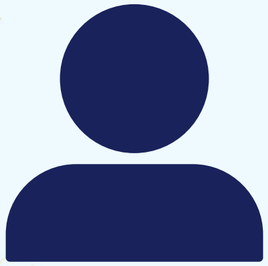
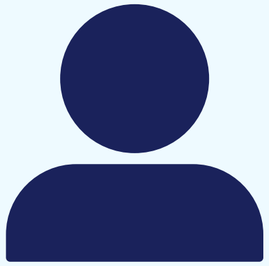
SleepScore: Unveiling the Secrets of Quality Sleep

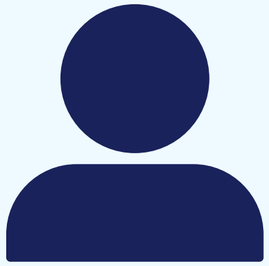
Meet The Group



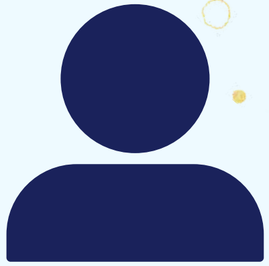
Aashna Katiyar
ROLL NO:626



Jenithrika S.
ROLL NO:1024



Nishtha Roy
ROLL NO: 1195



Sneha Gopinath C.
ROLL NO: 107

Acknowledgement

We would like to express our sincere gratitude to all those who have contributed to the successful completion of this project. Their support, guidance, and encouragement have been invaluable throughout the entire journey.

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We would also like to extend our appreciation to the fellow students who joined us today, making this learning experience a lot more enriching. Your presence and contributions have been instrumental in making this presentation a success.

Thank you.

At a glance

Introduction to our dataset & PSQI

Poisson Regression Model

Diagnostic checking

Mann Whitney Test
Kruskal Wallis Test

Conclusion and Limitations

INTRODUCTION TO OUR DATASET AND PSQI

Why “Sleep Quality”?

- Investigating PSQI scores is crucial as it directly relates to the overall well-being of university students

- We analyzed various Research Papers but could not find one targeting the college students of India. This was our main aim.

- Identifying modifiable factors offers practical insights for interventions. Universities can use this information to implement targeted strategies to improve sleep hygiene among students.

- Examining a diverse set of factors regarding the lifestyle choices and academic performance provides a holistic view of how various aspects of a student's life may influence their sleep quality.

Factors

- Gender
- BMI
- CGPA
- Smoking
- Caffeine Intake
- Stress level
- Water Consumption
- Napping time
- Last Meal Taken
- Health issues
- Screen time
- Sleeping roomates
- Physical activities
- Junk Food Consumption
- Ratio of time used to time given for Assignments/Tests

What is PSQI?

Pittsburgh Sleep Quality Index (PSQI):

1. It is a self-administered questionnaire designed to evaluate sleep quality and disturbances within a one-month timeframe.

2. It generates a composite score by summing seven individual component scores. These components include subjective namely,

- **Sleep Quality**
- **Sleep Latency**
- **Sleep Duration**
- **Use of sleeping medication**
- **Daytime Dysfunction**
- **Sleep Disturbances**
- **Habitual Sleep Efficiency**

What your score says?

