

# FACTORS CONTRIBUTING for DECREASED ACADEMIC PERFORMANCE AMONG FIRST YEAR MEDICAL STUDENTS

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## **Abstract:**

**Background:** For proper academic performance students should be beware of factors which deplete or augmentate their performance in academics so that they can improve their learning and reduce failure rate

**Aim:** This study aimed to identify and analyze multiple factors that affect 1st year student's academic performance.

**Objectives:** To categorize the low achievers and high achievers in internal examination of anatomy and to evaluate the factors which are responsible to reduce/improve the performance of the students.

**Methodology:** A study was conducted on first year medical students of saveetha medical college via google form after getting ethical approvals. This study is conducted on 50 students studying first year MBBS. The lower achievers and high achievers were categorized based on the academic results in the internal examination of anatomy. They were formed into two groups as low achievers and high achievers by which they are categorized. A questionnaire was framed on the factors which affected the academic performance of low achievers and factors which helped high achievers to gain marks then it was validated. The students were asked to answer the questionnaire and collected from both high and low achievers separately. Student's information was kept confidential. The responses are analyzed and factors determining academic performance were evaluated and tabulated.

**Conclusion:** The distraction factors and favorable factors for academic performance in first year MBBS students were analysed. The possible ways to reduce/improve the performance of the students will be decided by the management.

## **INTRODUCTION**

Studying medicine is not easy as other UG courses. Medical course is one of the longest and stressful UG program. Medical students not only require learning skills and competence in multiple discipline, They also require knowledge in a wide range of subjects over limited period of time<sup>[1]</sup>. In India, Students are admitted to MBBS course based on their merit through entrance examination.

From there they start their journey of 4½ academic years which is divided into 9 semesters then followed by 1 year of compulsory internship. It is known that at this period they are subjected to summative assessments in which they have to score more than 50 in theory as well as practicals to pass.<sup>[2]</sup>To be known that the improvement of the students achievement has always been one of the main goal of education. There are multiple factors that affect their

learning including personality, IQ, family background, Age, Learning style, Method of study, Parental and peer pressure and mental problems.<sup>[3,4]</sup>

Most often students pressure increases by getting failed in exams. Students getting detention in any of the subject before final medical degree due to reasons builds up extra burden on him/her. Also, poor academics and poor attendance often state the difficulties in adjusting to the new environment.<sup>[5]</sup> Interesting fact is that the most important predictors of their performance in medical school is prior academic ability and English language proficiency. In most cases the improvement in the student can only brought out by faculties and management. It's their responsibility to analyze and take care and these factors and make sure students feel comfortable and reduce failure rates.

Hence this study was done to find how various factors such as learning style and methodology of teaching affect their academic performance.

### **AIM AND OBJECTIVE**

- To identify the factors which affect the academic performance of first year medical students.
- To suggest ideas to improve their academic performance by correcting the factors identified.

### **METHODOLOGY**

The complete study was conducted in department of anatomy of saveetha medical college and hospitals, chennai.

#### **1. Preparations and planning**

With proper ethical clearance from management had been taken to do the study. Around 100 students first year MBBS students were taken for the study.

As a part of the study 100 students were categorized as 2 groups that are high achievers and low achievers based on their marks in internal assessment of anatomy.

Separate questionnaires were framed for both the groups also at the same time students information were kept confidential.

The study was done ethically seen that even students were not know they are separated based on their mark.

This study is mainly based on the analysis of results of this self administered questionnaire and semi structural interview.

#### **2. Designing**

With the help of internet searches<sup>[6,7]</sup>, Factors which affect their academics had been noted. A relevant questionnaire to find out different factors affecting academic performance was created.

To be precise separate questionnaires were framed for both high and low achievers.

Questionnaire circulated to high achievers were consisted of questions and factors which enhanced their performance in academics where as question for low achievers consisted of distractions and other factors which decreased the performance of low achievers.

The questionnaires consisted of 15 questions in English focused on factors associated with their academics [Annexure 1 and 2] For both low and high achievers.

- Individual factors like basic interest, linguistic problems poor understanding.
- Faculty related problems
- Teacher-student interactions

- Learning methods used
- Factors related to learning environment
- Family pressures were focused much.

