



Ipsos Poll

Beliefs Survey Questions 06.26.2015

These are findings from an Ipsos poll conducted June 23-25, 2015. For the survey, a sample of 1,005 adults, ages 18+ were interviewed online. The precision of the Ipsos online polls is measured using a [credibility interval](#). In this case, the poll has a credibility interval of plus or minus 3.5 percentage points for all adults. 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.

Beliefs Questions

Q1. Please indicate the extent to which you agree or disagree with each of the following statements:

I believe that UFO's exist

	Total	Believe in UFOs	Believe aliens have visited Earth	Believe in evolution	Believe in Creationism
Strongly agree	18%	33%	39%	22%	19%
Somewhat agree	37%	67%	58%	39%	39%
Somewhat disagree	20%	0%	3%	20%	19%
Strongly disagree	25%	0%	1%	19%	23%
Total agree	56%	100%	97%	61%	58%
Total disagree	44%	0%	4%	39%	42%

Life on other planets is plausible

	Total	Believe in UFOs	Believe aliens have visited Earth	Believe in evolution	Believe in Creationism
Strongly agree	37%	51%	54%	45%	30%
Somewhat agree	42%	44%	43%	41%	47%
Somewhat disagree	10%	4%	3%	8%	12%
Strongly disagree	11%	0%	0%	6%	11%
Total agree	79%	96%	97%	86%	77%
Total disagree	21%	4%	3%	14%	23%

Aliens/extraterrestrials have visited Earth

	Total	Believe in UFOs	Believe aliens have visited Earth	Believe in evolution	Believe in Creationism
Strongly agree	15%	26%	32%	17%	17%
Somewhat agree	31%	53%	68%	34%	32%
Somewhat disagree	26%	18%	0%	26%	24%
Strongly disagree	29%	3%	0%	23%	28%
Total agree	45%	79%	100%	51%	49%
Total disagree	55%	22%	0%	49%	51%

Q2. Please indicate the extent to which you agree or disagree with each of the following statements:

The universe began from a single point in space and time (the Big Bang)

	<u>Total</u>	<u>Believe in UFOs</u>	<u>Believe aliens have visited Earth</u>	<u>Believe in evolution</u>	<u>Believe in Creationism</u>
Strongly agree	24%	25%	27%	34%	15%
Somewhat agree	34%	40%	40%	45%	30%
Somewhat disagree	21%	20%	20%	17%	23%
Strongly disagree	22%	15%	13%	5%	32%
Total agree	57%	65%	67%	78%	46%
Total disagree	43%	35%	33%	22%	54%

Life on Earth came about through natural processes following observable rules of biology and physics (Evolution)

	<u>Total</u>	<u>Believe in UFOs</u>	<u>Believe aliens have visited Earth</u>	<u>Believe in evolution</u>	<u>Believe in Creationism</u>
Strongly agree	32%	32%	34%	49%	15%
Somewhat agree	33%	40%	40%	51%	37%
Somewhat disagree	15%	15%	15%	0%	19%
Strongly disagree	20%	13%	12%	0%	29%
Total agree	65%	72%	74%	100%	52%
Total disagree	35%	28%	27%	0%	48%

Life on Earth came about through natural processes that were guided by a higher being (Intelligent design)

	<u>Total</u>	<u>Believe in UFOs</u>	<u>Believe aliens have visited Earth</u>	<u>Believe in evolution</u>	<u>Believe in Creationism</u>
Strongly agree	26%	26%	29%	20%	37%
Somewhat agree	33%	41%	41%	39%	40%
Somewhat disagree	20%	20%	20%	23%	10%
Strongly disagree	21%	13%	12%	19%	14%
Total agree	59%	67%	69%	58%	77%
Total disagree	41%	33%	31%	42%	23%

Life on Earth was created by a specific act (or acts) of a higher being (Creationism)

	<u>Total</u>	<u>Believe in UFOs</u>	<u>Believe aliens have visited Earth</u>	<u>Believe in evolution</u>	<u>Believe in Creationism</u>
Strongly agree	37%	34%	35%	20%	59%
Somewhat agree	25%	31%	32%	29%	41%
Somewhat disagree	18%	20%	19%	24%	0%
Strongly disagree	20%	16%	15%	27%	0%
Total agree	62%	65%	67%	49%	100%
Total disagree	38%	35%	33%	51%	0%

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., $Y|\theta \sim \text{Bin}(n, \theta)$, 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 ($\pi(\theta|y) \sim \beta(y+a, n-y+b)$), 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 $\pi(\theta|y)$. 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 $y=n/2$. Using a simple approximation of the posterior by the normal distribution, the 95% credibility interval is given by, approximately:

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

For this poll, the Bayesian Credibility Interval was adjusted using standard weighting design effect $1+L=1.3$ to account for complex weighting²

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.*