Assignment 6 - Statistical Inference for Categorical Data

- Due Feb 17 at 11:59pm
- Points 16
- Questions 17
- Available Feb 9 at 12am - Feb 17 at 11:59pm
- Time Limit None

Instructions

For this assignment, you must accomplish the notebook:

6 - Statistical Inference on Categorical Data.zip (https://dlsu.instructure.com/courses/194379/files/24174372?wrap=1) ⬇ **(https://dlsu.instructure.com/courses/194379/files/24174372/download?download_frd=1)**

INSTRUCTIONS:

1. Read each cell and implement the TODOs sequentially. The markdown/text cell also contain instructions which you need to follow to get the whole notebook working
2. Do not change the variable names unless instructed
3. Answer all the markdown/text cells with 'Question #' on them. Write your answers in the Canvas Quiz
4. You are expected to search how to some functions work on the internet or via the documentations
5. The notebooks will undergo a 'Restart and Run All' command. So make sure that your code is working properly
6. You are expected to understand the dataset loading and processing separately from this class
7. You may not reproduce this notebook or share them to anyone

After accomplishing the notebook, please zip the files and upload in Canvas.

Attempt History

	Attempt	Time	Score
LATEST	**Attempt 1**	172 minutes	14.33 out of 16 *

*Some questions not yet graded

Score for this quiz: 14.33 out of 16 *
* Some questions not yet graded
Submitted Feb 16 at 9:08pm
This attempt took 172 minutes.

⠿

Question 1
1 / 1 pts
Question 1: How does the proportion compare with the
different or the same?

◯ Very Different

Correct!

◉ Almost the same

⠿

Question 2
1 / 1 pts
Question 2: Are you confident that all conditions for co
for the proportion of atheist in the United States in 201

Correct!

◉ Yes

◯ No

⠿

Question 3
1 / 1 pts
Question 3: Given a 95% confidence level, what is the margin of error? Express your answer
in a percentage from 0 to 100. Limit your answer to 4 decimal places.

Correct!

1.3482

1.3482 (with margin: 0)

⠿

Question 4
1 / 1 pts
Question 4: What is the minimum value of the 95% confidence interval? Express your
answer in percentage from 0 to 100. Limit to 4 decimal places.

Correct!

3.6418

😐   Send

3.6418 (with margin: 0)

Question 5
1 / 1 pts

Question 5: What is the maximum value of the 95% confidence interval? Express your answer in percentage from 0 to 100. Limit to 4 decimal places.

Correct!

| 6.3382 |

6.3382 (with margin: 0)

Question 6
1 / 1 pts

Question 6: When do we get a low margin of error?

Correct!

☑ when p is 0

Correct!

☑ when p is 100

☐ when p is 50

Question 7
1 / 1 pts

Question 7: When do we get a high margin of error?

☐ When p is 0

☐ When p is 100

Correct!

☑ When p is 50

Question 8
1 / 1 pts

Question 8: How many of the respondents exercised last month and reported excellent general health?

Correct!

| 3,895 |

3,895 (with margin: 0)

Question 9

1 / 1 pts

Question 9: Briefly state the null hypothesis.

General health is [independent] of whether a person exercised last month or not

Answer 1:

Correct! independent

Correct!

independent

Question 10

0 / 1 pts

Question 10: What is the value of the chi-squared statistic? Limit to 4 decimal places.

You Answered

[1,070.8128]

1,070.8127 (with margin: 0)

Question 11

1 / 1 pts

Question 11: What is the expected count for those who did not exercise in the last month but reported 'good' general health? Limit to 4 decimal places.

Correct!

[1,443.1525]

1,443.1525 (with margin: 0)

Question 12

0.67 / 1 pts

Question 12: At the significance level of 0.05, what can we conclude from the p-value?

Since the p-value is [less than] the significance level of 0.05, we can

[reject] the null hypothesis. Thus, general health is [dependent] of whether a person exercised last month or not.

Answer 1:

Correct! less than

Correct!

less than

Answer 2:

Correct! reject

Correct!

reject

Answer 3:

You Answered dependent

Correct Answer

independent

Question 13

1 / 1 pts

Question 13: How many smoked less than 100 cigarettes in their entire life but have a 'poor' general health level?

Correct!

| 229 |

229 (with margin: 0)

Question 14

1 / 1 pts

Question 14: Briefly state the null hypothesis

General health is | independent | of whether a person smoked at least 100 cigarettes in their entire life or not.

Answer 1:

Correct! independent

Correct!

independent

Question 15

1 / 1 pts

Question 15: What is the value of the chi-squared statistics? Limit to 4 decimal places.

Correct!

333.5253

333.5253 (with margin: 0)

⠿

Question 16

0.67 / 1 pts

Question 16: At a significance level 0.05, what can we conclude from the p-value? State your conclusion.

Since the p-value is | less than | the significance level of 0.05, we can | reject |

the null hypothesis. The general health is | dependent | of whether a person smoked at

least 100 cigarette in their entire life or not.

Answer 1:
Correct! less than
Correct!
less than

Answer 2:
Correct! reject
Correct!
reject

Answer 3:
You Answered dependent
Correct Answer
independent

⠿

Question 17

Not yet graded / 0 pts

Upload your accomplished notebooks here

⤓ **6 - Statistical Inference on Categorical Data-checkpoint.ipynb (https://dlsu.instructure.com/files/24704558/download)**

Quiz Score: 14.33 out of 16

* Some questions not yet graded