

A photograph showing several students from behind as they walk up a set of concrete steps. On the left, a girl with long dark hair in a white hoodie and grey skirt walks towards the camera. In the center, a girl with blonde hair in a grey hoodie and black pants walks away. To her right, a boy in a white t-shirt and red shorts walks away. Further right, two boys in white shirts and dark pants walk away; the boy on the left wears a blue backpack with a colorful pattern, and the boy on the right wears a blue backpack with a space-themed pattern and glasses. The background features a large, light-colored building with many windows and a yellow door. A green hedge is visible to the left of the building.

# EXAMINING STUDENTS' MENTAL HEALTH

# *Overview*

**Does studying at a university in another country impact your mental health?**

In 2018, a Japanese international university conducted a survey of its students and published a study the following year, which received approval from several ethical and regulatory boards.

The findings revealed that international students are at a greater risk of experiencing mental health issues compared to the general population. Additionally, the study indicated that social connectedness (belonging to a social group) and acculturative stress (stress related to adapting to a new culture) are significant predictors of depression.

# *Problem Statement*

The goal is to analyze the relationship between the length of stay (in years) for international students and their mental health, as measured by three psychological scales:

- PHQ-9 (depression)
- SCS (social connectedness)
- ASIIS (acculturative stress)

# Goals

- **Identify International Students:** Filter the dataset to include only international students.
- **Group by Length of Stay:** Group the data by the number of years the students have stayed.
- **Calculate Average Scores:** Calculate the average scores for PHQ-9, SCS, and ASISS for each group.
- **Count Students:** Count the number of students in each group.
- **Sort Results:** Sort the results by the length of stay in descending order.

# *Dataset*

The dataset is a CSV file named "**students.csv**" containing information about students, including their:

- **inter\_dom**: Whether the student is international or domestic.
- **japanese\_cate**: Japanese language proficiency.
- **english\_cate**: English language proficiency.
- **academic**: Academic level (undergraduate or graduate).
- **age**: Current age.
- **stay**: Length of stay in years.
- **todep**: Total score on the PHQ-9 depression scale.
- **tosc**: Total score on the SCS social connectedness scale.
- **toas**: Total score on the ASISS acculturative stress scale.

# *Outputs*

Analyze the **students** data to examine how the length of stay (**stay**) affects the average mental health diagnostic scores of international students included in the study.

- Return a table with **nine** rows and **five** columns, with the following column aliases: **stay**, **count\_int** for the number of international students for each length of stay, **average\_phq**, **average\_scs**, and **average\_as**.
- The average columns should contain the average of the **todep** (PHQ-9 test), **tosc** (SCS test), and **toas** (ASIIS test) columns for each length of stay, rounded to two decimal places.
- Sort the results by the length of stay in descending order.

# *Data Findings*

The query will output a table with the following columns:

- **stay**: Length of stay in years.
- **count\_int**: Number of international students in that group.
- **average\_phq**: Average PHQ-9 score for that group.
- **average\_scs**: Average SCS score for that group.
- **average\_as**: Average ASIIS score for that group.

The table will be sorted by the stay column in descending order.

# Analyzing the Impact of Stay Duration on Mental Health

## Key Insights:

- Decreasing PHQ-9 Scores with Longer Stay:** As the length of stay increases, the average PHQ-9 score (depression) decreases. This suggests that international students may experience higher levels of depression initially, but their mental health improves over time as they adapt to the new environment.
- Stable SCS Scores:** The average SCS scores (social connectedness) remain relatively stable across different lengths of stay. This might indicate that international students are able to form social connections relatively quickly, regardless of the duration of their stay.
- Increasing ASISS Scores with Shorter Stays:** The average ASISS scores (acculturative stress) tend to be higher for shorter stays. This suggests that acculturative stress may be more pronounced for students who are in the initial stages of their stay, as they are still adapting to the new culture and environment.

stay	count_int	average_phq	average_scs	average_as
0	10	13.00	32.00	50.00
1	8	10.00	44.00	65.00
2	7	4.00	48.00	45.00
3	6	6.00	38.00	58.67
4	5	0.00	34.00	91.00
5	4	8.57	33.93	87.71
6	3	9.09	37.13	78.00
7	2	8.28	37.08	77.67
8	1	7.48	38.11	72.80

This table presents a summary of the relationship between the length of stay (in years) for international students and their average scores on three mental health scales: **PHQ-9 (depression)**, **SCS (social connectedness)**, and **ASISS (acculturative stress)**.

By analyzing the relationship between length of stay and mental health scores, we can gain insights into the challenges faced by international students. This information can be used to develop effective strategies to support their well-being and academic success.

## *Insights*