GOOD SLEEP QUALITY

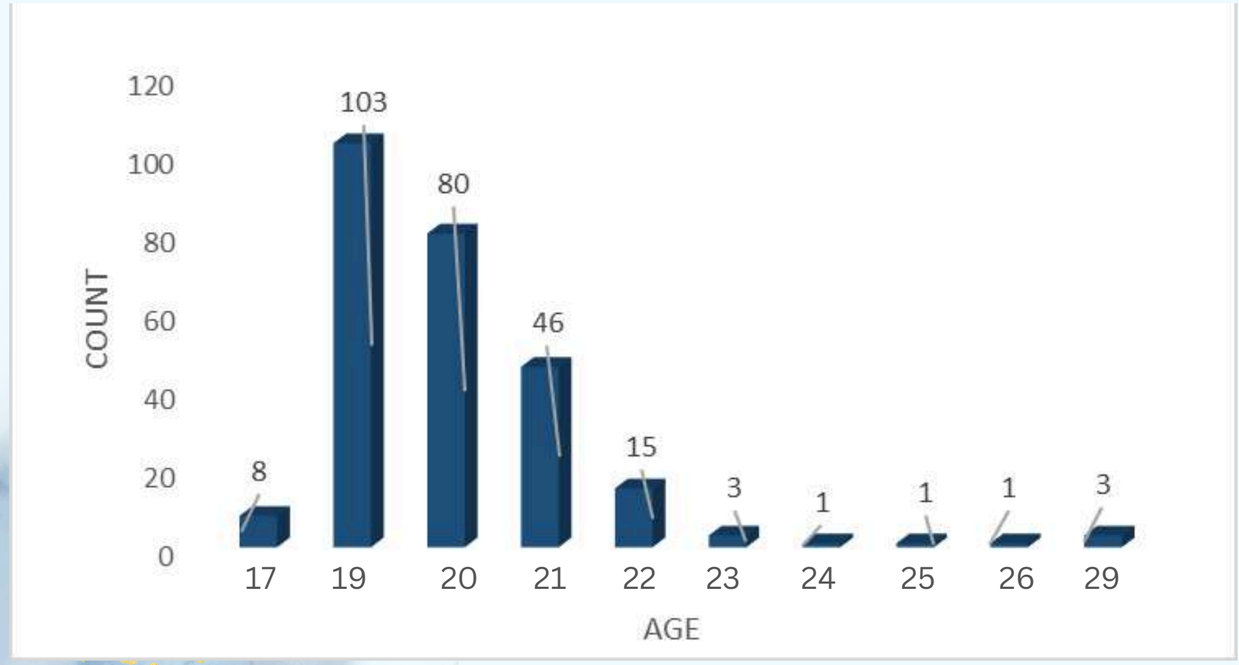
0-4

POOR SLEEP QUALITY

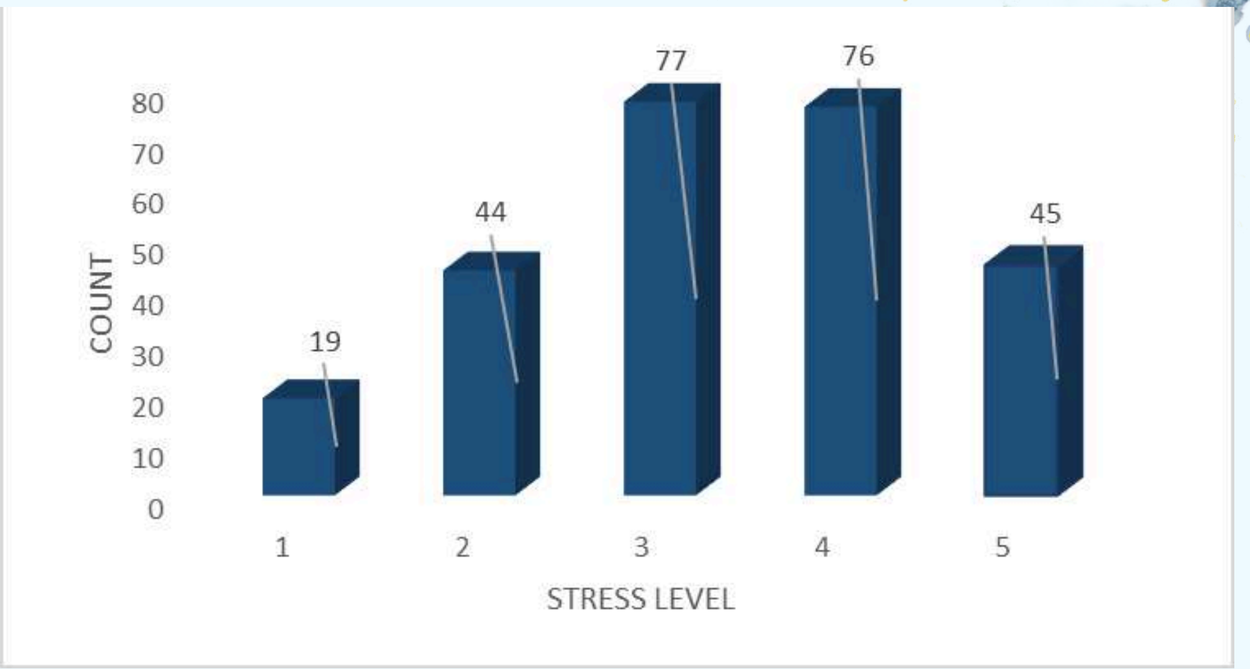
5-21

Univariate analysis of our dataset

DISTRIBUTION OF RESPONSES BASED ON AGE

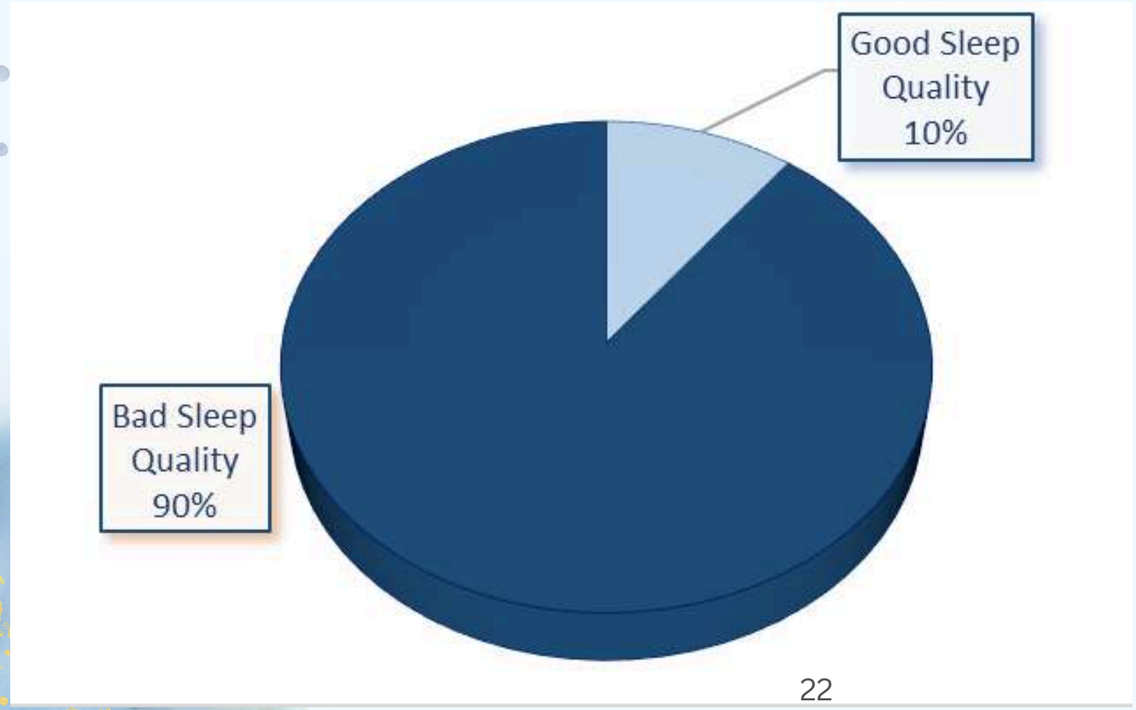


DISTRIBUTION OF RESPONSES BASED ON STRESS LEVEL

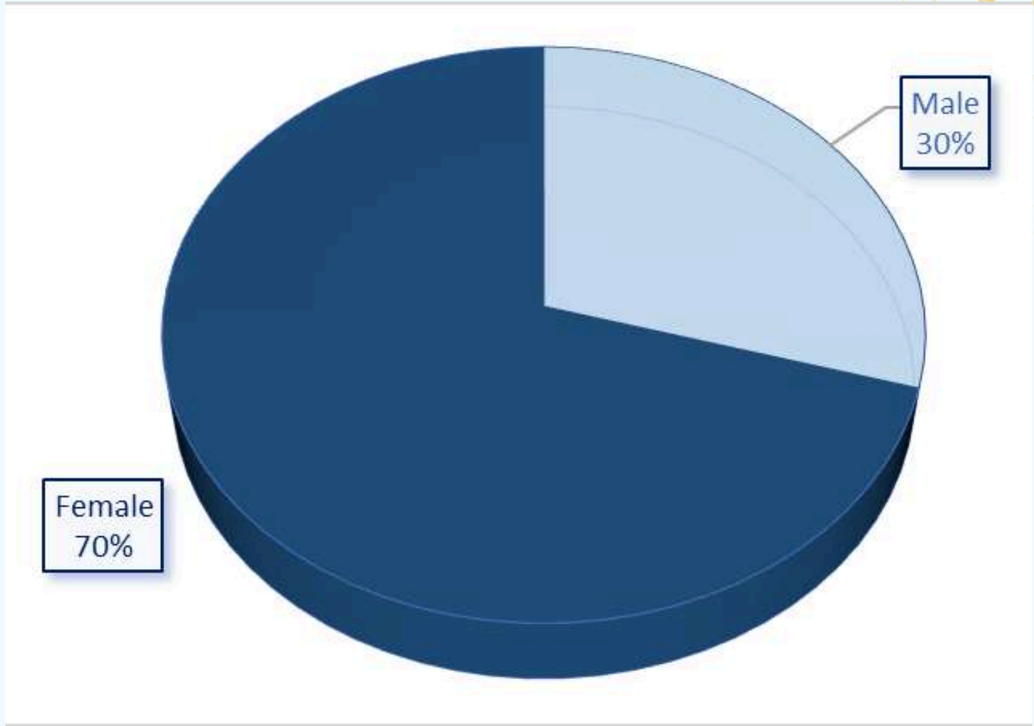


Univariate analysis of our dataset

DISTRIBUTION OF RESPONSES BASED ON PSQI



DISTRIBUTION OF RESPONSES BASED ON GENDER



POISSON REGRESSION MODEL

Poisson Regression Model

A Poisson Regression Model is a statistical model used for analyzing count data. It is particularly suited for situations where the dependent variable represents the number of events that occur within a fixed unit of time, space, or another well-defined interval.

The Poisson regression model is typically expressed using the logarithm link function. The model equation is given by:

$$\log(\mu) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \ldots + \beta_k x_k$$

where μ is the expected count, β0 is the intercept, and β1,β2,...,βk are the coefficients associated with the predictor variables x1,x2,...,xk.

Assumptions:

#1: Your dependent variable consists of count data

#2: The distribution of counts follow a Poisson distribution.The mean and variance of the model are identical.

#3: You should have independence of observations.

Results of Poisson Regression Model

Parameter Estimates

Parameter	B	Std. Error	95% Wald Confidence Interval		Hypothesis Test			Exp(B)	95% Wald Confidence Interval for Exp(B)	
			Lower	Upper	Wald Chi-Square	df	Sig.		Lower	Upper
(Intercept)	1.949	.2709	1.418	2.480	51.731	1	<0.01	7.020	4.128	11.938
[Gender=.00]	-.056	.0524	-.159	.046	1.153	1	.283	.945	.853	1.048
[Gender=1.00]	0[a]	.	.	.	.	.	.	1	.	.
[Health_Issue=.00]	-.245	.0596	-.361	-.128	16.846	1	<0.01	.783	.697	.880
[Health_Issue=1.00]	0[a]	.	.	.	.	.	.	1	.	.
