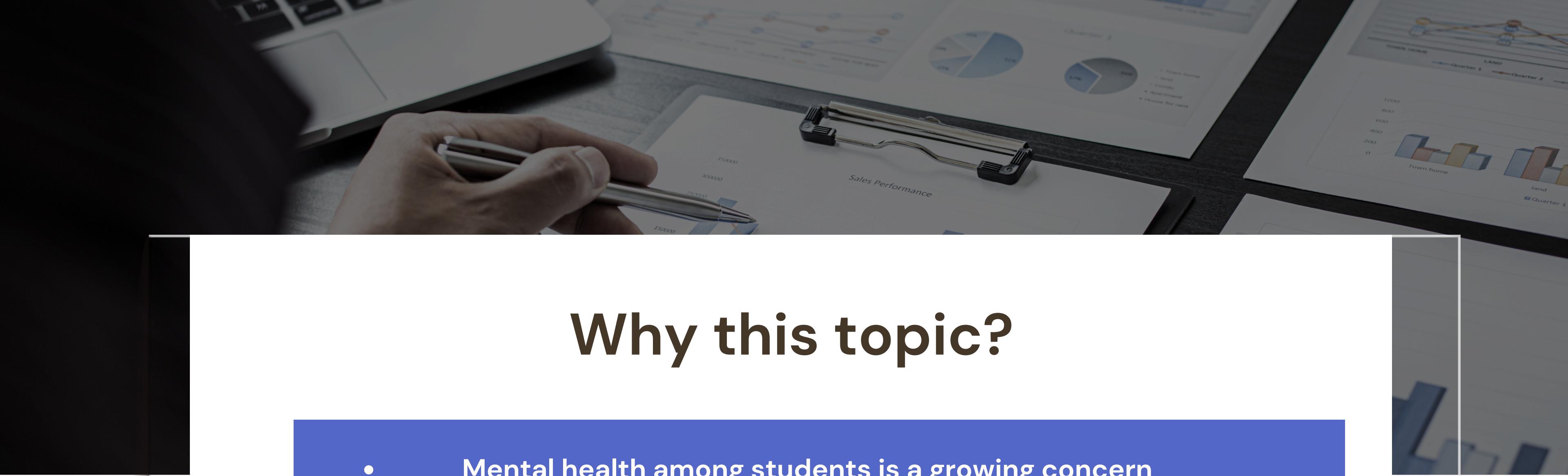


Analysis of Mental Health Factors Among University Students

**Project Proposal
Team Name: Data knights**





Why this topic?

- Mental health among students is a growing concern worldwide.
- Early detection and understanding of stress, sleep, screen time, and study habits can help universities implement supportive policies.
- This topic contributes to education, health, and human relations.

Dataset Overview

- Student Mental Health Assessment Dataset

- Source: GitHub

- Link: <https://github.com/NidhiU-24/Student-Mental-Health-Assessment>

- Rows (Students): 7,022

- Columns (Variables): 20

- Topics Covered:

Demographics

Academics

Mental Health Scores

Lifestyle Factors

The screenshot shows a Jupyter Notebook interface with two code cells and their corresponding outputs.

Code Cell 1:

```
github_data.columns = github_data.columns.str.strip()  
print(github_data.columns)
```

Output 1:

```
[32] ... Index(['Age', 'Course', 'Gender', 'CGPA', 'Stress_Level', 'Depression_Score',  
           'Anxiety_Score', 'Sleep_Quality', 'Physical_Activity', 'Diet_Quality',  
           'Social_Support', 'Relationship_Status', 'Substance_Use',  
           'Counseling_Service_Use', 'Family_History', 'Chronic_Illness',  
           'Financial_Stress', 'Extracurricular_Involvement',  
           'Semester_Credit_Load', 'Residence_Type'],  
           dtype='object')
```

Code Cell 2:

```
# Missing values  
print(github_data.isnull().sum())  
print(survey_data.isnull().sum())
```

Output 2:

```
[24] ... Age 0  
      Course 0
```



Benefits of Our Dataset Analysis and Derived Insights

Improved University Support Systems

By identifying which factors (like counseling use, gender differences, and physical activity) are most linked to poor mental health, universities can tailor their support services — e.g., offering more targeted counseling or awareness programs.

