Student Depression

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A lot of students are dealing with more than just classes and deadlines. Behind the scenes, many are struggling with stress, pressure, and sometimes depression and it's not always easy to spot or talk about. While there's more conversation around mental health now than there used to be, we still don't fully understand what's causing these issues for so many students. Is it academic pressure? Not getting enough sleep? History of Mental Illness? Or something else entirely?

That's where this dataset comes in. With information from nearly 28,000 students, it gives us a chance to look at the bigger picture of how things like GPA, sleep, stress, and even family history might connect to whether or not a student is dealing with depression. The goal here isn't just to analyze numbers, it's to find patterns that might help us understand what students are going through, and maybe even figure out how to make things better.

- What are the biggest factors connected to student depression in this data?
- Are students with a family history of mental illness or suicidal thoughts more likely to be depressed?
- Does doing better in school (like having a higher GPA) actually help protect against depression?
- Is there a clear link between how much students sleep and how they feel mentally?
- Are the people with the most work and study hours the most at risk?

To understand the factors contributing to student depression the dataset was cleaned and prepared for analysis. First, missing or inconsistent values were edited and better formatted.

Sleep Duration	Dietary Habits	Degree	Have you ever had suicidal thoughts ?	Work/Study Hours	Financial Stress	Family History of Mental Illness	Depression
'5-6 hours'	Healthy	B.Pharm	Yes	3.0	1.0	No	1
'5-6 hours'	Moderate	BSc	No	3.0	2.0	Yes	0
'Less than 5 hours'	Healthy	BA	No	9.0	1.0	Yes	0
'7-8 hours'	Moderate	BCA	Yes	4.0	5.0	Yes	1

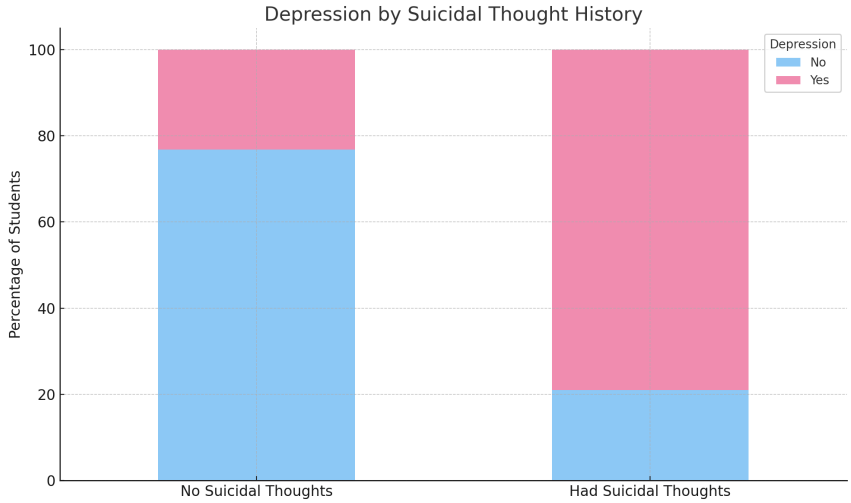
The Student Depression "Sleep Duration" column was originally in text format "5-6 hours". It was converted into numerical values to allow for proper comparison and data analysis. Columns such as "Have you ever had suicidal thoughts?" and "Family History of Mental Illness" were changed to numeric values (1 for Yes, 0 for No) for easier reading and understanding of the data.

Columns that were set as a decimal format from a range of 0 to 5 such as "Financial Stress," were changed to a whole number format. These steps helped ensure the dataset was ready for thorough and easy analysis, allowing us to look at how various lifestyle, academic, and mental health-related factors might connect with depression. I made sure each column didn't have any duplicates so the data couldn't be counting that person more than once for the analysis.