This questionnaires are circulated to the students via google forms which are shared through what's app links.

Most of the questions are graded on a liker scale of 1 to 5, While some have clear options to answer. These questions are reviewed by mentors with pilot tested by few faculties.

### 3. Administer of questionnaires

Out of chosen 100 first year students of 2019 batch 42 attended the low achievers questionnaires out of 50 where as 32 attended the high achiever out of 50, Students were not able to answer for various reasons. In which the girl-boy ration was almost the same.

The study was done after informing and taking students concern and done in the lecture hall. Students were not allowed to discuss with each other while answering

### 4. Analysis

Responses were analysed with the help of google form response results. Then total frequencies and percentage were manually calculated.

Factors which highly enhance and high distract are drawn out that is factors with high frequencies are noted separately so that those were the main factors. Working on them will definitely increase the rate of success.

## RESULT

Results of questionnaires were given below:

### 1. Results of questionnaires given to high achievers

As to find factors which helped high achievers to improve in academics we provided set of relevant questions. From the analysis of responses it was found that 52% of students think that their own interest toward subject is the most important factor in improvement of academic performance while 27% find it to be teachers with various factors. Where as 11% take it to be family and peer support toward their studies. 8% thinks it's the college environment, 2% take it to be listening to music before studying and other 1% have various other reasons [figure 1].

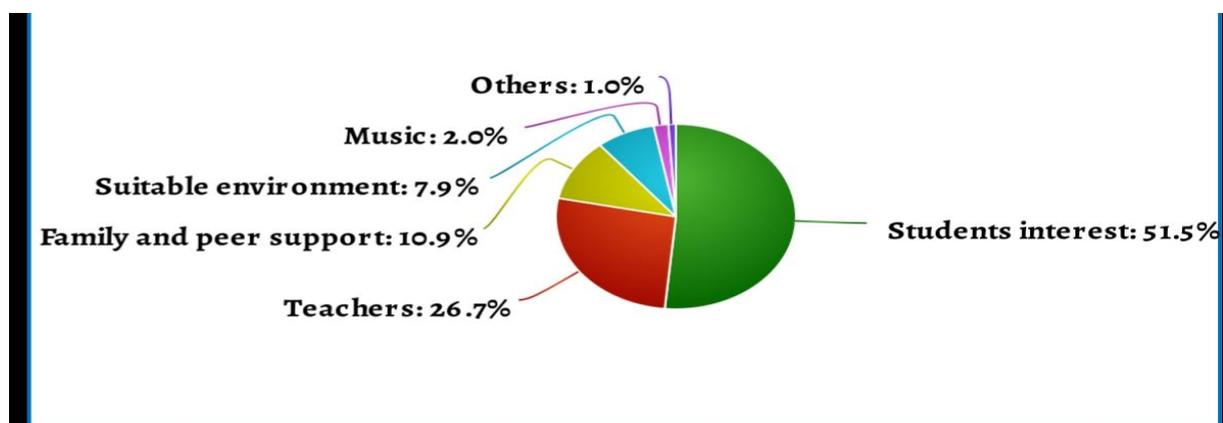
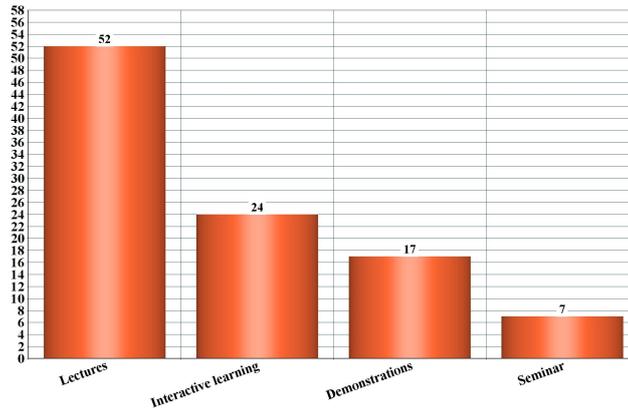


FIGURE 1



(Fig 2) Effective method of learning as per high achiever

A. Basic poll to analyze general factors which affect them the most

Questions	Percentage of poll
Students interest	51.5%
Parental and peer support	10.9%
Listening to music	2%
Teachers teaching style	26.7%
Friends	1%
Suitable environment	7.9%