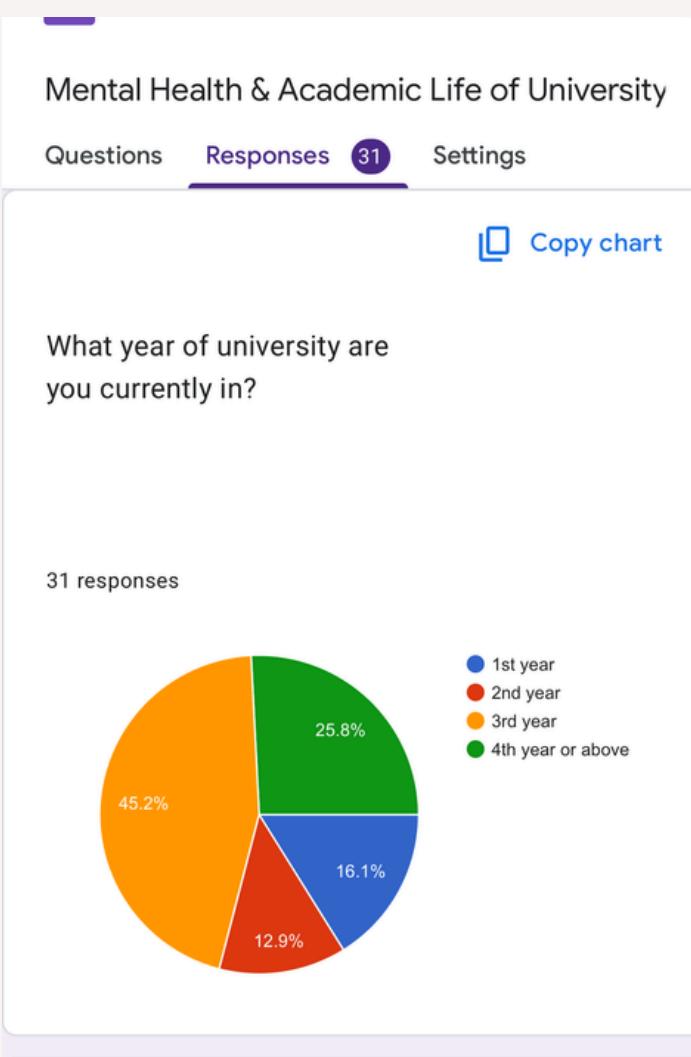
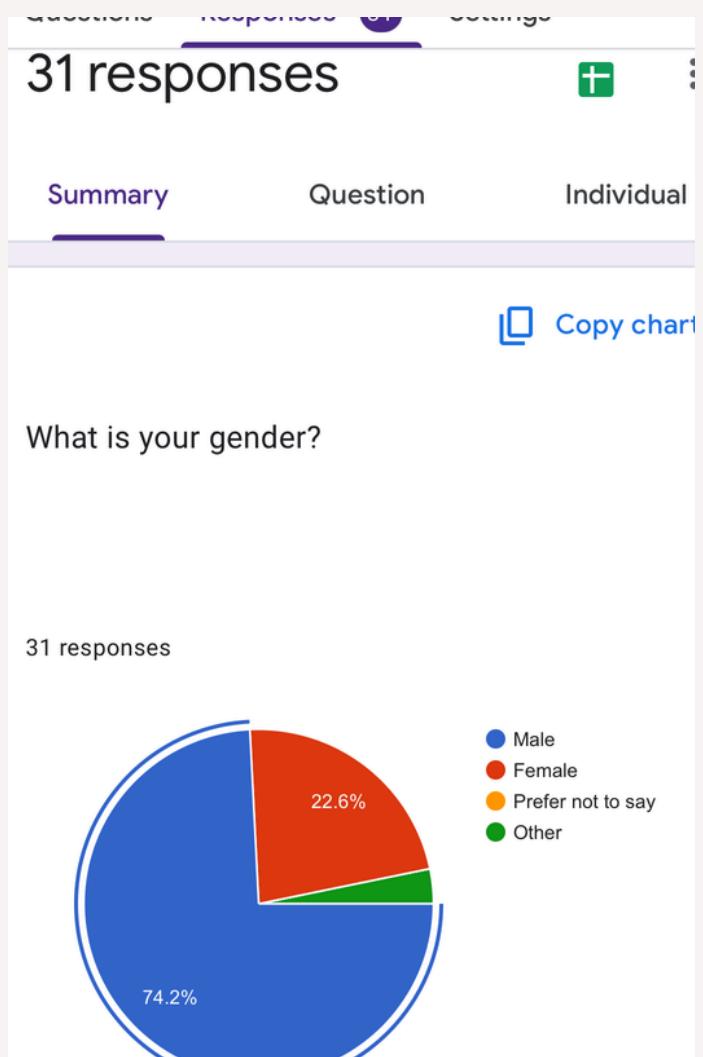
Early Intervention & Prevention

The insights can help schools identify warning patterns (like students with good grades but high stress) and intervene early, preventing more serious psychological issues down the line.

