edX   **UTAustinX: UT.7.20x Foundations of Data Analysis - Part 2**

Week 4: Hypothesis Testing (Categorical Data) > Problem Set > Question 3

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Question 3

Approximately 13% of the world's population is left-handed, but is this proportion the same across men and women?

To answer this question, you decide to collect data from a random sample of adults from your neighborhood, with the following results:

ID	Gender	Dominant Hand
1	M	L
2	M	R
3	F	R
4	M	R
5	F	R
6	F	L
7	F	L
8	M	R
9	F	R
10	F	R
11	M	L
12	F	R
13	M	R
14	M	R
15	F	R

16	M	R
17	M	R
18	F	R
19	F	L
20	M	R
21	F	R

(1/1 point)
3a. Which of these is the appropriate null hypothesis for this test?

⦿ Gender and hand-dominance are independent.   ✔

◯ Gender and hand-dominance are NOT independent

You have used 1 of 1 submissions

(1/1 point)
3b. What would be the **estimated degrees of freedom** and the **critical value** for this analysis, assuming α = 0.05?

Degrees of Freedom

1

✔

 Answer: 1

1

You have used 1 of 1 submissions

(1 point possible)
Critical Value *(Round to 2 decimal places.)*

5.99

✘

 Answer: 3.84

5.99

You have used 1 of 1 submissions

(1/1 point)

3c. What are the **expected** counts for **Males**? *(Round to 2 decimal places.)*

Left-handed Males

2.38

✔

Answer: 2.38

2.38

You have used 1 of 1 submissions

(1/1 point)

Right-handed Males *(Round to 2 decimal places.)*

7.62

✔

Answer: 7.62

7.62

You have used 1 of 1 submissions

(1/1 point)

3d. What are the **expected** counts for **Females**? *(Round to 2 decimal places.)*

Left-handed Females

2.62

✔

Answer: 2.62

2.62

You have used 1 of 1 submissions

(1/1 point)

Right-handed Females *(Round to 2 decimal places.)*

8.38 ✔

Answer: 8.38

8.38

You have used 1 of 1 submissions

(1/1 point)

3e. Are all relevant conditions met to run this analysis?

○ Yes

◉ No ✔

You have used 1 of 1 submissions

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