APPENDIX-1

A. Results of questions given to high acheivers with responses graded in liker scale in (%)

Questions	Strongly agree	Agree	Unsure	Disagree	Strongly disagree
Do you think individual's interest towards subjects help to gain marks	64.2%	13.3%	14.3%	5.5%	2.2%
Do you prefer late night studies	71.4%	17.6%	2.2%	1.1%	7.7%
Do you think cleaning day to day topics helps to score higher marks	49.5%	23.0%	12.1%	13.2%	2.2%
Does your family support you enough by proving proper environment for studies	34.0%	35.2%	11.0%	5.5%	14.3%
Do you think YouTube lectures and videos help you to score marks	26.4%	2.2%	19.7%	35.2%	16.5%
Do you prefer interactive learning sessions	71.4%	17.6%	2.2%	7.7%	1.1%
Do you think clearing doubt time to time help you a lot	59.3%	16.5%	15.4%	7.7%	1.1%
Do you prefer listening to music before studying	56.0%	26.4%	11.0%	1.1%	5.5%
Do you Follow certain	22.0%	49.5%	9.9%	15.4%	3.3%

timetable or schedule to study					
Do you take up tests after studying	41.8%	22.0%	12.0%	17.6%	6.6%
Do you make repetitive revisions	58.2%	19.8%	5.5%	9.9%	6.6%

**B. Results of questions with other answer type**

Questions	YES	No	Unsure
Do you sleep more than 6 hours	53%	20%	27%
Do you prefer group studies	80%	19%	1%
Do you get offended distracted toward entertainments	84%	16%	0%
Do you study all the 3 subjects daily with regularity.	41%	29%	30%

