Assumptions
For a Single Population Proportion Confidence Interval

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Confidence Intervals

Best Estimate ± Margin of Error

OR

Best Estimate ± "a few" (estimated) standard errors

What are the assumptions?

- Best Estimate – in order to get a *reliable* best estimate, we need a ***SIMPLE RANDOM SAMPLE***
- Simple Random Sample – a representative subset of the population made up of observations (or subjects) that have an equal probability of being chosen

What are the assumptions?

- Margin of error – in order to use the critical z-value in our calculations, we need a ***large enough sample size*** ②
- But what is 'large enough'…?

Why? By Central Limit Theorem, when sample size is large, sampling distribution follows a normal distribution.

What are the assumptions?

- Many viewpoints on what is deemed 'large enough'
- Regardless…

  Larger Sample Size → Better Approximation

- For this course we will define 'large enough' as…
  - 10 of each outcome from the response group

Checking Assumptions

- Simple Random Sample – analyze how the sample was collected, does it seem representative?
- Large Enough Sample Size – do we have at least 10 of each outcome?

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