



Does going to university in a different country affect your mental health? A Japanese international university surveyed its students in 2018 and published a study the following year that was approved by several ethical and regulatory boards.

The study found that international students have a higher risk of mental health difficulties than the general population, and that social connectedness (belonging to a social group) and acculturative stress (stress associated with joining a new culture) are predictive of depression.

Explore the `students` data using PostgreSQL to find out if you would come to a similar conclusion for international students and see if the length of stay is a contributing factor.

Here is a data description of the columns you may find helpful.

Field Name	Description
<code>inter_dom</code>	Types of students (international or domestic)
<code>japanese_cate</code>	Japanese language proficiency
<code>english_cate</code>	English language proficiency
<code>academic</code>	Current academic level (undergraduate or graduate)
<code>age</code>	Current age of student
<code>stay</code>	Current length of stay in years
<code>todep</code>	Total score of depression (PHQ-9 test)
<code>tosc</code>	Total score of social connectedness (SCS test)
<code>toas</code>	Total score of acculturative stress (ASIIS test)

...	↑↓	i..	...	↑↓	...	↑↓	...	↑↓	...	↑↓	...	↑↓	...	↑↓	s.	...	↑↓	...	↑↓	japane...	...	↑↓	...	↑↓
0	Inter	SEA	Male	Grad		24		4		5	Long		3	Average			5							
1	Inter	SEA	Male	Grad		28		5		1	Short		4	High			4							
2	Inter	SEA	Male	Grad		25		4		6	Long		4	High			4							
3	Inter	EA	Female	Grad		29		5		1	Short		2	Low			3							
4	Inter	EA	Female	Grad		28		5		1	Short		1	Low			3							
5	Inter	SEA	Male	Grad		24		4		6	Long		3	Average			4							
6	Inter	SA	Male	Grad		23		4		1	Short		3	Average			5							
7	Inter	SEA	Female	Grad		30		5		2	Medium		1	Low			1							
8	Inter	SEA	Female	Grad		25		4		4	Long		4	High			4							
9	Inter	Others	Male	Grad		31		5		2	Medium		1	Low			4							

Rows: 10 ↗ Expand

Analyzing Students' Mental Health using SQL

This project explores the relationship between **language proficiency**, **academic level**, and **length of stay** on students' mental health indicators — including depression, stress, and social connectedness.

The analysis is based on a dataset from an international Japanese university survey (2018), available in the `students` table.

Objectives

1. Explore distributions of key categorical variables.
2. Compare average depression, stress, and social connectedness across groups.
3. Identify possible relationships between:
 - English proficiency ↔ Depression / Connectedness
 - Academic level ↔ Stress
 - Stay duration ↔ Depression / Stress

Tools Used

- **SQL** in DataCamp Datalab
- **PostgreSQL** syntax
- **Built-in visualization (Charts tab)** for bar and line plots

Dataset Preview

Here we can see the first 10 records. Each row represents a student with attributes such as region, gender, academic level, language proficiency, and psychological test scores.

We'll focus mainly on:

- `stay_cate`
- `english_cate`
- `academic`
- `todep` , `toas` , `tosc`

...	↑↓	i..	...	↑↓	...	↑↓	...	↑↓	...	↑↓	...	↑↓	...	↑↓	s.	...	↑↓	...	↑↓	japane...	...	↑↓	...	↑↓
0	Inter	SEA	Male	Grad		24		4		5	Long			3	Average			5						
1	Inter	SEA	Male	Grad		28		5		1	Short			4	High			4						
2	Inter	SEA	Male	Grad		25		4		6	Long			4	High			4						
3	Inter	EA	Female	Grad		29		5		1	Short			2	Low			3						
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7	Inter	SEA	Female	Grad		30		5		2	Medium			1	Low			1						
8	Inter	SEA	Female	Grad		25		4		4	Long			4	High			4						
9	Inter	Others	Male	Grad		31		5		2	Medium			1	Low			4						

Rows: 10 ↗ Expand

📈 Interpreting Distributions

These simple aggregations help understand how balanced the dataset is.

For example:

- If most students are in `Short` stay, the results may be skewed.
- Balanced categories = more reliable comparisons.

index	...	↑↓	stay_cate	...	↑↓	total_students	...	↑↓	...	↑↓
0			Long			32				
1			Medium			121				
2			Short			115				
3			Unknown			18				

Rows: 4 ↗ Expand



index	...	↑↓	english_cate	...	↑↓	total_students	...	↑↓
0	Average					80		
1	High					166		
2	Low					22		
3	Unknown					18		