**Pie charts for group studies**

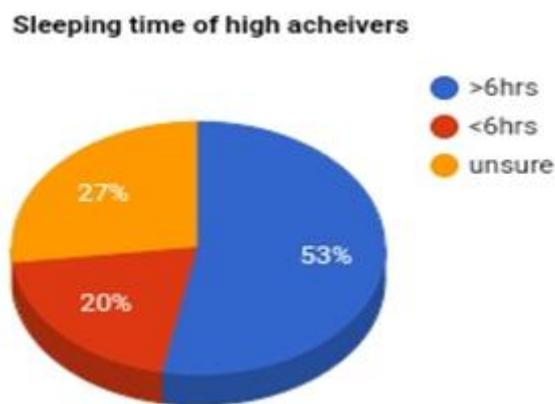


Figure 3

Sleep trimming pie chart

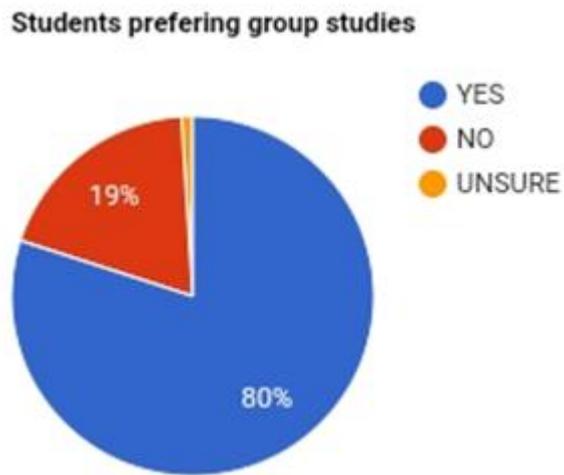


Figure 4

Daily learning pie chart

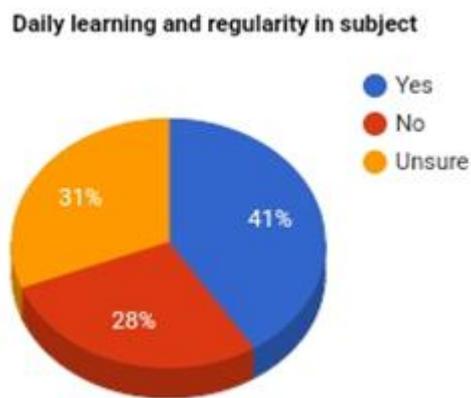


Figure 5

Late night studies pie chart

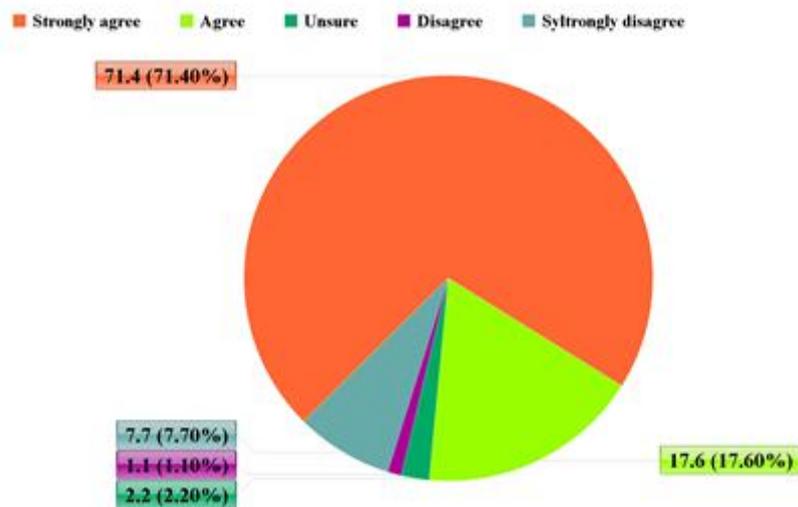


Figure 6

Based on responses to all the questions, different factors help to improvise academic performances like individual factors, Teaching methods, learning environment and study methods.

#### A. Individual factors

This factor has been the most important factor as most of other factors like self interest, sleep time, schedule learning, taking up tests comes under this as its the students responsibility.

51.5 percent of students agreed that it is the most important factor. Among this 64.2 % strongly agreed that its self interest. Also here comes the practice of scheduled learning in which 22% strongly and 49.5 agreed that scheduled learning made their path to success.

When it comes to sleeping time high achievers mostly sleep more than 6 hours as 53 % sleep more than 6 hours also studies say that optimum sleep is for 6 hrs.

And the most important thing, taking test after completing a chapter which really helped high achiever's as 41.8 % of students strongly agreed that taking tests helped them to score well.

#### B. Teacher related factors

26.7 percentage of students polled that teachers are one of the major factor for good learning. Factors like good teaching style, cleaning doubts, clearing unsure concepts really helps students a lot.

Fifty nine percentage of students strongly agree that learning doubts to teachers daily has increased their academic performance where as 15.4 %are unsure and 7.7 % disagree.

#### C. Family and peer support

Family and peer factor perceived to be affecting academics by 10.9%. Also 34 % of students strongly agree that their family provide god environment for studying where as 5.5 percentage of students say that they don't.

#### D. Factors related to learning environment

Suitable environment for learning is very important. Also 7.9 %of students polled it as it shapes their learning process and gains interest toward studies. The management should take a proper step toward keeping students in their comfortable zone by providing peaceful environment for learning.

#### E. Other factors

Other important factors include group studies as 80% of students prefer group studies which help to improve their knowledge.

Another important factor is regularity in maintaining subjects. Learning all three subject daily made high achievers score high as they maintain regularity in subjects as Forty one percentage of students strongly agree regularity in subjects to be maintained.

Results of questions given to low achievers with proper analysis:

