Quiz 3

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Save the file MTFQuiz3.csv to your MAT 315 folder in OneDrive. The data and a description of the data is in the Exams,quizzes>Quiz3 folder. Import the data into R.

You will be working with the variables MoEd and SkipClass.

1. Use the factor command to label the values of these two variables in R. (Do not label the -9s!) Consult the document Description of the Data for Quiz 3. Once you have labeled the variables, run the table command (or summary command) for each of these variables and insert the results as your answer to question 1.

Text

Description automatically generated with low confidence

2. Create a two-way table of MoEd and SkipClass and enter the values in the table below (or insert your table below the blank table )

Text

Description automatically generated with medium confidence

3. Is there a significant relationship between the variables MoEd and SkipClass? Report the value of the chi-square test statistic, the degrees of freedom, the *p*-value, and your conclusion.

Ho: There is no Association between the Level of Schooling a Mothers receives and the number of times a mother skips school.

Ha: There is an Association between the Level of Schooling a Mothers receives and the number of times a mother skips school.

Text

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The value of the chi-square test statistic is 60.283. The Degrees of Freedom is 6, The P-value is 3.943e-11.

Since the P-Value is significantly smaller than .05, I have to reject the Null hypothesis.

There is an Association between the Level of Schooling a Mothers receives and the number of times a mother skips school.

4. Make a barchart of the conditional distributions of SkipClass for each level of MoEd. Insert your barchart. (Would this barchart be based on row or column percents?)

![Chart, waterfall chart

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5. Write a short description of what you can learn from your graphic display. Include appropriate percentages in your description.

What I can learn from my bar plot is that from this data, mothers in general did not skip a ton of class for whatever level of education they completed. For any level of education, the lowest % of not skipping classes was 64%.

I can see that as the Level of education increased, the # of classes skipped lessened. Mothers that didn’t complete a HS Diploma went to 64% of their classes, the mothers that Graduated HS Diploma went to 72% of their classes & the mothers that graduated went to 73% of their classes.

We can see that in all 3 levels of education, the number of classes skipped lessens. For instance, 22% of the mothers that didn’t graduate from HS skipped 1-2x’s, 9% skipped 3-5x’s and 5% skipped 6 or more times. The same trend is seen for the next two levels of education.