Stress_Level	.092	.0203	.053	.132	20.791	1	<0.01	1.097	1.054	1.141
BMI	-.001	.0047	-.010	.008	.062	1	.803	.999	.990	1.008
Last_Meal_Taken	-.006	.0170	-.040	.027	.141	1	.707	.994	.961	1.027
Caffeine_Intake	-.004	.0055	-.015	.006	.640	1	.424	.996	.985	1.006
Sleeping_Roomates	.010	.0231	-.035	.055	.189	1	.664	1.010	.965	1.057
Napping	-.023	.0230	-.068	.022	1.022	1	.312	.977	.934	1.022
Water_Consumption	-.032	.0334	-.098	.033	.927	1	.336	.968	.907	1.034
Screen_Time	.018	.0080	.002	.033	4.861	1	.027	1.018	1.002	1.034
Physical_Activity	-.002	.0031	-.008	.005	.241	1	.624	.998	.992	1.005
Junk_Food	.003	.0029	-.002	.009	1.419	1	.234	1.003	.998	1.009
Smoking	.000	.0137	-.027	.026	.001	1	.976	1.000	.973	1.027
Test_Time_Taken	.001	.0012	-.001	.004	1.473	1	.225	1.001	.999	1.004
CGPA	.006	.0195	-.032	.044	.094	1	.759	1.006	.968	1.045

The fitted equation of the model:

$$\widehat{PSQI} = e^{(1.905 - 0.252\ \text{Health issues} + 0.1\ \text{Stress level} + 0.016\ \text{Screen time})}$$

DIAGNOSTIC CHECKING

Pearson - Chi-square Goodness of Fit test

1. **The Chi-square statistic measures the discrepancy between observed (*O*) and expected (*E*) frequencies and is computed using the formula:**

$$\chi^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Where:

- ***χ2* is the Chi-square statistic.**
- ***Oi* represents the observed frequency for each category.**
- ***Ei* denotes the expected frequency for each category.**

2. This statistic helps determine if there's a significant difference between observed and expected counts, evaluating the goodness of fit between the observed data and an expected distribution or model.

Pearson - Chi-square Goodness of Fit test

H0: There is no significant difference between the observed and the expected value.

H1: There is a significant difference between the observed and the expected value.

