

A Study to Assess the Impact of Level of Stress over Sleep Satisfaction among Persons Associated with P P Savani University; Surat

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Abstract: ***Background:** Post-pandemic the stress is increased in person's life has increased and sleeping pattern of an individual is disturbed **Aim:** to identify the association of various demographical characteristics with level of stress and level of sleep satisfaction. **Sample:** 201 were purposefully selected. From which were having 20 mild stress, 162 were having moderate stress and 19 were having severe stress. **Method:** Correlational research design. Data was collected by using Google form containing details of demographic variables, Perceived stress Scale score and level of sleep satisfaction. **Result:** Negative correlation has been found between level of sleep satisfaction and level of stress, which means as stress level increases, the level of sleep satisfaction decreases. And there is high significance found (p -value <0.0001) between level of stress and level of sleep satisfaction.*

Keywords: Stress, Sleep, Sleep Satisfaction

1. Significance of the Study

Stress is a common factor which is leading to almost every kind of mental health related issues and so many times the physiological symptoms are also associated with level of stress. Major causes of stress found in various surveys are:

- Death of a loved one.
- Divorce.
- Migration.
- Job loss.
- Marital separation from mate.
- Detention in jail or other institution.
- Major personal injury or illness.
- Marriage.
- Being fired at work.
- Fraud.

During the pandemic (COVID 19 lockdown), there were found so many lifestyles related changes in everyone's life including daily habitual pattern, and specially academics were disturbed which had major impact over academic performance of students. This led to stressful condition specially for teachers and students in the means of completion of curriculum effectively and due to this so many new measurements were to improve academic gaining in students. This situation led my interest over assessing the person's sleeping behavior associated with particular academic institution to measure the post covid outcome measures in students and teaching-faculties of the institution; that how the stress has impacted over sleeping pattern of an individual. And also above risk factors for stress and related disorders were increased during the pandemic.

During COVID-19 pandemic the stress level and mental illness of Indian population is increased. The situation of lockdown has caused the feeling of distress, agitation and

helplessness among the people. Healthcare workers, poverty-stricken people, elderly, kids and persons with some pre-existing medical conditions were more vulnerable to anxiety currently. Practicing a healthy lifestyle; yoga, meditation, avoiding reading too much about the pandemic and being with family are the ways to assuage stress.

National international scenario:

Globally 86% of overall population is suffering stress and related problems whereas in India 89% of overall population is suffering from stress and related problem. Among these peoples most of them are not ready to seek professional help which again leads to increasing in severity of symptoms. (14)

Statement of the problem:

A Study to Assess the Impact of Level of Stress over Sleep Satisfaction among Persons associated with P P Savani University; Surat.

- 1) **Stress:** In this study stress is considered as a non-specific adaptive response to a perceived threat that involves physiological, cognitive, affective and behavioral components, arises whenever there is any kind of demand is made up on body or mind.
- 2) **Sleep:** In this study sleep can be considered as a resting phase of an individual's life which helps to reduce fatigue.
- 3) **Sleep satisfaction:** In this study sleep satisfaction can be considered as level of satisfaction person gets after awakening from resting phase which includes calmness, regeneration of new energy required for working throughout the day and restoration of normal bodily functions.

Aims and Objectives:

- **O1:** To assess the level of stress among people associated with P P Savani University.
- **O2:** To find out the level of sleep satisfaction among people associated with P P Savani University.
- **O3:** To assess the level of stress and level of sleep satisfaction among different demographic variables.
- **O4:** To find out the correlation between sleep satisfaction and level of stress.
- **O5:** To find out the association between level of stress and level sleep satisfaction.

Assumption:

The severity of stress level will impact over sleeping pattern of an individual; more severe stress will lead to less satisfaction in sleep.

Hypothesis:

- **H₁:** There will be correlation between level of stress and level of sleep satisfaction.
- **H₂:** There will be significant association between stress and level of sleep satisfaction and demographic variables.

2. Material and Methods

Research design:

Correlational research design

O1	O2
Level of stress	Level of sleep satisfaction

Variables:

- **Independent variable:** Level of Stress
- **Dependent variable:** Level of Sleep Satisfaction

Sampling:

Sample size: 201 consecutively selected samples

Sampling technique: Purposive sampling

Sampling criteria:

Inclusion criteria

- Students and teachers who are associated with P P Savani University.
- Students and teachers who are willing to participate in the research study.
- Students and teachers who know English language.

