

NEED FOR STRESS DETECTION AMONG ADOLESCENTS

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Abstract:

Adolescence can be a trying period for kids, family, and everyone else who interacts with them. India's school children experience higher levels of stress and deliberate self-harm. Suicidal thoughts are frequent, especially in stressful situations or when people are struggling with their bodily or mental health. Many studies conducted in past have proved that stress and suicide are closely related among adolescents. An increasing body of research indicates that responses to stressful life events, such as obsessions and compulsions, physiological distress, and cognitive control (i.e., stress-related symptoms), may raise the risk of considering suicide as well as making an attempt. Identifying adolescents who are at risk of suicide is the first step in successful suicide prevention. The objective of the research is to monitor students' health and behavior i.e students having moderate to severe stress, in order to spot individuals who might contemplate suicide. 262 teenagers between the ages of 13 and 18 who were chosen from various schools in the Bangalore-Urban area participated in a cross-sectional survey. Through careful analysis, we were able to establish that the majority of the survey's sample population had moderate to severe levels of stress, which may be one of the main causes of suicide ideation.

Key Words: Stress, Suicide thoughts, Moderate Stress, High Stress, Suicide ideation, Adolescents.

1. INTRODUCTION

Today's world is one where stress is a way of life. Childhood trauma have a significant impact on an individual and have a long-term impact on their mental and

physical health. One learns that early trauma and stress cause predictable patterns of brain development, traits, and behaviours. Childhood adversities and the stress they cause are relatively common. Adolescence is a time of stress and pressure as it marks the transition from childhood to maturity.

Numerous viewpoints on the subject are offered by scientific studies on stress and anxiety. Stress is a natural aspect of existence for humans because of the quickening pace of life and our competitive and hurried lifestyles. When under stress, a person exhibits behavioral defenses. One's cognitive functions and emotional state are altered as a result. Stress is a well-known factor in mental disorders, suicidal ideation, and mood disorders. The word "stress" is frequently used interchangeably with "bad life experiences" or "bad life events." Long-term overloaded conditions, like stress in this example, eventually cause mental health issues or the onset of disease [1]. The aim of this research is to identify students who meet the criteria for stress and who are more likely to have suicide thoughts.

There have been several research conducted over the years that demonstrate the connection between stress and suicidal ideation [2]. Numerous factors that can trigger thoughts of suicide have already been identified by prior studies as shown in Fig 1, all the factors mentioned indeed leads to high stress. The more risk factors someone has, the more probable it is that they may experience suicide thoughts. It has become essential to assist young people in need.

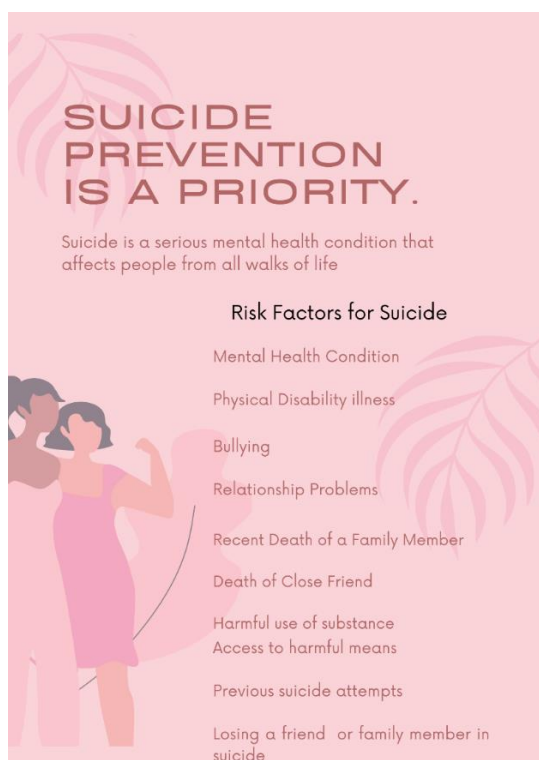


Fig 1: Risk Factors for suicide

Teenage stress can have an impact on their schoolwork, home life, and social life, frequently with major long-term repercussions. Increased hospitalizations, recurring depressions, psychosocial impairment, alcohol addiction, and antisocial behaviours are risks for adolescents with depression as they get older.