Goodness of Fit[a]

	Value	df	Value/df
Deviance	258.285	245	1.054
Scaled Deviance	258.285	245	
Pearson Chi-Square	240.612	245	.982

Tabulated Chi-square value = 292.596

Likelihood Ratio test

1. **The Likelihood Ratio Test (LRT) evaluates the significance of adding explanatory variables to a model by comparing the goodness of fit between a full model (with additional predictors) and a nested or reduced model (without those predictors).**

Likelihood Ratio Statistic: 2×(log-likelihood of full model−log-likelihood of reduced model)

2. This statistic helps determine if the additional predictors significantly enhance the model's fit by comparing the improvement in model fit with and without the additional.

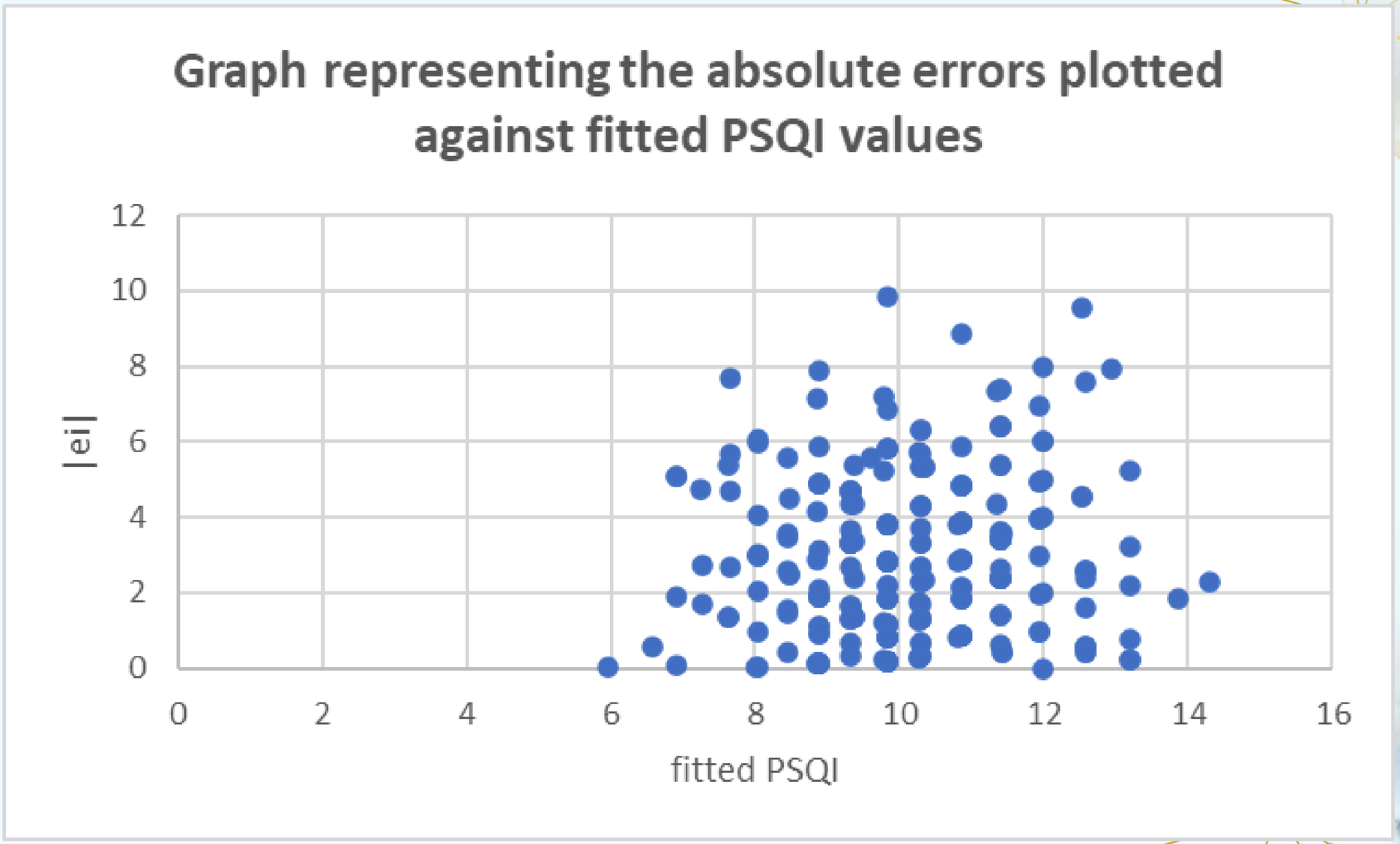
Likelihood Ratio test

H0: The full model is not significantly better than the reduced or null model.
H1: The full model significantly improves the fit compared to the reduced or null model.

Omnibus Test[a]

Likelihood Ratio Chi-Square	df	Sig.
76.312	15	<0.01

Heteroscedasticity



Multicollinearity

	BMI	Gender	Last Meal	Caffeine	Water co	Junk food	Smoking	CGPA
BMI	1	-0.238	0.069	0.094	0.157	0.039	0.114	-0.002
Gender	-0.238	1	-0.119	-0.13	-0.297	0	-0.12	0.094
Last Meal Time	0.069	-0.119	1	0.197	0.03	-0.016	0.077	-0.029
Caffeine intake	0.094	-0.13	0.197	1	0.024	0.14	0.062	0.053
Water consumption	0.157	-0.297	0.03	0.024	1	0.023	0.043	-0.04
Junk food consumption	0.039	0	-0.016	0.14	0.023	1	0.159	-0.004
Smoking frequency	0.114	-0.12	0.077	0.062	0.043	0.159	1	-0.001
CGPA	-0.002	0.094	-0.029	0.053	-0.04	-0.004	-0.001	1
Ratio of time used	-0.041	-0.019	0.047	-0.049	0.06	0.065	-0.004	0.074
Screen time	0.142	-0.138	0.151	0.133	-0.05	0.177	0.082	-0.016
Time spent on physical activities	0.144	-0.112	-0.042	0.051	0.271	0.044	0.051	-0.009
Stress level	0.018	0.1	0.111	0.121	-0.118	0.093	-0.055	-0.004
Napping time	-0.12	0.075	0	-0.033	-0.019	0.079	0.025	-0.149
Health issues	0.07	0.005	0.036	-0.052	-0.071	0.103	-0.028	-0.127
Sleeping roomates	-0.007	0.032	-0.009	0.027	0.148	0.165	0.04	0.1
PSQI	0.006	0.105	0.025	-0.009	-0.141	0.147	-0.024	0.008