Exclusion criteria

- Students and teachers who don't know English language.
- Students and teachers who are suffering from mental illness.

Sample distribution:

Sr. No.	Category	Sample size
1	Mild stress	20
2	Moderate stress	162
3	Severe stress	19

Date collection:

The data is collected by using google form which contains details of:

- 1) Perceived Stress Scale developed by Cohen, Kamarck and Mermelstein. It is self-reported questionnaire.
- 2) Rating scale for Sleep Satisfaction (1-10 numbering). It is based upon subjective marking.

Statistical analysis

After finding Mean and SD Scores; correlation has been found by using Karl Pearson's product movement correlation significance by using t value.

3. Result

Table A1: Mean of stress level found among samples

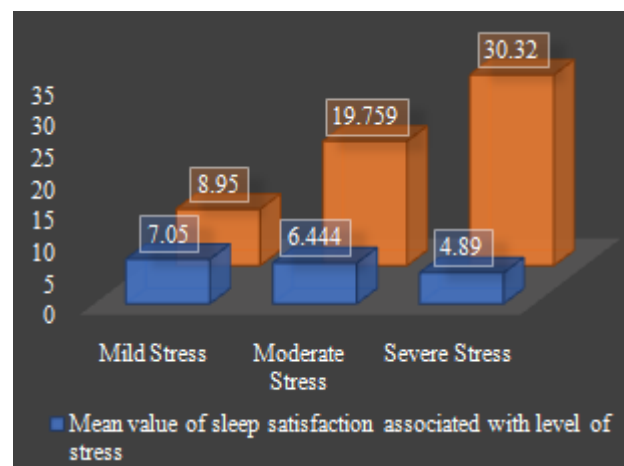
Level of Stress	N	Mean	SD
Mild Stress	20	8.950	3.120
Moderate Stress	162	19.759	3.136
Severe Stress	19	30.32	2.437

Table A1 shows the mean values of stress level which 8.950, 19.759 and 30.32 for Mild stress, Moderate stress and severe stress respectively.

Table A2: Mean of level of sleep satisfaction associated with stress level found among samples

Level of Stress	N	Mean	SD
Mild Stress	20	7.050	1.959
Moderate Stress	162	6.444	2.112
Severe Stress	19	4.89	2.052

Table A1 shows the mean values of stress level which 8.950, 19.759 and 30.32 for Mild stress, Moderate stress and severe stress respectively.



Graph A: Mean of level of sleep satisfaction associated with stress level found among samples:

Table B: Mean Value and Standard Deviation of Stress level and Sleep Satisfaction among different demographic variables:

Demographic variables		N	Mean		SD	
			Stress level	Sleep satisfaction	Stress level	Sleep satisfaction
Age	>/=20 years	132	19.48	6.16	5.51	2.11
	21-30 years	53	21.53	6.70	5.05	2.18
	31-40 years	13	16.00	6.69	4.74	2.29
	>40 years	3	12.00	7.67	10.39	1.53
Gender	Male	42	17.29	6.55	7.15	2.06
	Female	159	20.31	6.31	4.99	2.17
Work position	Employee	22	17.18	6.55	6.12	2.28
	Student	179	19.99	6.34	5.50	2.13
Marital status	Married	22	16.82	7.05	6.59	2.01
	Unmarried	179	20.03	6.27	5.41	2.15
Type of family	Nuclear	107	20.17	6.49	6.07	2.04
	Joint	94	19.08	6.20	5.00	2.27
Area of residence	Rural area	71	18.97	6.55	4.68	2.23
	Urban area	88	19.97	6.52	6.18	1.92
	Hostel	42	20.29	5.69	5.87	2.34
Years associated with P P Savani University	<1 year	65	18.662	5.831	5.652	1.900
	1-2 years	69	20.145	6.522	5.278	2.324
	3-4 years	61	20.525	6.656	5.793	2.057
	>4 years	6	16.833	7.167	6.401	2.714

Table B shows the Mean and SD values of distributed samples.