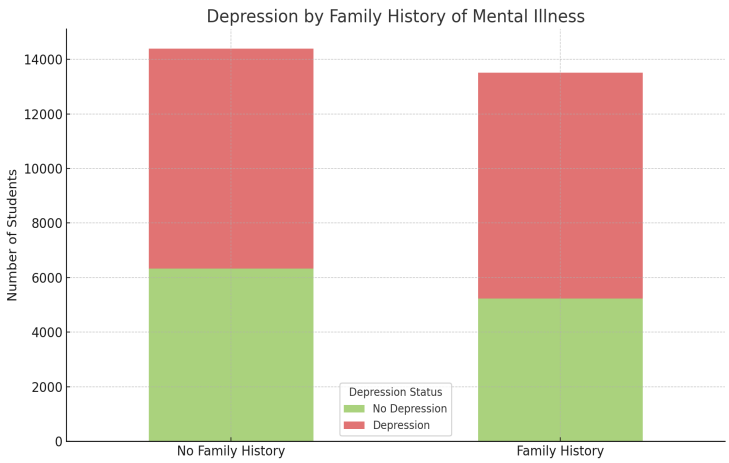
Sleep Duration	Dietary Habits	Degree	Have you ever had suicidal thoughts ?	Work/Study Hours	Financial Stress	Family History of Mental Illness	Depression
7.5	Unhealthy	'Class 12'	1	11		0	1
5.5	Healthy	'Class 12'	1	4		1	0
5.5	Healthy	'Class 12'	0	7		0	0
5.5	Moderate	'Class 12'	1	10		0	1

After we cleaned the data we were able to start exploring the data to get these potential questions answered. There were key finding in this data such as the amount suicidal thoughts that were reported over how many people have reported being depressed. One of the biggest factors is there were 79% of students that reported suicidal thoughts also reported depression. There were 23% of students that reported depression but didn't report having suicidal thoughts. This is a

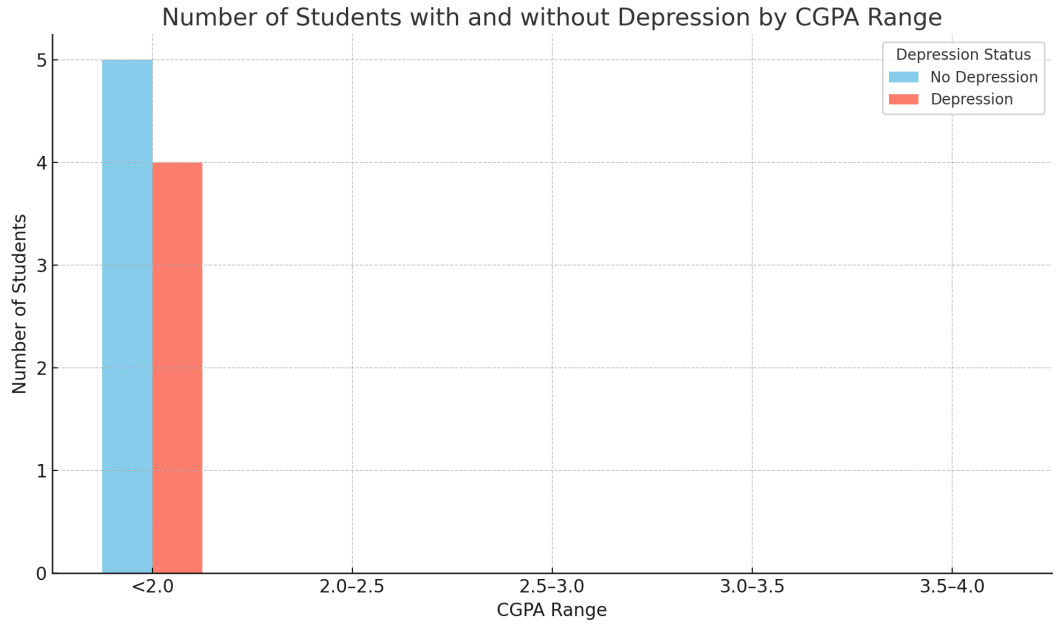
powerful indicator that educators, counselors and peers should never ignore.



