

An IOT Based Stress Monitoring and Analysis

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Abstract: Stress is a condition of mental pressure for particular individual facing problems from environmental and social well-being which leads to so many diseases. Young age is the critical period because at this time youth faces lots of changes in his/her life. They are expected to be the elites in the society. Thus, they should enhance their stress management abilities so as to live a healthy life after entering the society. When a child enters into the youth age, they need to not only adapt themselves to the new life and new environment but also be familiar with many new people, events, and things. The life stress on them is considerable. Therefore, understanding the sources of stress among them and how they can cope with the stress is very important. The researcher found that the stress mainly comes from academic tests, and career exploration. Such stress may usually cause psychological, physical, and behavioral problems. This study finds the causes of stress among youth and management strategies to overcome the stress. The findings will help the individual students, scholars, lecturers, career and counseling centers.

Key Words: Stress, Strategies, level, K nearest neighbour.

I. INTRODUCTION

Stress is a feeling of emotional or physical tension. It can come from any event or thought that makes you feel frustrated, angry, or nervous. Stress is your body's reaction to a challenge and. In short bursts, stress can be positive, such as when it helps you avoid danger or meet a deadline. But when stress lasts for a long time, it may harm your health. Stress management is a "set of techniques and programs intended to help people deal more effectively with stress in their lives by analysing the specific stressors and taking positive actions to minimize their effects." Stress is the "psychological, physiological and behavioural response by an individual when they perceive a lack of equilibrium between the demands placed upon them and their ability to meet those demands, which, over a period of time, leads to ill-health" (Palmer, 1989). Stress is a normal feeling. There are two main types of stress:

- **Acute stress.** This is short-term stress that goes away quickly. You feel it when you slam on the brakes, have a fight with your partner, or ski down a steep slope. It helps you manage dangerous situations. It also occurs when you do something new or exciting. All people have stress at one time or another.
- **Chronic stress.** This is stress that lasts for a longer period of time. You may have chronic stress if you have money problems, an unhappy marriage, or trouble at work. Any type of stress that goes on for weeks or months is chronic stress. You can become so used to chronic stress that you don't realize it is a problem. If you don't find ways to manage stress, it may lead to health problems.

Health problems related to stress

Heart disease: Researchers have long suspect stressed- out, type A personality has a higher risk of high blood pressure and heart problems. e don't know why, exactly. Stress can directly increase heart rate and blood flow, and causes the release of cholesterol and trigly to the blood stream. It's also possible that stress is related problems an increased likelihood of smoking or obesity that indirectly increase the heart risks. Doctors do know that sudden emotional stress can be a trigger for serious cardiac problems, including heart attacks. People who have chronic heart problems need to avoid acute stress--and learn how to successfully manage life's unavoidable stresses as much as they can.

Asthma. Many studies have shown that stress can worse asthma. Some evidence suggests that a parent's chronic stress might even increase the risk of developing asthma in their children. One study looked at how parental stress affected the asthma rates of young children who were also exposed to air pollution or whose mothers smoked during pregnancy. The kids with stressed out parents had a substantially higher risk of developing asthma.

Obesity. Excess fat in the belly seems to pose greater health risks than fat on the legs or hips and unfortunately, that's just where people with high stress to store it."Stress causes higher levels of the hormone cortisol," says Winner," and that seems

to increase the amount of fat that's deposit in the abdomen."

Diabetes. Stress can worsen diabetes in two ways. First, it increases the likelihood of bad behaviors, such as unhealthy eating and excessive drinking. Second, stress seems to raise the glucose levels of people with type2 diabetes directly.

Headaches. Stress is considered one of the most common triggers for headaches--not just tension headaches, but migraines as well.

Depression and anxiety. It's probably no surprise that chronic stress is connected with higher rates of depression and anxiety. One survey of recent studies found that people who had stress related to their jobs--like demanding work with few rewards-- had an 80% higher risk of developing depression within a few years than people with lower stress.

Gastrointestinal problems. Here's one thing that stress doesn't do--it doesn't cause ulcers. However, it can make them worse. Stress is also a common factor in many other conditions, such as chronic heartburn (orgastro esophageal reflux disease, GERD) and irritable bowel syndrome (IBS), Winner says.