The purpose of the study was to gather information on how students operate under pressure in daily life and how these factors affect young people's suicidal thoughts. The main causes of suicide thoughts in teenagers and young adults are mental health issues like sadness and anxiety. Finding improved coping mechanisms for students is crucial in order to lower the suicide risk among young people in India. In order to achieve this, we investigated numerous facets of stress in a specific set of students and their connection to suicide ideation.

Symptoms that can be used to spot adolescents' stressful behaviours include:

- ✓ Teenagers' irritation may be caused by their inability to get enough sleep at night. Then,

parents are given a wake-up call.

- ✓ They could be unable to focus on their studies or their sport.
- ✓ Adolescents may have unexplainable anxieties or elevated anxiety.
- ✓ Adolescents withdraw from peer or family interactions.
- ✓ Youngsters can be using alcohol and drugs recreationally.
- ✓ Adolescents could express discomfort with headaches or stomachaches.
- ✓ Teenagers may have a poor appetite and a weak immune system.

2. STUDY METHODOLOGY

A convenient randomised sample strategy was used in this survey. The purpose of this retrospective analysis was to identify the students who fall under different category of stress like Low stress, moderate stress and High stress. What is the level of stress that students experience? is the research question posed in this paper.

The data was gathered between the months of June and July from 12 schools located in Bangalore's urban area. A confidential self-examined questionnaire was given to the students, of the age group between 13 and 18. The researchers distributed 400 questionnaires; however, they received only 262 questionnaires back as shown in Fig 2.

The study therefore involved 262 students, consisting of 197 females and 65 males. Most of the students were 13-18 years old. The respondents were represented by the age: Age 13 (8th Std)—68 people, Age 14(9th Std)—34 people, Age 15,16(10th Std)—52 people, Age 17(11 Std)—11 people, Age 18(12th Std)—96 people. The study selected students from various schools belonging to Bangalore Urban.

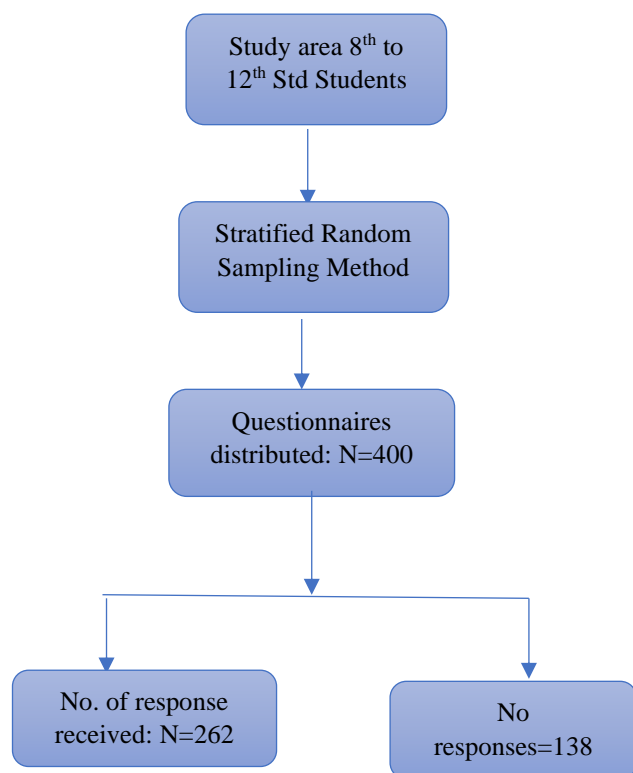


Fig 2: Subject study plan

2.1 MEASURES

Gender, age, and class level were the three basic demographics Table 1. The Perceived Stress Scale (PSS) gauged how much a person perceived their life circumstances to be stressful. This measurement tool's subjectivity has been employed as a predictor of outcomes with regard to health[6]. The questionnaire gave participants the chance to describe how unpredictable and uncontrollable their own lives are, taking into account their personalities and aggravating circumstances. The survey consisted of a short 10-item questionnaire that asked respondents to rank each item on a scale from 0 to 4, with 0 denoting that they had never thought or felt a specific way and 4 denoting that they did so frequently. The stress levels for our study were divided into three categories based on their overall scores (mild, 0 to13; moderate, 14–26; and severe 27–40). [6].