Multicollinearity

	Ratio of time	Screen time	Physical a	Stress level	Napping t	Health issu	Sleeping r	PSQI
BMI	-0.041	0.142	0.144	0.018	-0.12	0.07	-0.007	0.006
Gender	-0.019	-0.138	-0.112	0.1	0.075	0.005	0.032	0.105
Last Meal Time	0.047	0.151	-0.042	0.111	0	0.036	-0.009	0.025
Caffeine intake	-0.049	0.133	0.051	0.121	-0.033	-0.052	0.027	-0.009
Water consumption	0.06	-0.05	0.271	-0.118	-0.019	-0.071	0.148	-0.141
Junk food consumption	0.065	0.177	0.044	0.093	0.079	0.103	0.165	0.147
Smoking frequency	-0.004	0.082	0.051	-0.055	0.025	-0.028	0.04	-0.024
CGPA	0.074	-0.016	-0.009	-0.004	-0.149	-0.127	0.1	0.008
Ratio of time used	1	-0.034	0.001	0.093	0.017	0.105	0.045	0.123
Screen time	-0.034	1	0.085	0.185	0.038	-0.12	-0.011	0.152
Time spent on physical activities	0.001	0.085	1	-0.096	0.033	-0.124	0.141	-0.104
Stress level	0.093	0.185	-0.096	1	-0.003	0.195	0.049	0.384
Napping time	0.017	0.038	0.033	-0.003	1	0.101	-0.016	-0.019
Health issues	0.105	-0.12	-0.124	0.195	0.101	1	-0.004	0.318
Sleeping roomates	0.045	-0.011	0.141	0.049	-0.016	-0.004	1	0.04
PSQI	0.123	0.152	-0.104	0.384	-0.019	0.318	0.04	1

MANN-WHITNEY AND KRUSKAL WALLIS TEST

Mann-Whitney U Test

1. Mann-Whitney U test is the non-parametric alternative test to the independent sample t-test.

2. It is used to compare differences between two independent groups when the dependent variable is either ordinal continuous

H0: There is no significant difference (in terms of central tendency) between the two groups in the population.
H1: There is significant difference (in terms of central tendency) between the two groups in the population.

Assumptions:

#1: Your dependent variable should be measured at the ordinal or continuous level.

#2: Your independent variable should consist of two categorical, independent groups.

#3: You should have independence of observations.

Outputs of the MWU test:

1. Gender

Ranks

	Gender	N	Mean Rank	Sum of Ranks
PSQI	Males	77	120.48	9277.00
	Females	184	135.40	24914.00
	Total	261		

Test Statistics[a]

	PSQI
Mann-Whitney U	6274.000
Wilcoxon W	9277.000
Z	-1.463
Asymp. Sig. (2-tailed)	.143

p value=0.143>0.05

H0 is accepted

2. Health Conditions

Ranks

	HealthIssues	N	Mean Rank	Sum of Ranks
PSQI	No health issues related to sleep	223	121.86	27175.50
	Health issues related to sleep	38	184.62	7015.50
	Total	261		

Test Statistics[a]

	PSQI
Mann-Whitney U	2199.500
Wilcoxon W	27175.500
Z	-4.759
Asymp. Sig. (2-tailed)	.001

Report

PSQI

HealthIssues	N	Median
No health issues related to sleep	223	8.00
Health issues related to sleep	38	11.00
Total	261	8.00

p value=0.01<0.05

H0 is rejected

Effect size of MWU Test

In order to make a statement about the Effect Size in the Mann-Whitney-U-Test, we need the Standardised test statistic z and the number of pairs n, with this we can then calculate the Effect Size with the equation: $r = |z|/\sqrt{n}$

In general, one can say about the effect strength:

- Effect Size r less than 0.3 → small effect
- Effect Size r between 0.3 and 0.5 → medium effect
- Effect Size r greater than 0.5 → large effect

In our case z= -4.579, n= 261. So r =0.294575 which interprets the degree to which group with health issues has data with higher ranks than the group without health issues. The effect r<0.3 hence it is small.

Kruskal Wallis H Test

1. The Kruskal-Wallis (KW) test is a non-parametric statistical test used to determine if there are any statistically significant differences between the means of three or more independent groups (an extension of the Mann-Whitney U test)
2. It is used to compare differences when the dependent variable is either ordinal or continuous.

H0: There is no significant difference (in terms of central tendency) between the two groups in the population.
H1: There is significant difference (in terms of central tendency) between the two groups in the population.

Assumptions:

#1: Your dependent variable should be measured at the ordinal or continuous level.

#2: The independent variable should consist of three or more categorical, independent groups.

#3: You should have independence of observations.