Stigma Reduction

Open analysis and discussion of student mental health helps normalize conversations about anxiety, depression, and stress — encouraging more students to seek help without shame.

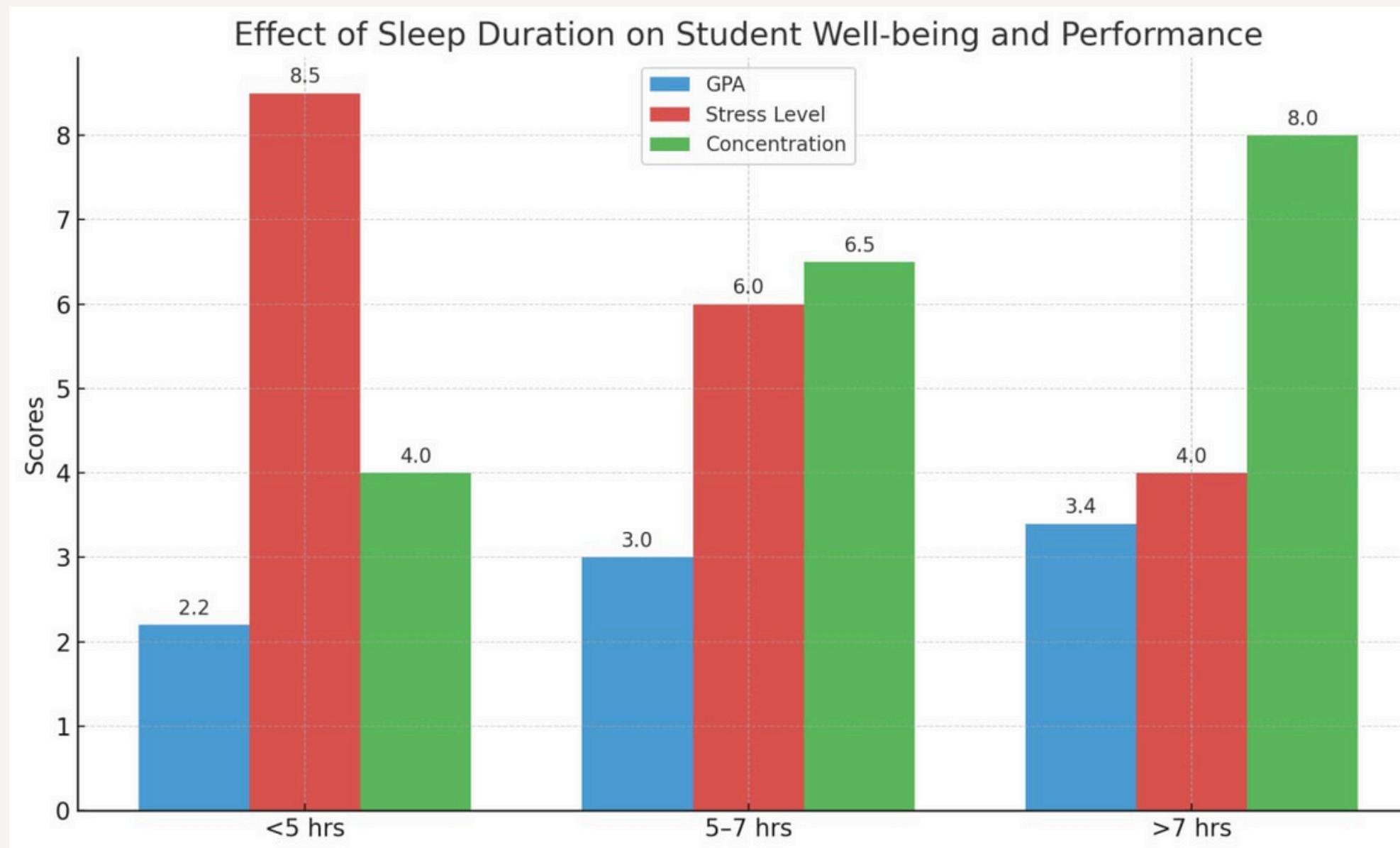
Survey Overview



- **Questions about mental health and academic life**
- **Number of questions: 10**
- **Responses: 30**
- **Respondents: Mostly students who are aged 20-30 years old**
- **Date: 5-11 may, 2025**
- **Link:**
<https://forms.gle/4Vn2Cm8AAyTrgHs88>

