

# Social Robots a Strategic Antidote for Stress Among Engineering Students in Around Chennai

Madhusudan. K. S, GeeVarghese, Vanitha

**Abstract:** This Paper Is Trying To Explore The Reasons For Stress Among Student In India And How Robots Can Be Strategically Used To Counter It, Especially When The Robots Are Used For The Social Benefit They Are Termed As Social Robots. They Can Be Used As Tools For Reducing Stress Among Students Since In India Every Hour One Student Is Going For Suicides And Many Are Subjected To Different Type Of Adverse Effect Of Stress, Such As Depression, Anxiety And Loneliness, Etc, Therefore, If Social Robots Can Be Used As A Tool For Social Marketing For Reducing Stress Among Student, Since Subjects Like Math's And Science Are Felt Difficult By The Students Which Had Been Successfully Taught By Such Social Robots Without Subjecting Them To Stress. At The Initial Stage Of Learning If Social Robots Are Introduced In Teaching The Anxiety Towards Such Subjects Goes Away At A Very Young Age And In The Later Stages Of Student' S Life A Student Will Be Feeling Distressed When Such Difficult Subjects Are Taught In Advance Level ,Eventually, Such Experiment Were Successful In Singapore And Japan. India Too Can Follow Them For A Noble Cause.

**Keywords:** Student Stress, Stress Solution, Social Robots, Robots And Stress

## I. INTRODUCTION

Stress is not always a bad thing since some amount of stress is necessary to perform better in life. For example, if you study you will be getting a good mark for the student who likes studies, he/she will be perceiving studying as positive stress and those who are not interested in studies will perceive it has negative stress, Therefore, when a person is subjected to negative stress.

There may be different types of response and brain is under attack due which it switches to different types, physiological responses such as Fight or flight mode which results in hormones and chemical release in body particularly such as Non-epinephrine, adrenaline and cortisol due which body prepare itself for physical action. But unfortunately, some individuals tolerate this release and go for freeze state due which they face the negative impact of stress on the long run.

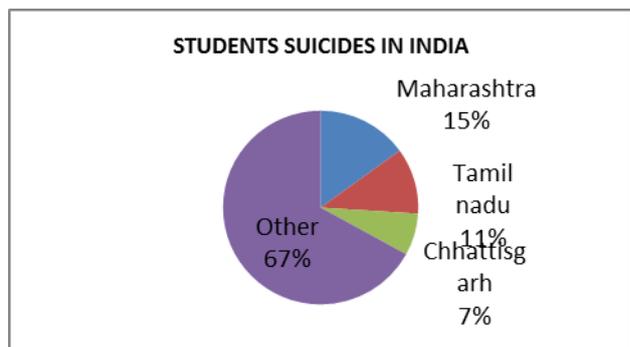


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## II. ADVERSE EFFECTS OF STRESS AMONG STUDENTS IN INDIA

According to the national crime records bureau in 2015 Maharashtra is has reported the highest rate of suicides in India with 1,230 of 8394 (14%) national wide, followed by Tamilnadu with 955 (11%) and Chhattisgarh 652 (7%). while Maharashtra and Tamilnadu are considered to be an advanced states in India but, unfortunately, suicides show the negative side of economic growth. This can be seen from the chart-1

CHART 1



Source: NCRB (2015)

## III. ADVERSE EFFECTS OF STRESS AMONG YOUTHS IN INDIA

### CASE 1

In Mumbai, a 24- year-old management student, committed suicides by jumping from 19th floor in the hotel room. The media report suggests that he was under depression due to the failure in exams and repeatedly was talking in social media to end this life and even he was a drug addict.

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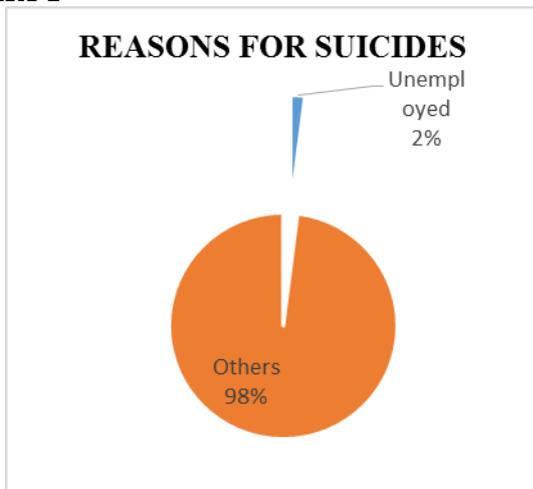
**CASE 2**

Student killed herself. The woman was a first-year engineering student at the university and caught in the exam for involving in cheating and due to academic stress, she ended her life.

