

Basic Statistics

Descriptive and Inferential Statistics

A newspaper is trying to understand whether the newspaper readers are related to reader’s educational level. A survey of readers educational level and their frequency of readership is done and following are the results:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Postgraduate | Graduate | High School | Below High School |
| Non-Reader | 20 | 40 | 26 | 86 |
| Reader | 58 | 57 | 29 | 144 |
| Total | 78 | 97 | 55 | 230 |
|  |  |  |  |  |

Question 1:

Which statistical test you will use and at 0.10 level Significance what is your conclusion?

A: Fisher exact test and there is no association between the education level and readership

B: Chi-square test and there is no association between the education level and readership

**C: Chi- square test and there is association between the education level and readership**

D: Fisher test and there is association between the education level and readership

E: Both C and D

Question 2:

The probability of committing Type-II error in the hypothesis testing is:

A: Equal to 1- significance level

B: Equal to 1- power of test

C: Equal to significance level

**D: Equal to power of the test**

Question 3:

If the mean of the population is found to be 120 with SD of 12. A sample size of 50 is taken up with mean of 45 what is the probability of having mean value up to 45 assuming that population is not normal:

**A: Normal. dist. (80,120,12/sqrt (50), TRUE)**

B: 1- Normal. dist. (80,120,12/sqrt (50), TRUE)

C: Normal. dist. (80,120,12, TRUE).

D: None of the above

Question 4:

Given below the average BMI of the person before and after the drug was given from 2011- 2014

|  |  |  |
| --- | --- | --- |
| Subject \_Identifier | Per Drug BMI | Post Drug BMI |
| A | 34.45 | 31.18 |
| B | 43.26 | 30.27 |
| C | 38.95 | 31.90 |
| D | 34.89 | 33.88 |
| E | 32.29 | 31.88 |

Which test you would perform to establish the hypothesis that “Drug was effective at lowering the BMI of the person at 0.10 significance level”?

A: Independent T- test for unequal variance

B: Paired T-test for equal Variance

C: Independent T-test for unequal variance

D: Paired T -test for unequal variance.

Question 5:

While Designing an experiential study Type 2 error was done, what is the statistical conclusion out of it?

A: Null Hypothesis was true, but it was rejected.

**B: Null Hypothesis was false but failed to be rejected**.

C: Both B and C

D: None of the above