2.2. STATISTICAL ANALYSIS

In order to evaluate the distributions of the variables that were examined, study their parameters, and categorise respondents based on the characteristics that were analysed, the findings were gathered using Excel sheets.

3. RESULTS

Stress occurs. It's a universal truth. But as we age, the kinds of stressors we encounter and how we handle them vary. Both of these components of stress are in flux during the adolescent developmental stage. Although the majority of us recognise that stressors alter in nature during adolescence, the distinctive ways in which adolescents react to stress are less widely recognised. This review will concentrate on the significant changes in stress reactivity seen during adolescence.

According to Hashim (2003), academic stress is a substantial source of stress for many students, and depression has been linked to academic failure and low achievement. Exams, falling behind on homework, working on solo and group projects, time constraints, completing assignments, an insufficient funds, worries about academic competence, and class scheduling are often listed as sources of stress for students.

The variables and overall count for each category are shown in Table 1. The entire number of survey respondents is shown in this condensed version. Additionally, a classification based on gender, age, and stress level is provided.

Variable	Total
Total Respondents	262
Demographic Characteristics	
Gender	
Male	197
Female	65
Age	
13	68

14	34
15	38
16	14
17	11
18	96
Stress Level	
Low Stress	21
Moderate Stress	175
High Stress	66

Table 1: Determining stress: gender, age, stress level

3.1 STRESS STATUS OF THE RESPONDENTS

Teenage stress is a significant health concern. Cognitive, Physical and affective changes happen quickly during the early adolescent years. Other difficulties that young people could experience include shifting peer relationships, increased academic obligations, conflict in the home, and safety concerns in their neighbourhoods. Teens' physical and emotional health may suffer major short- and long-term repercussions depending on how they handle these stressors.

The study included 262 pupils, and a prevalence of 91.98% (High stress=26% and moderate stress=66%) was recorded overall. A majority of the 241 participants who reported feeling stressed had mild to severe stress symptoms. Fig. 3, Fig 4 shows that 21 (8.01%) of the participants had few signs of stress.

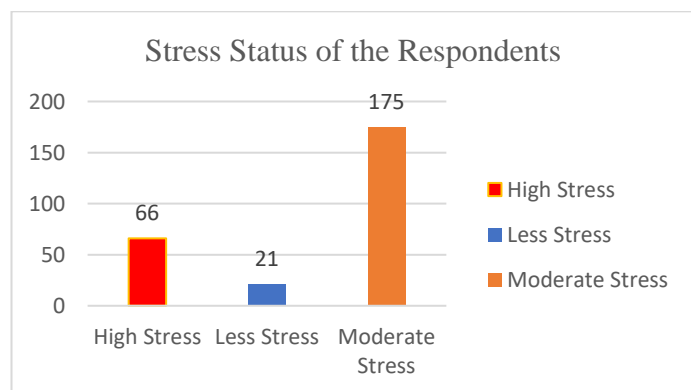


Fig 3: Stress status of the respondents

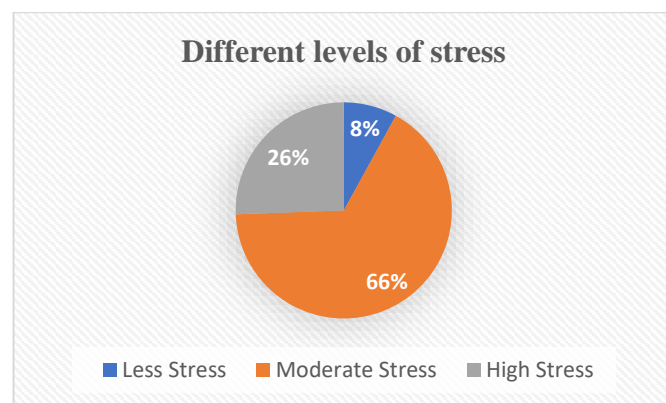


Fig 4: Representation of different stress levels with percentage

3.2 STRESS REPRESENTATION BASED ON AVERAGE INPUT TAKEN FROM RESPONDENTS.

From Fig 5. It is obvious that when compared to the other two stress levels, the average of high stress stands out among all of them. Then follows the period of mild tension. When compared to pupils who are under less stress, high stress kids are more likely to consider suicide. The adolescents who experience moderate stress should also be closely watched because severe stress can lead to greater mental health issues including severe despondency and dejection, which is the main trigger for suicide thoughts.