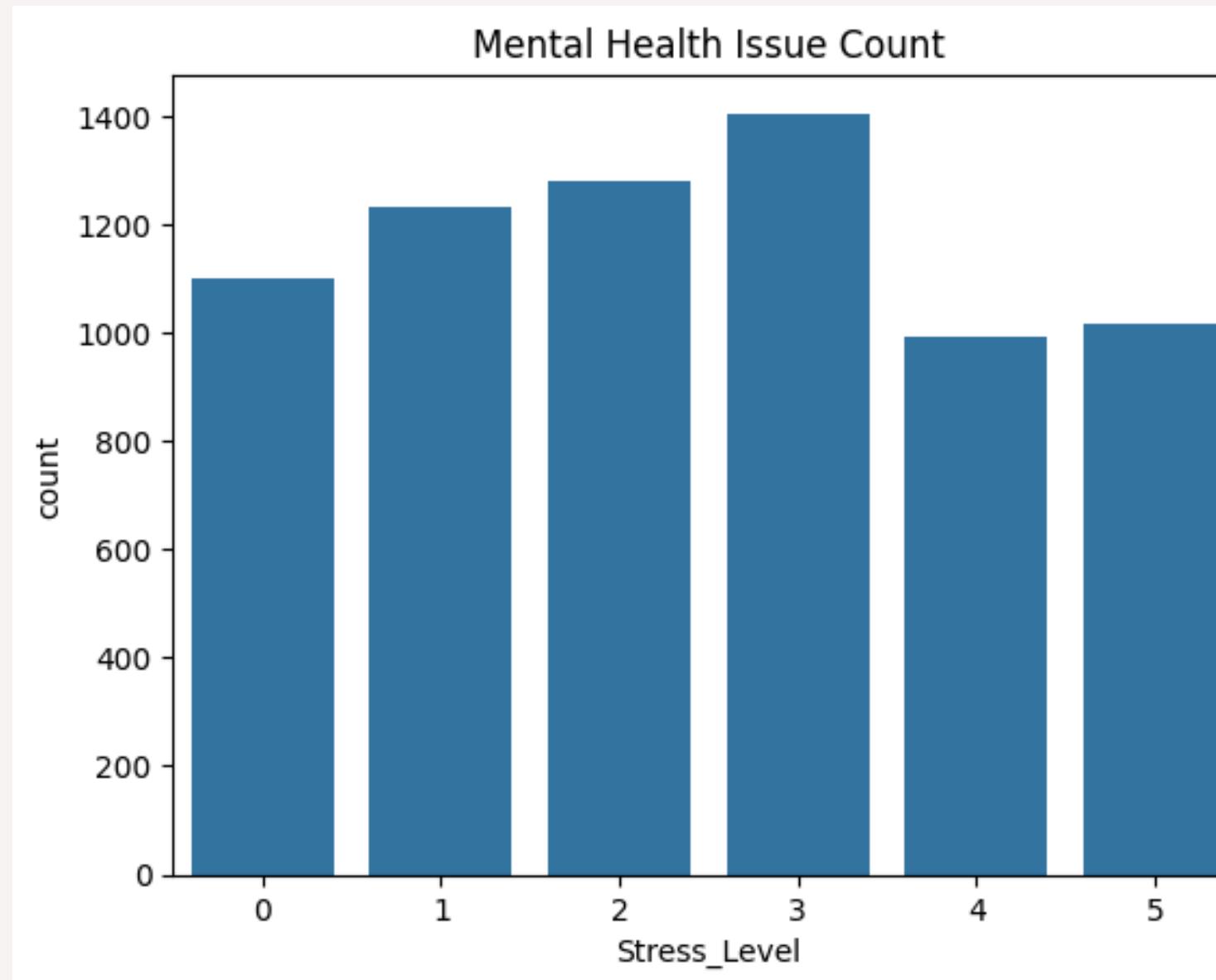
Insights from our survey & analysis of open source dataset

