Ipsos Poll Conducted for Reuters

E-smoking 06.04.2015

These are findings from an Ipsos poll conducted for Thomson Reuters May 19-June 4, 2015. For the survey, a sample of 5,679 Americans, including 463 who identify as smoking e-cigarettes or using a personal vaporizer, ages 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 1.5 percentage points and 5.2 percentage points for e-smokers. 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. To see more information on this and other Reuters/Ipsos polls, please visit http://polling.reuters.com/.

E-SMOKING

Q1. Which of the following nicotine products do you currently use?

	All adults	E-Smokers
Traditional cigarettes	19%	52%
E-cigarettes	7%	73%
Personal vaporizer	4%	44%
Chewing tobacco	3%	13%
Other	2%	2%
None	73%	*%
E-smokers (NET)	*10%*	*100%*

Q2. You indicated that you currently use more than one nicotine product. Which do you use most frequently? *(Asked of those who use multiple nicotine products, n=298)*

	All adults	E-Smokers (n=282)
Traditional cigarettes	60%	59%
E-cigarettes	21%	22%
Personal vaporizer	11%	12%
Chewing tobacco	6%	6%
Other	2%	1%

Q3. Do you smoke cigarettes?

	All adults	E-Smokers
Yes, every day	17%	53%
Yes, some days	6%	22%
No, not at all	77%	24%

Q4. In the past year, have you stopped smoking for more than one day because you were trying to quit? *(Asked of those who smoke cigarettes some days/every day, n=1,076)*

	All	E-Smokers (n=340)
Yes	58%	78%
No	42%	22%

Q5. Please indicate whether you agree or disagree with the following statements: *(Asked of those who smoke both traditional cigarettes and e-cigarettes, n=193)*

All	Agree	Disagree	Not sure
I am using both traditional cigarettes and e-cigarettes because I am trying to quit smoking traditional cigarettes	75%	22%	3%
I use e-cigarettes only to tide me over between traditional cigarettes.	69%	25%	6%

Q6. The next questions are about e-smoking (electronic cigarettes and personal vaporizers). Electronic cigarettes, sometimes called e-cigarettes, look like regular cigarettes, but are battery-powered and produce vapor instead of smoke. Personal vaporizers are more like pipes, but are battery powered and produce vapor instead of smoke. Thinking about e-smoking, please indicate how much you agree or disagree with the following statements:

All adults	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't Know	*TOTAL AGREE*	*TOTAL DISAGREE*
You can become addicted to e-smoking.	34%	26%	7%	7%	26%	*60%*	*14%*
People look silly e-smoking.	26%	22%	18%	15%	19%	*48%*	*33%*
E-smoking is not better than smoking traditional cigarettes.	23%	21%	19%	13%	24%	*44%*	*32%*
E-smoking can still pollute the air, much like second-hand smoke from traditional cigarettes.	22%	21%	16%	14%	28%	*42%*	*30%*
E-smoking is a good way to help people quit smoking.	11%	26%	16%	22%	24%	*37%*	*38%*
E-smoking is healthier than traditional cigarettes.	11%	25%	16%	23%	26%	*35%*	*39%*

E-Smokers	Strongly agree	Somewhat agree	Somewhat disagree	Strongly disagree	Don't Know	*TOTAL AGREE*	*TOTAL DISAGREE*
E-smoking is a good way to help people quit smoking.	42%	39%	10%	5%	4%	*81%*	*15%*
E-smoking is healthier than traditional cigarettes.	38%	34%	14%	4%	9%	*72%*	*18%*
You can become addicted to e-smoking.	35%	35%	14%	9%	7%	*70%*	*23%*
E-smoking is not better than smoking traditional cigarettes.	21%	22%	23%	28%	6%	*44%*	*50%*
E-smoking can still pollute the air, much like second-hand smoke from traditional cigarettes.	20%	21%	21%	28%	10%	*41%*	*49%*
People look silly e-smoking.	19%	17%	21%	38%	4%	*36%*	*60%*

Q7. Have you ever used e-cigarettes, even one time?

	All adults	E-Smokers
Yes, currently use	8%	71%
Yes, have used in the past	17%	25%
No	75%	4%

Q8. Have you ever used a vapor device, even one time?

	All adults	E-Smokers
Yes, currently use	7%	60%
Yes, have used in the past	14%	23%
No	79%	18%

Q9. When did you first start e-smoking? *(Asked of those who currently use e-cigarettes or a vapor device in Q7/8, n=465)*

Within the last 6 months	37%
Within the past year	31%
Over a year ago	31%

Q10. Which of the following, if any, motivated you to try e-smoking? (Select all that apply) *(Asked of those who currently use e-cigarettes or a vapor device in Q7/8, n=465)*

Friends/family	47%
Ability to smoke inside	39%
Cost of traditional cigarettes	38%
Advertising	25%
Doctor/medical advice	27%
Media coverage	17%
None of these	8%

Q11. About how often do you typically e-smoke? (Select all that apply) *(Asked of those who currently use e-cigarettes or a vapor device in Q7/8, n=465)*

Less than once a day	35%
Once a day	20%
Two to five times per day	26%
Six to ten times per day	8%
More than 10 times per day	11%

Q12. Have you tried any flavored vapors? (Select all that apply) *(Asked of those who currently use e-cigarettes or a vapor device in Q7/8, n=465)*

Yes	84%
No	16%

Q13. Which of the following, if any, influences the type of e-cigarettes/personal vaporizer you use? (Select all that apply) *(Asked of those who currently use e-cigarettes or a vapor device in Q7/8, n=465)*

Delivery system (refillable)	50%
Cost	49%
Brand loyalty	32%
Delivery system (disposable)	26%
None of these	8%

Q14. Where do you typically buy the device(s) or supplies? *(Asked of those who currently use e-cigarettes or a vapor device in Q7/8, n=465)*

Convenience/corner stores	33%
Online	26%
Supermarket	21%
Somewhere else	20%

Q15. Have you tried to quit using e-smoking devices? *(Asked of those who currently use e-cigarettes or a vapor device in Q7/8, n=465)*

Yes	57%
No	43%

Q16. When you stopped e-smoking, which of the following did you do? *(Asked of those who have used e-cigarettes in the past, but not currently, n=830)*

Went back to traditional cigarettes	55%
Switched to other tobacco products (pipe, cigars, chewing tobacco, etc.)	5%
Quit all nicotine products all together	24%
None of these	18%

Q17. Which of the following best describes why you went back to traditional cigarettes? *(Asked of those who went back to traditional cigarettes in Q16, n=420)*

E-smoking was not satisfying enough	56%
E-smoking was not convenient enough	3%
I didn't like the stigma of using a fake cigarette	10%
Some other reason	31%

Q18. Do you consider yourself addicted to nicotine? (Select all that apply) *(Asked of those who currently use e-cigarettes or a vapor device in Q7/8, n=465)*

Yes	68%
No	32%

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 π(θ/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:

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

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.*