

# **Assignment 2: Depression Factors Analysis**

Yash S

ALY6070

Prof. John Wilder

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## Introduction

**Purpose:** This report details the rationale behind the creation of a Tableau dashboard designed to explore the relationship between various factors (academic pressure, work satisfaction, financial stress, and sleep duration) and depression levels. The dashboard aims to effectively communicate complex data insights through clear and engaging visualizations, adhering to principles of good data storytelling and design.

**Research/Business Question:** How do academic pressure, work satisfaction, financial stress, and sleep duration correlate with depression levels?

**Target Audience:** Students, employees, and general individuals interested in understanding factors influencing mental health.

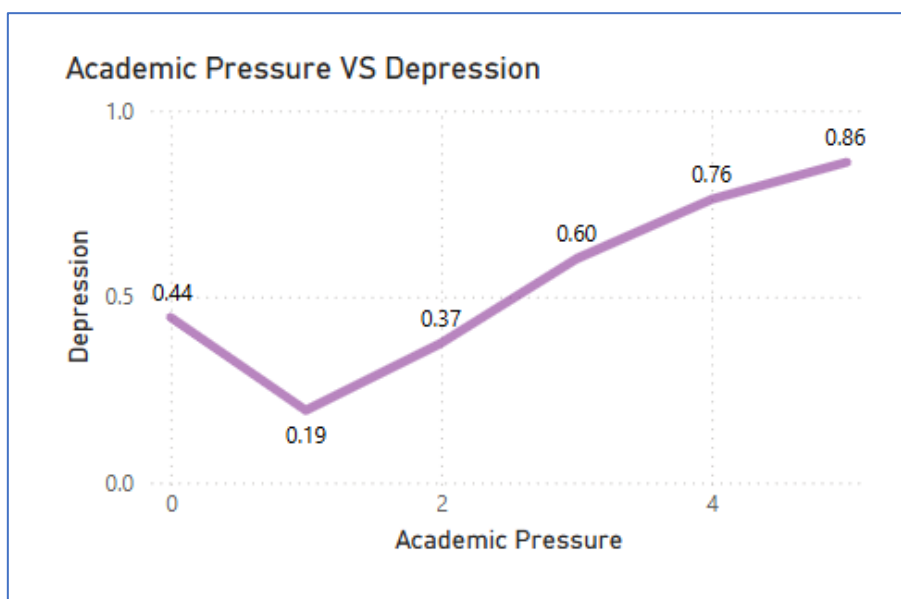
**Data Preparation:** The dataset was assumed to be pre-cleaned and formatted, with variables representing the factors mentioned above and corresponding depression levels. For the purpose of this analysis, we assume the data was appropriately structured for analysis in Tableau.

## Analysis

### Dashboard Overview:

The dashboard comprises four key visualizations, each addressing a specific factor's relationship with depression:

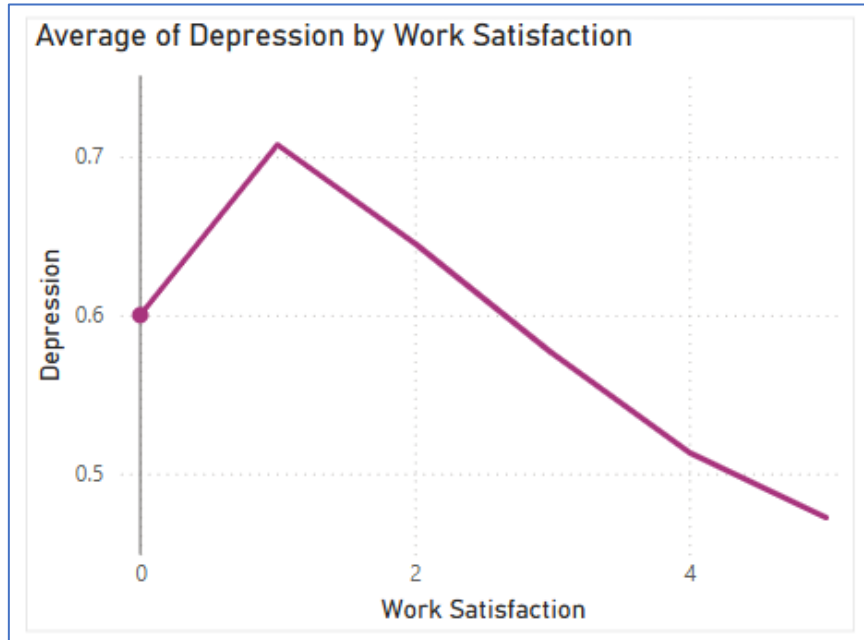
1. **Academic Pressure vs. Depression (Line Chart):** This chart depicts the trend of depression levels across varying levels of academic pressure. It showcases a non-linear relationship, indicating that depression may not increase linearly with academic pressure.