**CASE 3**

8-year-old student of International School in NCR had killed a fellow student in order to defer a scheduled parent-teacher meeting and an examination business and scholastic necessity. As per the National Crime Records Bureau on a normal suicide because of joblessness represents 2% of the out of total suicides in India which can be seen from the chart 2. So the joblessness in the nation is generally because of the gap between the aptitudes required by the ventures having arrangement openings and abilities controlled by forthcoming hopefuls.

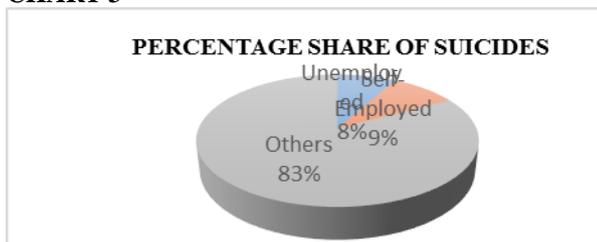
**CHART-2**



Source: NCRB (2015)

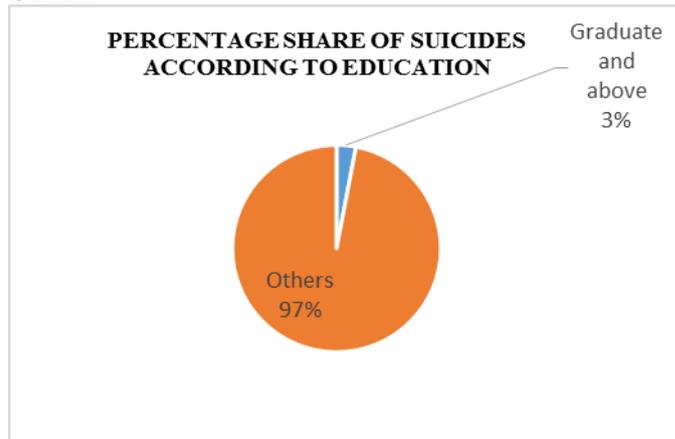
Regardless of whether we pass by calling the rate of suicides among joblessness is about 8% and suicides because of the independent work represents 9% of the complete suicides in India, which, can be seen from the chart 3. On the off chance that we endeavor to dissect the components prompting suicides because of joblessness is to a great extent a direct result of the need in the aptitudes, controlled by the forthcoming possibility to be procured for a vocation and with no choice close by, he/she goes for independent work there likewise he/she comes up short on the abilities to act naturally utilized, which, further instigate them to accept suicides as mode to rest their spirit, Therefore, regardless of whether we go as indicated by the dimension of capability were graduates represent 3% of the all suicides remarked by individuals who are educated and submitting suicides which can be seen from chart-4

**CHART-3**



Source: NCRB (2015)

**CHART-4**

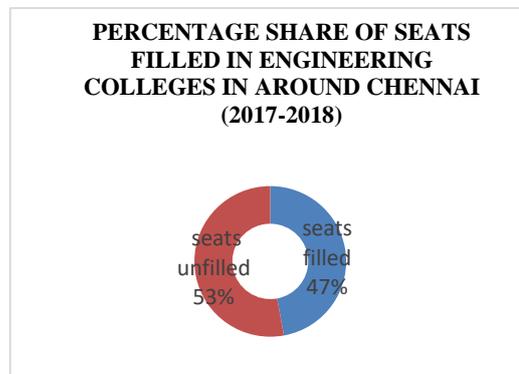


Source: NCRB (2015)

**IV. COMPETENCY AMONG AICTE APPROVED ENGINEERING COLLEGE STUDENTS IN AROUND CHENNAI**

A total of 72 engineering colleges in around Chennai from the academic year 2017-2018 have been taken for the study in which total seats allocated, total seats filled and placements are done in that academic year were taken into account. The data are sampled from the AICTE website for the year 2017-2018. In, which it is found that only 47% of the total seats have been filled in that particular year that too, only 43% of students have been placed as shown in chart-5 and chart-6

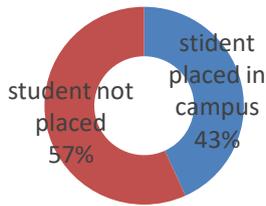
**CHART-5**



Source: Data compiled from the data available on the AICTE website (2017-2018)