Outputs of the KWH test:

1. Caffeine Intake

Test Statistics[a,b]

	PSQI
Chi-Square	3.876
df	3
Asymp. Sig.	.275

p-value>0.05

2. Water Intake

Test Statistics[a,b]

	PSQI
Chi-Square	5.970
df	2
Asymp. Sig.	.051

p-value>0.05

3. Physical Activities

Test Statistics[a,b]

	PSQI
Chi-Square	7.045
df	4
Asymp. Sig.	.134

p-value>0.05

4. Smoking

Test Statistics[a,b]

	PSQI
Chi-Square	.840
df	2
Asymp. Sig.	.657

p-value>0.05

Outputs of the KWH test:

5. No of roommates

Test Statistics[a,b]

	PSQI
Chi-Square	1.901
df	4
Asymp. Sig.	.754

p-value>0.05

6. Duration of Naps during the day

Test Statistics[a,b]

	PSQI
Chi-Square	4.687
df	4
Asymp. Sig.	.321

p-value>0.05

7. Screentime

Test Statistics[a,b]

	PSQI
Chi-Square	16.317
df	5
Asymp. Sig.	.006

p-value <0.05;H0 is rejected

8. Stress levels

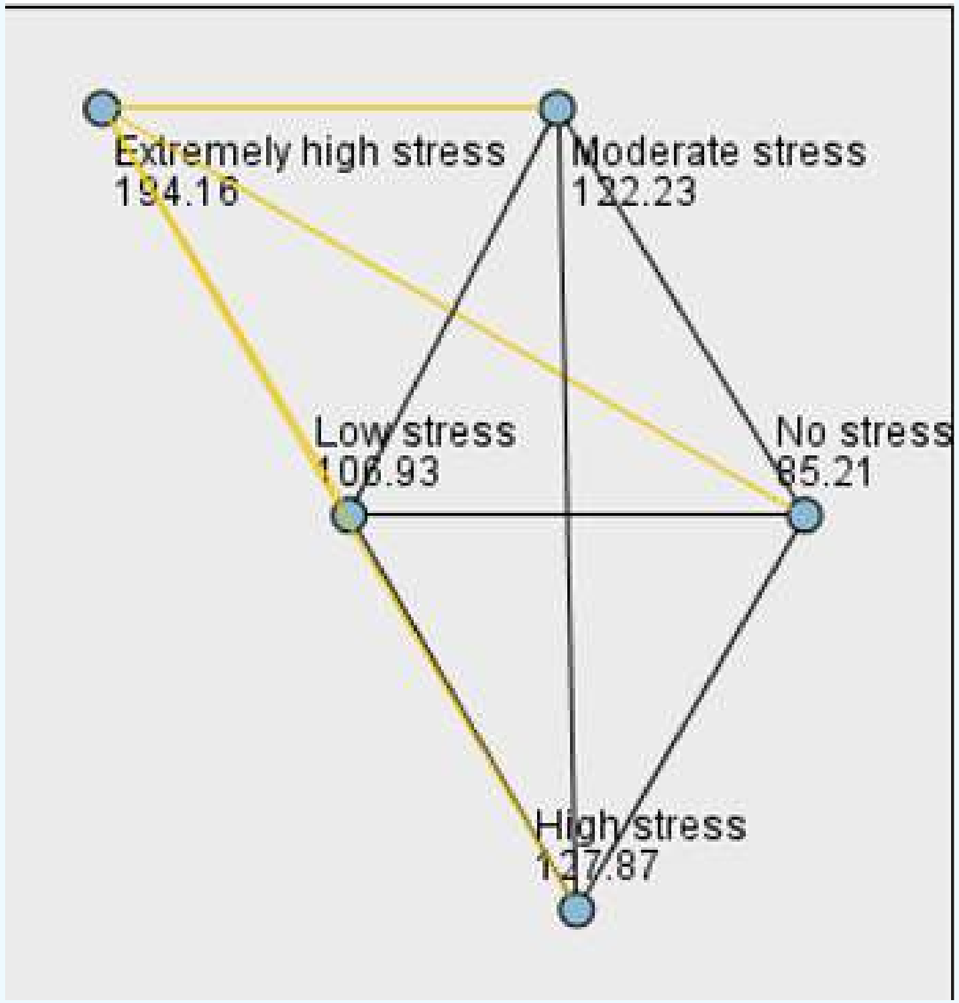
Test Statistics[a,b]

	PSQI
Chi-Square	44.542
df	4
Asymp. Sig.	.001

p-value <0.05;H0 is rejected

Effect of Stress:

Pairwise Comparisons of Stress



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Rank of PSQI is the same across categories of Stress.	Independent-Samples Kruskal-Wallis Test	.001	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Ranks

	Stress	N	Mean Rank
PSQI	No stress	19	85.21
	Low stress	44	106.93
	Moderate stress	77	122.23
	High stress	76	127.87
	Extremely high stress	45	194.16
	Total	261	

Effect of Stress:

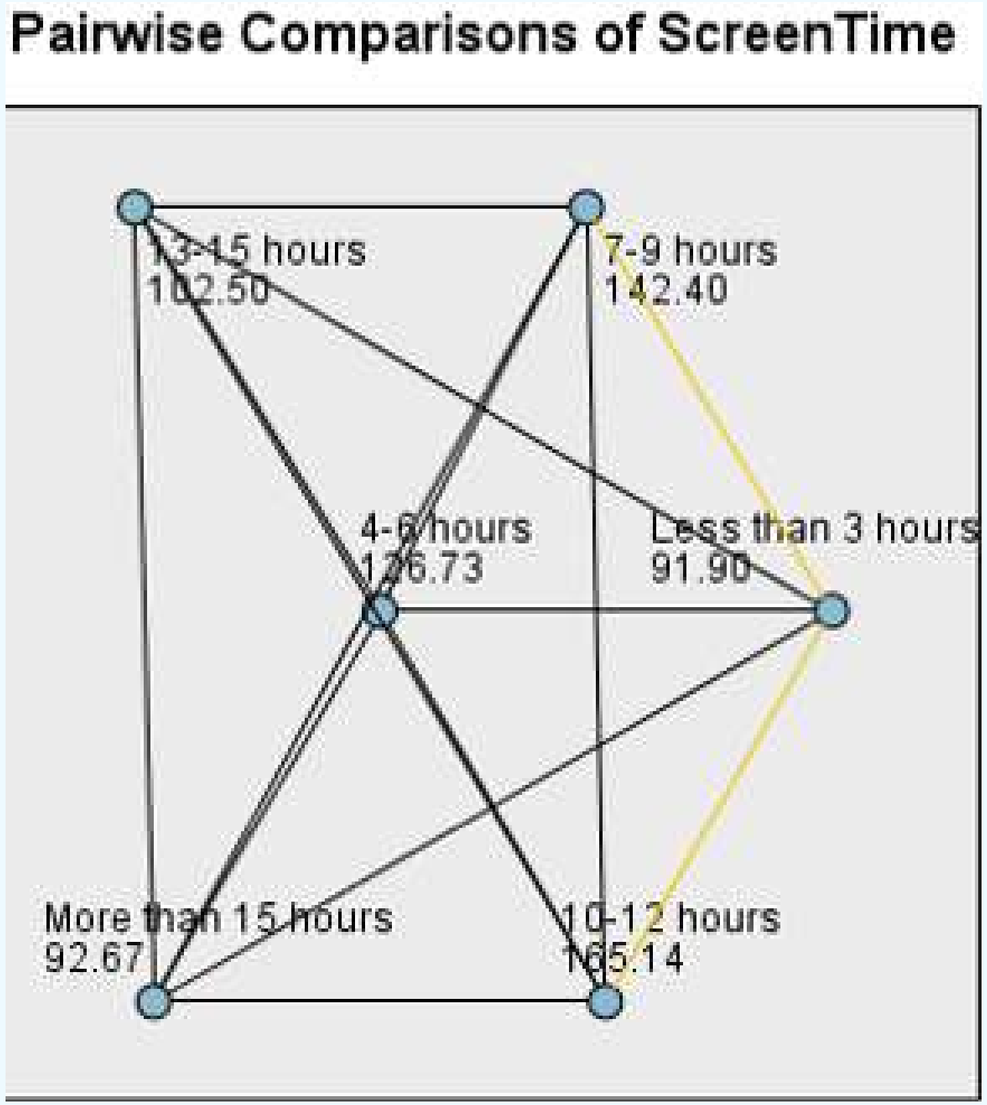
Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
No stress-Low stress	-21.721	20.627	-1.053	.292	1.000
No stress-Moderate stress	-37.023	19.248	-1.924	.054	.544
No stress-High stress	-42.658	19.273	-2.213	.027	.269
No stress-Extremely high stress	-108.945	20.557	-5.300	.000	.000
Low stress-Moderate stress	-15.302	14.200	-1.078	.281	1.000

Effect of Stress:

Low stress-High stress	-20.937	14.234	-1.471	.141	1.000
Low stress-Extremely high stress	-87.224	15.930	-5.475	.000	.000
Moderate stress-High stress	-5.635	12.149	-.464	.643	1.000
Moderate stress-Extremely high stress	-71.922	14.099	-5.101	.000	.000
High stress-Extremely high stress	-66.287	14.133	-4.690	.000	.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

Effect of Screen Time:



Hypothesis Test Summary

	Null Hypothesis	Test	Sig.	Decision
1	The distribution of Rank of PSQI is the same across categories of ScreenTime.	Independent-Samples Kruskal-Wallis Test	.006	Reject the null hypothesis.

Asymptotic significances are displayed. The significance level is .05.

Ranks

	ScreenTime	N	Mean Rank
PSQI	Less than 3 hours	26	91.90
	4-6 hours	115	126.73
	7-9 hours	85	142.40
	10-12 hours	25	165.14
	13-15 hours	7	102.50
	More than 15 hours	3	92.67
	Total	261	

Effect of Screen Time:

Sample1-Sample2	Test Statistic	Std. Error	Std. Test Statistic	Sig.	Adj.Sig.
Less than 3 hours-More than 15 hours	-.763	45.816	-.017	.987	1.000
Less than 3 hours-13-15 hours	-10.596	31.995	-.331	.741	1.000
Less than 3 hours-4-6 hours	-34.822	16.317	-2.134	.033	.492
Less than 3 hours-7-9 hours	-50.496	16.839	-2.999	.003	.041
Less than 3 hours-10-12 hours	-73.236	21.047	-3.480	.001	.008
More than 15 hours-13-15 hours	9.833	51.851	.190	.850	1.000
More than 15 hours-4-6 hours	34.059	43.944	.775	.438	1.000

Effect of Screen Time:

More than 15 hours-7-9 hours	49.733	44.140	1.127	.260	1.000
More than 15 hours-10-12 hours	72.473	45.910	1.579	.114	1.000
13-15 hours-4-6 hours	24.226	29.251	.828	.408	1.000
13-15 hours-7-9 hours	39.900	29.546	1.350	.177	1.000
13-15 hours-10-12 hours	62.640	32.131	1.950	.051	.768
4-6 hours-7-9 hours	-15.674	10.748	-1.458	.145	1.000
4-6 hours-10-12 hours	-38.414	16.581	-2.317	.021	.308
7-9 hours-10-12 hours	-22.740	17.095	-1.330	.183	1.000

Each row tests the null hypothesis that the Sample 1 and Sample 2 distributions are the same.
Asymptotic significances (2-sided tests) are displayed. The significance level is .05.

CONCLUSION AND LIMITATION

Inference:

1.The values that come out to be insignificant:

	Smoking	N
PSQI	0 times	248
	1-4 times in a week	9
	More than 12 times in a week	4
	Total	261

a) Smoking: majority of our respondents do not smoke.

b) Water intake: drinking too close to bedtime can interrupt your sleep cycle

	Napping	N	Mea
PSQI	0 hours	111	
	less than 1 hour	71	
	1-2 hours	69	
	2-3 hours	7	
	more than 3 hours	3	
	Total	261	

c) Napping during the day: Short naps generally don't affect nighttime sleep quality for most people

d) BMI: sleep is mostly affected by people having BMI >30 (obese)

e) Physical Activity: Omission of exercise intensity in our dataset.