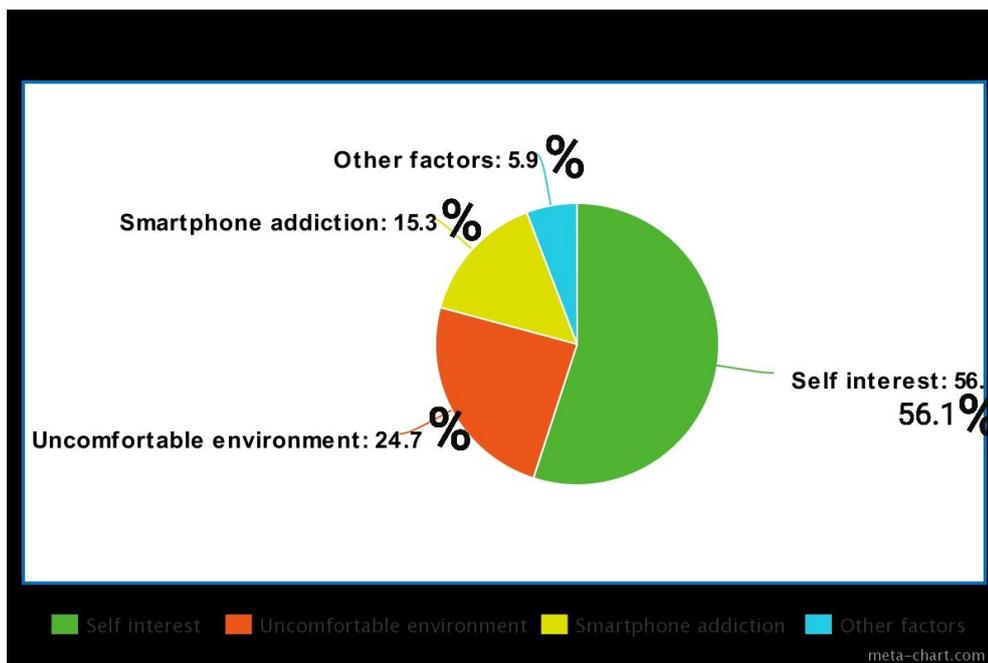
As known we grouped low achievers and provided them set of questionnaires related to factors which affected their academics and a basic general poll among which factor affected them the most.

Analyzing the responses we get to know that even for low achiever's it is their interest towards studies is low, which ultimately affects their academic performance. This lack of interest is because of multiple distracting factors which we got to know by set of responses to questionnaires given to them.

From the responses we get to know that personal attitude(self interest) has affected low achiever's as 56.1 percentage of students polled where as 24.7% agreed with uncomfortable studying environment and 15.3%

polled to smartphone addiction took their time and another 5.9% has multiple reasons such as teaching style, family pressure, peer pressure etc. The following pie chart [fig 8]gives pictorial view of most influencing factors.

Appendix-2



A. Poll results

Questions	Poll percentage
Self interest towards subjects	56.1%
Excess usage of smart phone	15.3%
Uncomfortable studying environment	24.7%
Teachers and teaching style	1.8%
Missing of regularity in studying	4.1%

B. Results of questions given to low acheivers with responses graded in liker scale in (%)

Questions	Strongly agree	Agree	Unsure	Disagree	Strongly agree
Are you comfortable with current learning curriculum I.e do you find enough dissection and practical classes to learn	57%	12%	9%	21%	1%
Do you often get distracted towards tv spending hours.	48%	18%	21%	3%	10%
Do you find language to be a barrier for your learning	39%	12%	24%	16%	9%
Do you find teachers using native language which you find difficult	34%	11%	5%	30%	20%
Did you face any form of bullying by your seniors or by batchmates	44%	27%	6%	11%	12%

Do you get disturbed by your relatives or siblings often.	59%	19%	2%	17%	3%
Do you use mobile phone and television for more than 4 hours a day	37%	20%	4%	28%	19%
Do you find your parents encourage and motivate you enough	21%	8%	15%	23%	33%
Do you feel you are again and again exposing to drugs by your friends circle.	37%	13%	30%	12%	8%
Do you find your teachers behaviour and personality towards you is positive	30%	17%	40%	10%	3%
Do you find the teachers teaching methods to be effective	52%	19%	8%	11%	10%
Do you find your studying environment to be disturbing may be hostel or home	24%	8%	14%	39%	15%
Do you find yourself missing regularity in learning	28%	12%	10%	34%	16%
Do you have a habit of smoking to get relief from stress	27%	2%	37%	24%	10%
Do you often fall ill and lack attendance	26%	13%	11%	32%	18%

C. Results of other type questions given to low acheivers.

<b>Questions</b>	<b>Yes</b>	<b>Unsure</b>	<b>No</b>
Do you find your seniors to be friendly and helpful in learning things	47%	13%	40%
Do you watch adult content or porn contents frequently	3%	33%	64%
Do you think you sleep more than 5 hours	34%	44%	22%
Do teachers show up their objectives before they teach	27%	20%	53%
Do you have peaceful environment to study at home	61%	10%	19%
Do you like your current teaching methods(if not then mention what makes you discomfort	59%	19%	22%
Have you ever seen your friend or batchmate addicted to drug	47%	23%	30%