**CHART-5**

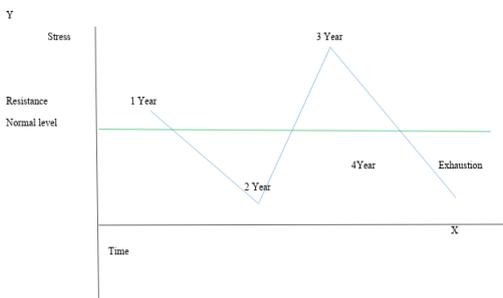
**PERCENTAGE SHARE OF STUDENTS PLACED IN ENGINEERING COLLEGES IN AROUND CHENNAI (2017-2018)**



Source: Data compiled from the data available on the AICTE website (2017-2018)

**V. ENGINEERING STRESS CYCLE**

IMAGE-1



Source: Author's own

The stress cycle of engineering student begins in the principal year were the dimension of stress apparently is typical. At the point when time pass the dimension of worry in the second year go to beneath ordinary due vulnerability in regards to the nature of training and future degree and in the third year an understudy endeavors to adapt up to the pressure yet in the last year because of the absence in the aptitudes controlled by him to be employable which is driving him/her to weariness arrange. The accomplishment of future architects will be to a great extent relies upon how well this stress cycle is being overseen viably to have an education calm and peaceful learning condition which can meet the business and scholastic necessity. As per the National Crime Records Bureau on a normal suicide because of joblessness represents 2% of the out of total suicides in India which can be seen from the chart 2. So the joblessness in the nation is generally because of the gap between the aptitudes required by the ventures having arrangement openings and abilities controlled by forthcoming hopefuls.

**What Are Robots**

They are the machine made by us able to perform complex tasks independently usually programmed by a computer. They are also called as an automaton, android, machine, and golem etc.

**Advantages Of Robots**

- It can help in with decreased in production costs.
- The operation time will shorter compared to manual operation.
- There will be an improvement in the Quality and Reliability of the outputs.

- We can use space better and can increase the number of products and services.
  - We can attract more customers to our product and service using robots.
  - They increase safety in the operations.
  - There will be more savings in terms of manpower and other resources if robots are used.
  - They can be expert at multiple Applications and require no training once programmed correctly.
- Hence reduce the cost of training.

**VI. WHAT ARE SOCIAL ROBOTS**

The social robots are those robots which engage in social level and even solve social problems it is a recent innovative development in robotics.

They are a type of robots which can interact with humans and other robots by following social behavior or role attached to them. It had started in way back 1950 when William Gray, Walter first pointed out that those robots said to have social qualities, Therefore, By 1990 many scientists have said their robots can be used for social activity in this Takayuki Kanda, Hideki Kozima, and Tomio Watanabe few names who were responsible for the movement of social robots in Japan.

**ROLE OF SOCIAL ROBOTS IN OUR SOCIETY**

- They can be helpers since they sense emotions and design interaction style.
- They can be used as teammates because they can solve the problems in the teams.
- It can a good friend and give valuable advice to us.
- It can also be used as a coach in mentoring subjects, especially for school level education.

**VII. USES OF SOCIAL ROBOTS IN MANAGING STRESS**

What is stress, according to psychology is the process of feeling the pain. It leads to different responses according to the individual person perception. It became negative when a person cannot cope up with it and leads to adverse effects; therefore, especially in children were in some cases academic stress is leading to adverse effects such as depression, anxiety and suicides among students from around the globe especially in India. Social robots can be used for teaching as well as treatment of ailments for example in pediatric treatment a social robot called Gasparinho; a stubby robot with a T-shaped head is used in the Pediatric wing of a Lisbon cancer hospital. In recent years some country had introduced social robots in the different field related to children's, for example, Singapore which had introduced robots in preschools. The programme was launched by then Prime Minister Lee Hsien Loong in the year 2014 as a part of Singapore "SMART NATIONAL PROGRAMME" his goal was to use technology effectively in daily to day life example is for such usage is Kibo is robot was deployed at 160 nurseries. However, even it was found from the studies of Israel and US those robots are effective in social interaction and collaborating with children, which in turn leading to reduced Academic stress among student large.

## VIII. CONCLUSION

Academic pressure is one of the major factors which is leading to stress among student in India and globally at large. Stress results in the adverse impact in the form of depression, anxiety suicides, Therefore, with the help of robots in those especially social robots which are used for social benefit, will be proving itself in future as an effective tool in countering stress at large level not only in India but also globally at large, Since they are more interactive and creative, therefore, they can create positive perception among students towards subject such as engineering which normally induces stress. This may, in turn, lead to reduction in the stress among the students community at large to have stress free learning environment at engineering institutions in around Chennai, Thus if the actual potential of social robots can be explored in future in an effective way that may create a positive stress free learning academic environment in around Chennai.

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