Considerations in Clinical Experiments - Quiz

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Question 1

1.0 point possible (graded)

True or False: You are doing several comparisons of subgroups (e.g. 10 different subgroups) and you specify these subgroups in your pre-analysis plan. In this scenario, there is no added benefit of using statistical methods to adjust the standard error.

- a. True
- b. False ✔

Explanation

As Prof. Duflo mentions in the lecture, if you are doing multiple comparisons at the same time, it is likely that one of them is going to be significant by chance alone. Therefore, irrespective of whether you specify this information in your pre-analysis plan, it is also important to adjust the standard errors using the appropriate statistical methods, albeit none of the methods are perfect.

- Module 5: Moments of a Random Variable, Applications to Auctions, & Intro to Regression
- Module 6: Special Distributions, the Sample Mean, the Central Limit Theorem, and Estimation
- Module 7: Assessing and Deriving Estimators - Confidence Intervals, and Hypothesis Testing
- **Module 8: Causality, Analyzing Randomized Experiments, & Nonparametric Regression**

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

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

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✔ Correct (1/1 point)

Question 2

1/1 point (graded)

Which of the following is a benefit of a pre-analysis plan? (Select all that apply)

- [x] a. Protects you from partner organizations or others pressuring you to find significant results
- [ ] b. Allows for much more creativity and adaptability
- [x] c. Prevents selective reporting of results by subgroups
- [ ] d. Referees and editors of journals make sure that results follow the pre-analysis plan specified and only publish papers that do so

✔

Explanation

In this lecture, Prof. Duflo mentions how a pre-analysis plan prevents selectively reporting results by subgroups. This is important since if your sample is large enough, it may be possible to find some subsample for which the results are significant by chance and ex-post come up with a theory as to why

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 05:00 IST

- Module 9: Single and Multivariate Linear Models
- Exit Survey

you see these significant results. Another benefit of pre-analysis plans is that it prevents outside forces (such as partner organizations you are working with) from pressuring you to find some significant result.

Prof. Duflo also discusses how there is a tradeoff between these benefits, and the lack of flexibility of a pre-analysis plan. If you specify too much about your proposed analysis, then you may not have much room to adapt based on interesting insights gained during the experiment. Therefore, the lack of adaptability of pre-analysis plans is actually a drawback. Lastly, Prof. Duflo states that currently referees and editors often do not consult the pre-analysis plan for a paper, allowing researchers to report analysis that was not pre-specified without any note indicating this. But these practices may change over time as the use of pre-analysis plan gets more frequent.

Submit You have used 2 of 2 attempts

✔ Correct (1/1 point)

Discussion
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