International Students' Mental Health Analysis

# Project Overview

This project analyzes various factors that influence the mental health, social connectedness, and acculturative stress of international students. The dataset includes information on student demographics, length of stay, and mental health diagnostics such as PHQ-9 (depression), SCS (social connectedness), and ASISS (acculturative stress). The goal is to identify patterns and correlations that reveal how different factors affect the mental well-being of international students.

# Dataset Features

- Social Connectedness (tosc): A score reflecting how socially connected a student feels.  
- Depression Score (todep): A score from the PHQ-9 test indicating levels of depression.  
- Acculturative Stress (toas): A score measuring stress related to adapting to a new culture.  
- Language Proficiency: Categories for Japanese and English proficiency (Low, Average, High).  
- Demographics: Includes academic level, gender, age, and length of stay.

# Key Queries and Findings

## 1. Social Connectedness vs. Depression

Higher social connectedness correlates with lower depression scores, suggesting that students who feel more connected socially are less likely to experience depression.

### Query:

SELECT tosc AS social\_connections, AVG(todep) AS average\_phq  
FROM students  
WHERE inter\_dom = 'Inter'  
GROUP BY tosc;

### Insight:

Social integration plays a crucial role in reducing depression.

## 2. Academic Level vs. Mental Health

Undergraduate students showed higher depression scores than graduate students, with lower social connectedness and higher acculturative stress.

### Query:

SELECT academic, AVG(todep) AS average\_phq, AVG(tosc) AS average\_scs, AVG(toas) AS average\_as  
FROM students  
WHERE inter\_dom = 'Inter'  
GROUP BY academic;

### Insight:

Graduate students may have more coping mechanisms and support, reducing stress and improving social connections.

## 3. Age and Mental Health

Younger students (aged 15-25) showed higher depression and acculturative stress compared to older students.

### Query:

SELECT CASE   
 WHEN age >= 15 AND age < 20 THEN '15-20'  
 WHEN age >= 20 AND age < 25 THEN '20-25'  
 WHEN age >= 25 AND age < 30 THEN '25-30'  
 WHEN age >= 30 AND age < 35 THEN '30-35'  
 ELSE 'Others'  
END AS age\_range, COUNT(\*) AS count\_students, AVG(todep) AS average\_phq,   
AVG(tosc) AS average\_scs, AVG(toas) AS average\_as  
FROM students  
WHERE inter\_dom = 'Inter'  
GROUP BY age\_range;

### Insight:

Younger students face more challenges in adapting to new environments, affecting their mental health.

## 4. Language Proficiency Impact

Students with higher proficiency in Japanese tend to stay longer and have lower depression scores.

### Query:

SELECT japanese\_cate, AVG(stay) AS avg\_length\_of\_stay, AVG(todep) AS avg\_depression\_score  
FROM students  
WHERE inter\_dom = 'Inter'  
GROUP BY japanese\_cate;

### Insight:

Mastering the local language helps international students feel more comfortable and less stressed.

## 5. Gender Differences in Mental Health

Female students showed higher depression and acculturative stress than male students, while males had slightly higher social connectedness scores.

### Query:

SELECT gender, AVG(todep) AS average\_phq, AVG(tosc) AS average\_scs, AVG(toas) AS average\_as  
FROM students  
WHERE inter\_dom = 'Inter'  
GROUP BY gender;

### Insight:

Gender impacts how students cope with stress and form social connections.

## 6. Acculturative Stress and Depression

High acculturative stress is strongly correlated with increased depression levels.

### Query:

SELECT toas AS acculturative\_stress, AVG(todep) AS average\_phq  
FROM students  
WHERE inter\_dom = 'Inter'  
GROUP BY toas;

### Insight:

Students facing higher levels of stress due to cultural adaptation experience worse mental health outcomes.

## 7. Length of Stay and Social Connectedness

Social connectedness increases with length of stay, suggesting that students become more integrated over time.

### Query:

SELECT stay, AVG(tosc) AS average\_scs  
FROM students  
WHERE inter\_dom = 'Inter'  
GROUP BY stay;

### Insight:

Longer stays allow students more opportunities to form meaningful social bonds.

# Conclusions

- Social integration, language proficiency, and cultural adaptation are critical factors that affect the mental health and well-being of international students.  
- Targeted interventions, such as language programs and social support networks, could significantly improve their mental health outcomes.

# Next Steps

- Develop support programs for students with low social connectedness.  
- Focus on younger and female students, who are more vulnerable to depression and acculturative stress.  
- Enhance language learning programs to improve proficiency and help students adapt to the local environment.