Alzheimer's disease. One animal study found that stress might worsen Alzheimer's disease causing its brain more quickly. Some researchers speculate that reducing stress has the potential to slow down the progression of the disease.

Accelerated aging. There's actually evidence that stress can affect how you age. One study compared the DNA of mothers who were under high stress -- they were caring for a chronically ill child -- with women who were not. Researchers found that a particular region of the chromosomes showed the effects of accelerated aging. Stress seemed to accelerate aging about 9 to 17 additional years.

Premature death. A study looked at the health effects of stress by studying elderly caregivers looking after their spouses -- people who are naturally under a great deal of stress. It found that care givers had a 63% higher rate of death than people their age who were not care givers.

Symptoms of Stress: Although we all experience stress differently, some common symptoms include:

- Moody
- Irritability
- Short temper
- Accelerated speech
- Nailbiting
- Restlessness
- Lack of confidence
- Getting confused easily
- Worrying
- Nervousness
- Health issues

II. TECHNIQUES USED FOR MANAGING STRESS

- Yoga and meditation
- Physical exercise
- Entertainment
- A way from stressful environment
- Sleep
- Speaking with likeminded persons
- Playing with pet animals
- Prayer
- Medication
- Positive thinking
- Time management
- Tour
- Browsing and exhibiting the feeling through social media

III. REVIEW OF LITERATURE

Dr. A. Jayakumar and K.Sumathi (2014) in the journal International Journal of recent advances in organisation behaviour and decision science. To estimate the level of stress in higher secondary students studying in Salem District and to identify various Strategies for reducing stress to evaluate the effectiveness of stress management program and to determine

the change of attitude after the stress management program to evaluate the efficiency of advocating stress management program. They have found that the students community in Higher Secondary School follow some and healthy ways to cope with stress by selecting negative strategies to avoid failure aiming to low for scheduling daily life etc. Quadir Bukhsh, abid Shahzad and Muzammil Nisa (2011) inprocedia social and behavioral science. To find the common system of stress in University students, to find out causes stress in University students, to findout stress management techniques used by students and to recommend strategies to cop the stress. From the study they have found that the significant majority of respondent agreed that they feel fatigue/tired under stress, Majority of responded agreed that they feel muscle pain, difficulty to concentrate and watching T V or movies could reduce stress, listening to music or take part on other leisure time activity or hobby. Dr. Deepthi Bhargara and Hemant Trivedi (2018) in International Journal of management and social science. To Study the symptoms of stress among youth, to measure the level of stress among youth and to know the strategies to cope up with stressor by the youth and found out that the setting of personal and professional objective keep them organized and planned helps to maintain time management and be upto date in the course work, get in involved with various activities, maintain communication with family, share view and problems with someone and have a positive thinking Dr. Bhanin. U. Pandya, Ms. Revathi. C. Deshpande and Ms. Anushree Karani (2007) in journal of Arts Science and Commerce to understand the impact of academic stress upon performance and mental health of MBA Students. And found that the stress on academic institutions can have both positive and negative consequences if not well managed and academic institution have different work settings comparing to non-academic and therefore one would expect the different in symptoms, cause and consequences of stress. Henry.D.Mason(2017)in journal of students affairs inAfrica about the academic stress, coping, meaning, psychological stress and qualitative research and found that the types of stressors, coping strategies and outcome of coping efforts.

IV. RESEARCH METHODOLOGY

The research study is s descriptive study and the data was collected from students using questionnaire. The variables respondents feel difficulty in studies from group behavior, 21.8% of the respondents feel difficulty in studies due to lack of information, 21.8% of the respondents feel difficulty in studies due to lack of recognition, 29.1% of the respondents feel difficulty from other means.

Symptoms of Stress: The below table presents the symptom of stress undergone by the student.

