Data Analysis and Statistical Inference
Dr. Çetinkaya-Rundel
Duke University

In-Video Quiz Questions for Unit 1: Part 3 – Introduction to inference

(00:50)

1. Is the study we just described an observational study or an experiment?

(a) observational study
(b) experiment

(01:10)

2. We saw a difference of roughly 30% between the proportion of male and female files that are promoted. Based on this information, which of the below might be true? Select **all** that apply.

(a) If we were to repeat the experiment we will definitely see that more female files get promoted. This was a fluke.
(b) Males are more likely to be promoted, and hence there is gender discrimination against women in promotion decisions.
(c) The difference in the proportions of promoted male and female files is due to chance, this is not evidence of gender discrimination.
(d) Women are less qualified than men, and this is why fewer females get promoted.

(06:13)

3. Given that we randomly shuffled the cards into the two piles to simulate randomly assigning male and female labels to the files, what would you expect to be the difference between the simulated proportions of promoted male and female files?

(a) 0
(b) 0.30

Data Analysis and Statistical Inference
Dr. Çetinkaya-Rundel
Duke University

Answers:

1. b

Explanation: There is random assignment, hence this is an experiment.

2. b, c

Explanation: Both of these options are possible – the difference might be indicative of discrimination against women in promotion decisions, or it might just be due to chance. We need further analysis to make a decision between these two competing claims.

3. a

Explanation: Since we randomly shuffled the cards we would expect equal proportions of "promoted" cards to end up in the male and female piles, hence resulting in 0 difference between the simulated proportions of promoted male and female files.