<b>Reason for being absent</b>	<b>Percentage</b>
Frequent illness	52%
Lack of sleep	25.6%
Going home in half way of college	15.4
Having works related to family	7.0%

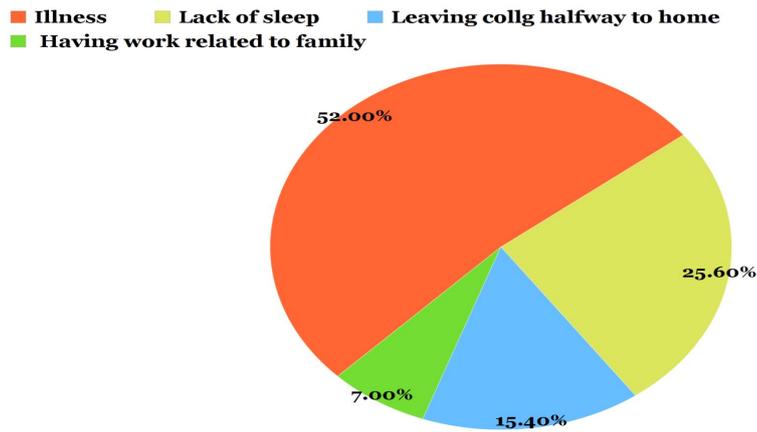


Figure 9 [explains various reasons for being absent]

