Analyzing International Students Mental Health

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.

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

```sql
-- View the data in students
SELECT *
FROM students
LIMIT 5;
```

...	i...	...	...	...	...	...	...	...	s. ...	...	...	japane...	...	...	...	engli...	...
0	Inter	SEA	Male	Grad	24	4	5	Long	3	Average	5	High
1	Inter	SEA	Male	Grad	28	5	1	Short	4	High	4	High
2	Inter	SEA	Male	Grad	25	4	6	Long	4	High	4	High
3	Inter	EA	Female	Grad	29	5	1	Short	2	Low	3	Average
4	Inter	EA	Female	Grad	28	5	1	Short	1	Low	3	Average

Rows: 5   ⬈ Expand

The following variables will be analyzed:

Field Name	Description
stay	Length of stay in years
count_int	Number of international students for each length of stay
average_phq	Average PHQ-9 test
average_scs	Average SCS test
average_as	Average ASISS test

```sql
-- Group by international student stays, in descending order
SELECT
    stay,
    COUNT(inter_dom) AS count_int,
    ROUND(AVG(todep), 2) AS average_phq,
    ROUND(AVG(tosc), 2) AS average_scs,
    ROUND(AVG(toas), 2) AS average_as
FROM students
WHERE inter_dom = 'Inter'
GROUP BY students.stay
ORDER BY stay DESC;
```
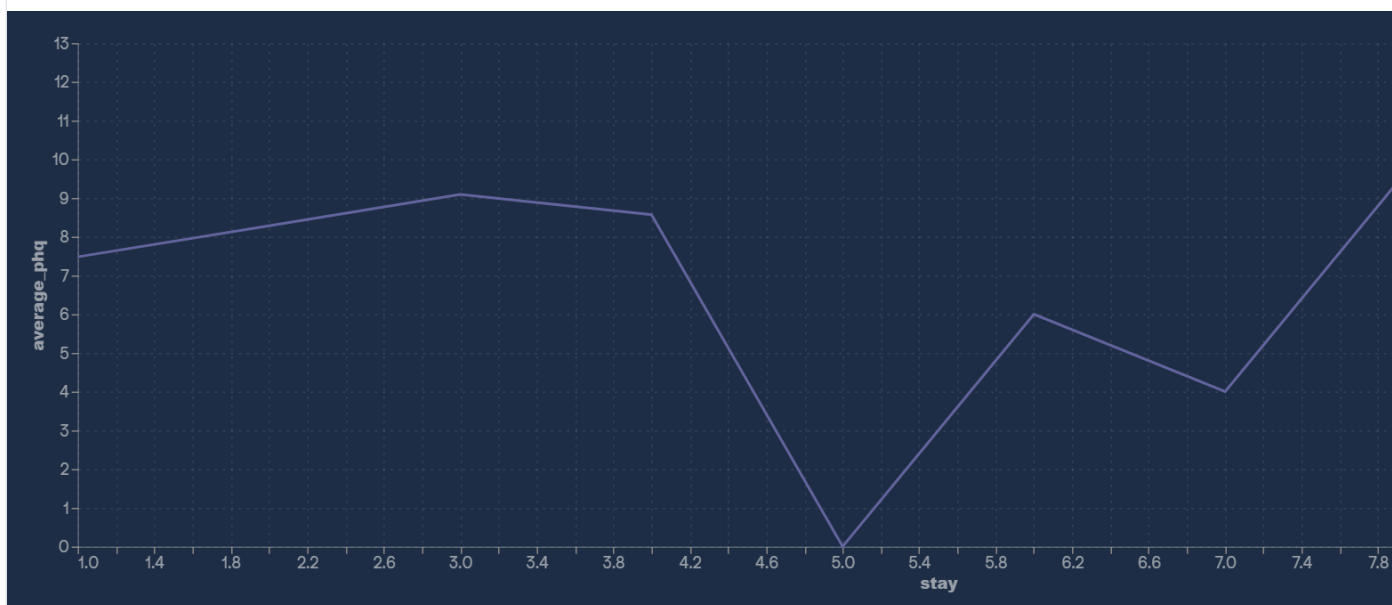
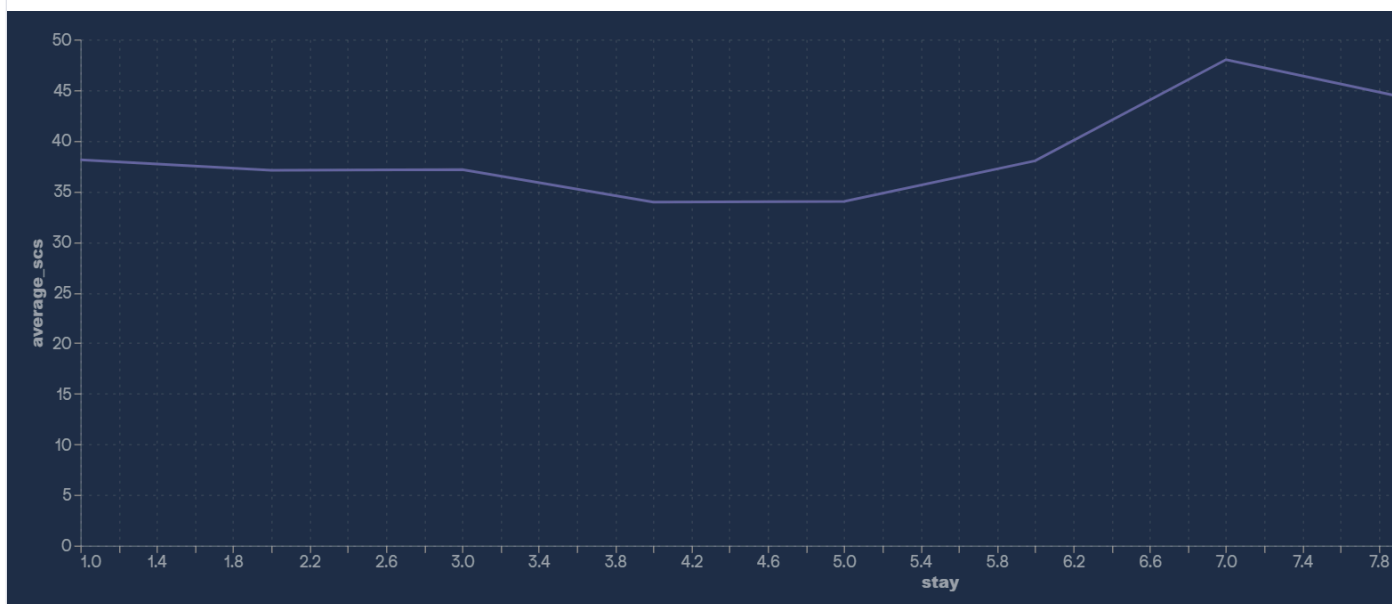| index	...	stay	...	count_int	...	average_phq	...	average_scs
0		10		1		13		
1		8		1		10		
2		7		1		4		
3		6		3		6		
4		5		1		0		
5		4		14		8.57		
6		3		46		9.09		
7		2		39		8.28		
8		1		95		7.48		