Table C: Correlation, t- score and p value between level of stress and level of sleep satisfaction:

Variable	N	Mean	SD	r	t score	p value
Level of Stress	201	19.682	5.627	-0.229	33.22	<0.0001
Level of sleep satisfaction		6.358	2.143			

p<0.05: S (statistically significant); p>0.05: NS (statistically not significant)

C 1: Mild stress

Variable	N	Mean	SD	r	t score	p value
Level of Stress	20	8.950	3.120	-0.275	2.306	<0.05
Level of sleep satisfaction		7.050	1.959			

p<0.05: S (statistically significant); p>0.05: NS (statistically not significant)

C 2: Moderate stress

Variable	N	Mean	SD	r	t score	p value
Level of Stress	162	19.759	3.136	-0.074	44.823	<0.0001
Level of sleep satisfaction		6.444	2.112			

p<0.05: S (statistically significant); p>0.05: NS (statistically not significant)

C 3: Sever stress

Variable	N	Mean	SD	r	t score	p value
Level of Stress	19	30.32	2.473	-0.146	34.494	<0.0001
Level of sleep satisfaction		4.89	2.052			

p<0.05: S (statistically significant); p>0.05: NS (statistically not significant)

Table C shows the Mean, SD, correlation, t-score and p-value of level of sleep satisfaction associated with level of stress.

4. Discussion

O1: To assess the level of stress among people associated with P P Savani University.

Table-A1 shows the average stress level of the samples. 20 samples were having mild stress level. The average stress level found in samples having mild stress is 8.950. 162 samples were having moderate stress level. The average stress level found in samples having moderate stress is 19.759. Among samples 19 were suffering from severe stress level. The average stress level found in samples having moderate stress is 30.32.

O2: To find out the level of sleep satisfaction among people associated with P P Savani University.

Table-A2 shows the average level of sleep satisfaction among different categories of stress level of the samples. 20 samples were having mild stress level. The average level of sleep satisfaction associated with mid stress was 7.050. Among 201 samples 162 samples were having moderate stress level. The average level of sleep satisfaction associated with mid stress was 6.444. Among samples 19 were suffering from severe stress level. The average level of sleep satisfaction associated with mid stress was 4.89. The report shows that as the level of stress increases, level of sleep satisfaction decreases.

O3: To assess the level of stress and level of sleep satisfaction among different demographic variables.

Table-B shows the average value of level of stress and level of sleep satisfaction among different demographic variables.

Age:

Among 201 samples 132 were belong to age group of >/= 20 years their average stress level was 19.48 and average sleep satisfaction level was 5.51; among total samples 53 were belong to 21-30 years of age their average stress level was 21.53 and average sleep satisfaction level was 6.70; among total samples 13 were belong to age group of 31-40 years their average stress level was 16 and average sleep satisfaction level was 6.69; and 3 samples were belonging to age group of >40 years their average stress level was 12 and average sleep satisfaction level was 7.67.

Comparing to this statistic it seems that initially the level of stress is increasing when there is a transformation of individual from teenage or adolescent to early adults, but after that as the age is increasing the level of stress is decreasing. And it seems that as the

Gender:

Among 201 samples 42 were belong to male gender their average stress level was 17.29 and average sleep satisfaction level was 6.55; and 159 samples were belonging female gender their average stress level was 20.31 and average sleep satisfaction level was 6.31.

Comparing to this statics male are having less stress level than females and more sleep satisfaction is seen in male than in female.

Work position:

Among 201 samples 22 were belong to employee category whose average stress level was 17.18 and average sleep satisfaction level was 6.55; and 179 were belong to student category whose average stress level was 19.99 and average sleep satisfaction level was 6.34.

Comparing to this statistics employee are having less stress level as compare to students and more sleep satisfaction as compare to students.

Marital status:

Among 201 samples 22 were married whose average stress level was 16.82 and average sleep satisfaction level was 7.05; and 179 were unmarried whose average stress level was 20.03 and average sleep satisfaction level was 6.27.

Comparing to this statistic married are having less stress level as compare to unmarried and more sleep satisfaction as compare to unmarried.

Type of family:

Among 201 samples 107 were living in nuclear family whose average stress level was 20.17 and average sleep satisfaction level was 6.49; and 94 were living in joint family whose average stress level was 19.08 and average sleep satisfaction level was 6.20.