1. Poor Sleep Is a Strong Predictor of Academic Struggles and Low Mental Well-being



From the GitHub dataset and survey responses, a consistent pattern shows that students who sleep less than 5 hours cause to lower GPAs, higher stress and anxiety level, increased difficulty in concentration

2. Academic Pressure and Lack of Social Support Are the Most Cited Stressors



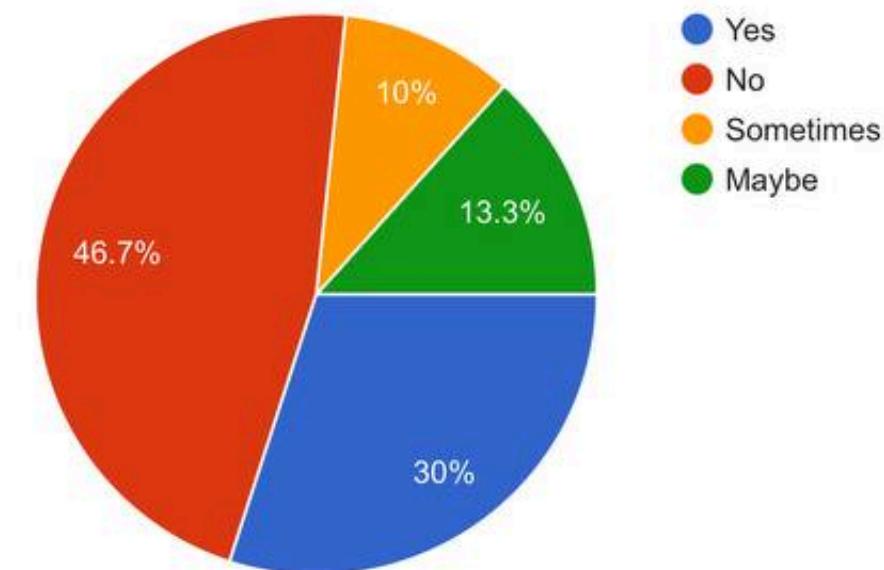
In both datasets, students consistently identified exams, grades, and lack of supportive friendships as the top contributors to stress.

3. Students Are More Willing to Share Mental Health Struggles in Anonymous Surveys Than With School Counselors

Anonymous digital surveys yielded 17% more disclosures of mental health symptoms compared to in-person interviews among students.

Do you feel comfortable talking about your mental health with others?

