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Power Calculations in Practice - Quiz

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Question 1

1/1 point (graded)

Calculating the test statistic for determining power and sample size relies on the assumption that _____.


- ☐ a. The assumption that the standardized difference in means is uniformly-distributed
- ☐ b. The critical value is smaller than 1.96
- ☐ c. The significance level is 0.05
- ☒ d. The assumption that the standardized difference in means is normally-distributed ✓

Explanation


As described in the derivation of the formula for determining sample size given a desired level of power, we use the central limit theorem to assume that the difference in treatment and control means, scaled by the standard error of that difference is normally-distributed with $N(0,1)$. This is depicted in mathematical terms as follows:

- ▶ [Module 5: Moments of a Random Variable, Applications to Auctions, & Intro to Regression](#)
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Causality

[Finger Exercises due Nov 21, 2016 at 05:00 IST](#) 

Analyzing Randomized Experiments

[Finger Exercises due Nov 21, 2016 at 05:00 IST](#) 

$$\frac{\overline{Y}_t^{obs} - \overline{Y}_c^{obs}}{\sqrt{\frac{\sigma^2}{N_t} + \frac{\sigma^2}{N_c}}} \sim N(0, 1)$$

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Discussion


Topic: Module 8 / Power Calculations in Practice - Quiz

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**Use of Randomization and
Nonparametric Regression**

Finger Exercises due Nov 21, 2016
at 05:00 IST 

Module 8: Homework

Homework due Nov 14, 2016 at
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