Comparing to this statistic people living in nuclear family are having more stress level as compare to people living in joint family and more sleep satisfaction as compare to people living in joint family.

Area of residence:

Among 201 samples 71 were residing in rural area whose average stress level was 18.97 and average sleep satisfaction level was 6.55; 88 were residing in rural area whose average stress level was 19.97 and average sleep satisfaction level was 6.52 and 42 were residing in rural area whose average stress level was 20.29 and average sleep satisfaction level was 5.69.

Comparing to this statistic people residing in rural area are having less stress level as compare to people residing in urban area and hostel. Here hostel people are found to have more stress level than people residing at home; and more sleep satisfaction is found in people residing in rural area,

than in urban area whereas people residing in hostel were having least sleep satisfaction.

Years associated with P P Savani University:

Among 201 samples 65 people were associated with P P Savai University for less than 1 year their average stress level was 18.662 and average sleep satisfaction level was 5.831; among total samples 53 were associated with P P Savai University for 1-2 years their average stress level was 20.145 and average sleep satisfaction level was 6.522; among total samples 61 were associated with P P Savai University for 3-4 years their average stress level was 20.525 and average sleep satisfaction level was 6.656; and 6 samples were associated with P P Savai University for more than 4 years their average stress level was 16.833 and average sleep satisfaction level was 7.167.

Comparing to this statistic it seems that the more stress level is identified in people associated with P P Savani University between 1 – 4 years as comparing with the people associated for less than year to more than 4 years. The lowest stress level if found in people who are associated with P P Savani University for about more than 4 years. The highest level of sleep satisfaction is identified in people associated with P P Savaani University for about more than 4 years and lowest sleep satisfaction is found within the people who are associated with P P Savani University for less than 1 year. There is no much difference is seen in people associated with P P Savani University for 1- years and 3-4 years.

O4: To find out the correlation between level of stress and level sleep satisfaction.

and

H₁: There will be correlation between level of stress and level of sleep satisfaction.

The findings suggest that level of stress is having correlation with level of sleep satisfaction.

Table C shows the correlation and significance of level of sleep satisfaction and stress.

The negative correlation is found between level of sleep satisfaction and level of stress. Although the correlation is minor level but then also it shows the impact, that means as the level of stress increases, level of sleep satisfaction decreases.

Mild stress:

Mild negative correlation has identified between level of stress and level of sleep satisfaction which means as the level of stress increases and level of sleep satisfaction decreases.

Moderate stress:

Very low negative correlation is found between found which cannot be considered that shows there is very minor correlation or neglectable correlation of stress with sleep satisfaction when it compared with moderate level of stress.

Sever stress:

With severe stress negative correlation is found between level of stress and level of sleep satisfaction. Although it is a mild negative correlation but it shows that stress is having significant impact over sleep satisfaction.

O5: To find out the association between level of stress and level sleep satisfaction.
and

H₂: There will be significant association between stress and level of sleep satisfaction.

Table C shows the correlation and significance of level of sleep satisfaction and stress.

In this study it seems that level of stress is having significant association with level of sleep satisfaction. It seems that when person is disturbed that time he is not able to get enough amount of sleep satisfaction. As compared with mild stress, Moderate stress and Severe stress levels are having high significance with level of stress. Overall the stress level is statistically significant with level of sleep satisfaction.

5. Conclusion

During this study it has been found that level of stress can affect the level of sleep satisfaction. Various demographic details have close association with stress adaptation and coping of an individual. The stress level and sleep satisfaction depends upon various factors like age, work experience, work pressure, area of living, relationship with family member, level of fatigue, marital status and employment status, etc.

6. Practical Implications

- This study will be further useful for students, clinicians and academicians in correlating various factors associated with sleeping disturbances and level of stress faced by person belonging to different demographical variables.
- This study will helpful for leaders and managers in assigning task to person and organizing various stress management coping strategies related programs in corporate sectors.
- Further this study will act as a base for new research studies focuses upon treatment measures.

7. Future Suggestions

- This study has conducted over small group of population and is limited to the people working in P P Savani University. The study can be conducted over expansive group of population.
- The study can be further done by using various treatment measures.
- This study can be used as a base of identifying various causes and symptoms associated with stress and related conditions.

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