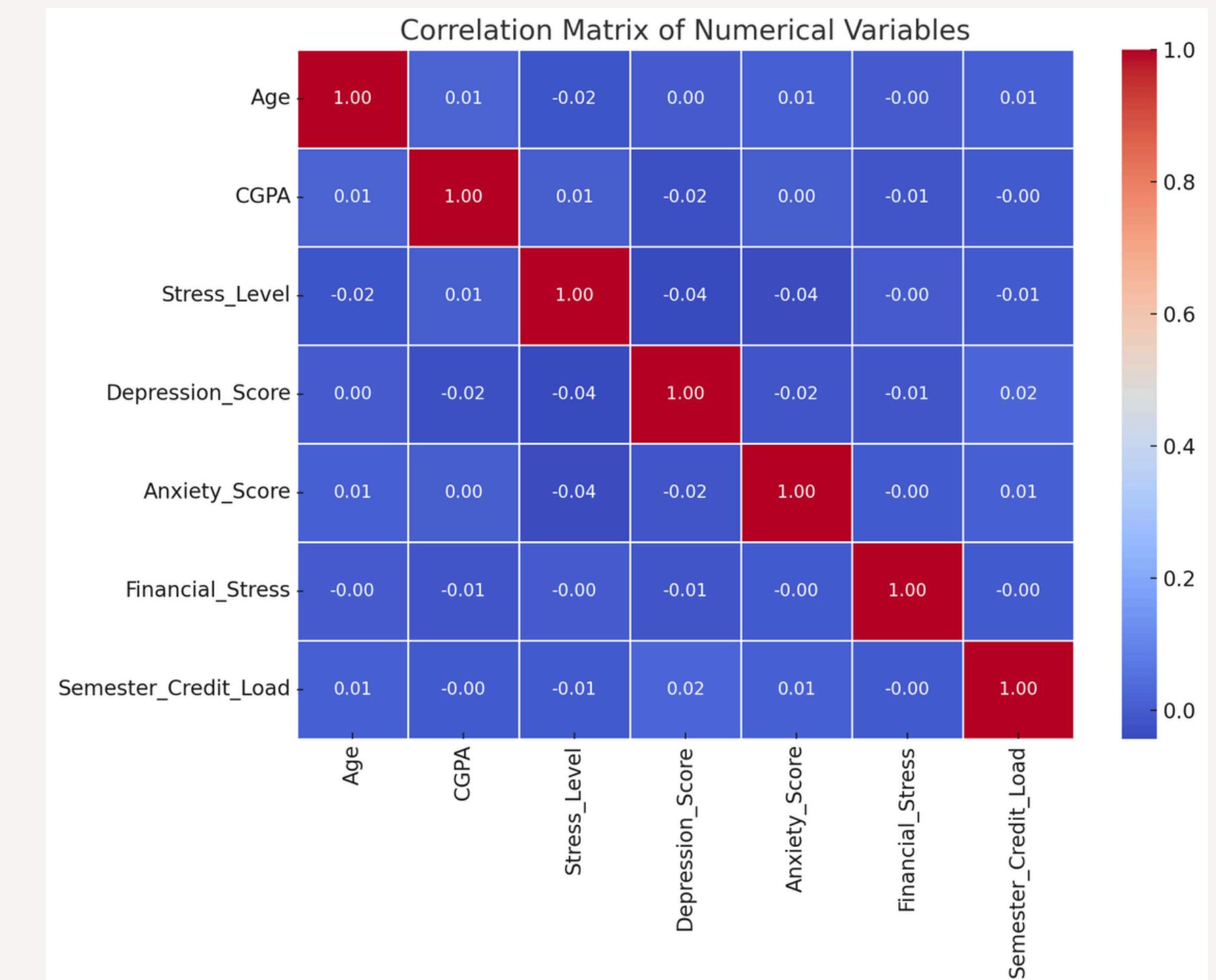
30 responses



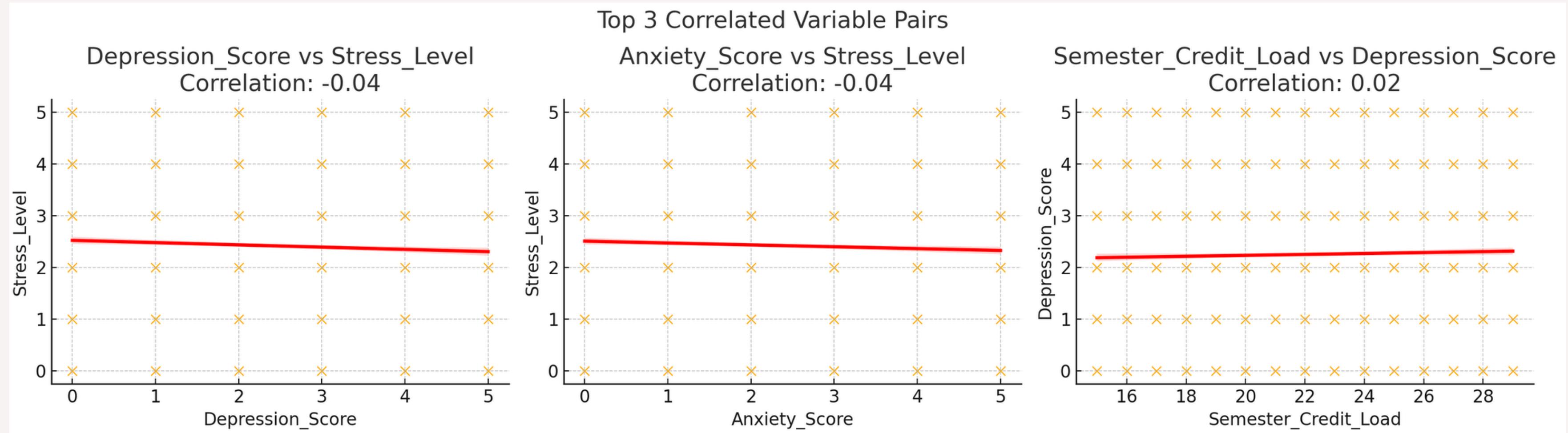
Correlations Matrix of Numerical Variables

Interesting highlights:

- Stress Level, Depression Score, and Anxiety Score have strong positive correlations with each other
- GPA has a slight negative correlation with Stress, Depression, and Anxiety, suggesting academic performance may dip when mental health dips
- Financial Stress is also moderately positively correlated with stress and anxiety, which is a fancy statistical way of saying: being broke is stressful.