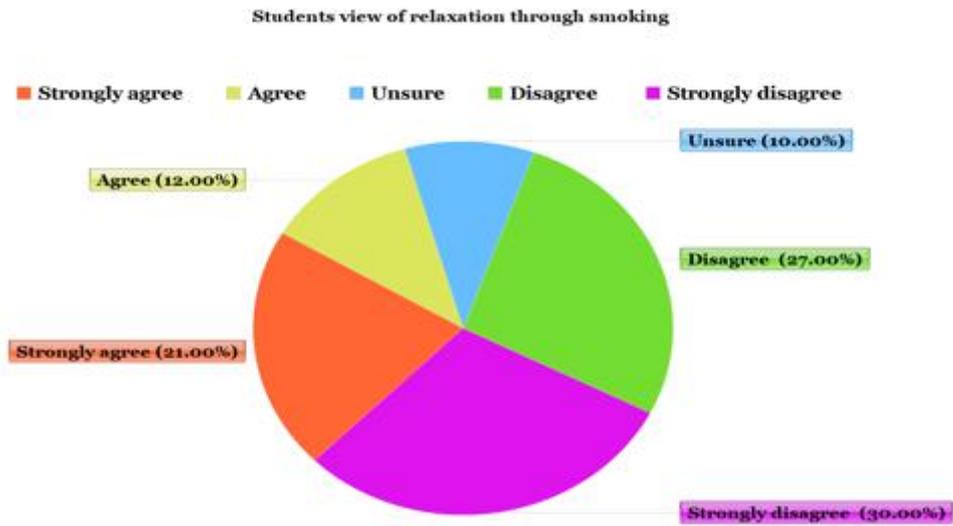


Figure 10

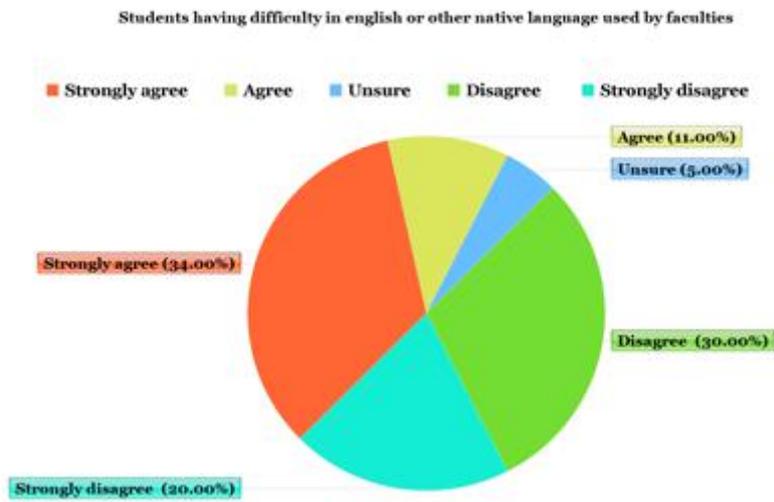


Figure 11

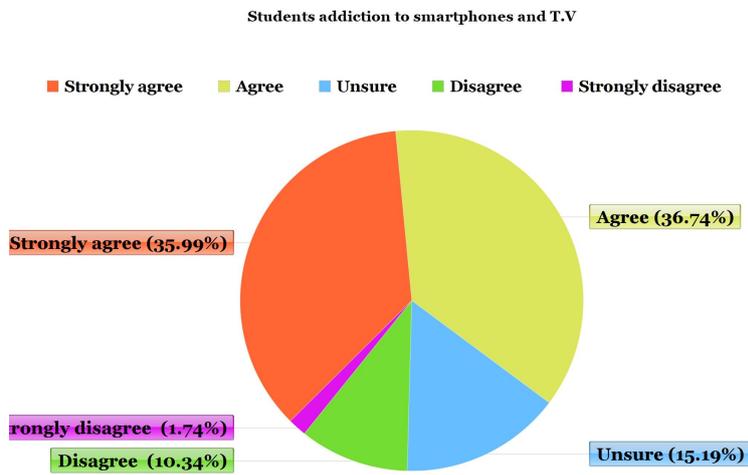


Figure 12

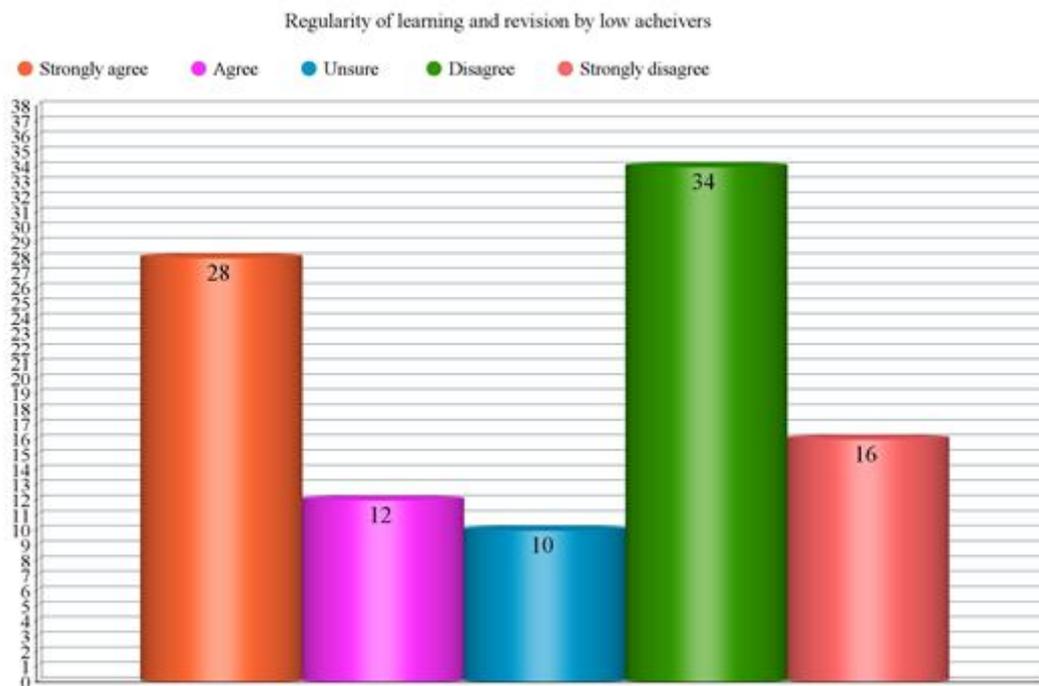


Figure 13

## ANALYSIS OF RESPONSE

Based on responses given by the students we can infer that wide range of factors affect students learning progress also to be known that most affecting factors are Teachers behavior towards students, structure of class and curriculum, Teaching methods, family instability or poor support, peer relationship, learning environment, addiction to drugs, smoking or alcohol and frequently distracted by television and mobile phone which makes them to sit hours with of no use.