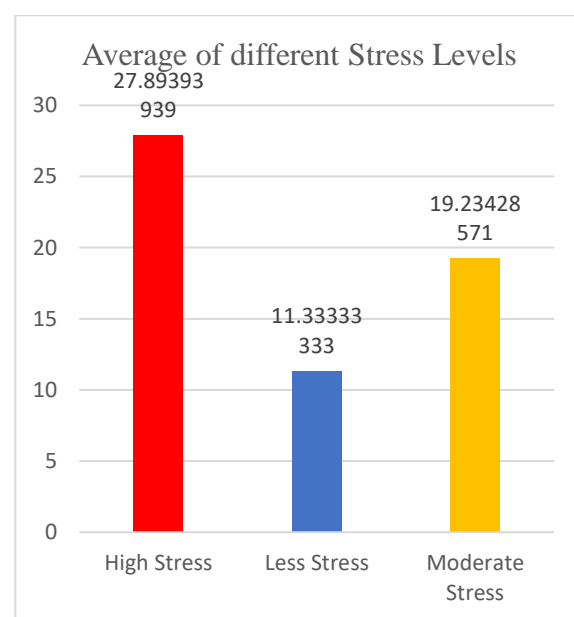


Fig 5: Average of different stress levels

3.3 DEMOGRAPHIC DATA : AGE WITH STRESS

Age	High Stress	Less Stress	Moderate Stress	Grand Total
13	7	8	53	68
14	9	4	21	34
15	7	3	28	38
16	6	0	8	14
17	5	0	6	11
18	33	6	57	96
Grand Total	67	21	174	262

Table 2: Categorization of stress based on Age

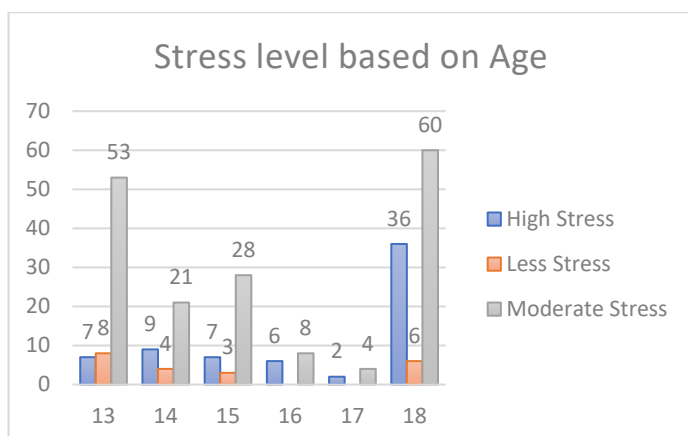


Fig 6: Graphical representation of stress based on Age

Stress occurs. It's a universal truth. But as we age, the kinds of stressors we encounter and how we handle them vary. Both of these components of stress are in flux during the adolescent developmental stage. Although the majority of us recognise that stressors alter over adolescence, the distinctive ways in which adolescents react to stress are less widely recognized.

Given are Table 2 and Fig. 6, which provide graphical and tabular representations of the stress organised by age. The graph makes clear that adolescents in practically every age cohort experience stress in their lives for a variety of reasons, including academic pressure[7][8], family troubles, relationship challenges, societal pressure, and

more[9]. They must be addressed as soon as possible since stress can cause many more serious illnesses, which might very well cause severe depression.