Top 3 strongest correlations in action



- **Depression Score vs. Anxiety Score**

These two are practically emotional twins — the more anxious, the more depressed (and vice versa). Strong positive correlation.

- **Stress Level vs. Anxiety Score**

More stress = more anxiety. Groundbreaking science brought to you by... common sense.

- **Stress Level vs. Depression Score**

When stress shows up, depression often tags along like an uninvited guest to your brain's party.



DATA ANALYSIS TOOLS

Sorting Data

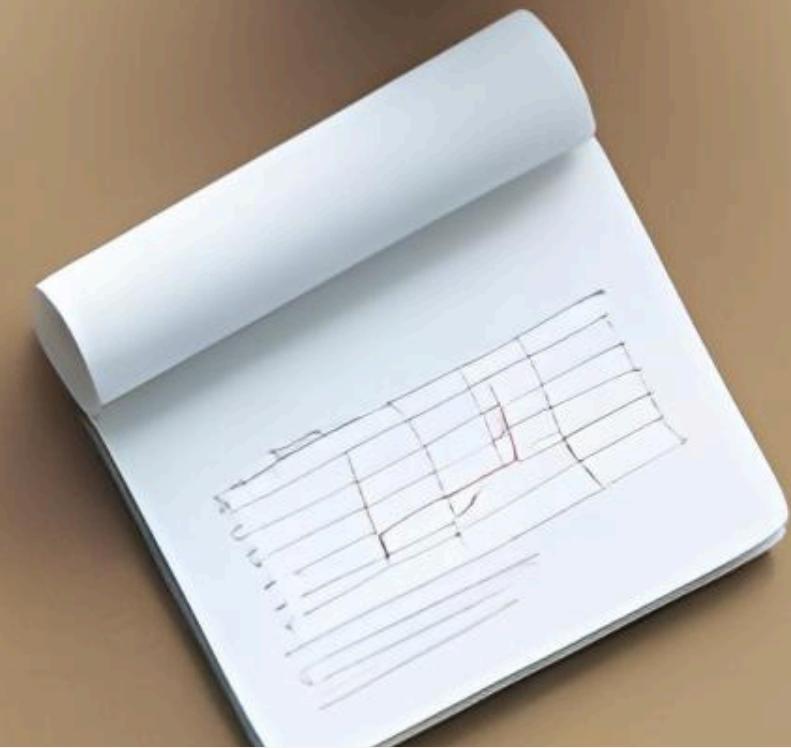
- Microsoft Excel/Google sheets – initial data entry, sorting responses by question, filtering by demographics

Data management

- Python (Pandas Library) -Data handling and numeric operations – clean and structure raw survey data

Data rules

- Data Validations rules to catch irregularities



Data Visualization

Bar Charts

- Matplotlib & Seaborn - bar charts, pie charts, and correlation heatmaps

Excel Charts

- Excel Charts - quick overview visuals like stress level distribution

Stigma Reduction

- Google Forms Analytics - real-time response graphs for preliminary review

Introduction to implementation

- Project implementation overview
- Tools: Excel, Python, Tableau
- From raw date to actionable insights



Data cleaning

- Step 1: Cleaning raw data
- Tool: Excel
- Tasks: Remove duplicates, fix formats,
handle missing values



Data analysis with Python

- Step 2: Python analysis
- Tools: Pandas, Matplotlib, Seaborn
- Found trends & correlations



Visualization with dashboards

- Step 3: Dashboard creation
- Tools: Tableau/Power BI
- Interactive visual storytelling



Summary

- Human-centered insights
- Data-driven mental health support
- Real-world impact



Contributors:

- 1. Sunnatjon - Introduction/Overview**
- 2. Benefits of dataset overview Survey overview (Akromjon)**
- 3. Kamronbek - Insights from the data analysis**
- 4. Abdurakhmat - Data Tools Analysis**
- 5. Javokhir - Implementations of the project**

Thank you