Rows: 9   ⬈ Expand

Being an international student usually means leaving everything behind to pursue a better career opportunity. Aside from the curriculums that require so much dedication, students see themselves facing many challenges that ultimately affect their academic performance due to stress, anxiety, and depression. International students that stayed 10 years had the highest average total score on the depression test (PHQ_9) but showed a lower average score of acculturative stress when compared to shorter stays. This could indicate their adaptiveness to the cultural norms of that state but still feel homesick, leading to higher rates of depression. New students only being a year or two into international living had high average acculturative stress scores, however, this peaked with students 7-8 years into international living.

International Students Length of Stay Vs Depression

As seen in the line graph above, there was a slight increase in depression in the first years, however it increased exponentially after the 5th year, reaching its peak at year 10.

International Students Length of Stay Vs Social Connectedness

In relation to social connectedness, the average scores are similar, but steadily increased after year 5. The average score for social connectedness peaked at the 7th year with an average score of 48.

International Students Length of Stay Vs Acculturative Stress

Acculturative stress was present significantly at year 5 and decreased right after, reaching its lowest average score in the 7th year.
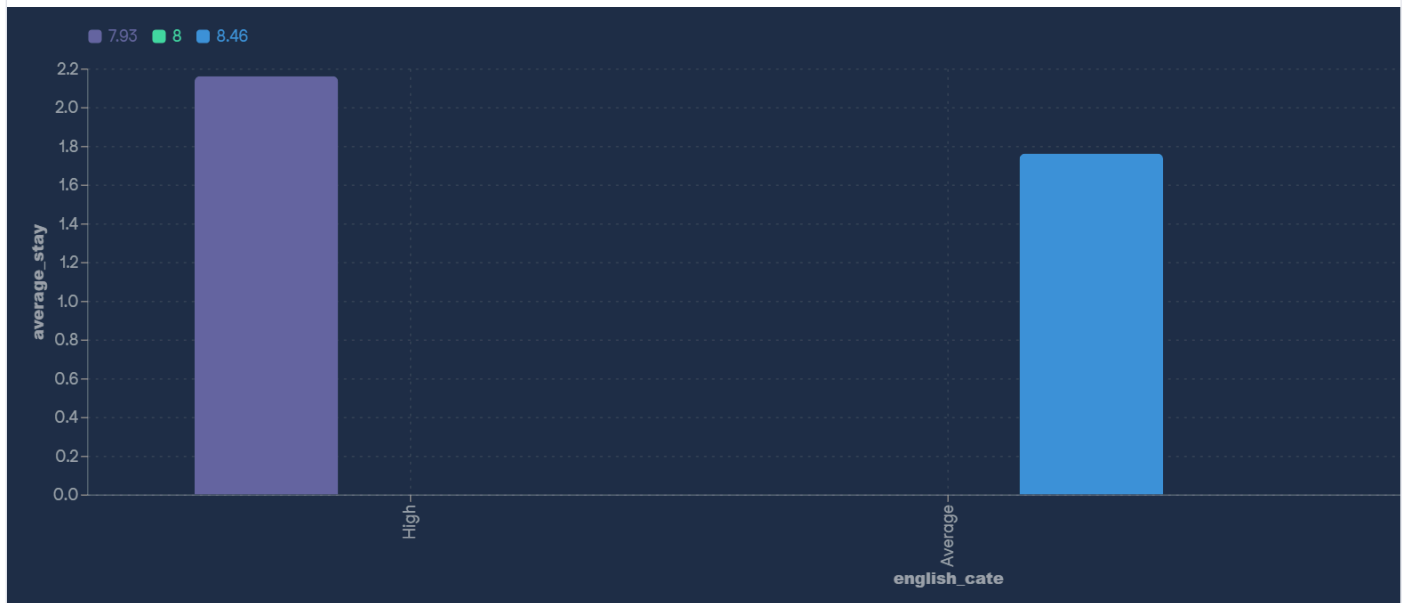
🐘 Projects Data   DataFrame as

```sql
--
SELECT
    english_cate,
    ROUND(AVG(stay), 2) AS average_stay,
    ROUND(AVG(todep), 2) AS average_phq,
    ROUND(AVG(tosc), 2) AS average_scs,
    ROUND(AVG(toas), 2) AS average_as
FROM students
WHERE inter_dom = 'Inter'
GROUP BY students.english_cate
ORDER BY average_stay DESC
```

...	engli...	aver...	av...	av...	a...
0	High	2.16	7.93	37.42	75.5
1	Average	1.76	8.46	36.93	75.66
2	Low	1.71	8	40.29	76.43

Rows: 3   ↗ Expand

Length of Stay vs English Proficiency by Rate of Depression

Students that have stayed for more than two years had a higher english proficiency rate and also showed lower average rates of depression on the PHQ-9 test.

Overall, international student go through multiple hurrdles in pursuit of higher education. Aside from the curriculum, their mental health takes a toll due to being away from everything they've known. The pressure of fitting in, making sure they pass their courses, and have a social life contributes to the levels of depression, social connectedness, and acculturative stress shown here.