

Project Part 2

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SOCI 3318: Applied Data Analysis

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Descriptive Statistics:

Of the 150 respondents, 60% were female (90) and 40% were male (60).

The average age of the sample was 46.97 years old. The average age of female respondents was 47.11 years old while the average age of male respondents was 46.76 years old. On average, the respondents of this sample slept for 7.51 hours per night. Males on average slept for 7.81 hours while females on average slept for 7.31 hours per night. The average depression score for the sample was 13.67. For males, the average depression score was 12.65 while the average depression score for females was 14.35.

		Depression Severity		
<i>Variables</i>	<i>All Respondents</i>	<i>Minimal/Mild</i>	<i>Moderate</i>	<i>Moderate/Severe</i>
Drinks	3.12 drinks	.98 drinks	2.39 drinks	4.85 drinks
Dreams	3.16 dreams	.82 dreams	2.57 dreams	4.96 dreams
Nightmares	3.22 nightmares	1.43 nightmares	2.5 nightmares	4.71 nightmares

From the table, depression severity appears to increase with higher averages of drinks, dreams, and nightmares. Specifically, individuals with minimal/mild depression reported lower averages of drinks, dreams, and nightmares. Those with moderate and moderate/severe depression reported higher averages of drinks, dreams and nightmares. This pattern suggests a *positive* relationship between depression severity and the frequency of these variables.

Research Question: Is there a correlation between *depression scores* and number of days a person remembers their *dreams* per week?

Methodology: Because depression scores (*depression*) and the number of days a person remembers their dreams (*dreams*) are both continuous, I will use correlation analysis. The independent variable is “depression” and the dependent variable is “dreams.”

Independent Variable: DEPRESSION

Dependent Variable: DREAMS

Null hypothesis: There is no correlation between dreams remembered per week and depression scores.

Research hypothesis: There is a correlation between dreams remembered per week and depression scores.

Results:

Pearson's 'r' = 0.860

p-value = 0.001 <(0.05)

The scatter plot and regression line indicate the presence of a positive relationship between DEPRESSION and DREAMS. (This is based on the direction of the line of best fit).

Conclusion:

We reject the null hypothesis and accept the research hypothesis, based on p-value (<0.05). This indicates the presence of a *significant positive* relationship between the variables. As a person's depression score increases, so does the number of days a person remembers their dreams. The strength of this relationship is *strong to perfect positive* correlation.

Research Question: Is there a significant association between sex and depression severity?

Methodology:

For this analysis, I used the SEX and DSEVERITY variables. No recoding was necessary because both variables are nominal and ordinal. I adopted chi-square as my analytical technique and performed the test at $\alpha=0.05$.

Results:

DV: Depression Severity

IV: Sex

Null Hypothesis: The **severity of a respondent's depression** does not vary by their **sex**.

Research Hypothesis: The **severity of a respondent's depression** varies on their **sex**.

$\chi^2 = 2.445$

df = 2

p = 0.294

$p = 0.294 > 0.05$

Reject research hypothesis and accept the null hypothesis.

Conclusions: The p-value (0.294) is greater than the significance level (0.05). This means there is **no statistically significant association** between sex and depression severity. In other words, the variation in depression severity does not appear to be significantly associated with sex based on the chi square analysis.