A line chart of depression across different levels of academic pressure

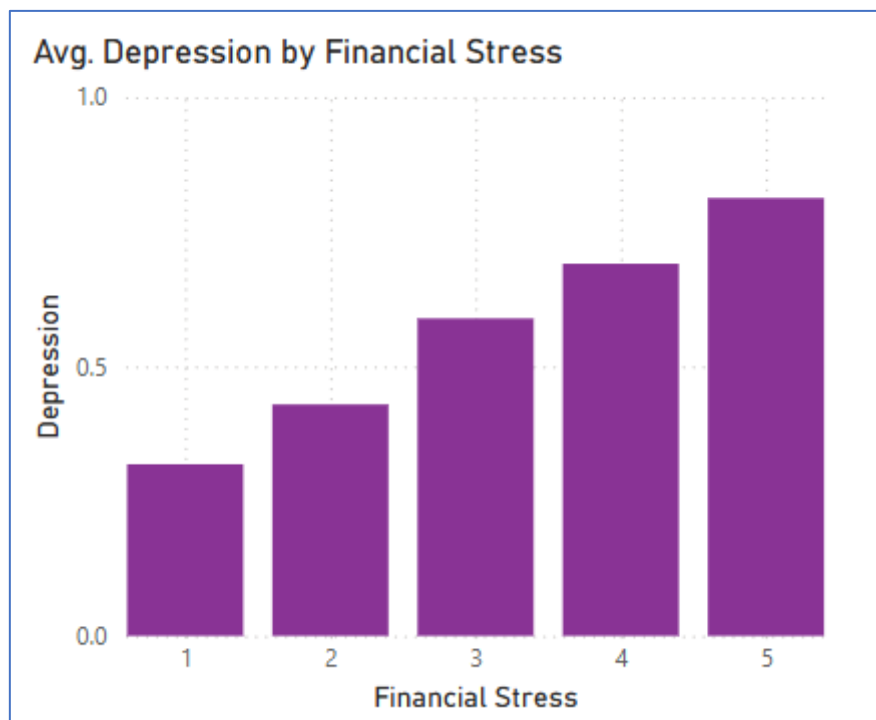
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2. **Average of Depression by Work Satisfaction (Line Chart):** This visualization demonstrates the relationship between work satisfaction and average depression levels. It illustrates how depression levels change as work satisfaction varies, likely showing an inverse correlation.



A line chart of relationship between average depression and work satisfaction

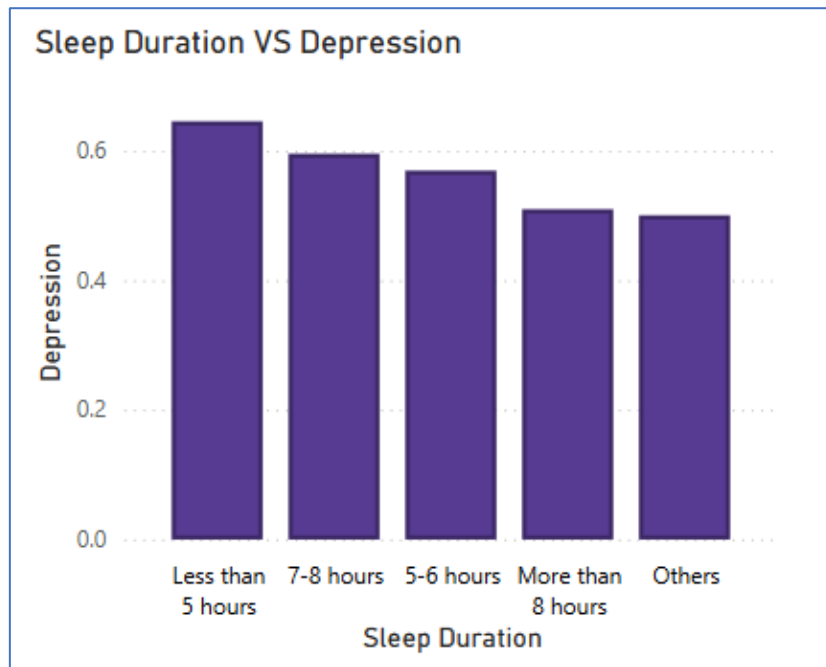
3. **Avg. Depression by Financial Stress (Bar Chart):** This bar chart compares average depression levels across different levels of financial stress. It effectively highlights the direct correlation between increasing financial stress and higher depression levels.



A bar chart comparing depression levels across different levels of financial stress

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4. **Sleep Duration vs. Depression (Bar Chart):** This chart compares depression levels across different sleep duration categories, showcasing the impact of sleep quality and quantity on mental well-being.



A bar chart comparing Sleep duration vs Depression

### Justification for Visualization Choices:

- **Line Charts (Academic Pressure & Work Satisfaction):** Line charts were chosen to illustrate trends and changes in depression levels across continuous variables like academic pressure and work satisfaction. They effectively convey the flow and progression of depression as these factors change.
- **Bar Charts (Financial Stress & Sleep Duration):** Bar charts were selected to compare discrete categories like financial stress levels and sleep duration categories. They provide a clear and concise way to represent the magnitude of depression in each category, facilitating easy comparison.

### Insights drawn by the Visualizations:

The dashboard tells a compelling story about the multifaceted nature of depression. It reveals that:

- Academic pressure can contribute to depression, but the relationship is complex.
- Lower work satisfaction is associated with higher depression levels.
- Financial stress has a strong positive correlation with depression.
- Both insufficient and excessive sleep can negatively impact mental health.

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The visualizations collectively highlight the importance of addressing these factors to mitigate depression and promote mental well-being.

The visualizations directly address the research question by providing clear and insightful representations of the relationships between the selected factors and depression levels. They enable the audience to quickly grasp the key findings and draw meaningful conclusions.

## Conclusion

### **Conclusion:**

This Tableau dashboard effectively communicates complex data insights regarding the factors influencing depression. By adhering to principles of good data storytelling and design, it provides a clear and engaging platform for exploring these important issues. The dashboard offers valuable insights for individuals, organizations, and researchers seeking to understand and address the multifaceted nature of depression.