't know	46%

Q6. How do you believe the U.S. government should treat Edward Snowden?
(Data collected June 11-12; Base size = 645; Credibility interval = ±4.4)

He should be prosecuted to the full extent of the law	25%
He should not be prosecuted	35%
Don't know	40%

How to Calculate Bayesian Credibility Intervals

The calculation of credibility intervals assumes that Y has a binomial distribution conditioned on the parameter θ\, i.e., Y|θ~Bin(n,θ), where n is the size of our sample. In this setting, Y counts the number of "yes", or "1", observed in the sample, so that the sample mean ($\bar{y}$) is a natural estimate of the true population proportion θ. This model is often called the likelihood function, and it is a standard concept in both the Bayesian and the Classical framework. The Bayesian [1] statistics combines both the prior distribution and the likelihood function to create a posterior distribution. The posterior distribution represents our opinion about which are the plausible values for θ adjusted after observing the sample data. In reality, the posterior distribution is one's knowledge base updated using the latest survey information. For the prior and likelihood functions specified here, the posterior distribution is also a beta distribution (π(θ/y)~β(y+a,n-y+b)), but with updated hyper-parameters.

Our credibility interval for ϑ is based on this posterior distribution. As mentioned above, these intervals represent our belief about which are the most plausible values for ϑ given our updated knowledge base. There are different ways to calculate these intervals based on . Since we want only one measure of precision for all variables in the survey, analogous to what is done within the Classical framework, we will compute the largest possible credibility interval for any observed sample. The worst case occurs when we assume that a=1 and b=1 and . Using a simple approximation of the posterior by the normal distribution, the 95% credibility interval is given by, approximately:

$$\bar{y} \mp \frac{1}{\sqrt{n}}$$

For this poll, the Bayesian Credibility Interval was adjusted using standard weighting design effect 1+L=1.3 to account for complex weighting[2]

Examples of credibility intervals for different base sizes are below. Ipsos does not publish data for base sizes (sample sizes) below 100.

Sample size	Credibility intervals
2,000	2.5
1,500	2.9
1,000	3.5
750	4.1
500	5.0
350	6.0
200	7.9
100	11.2

[1] Bayesian Data Analysis, Second Edition, Andrew Gelman, John B. Carlin, Hal S. Stern, Donald B. Rubin, Chapman & Hall/CRC | ISBN: 158488388X | 2003

[2] Kish, L. (1992). Weighting for unequal Pi . Journal of Official, Statistics, 8, 2, 183200.