Rows: 4

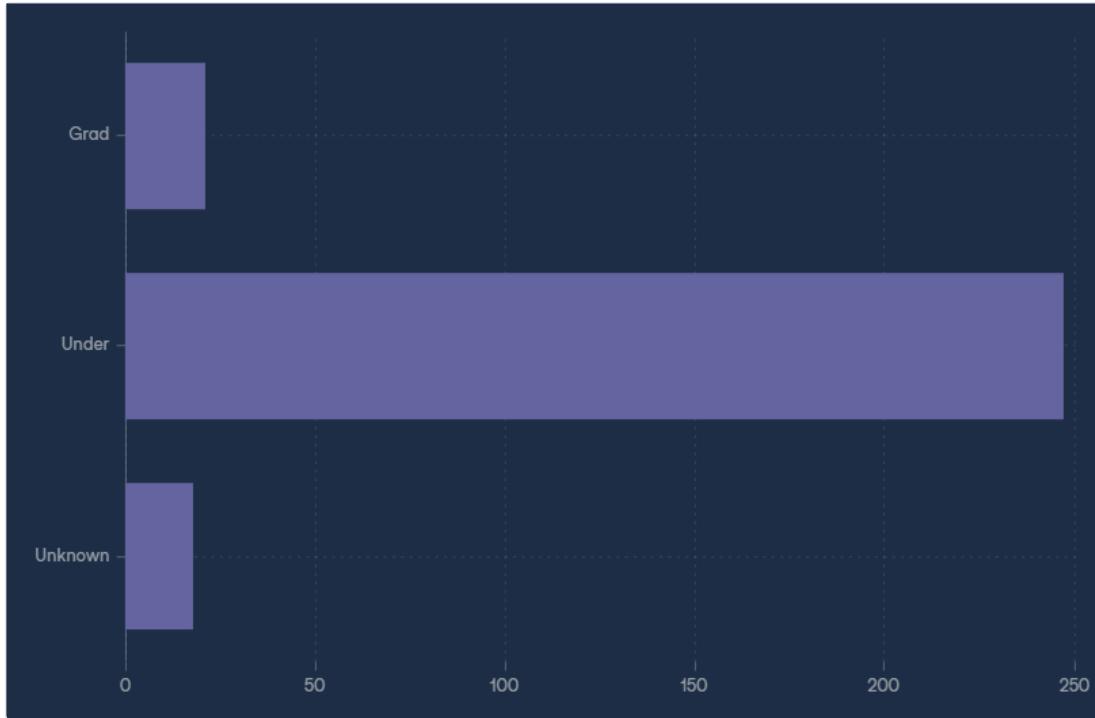
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index	...	↑↓	academic	...	↑↓	total_students	...	↑↓
0	Grad					21		
1	Under					247		
2	Unknown					18		

Rows: 3

Expand



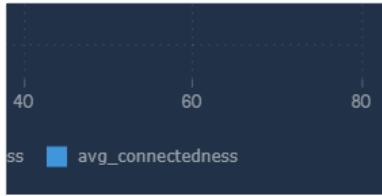
Analyzing the relationships between psychological factors and socio-academic variables.

Relationship 1 – Stay Duration vs Mental Health

Longer stays are associated with slightly higher stress and lower social connectedness, while depression levels remain relatively stable across groups.

i.	stay_catego...	avg_depression	avg_s...	avg_connectedness
0	Short	7.7	71.03	37.94
1	Medium	8.74	72.86	37.48
2	Long	7.84	75.44	35.78
3	Unknown			

Rows: 4 [Expand](#)



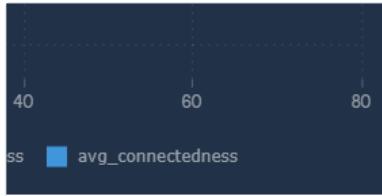
Summary

Students with longer stays show the highest connectedness (75.4) and lowest depression (7.7).

Relationship 2: English Proficiency vs Mental Health

...	↑↓	english_cat...	...	↑↓	avg_dep...	...	↑↓	avg...	...	↑↓	avg_connect...	...	↑↓
0		Low			9.32		68.36				37.05		
1		Average			8.31		67.44				38.48		
2		High			7.98		75.3				37.05		
3		Unknown											

Rows: 4 ↗ Expand



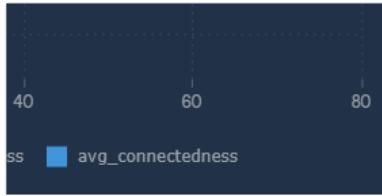
Summary

Students with higher English proficiency show lower depression levels but higher stress, possibly due to academic pressure. Social connectedness remains relatively stable across proficiency levels.

Relationship 3: Academic Level vs Mental Health

...	↑↓	academi...	...	↑↓	avg_dep...	...	↑↓	a...	...	↑↓	avg_connect...	...	↑↓
0		Under			8.43			72.07			37.16		
1		Grad			5.29			76.05			41.19		
2		Unknown											

Rows: 3 ↗ Expand



Summary

Graduate students show **lower depression** (5.29) but **higher stress** (76.05) and **stronger social connectedness** (41.19) compared to undergraduates.

This suggests that while graduate students may handle emotional challenges better, they experience higher pressure and maintain more academic or social engagement.

Final Insights

- Longer stays are linked with **better mental well-being**.
- Higher English proficiency tends to **reduce depression and stress**.
- Graduate students show **lower depression** but **higher stress** levels. Overall, mental health seems influenced by adaptation, language comfort, and academic pressure.