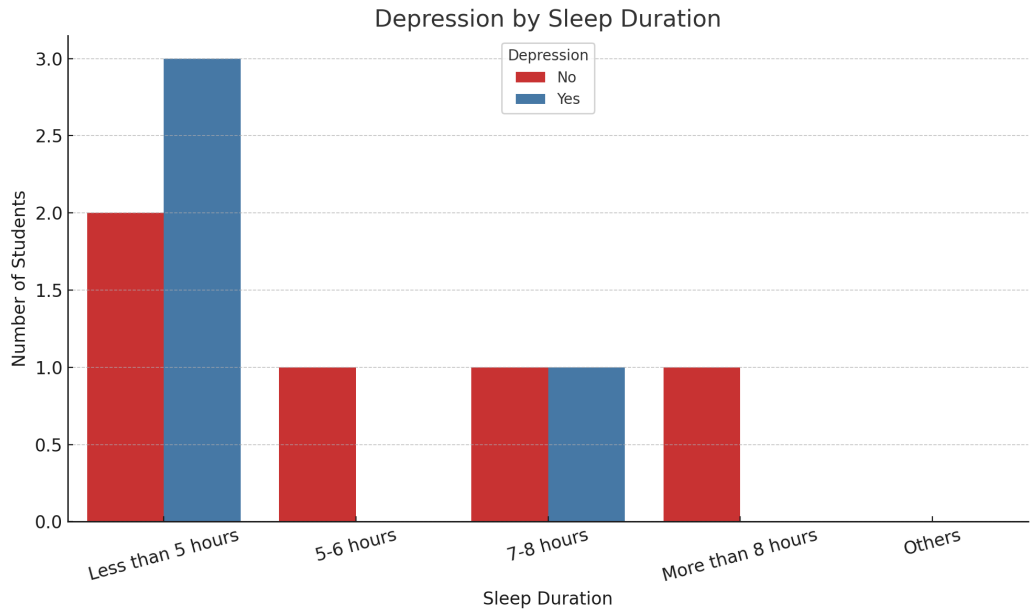
In this dataset set I wanted to find out how how many students have had a family of mental illness and suicidal thoughts and how that has impacted the students directly. The data shows that out of 13,503 students with a family history of mental illn**ess**, 8,273 reported feeling depressed. That's about 61%.3. Out of 14,398 students without a family history, 8,063 reported depression which comes out to 56.0%. Since over 61% of students with a family history of mental illness reported depression, schools could use that information to identify at risk students early. Even something simple like a digital mental health check-in once a semester could make a difference.



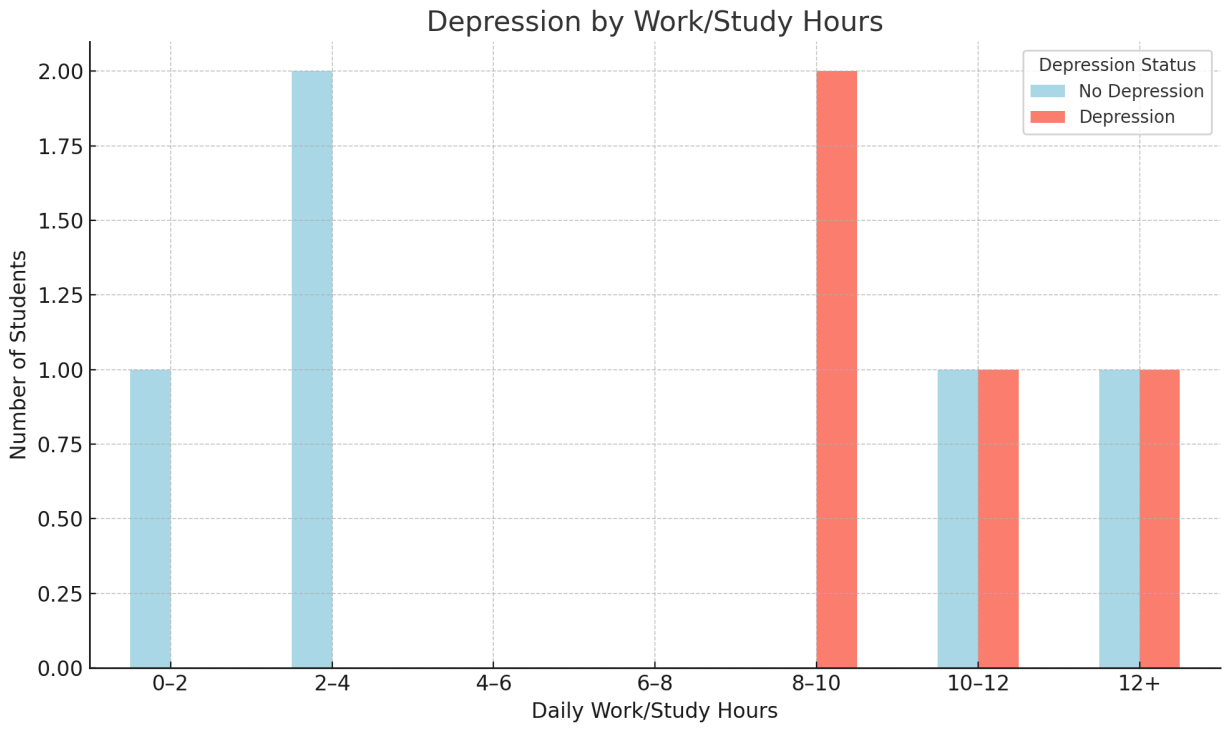
In this data set we are also looking to see if CGPA is connected to depression. In this dataset it shows that students with a lower CGPA tend to report higher levels of depression. Academic pressure is one of the biggest sources to stress. Especially when students tie their self worth to their grade. Students with a GPA lower than 2.5 and 3.0 tend to have significantly higher depression rates than those whose GPA is higher. There are a couple options that would really help and improve this sad but realistic scenario. First, we can build mental health into academic advising and second, we can support, not just consequences for low GPA. Instead of treating GPA and mental health as separate things, schools could train academic advisors to ask “How are you feeling about your workload?” and “Do you feel your grades are affecting your mood?” This opens up space for real conversations without sending students directly to therapy unless they want it. Rather than penalizing students with academic probation alone, schools can offer free tutoring plus mental health check-ins and “Bounce-back” workshops that combine study skills with stress reduction. The goal is to help students feel capable, not ashamed.