V. RESULT OF THERESEARCH

The research has taken the socio-demographic variables, stress of the students as independent variable and their management strategies as dependant variable. The following table presents the profile of the respondents:

Table1. Profile of the Respondent

Variable	Categories	Percentage
Age of respondents	18-20	14.5
	20-25	85.5
Gender	Male	50.9
	Female	49.1
Education Qualification	High school	3.6
	Graduation	6.4
	Post-graduation	90.0
Type of Family	Nuclear	75.5
	JointAI	24.5
Feeling Stress	ways	8.2
	Sometimes	62.7
	Idon'tknow	6.4
	Everyday	5.5
	Onceinawhile	16.4
Problemtofeelstress	Never	.9
	School/college	31.8
	Family	27.3
	Friends	10.9
	Community	10.0
	Others	20.0

From the above diagram we can identify that 85.5% of respondents are in the age group between 20-25, 90% respondents are pursuing Post graduation and 75.5% of the respondents are having nuclear family .8.2% of the respondents always feels stress, 62.7% sometimes feels stress, 6.4 doesn't know when they feels stress, 5.5% everyday feels stress, 16.4% feel stress once in a while, .9% never feels stress. The table reveals that 31.8% of respondents have problems at school, 27.3% of respondents have problems from family, 10.9% of the respondents have problems from community, 20% of the respondents have problems from other places.

Type of the difficulty**Table2. Type of difficulty in the studies**

Type of difficulty in your studies	Frequency	Percent
Group behavior	30	27.3
Lack of information	24	21.8
Lack of recognition	24	21.8
Others	32	29.1
Total	110	100.0

From the above table it is interpreted that 27.3% of the respondents feel difficulty in studies from group behavior, 21.8% of the respondents feel difficulty in studies due to lack of information, 21.8% of the respondents feel difficulty in studies due to lack of recognition, 29.1% of the respondents feel difficulty from other means.

Symptoms of Stress: The below table presents the symptom of stress undergone by the student.

Table3. Symptom of Stress

SI.No	Variables	Mean Score	Interpretation
1	Moody	2.61	Sometimes
2	Irritability	2.68	Sometimes
3	Short Temper	2.65	Sometimes
4	Accelerated speech	2.53	Sometimes
5	Nail biting	2.31	Rarely
6	Restlessness	2.62	Sometimes
7	Lack of confidence	2.70	Sometimes
8	Getting confused easily	3.04	Most of the time
9	Worrying	3.06	Most of the time
10	Nervousness	2.75	Sometimes
11	Health issues	2.52	Sometimes

From the above table we can identify that, the symptoms of stress most of the time happens are reflected by getting confused easily and worry.

Coping Strategies**Table4. Strategies for coping up the Stress**

SI.NO	Variables	Mean score	Interpretation
1	Yoga/meditation	2.21	Sometimes
2	Physical exercise	2.78	Sometimes
3	Entertainment	3.57	Most of the time
4	Away from stressful environment	3.63	Most of the time
5	Sleep	3.45	Most of the time
6	Speaking with like minded persons	3.48	Most of the time
7	Playing with pet animals	2.83	Sometimes
8	Prayer	2.73	Sometimes
9	Medication	2.72	Sometimes
10	Positive thinking	3.14	Most of the time
11	Time management	3.15	Most of the time
12	Tour	3.05	Most of the time
13	Browsing & exhibiting the through social media	3.15	Most of the time feeling

From the above table the coping strategies mostly used by the students are entertainment, moving away from stressful environment, sleep, speaking with likeminded persons, positive thinking, time management, browsing and exhibiting the feeling through social media.

VI. CONCLUSION

Stress is the body's natural response to challenges. When a student experiences high level of stress or chronic stress, regardless of her age or grade, it can interfere with her ability to learn, memorize, and earn good grades as well as lead to poor physical, emotional and mental health. By learning about common stressors, a parent can help to mitigate negative or chronic stress in a child's life. In today's date stress has been an integral part of life because there are many things which act as a catalyst in increasing stress. It is not limited to adults only, but stress is increasingly affecting children of all age group. Proper management of stress is really very difficult as parents don't have enough time to properly look after their children. Generally, people have common mindset that stress is only caused by a sad happenings. But the truth is that stress can occur through a good experience as well. As far as stress for students are concerned, there are plenty of reasons which can cause stress in a student's life. Stress management among students in universities and colleges is a hit-or-miss matter. An attempt is done through this paper to know the impact of stress among students and the necessity of managing it in order to make the learning effective.

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