




DAILY ASSESSMENT

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Course:	Coursera	USN:	4AL17EC080
Topic:	Basic Statics	Semester & Section:	6 TH SEM & B Section
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SESSION DETAILS

Basic Statistics > Week 6 > 6.04 CI for proportion

Inference and confidence interval for mean

Confidence interval for proportion and confidence levels

✓

Reading: Confidence interval for proportion and confidence levels

10 min

✓

Video: 6.04 CI for proportion

5 min

✓


Video: 6.05 Confidence levels

6 min

Sample size and example

Review

6.04 CI for proportion



Save Note

Discuss

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English

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Confidence levels

✓ Reading: Confidence interval for proportion and confidence levels
10 min

✓ Video: 6.04 CI for proportion
5 min

✓ Video: 6.05 Confidence levels
6 min

Sample size and example

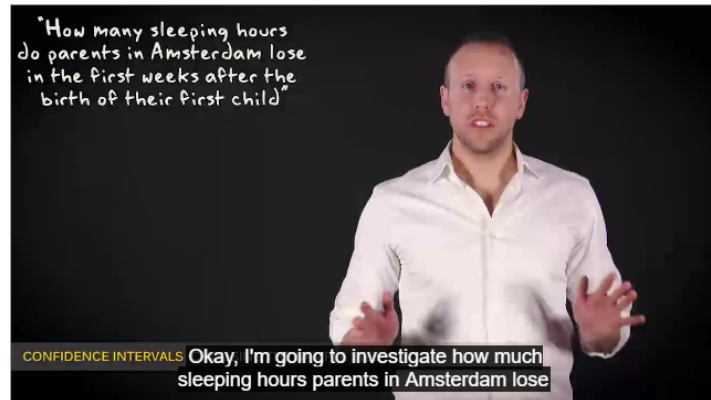
✓ Reading: Sample size and example
10 min

✓ Video: 6.06 Choosing the sample size
5 min

✓ Video: 6.07 Example
4 min

Review

6.06 Choosing the sample size



Save Note

Discuss

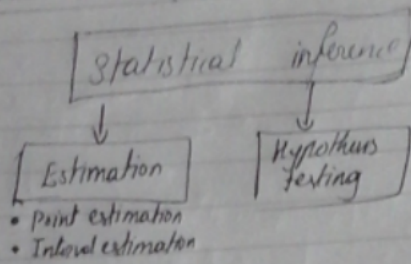
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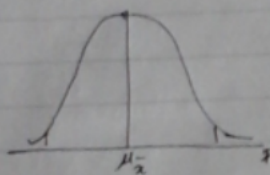
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Statistical Inference



Confidence Interval



$$\mu_{\bar{x}} = \mu$$
$$\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$$

Confidence Interval

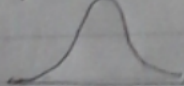
estimate a population mean

In 95% of the samples the population values will fall within the confidence interval

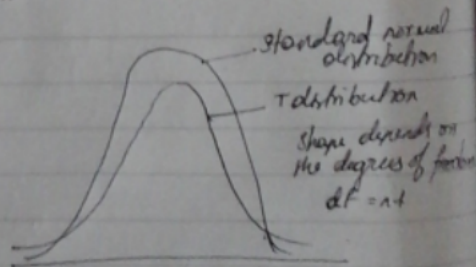
$$\bar{x} \pm 1.96 \sigma_{\bar{x}}$$

where $\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$

T distribution



↓
Bell shaped symmetric
a mean of zero
takes into account



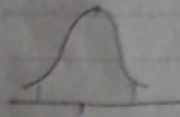
Assumption

1. Randomization
2. approximately normal population distribution

6) for proportion

confidence interval
for a proportion

sampling distribution of the sample proportion



$$\mu_p = p$$

$$\sigma_p = \sqrt{\frac{p(1-p)}{n}}$$

$$p \pm 1.96 \sigma_p \quad \sigma_p = \sqrt{\frac{p(1-p)}{n}}$$

$$p \pm Z_{\alpha/2} (se)$$

$$se = \sqrt{\frac{p(1-p)}{n}}$$

Choosing the Sample Size

Sample size
mean

1 magnitude of desired margin of error

2 confidence level

3 variability

$$n = \frac{\sigma^2 z^2}{m^2}$$

Sample size proportions

$$n = \frac{p(1-p) z^2}{m^2}$$