We all know that sleep is one of the most basic needs we have, but it's often the first thing students sacrifice when stress kicks in. Based on our dataset we have found that students who sleep less than 5 hours per night have significantly higher rates of depression. Those who get 7–8 hours of sleep show much lower depression levels.This isn't surprising poor sleep is both a symptom and a driver of mental health struggles but the data makes it even clearer. We should all be promoting sleep like it's a study skill. Students often treat sleep as optional, especially during exams. But sleep should be seen as essential for mental health, focus, and even GPA. What schools can do is host "sleep hygiene" workshops in dorms or offer wellness credits for attending sessions on how sleep affects brain function and mood. Getting rid of the midnight culture will help students get into proper routines with sleep. Instead of students working late at night we should encourage wind down hours or set quiet times in dorms (if on campus) to help students transition to sleep instead of powering through the night. Students aren't just managing their time; they're managing their energy, emotions, and expectations. The data shows where things are breaking down. The insights show us how to help before they do.



The lack of sleep comes from the work and study hours that these students are experiencing. This data is the clearest pattern in this dataset and is the connection between how much time students spend studying or working each day and how likely they are to report feeling depressed. I grouped students by their daily study and work hours from 0–2 hours all the way up to 12 plus hours. Some things that stood out to me is that depression increases sharply with more study and work hours. Students who work or study more than 6 hours a day were noticeably more likely to report depression. The highest levels of depression were seen in students studying 10 plus hours per day. We need to start Paying close attention to students who report working 8 plus hours a day. They may look like they're doing fine academically, but that doesn't mean they're mentally well. Again, consider promoting time management workshops, limits on coursework intensity, or more flexible academic expectations during peak stress periods.



Looking at this data, one thing that is certainly clear and that is student depression isn't random. It's shaped by a mix of real factors everyday such as how much we sleep, how much we study, the pressure we're under, and even our support systems. Some of the strongest signals in the data, like long work hours or suicidal thoughts, aren't just statistics they're signs of students who are struggling quietly behind the scenes. The goal here wasn't just to analyze numbers, but to understand the patterns behind them and hopefully, to spark some conversation about what can be done. Because if we can spot the signs earlier, support students more intentionally, and take mental health as seriously as grades or deadlines, then maybe fewer students will have to reach that breaking point in the first place.

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