3.4 DEMOGRAPHIC DATA: GENDER WITH STRESS

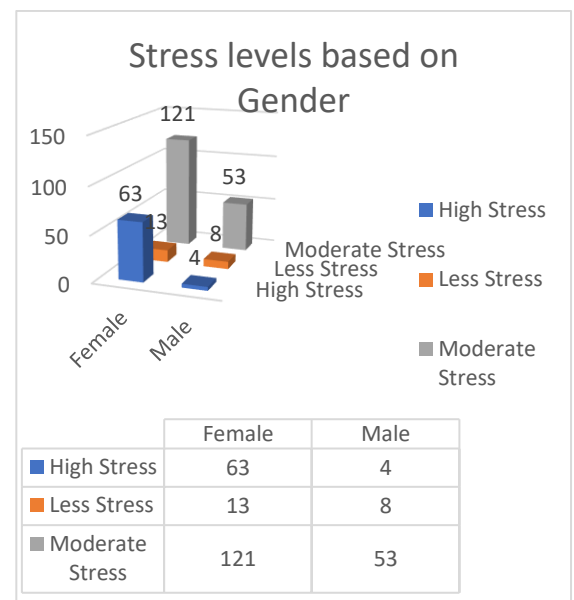


Fig 7: Graphical representation of stress based on Gender

Research conducted by Sue Grave et al. [26] clearly identified that females experience higher level of stress when compared to males.

Stress can be felt by anyone at any moment, but girls suffer a lot of stressors in life due to the variety of circumstances they must deal with. According to the statistics in Fig. 7 , the graph demonstrates that women typically experience higher levels of stress than men. As a result, women need to be given more consideration, and the issues they face or experience need to be studied in more detail[18].

4. DISCUSSION

For children all throughout the world, the COVID-19 epidemic has turned into an educational crisis . Due to the prolonged lockdown during this tragic and difficult time, pupils have acquired a variety of psychological issues, including despair and suicide ideation . This study examines the prevalence and contributing factors of stress,

as well as suicide ideation, among kids attending private schools in Bangalore Urban during this epidemic.

The overall incidence of stress in this study was determined to be 91.98% [High stress=26% and Moderate stress=66%]. The frequency found in this study was significantly higher than the average discovered in other studies conducted. Amrita Mishra et al. [10] in her study found to have stress% of 13.7 using YSR 1989 scale. Bansal V et al. [11] discovered stress % of 15.2 using GHQ 12 scale in a study conducted in Pune. Arun P Chavan BS[12] conducted survey on Chandigarh students and found to have stress % of 45.8. Similarly, Dhuria M et al.[13] found stress % of 24.7 among the students in Delhi. Sahoo S et al.[14] identified stress% of 20.0 among College going adolescents in Ranchi. Chhabra G S et al.[15] conducted a survey using GHQ 12 scale among Amristar adolescents and obtained stress% of 39.6 and Salunkhe et al.[16] obtained stress% of 16.6 using DAS scale on Mumbai adolescents. Despite the fact that depression and suicidal tendencies vary in frequency across the globe, studies consistently report greater rates of depression and suicidal ideation. This variance is the result of several risk factors, and these factors change from nation to nation. It was discovered through this study that the majority of the pupils exhibit mild to severe stress symptoms.

Compared to the previous studies, the new study has found that stress is more common among adolescents age group between 13-18, more than 75 percent of the students reported experiencing mild to severe levels of stress and which should be monitored at the earliest in order to avoid serious mental health issues at the later stages in their life.

5. STRENGTHS AND LIMITATIONS

A few issues determine the investigation's advantages and disadvantages. The survey gives us the chance to assess how common stress is among adolescents, who make up a relatively small group. Only a stress-related questionnaire was utilised in this cross-sectional study to gauge teenagers' levels of stress, which can pave the way for

suicidal thoughts. Moreover, the respondents' contact information was not acquired due to moral obligations regarding confidentiality and protection. The results may not accurately reflect the severity of stress and suicidal thoughts developing among students because the research method was unable to contact people with medically assessed stress side effects.

6. CONCLUSION

Despite several shortcomings, this study provides factual proof that a significant portion of students who are a part of Bangalore Urban have been experiencing stress. Less than half of the pupils said their stress levels were low. Most of the pupils said they experienced medium to severe stress. Since early detection can prevent many different types of major complications at a later stage, steps must be taken to address it as soon as possible.

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