

Statistical Estimation

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Methodology
The study is based on telephone interviews with a randomly selected national sample of 1,523 adults (18+) and 501 teens (ages 13-17), conducted April 30 - May 23, 1999. For results based on a sample of this size, one can say with 95 percent confidence that the error attributable to sampling and other random effects could be plus or minus 3 percentage points for adults (18+), and plus or minus 5 percentage for teens (13-17 year olds).

■ **Margin of Error** – describes how close to the truth about the population the sample result would fall in 95% of all samples drawn by the method used to draw the sample. We say that we have **95% confidence** that the truth about the population lies within the **margin of error**.

The Margin of Error will obviously be more accurate the larger the sample.

■ **Quick method for Margin of Error** – Use the sample percent from a simple random **sample of size n** to estimate an unknown population percent. The margin of error for 95% confidence is roughly equal to $\frac{100}{\sqrt{n}}$

EX: A Gallup poll interviewed 1523 people. The margin of error for 95% confidence so the margin of error is $\frac{100}{\sqrt{1523}} \approx 2.6\%$

The Gallup Poll stated their margin of error was ± 3 %.

We stated it as ± 2.6 %.

Why is it different?

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larger the sample.