Inference:

f) Caffeine: if taken more than 6 hours before your sleeping time it does not affect your sleep much

	Caffeine	N
PSQI	0 times	87
	1-5 times in a week	118
	6-10 times in a week	36
	More than 10 times	20
	Total	261

g) Junk food consumption: There are lingering health effects that won't be noticed immediately

h) Gender: Homogenous data, majority of our correspondents were females. Cultural, social, or psychological factors may influence how individuals perceive and report their sleep quality, leading to variations that might not directly relate to biological differences between genders.

i) CGPA: Homogenous data , majority of our respondents had 8+ CGPA.

j) Sleeping Roommates: The influence of sleeping arrangements might be context-dependent.

Inference:

2. The values that come out to be significant:

a) Stress: High levels of stress impair sleep by prolonging how long it takes to fall asleep and fragmenting sleep.

b) Screen Time: two or more hours of screen time in the evening can seriously disrupt the melatonin surge needed to fall asleep.

c) Health Issues related to sleeping: Insomnia, restless legs syndrome, narcolepsy and sleep apnea

Limitations of our project

- The main limitation arises from a shortage of collected data, hindering the depth and scope of our analysis despite our considerable knowledge.

- The scarcity of foresight in data collection prevented the inclusion of key factors, such as students' majors and academic years, limiting the richness of our insights.

- A notable limitation in our analysis is the lack of heterogeneity in the data, with approximately 90 percent of questionnaire responses coming from females and individuals aged between 18 and 21.

Future scope of our Research

- We can further explore the impact bad PSQI scores are having on the productivity, health, academic performance of an individual, etc.
- The results of pairwise tests can guide researchers in designing follow-up studies or interventions focused on the specific group differences identified as significant.
- We can extend the study to diverse populations to validate the generalizability of significant factors influencing PSQI scores.

“Your PSQI scores are really really bad. Please get some sleep at night rather than watching reels :)”

P.s your bed misses you <3

References

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THANK YOU !

The floor is open for questions.

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	5.030	.554		9.075	.000	3.938	6.121		
	Stress_Level	1.053	.158	.384	6.685	.000	.743	1.364	1.000	1.000
2	(Constant)	5.148	.536		9.613	.000	4.094	6.203		
	Stress_Level	.918	.155	.334	5.920	.000	.613	1.223	.962	1.040
	Health_Issue	2.274	.508	.253	4.474	.000	1.273	3.275	.962	1.040
3	(Constant)	4.434	.618		7.173	.000	3.216	5.651		
	Stress_Level	.842	.157	.307	5.345	.000	.532	1.152	.918	1.089
	Health_Issue	2.461	.511	.273	4.816	.000	Double-click to activate	3.468	.937	1.067
										1.063

Excluded Variables[a]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	BMI	-.001[b]	-.020	.984	-.001	1.000	1.000	1.000
	Gender	.067[b]	1.169	.244	.073	.990	1.010	.990
	Last_Meal_Taken	-.018[b]	-.313	.755	-.019	.988	1.013	.988
	Caffeine_Intake	-.057[b]	-.978	.329	-.061	.985	1.015	.985
	Water_Consumption	-.098[b]	-1.695	.091	-.105	.986	1.014	.986
	Junk_Food	.112[b]	1.961	.051	.121	.991	1.009	.991
	Smoking	-.003[b]	-.051	.960	-.003	.997	1.003	.997
	CGPA	.010[b]	.168	.867	.010	1.000	1.000	1.000
	Test_Time_Taken	.088[b]	1.540	.125	.095	.991	1.009	.991
	Screen_Time	.084[b]	1.444	.150	.090	.966	1.035	.966
	Physical_Activity	-.068[b]	-1.182	.238	-.073	.991	1.009	.991
	Napping	-.018[b]	-.311	.756	-.019	1.000	1.000	1.000
	Health_Issue	.253[b]	4.474	.000	.268	.962	1.040	.962
	Sleeping_Roomates	.021[b]	.364	.716	.023	.998	1.002	.998

2	BMI	-.018[c]	-.323	.747	-.020	.995	1.005	.958
	Gender	.071[c]	1.278	.202	.079	.990	1.010	.952
	Last_Meal_Taken	-.022[c]	-.388	.699	-.024	.987	1.013	.951
	Caffeine_Intake	-.037[c]	-.669	.504	-.042	.979	1.021	.945
	Water_Consumption	-.086[c]	-1.537	.126	-.095	.984	1.017	.951
	Junk_Food	.091[c]	1.644	.101	.102	.984	1.016	.955
	Smoking	.002[c]	.027	.978	.002	.997	1.003	.959
	CGPA	.042[c]	.756	.450	.047	.983	1.017	.946
	Test_Time_Taken	.067[c]	1.197	.232	.074	.983	1.017	.954
	Screen_Time	.128[c]	2.263	.024	.140	.941	1.063	.918
	Physical_Activity	-.042[c]	-.746	.457	-.046	.979	1.021	.951
	Napping	-.044[c]	-.788	.431	-.049	.989	1.011	.952
	Sleeping_Roomates	.024[c]	.440	.660	.027	.997	1.003	.959

3	BMI	-.038[d]	-.683	.495	-.043	.971	1.030	.917
	Gender	.094[d]	1.689	.092	.105	.963	1.039	.901
	Last_Meal_Taken	-.040[d]	-.708	.479	-.044	.969	1.03	13
	Caffeine_Intake	-.051[d]	-.912	.362	-.057	.969	1.03	07
	Water_Consumption	-.081[d]	-1.466	.144	-.091	.982	1.018	.909
	Junk_Food	.071[d]	1.264	.207	.079	.952	1.051	.910
	Smoking	-.010[d]	-.182	.856	-.011	.988	1.012	.914
	CGPA	.047[d]	.846	.399	.053	.982	1.018	.917
	Test_Time_Taken	.072[d]	1.295	.196	.081	.982	1.018	.912
	Physical_Activity	-.053[d]	-.957	.339	-.060	.972	1.029	.910
	Napping	-.051[d]	-.925	.356	-.058	.986	1.014	.917
	Sleeping_Roomates	.027[d]	.494	.621	.031	.997	1.003	.915

Double-click to activate