V30 - Hypothesis Testing – Part 6

- Sample proportion
- Use of Z distribution for inference on population proportion

Course: Statistical Testing & Regression
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Inference for One Proportion *p*

$$\hat{p} = \frac{Y}{n}$$

Y total successes

n is number trials

Y ~ _____

Use Normal distribution to approximate Binomial Distribution

when $np \geq 5$ and $n(1-p) \geq 5$

Inference for One Proportion p

Test Statistic:

$$z = \frac{\hat{p} - p}{\sqrt{p(1-p)/n}}$$

$H_0: p = p_0$
$H_1: p \neq p_0$

p_0 is _____ proportion

$$Z = \frac{\hat{p} - p_0}{\sqrt{p_0(1-p_0)/n}}$$

Inference for One Proportion p

Key Assumption:

$np_o \geq$ _____ and $n(1 - p_o) \geq$ _____

Inference for One Proportion p

Relationship to Confidence Interval

$H_0: p = p_0$

(,) _____

(,) _____

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