### A. Class and Curriculum Structure

- 1) When students get to know about their learning plan and curriculum they feel safe and prepared for their future learning. When students sense or see that classes follow a structure, and the curriculum and class materials have been prepared beforehand, it provides them with a greater sense of security.

In this way students gets to know what's happening around them and feel they are with the pace. Also all materials that will be used in class should be prepared in advance. Educators can also state the objectives of a course or class at the beginning of a semester or a class.

### B. Peer relationship

Influence of peer towards an individual is the most important factor which decides whether to increase or decrease academic performance. Good peer relationship definitely increase their success rate.

On the other hand problems and conflicts with peers can make students feel less secure about their social status among peers, increase their stress levels, and lower motivation in education. Keeping an eye on any conflicts, bullying, and other peer issues can prevent serious problems.

### C. Teacher Behavior and Personality

If a student has a negative emotion such as fear or disliking towards their teacher, that can negatively affect their attitude toward the subject as a whole. If a teacher shows a preference

towards certain students or uses derogatory and humiliating language, that can lower their motivation in education.

On the other hand, kindness, optimism, positive feedback, and encouragement can positively affect students' motivation to learn.

#### D. Learning Environment

School environment or school climate is another factor that affects motivation in education. School environment refers to different norms and regulations that determine the overall climate in the school.

Positive school environment makes students feel safe and secure, meets their basic needs such as daily meals, and provides an optimal environment for them to build healthy social relationships.

#### E. Parental involvement and family instability

Similar to school in home parents play an important role in learning. Lack of sufficient support from the family makes the students think negative at the same time pressurizing the students to get good marks act upside down it just gets reversed by depressing the student.

Also,

- inquiring about their day,
- actively listening,
- helping with specific tasks or skills taught at school,
- attending parent meetings,
- encouraging children to complete homework or study for a test.

Makes students keep motivated.

On the other hand family stability plays major role, frequent family disputes, living with single parent makes students stressed and make them to think continuously. Children who live with both parents, on average get better grades than children who don't. Family conflicts and disruption can result in poorer academic performance.

#### F. Other general factors

##### 1. Addicted to T.V and in smartphones

On average from our results 37% of students strongly agree whereas 20% agree that they lose hours in television and mobile phone. The current generation of students have thick bond with smartphones. Without smartphones, one feels incomplete and it has become the need of hour.

At the same time the negative impact of it becomes invisible to students, They extensively use it to obtain various information but they never realize it indirectly brings depression in many ways. Few such cases are negative impact on eyes, stressing it too much. Another hand it makes students unsatisfied and diverts their mind by bringing exploitive contents. Here this may be money, clothes, gambling, porn, memes, jokes, social status etc.

##### 2. Substance addiction

It had become more familiar as many of the medical schools across India had come across these cases as to overcome study pressure students often get exposed to drugs. Students never realize this longterm effect on their body. On the otherhand it had become cool fashion to smoke and drinking among medical students. This social misinformation or interpretation should be changed as being most conscious person in the society knowing all the side effects of it. Medical students should be disciplined and set an example to other department students showing their harmfulness to our body.

Absence from class is a common factor associated with poor academic performance.<sup>[8]</sup>

## RESULT SUMMARY

From the analysis of questionnaires we came to know that the most affecting student factor is themselves. It is the self-attitude of student which makes the change self-interest is the ultimate key. The students should avoid distractions and need to develop interest toward subjects.

Important factors includes difficulty In learning due to language problem, time management issue, which is due to loss of time in T.V and mobile phones. Lack of attendance makes things much worse, This is due to improper health conditions, lack of sleep, Often bunking classes for no use.

On the other taking tests getting feedbacks frequently, making group studies, having healthy sleep with positive energy help in improving academic performance. Integration of topics, Appreciation by teachers also boost up the students morale rate and help in improving their academic performance.

## DISCUSSION

Academic performance Is affected by various factors such as parental and peer pressures, severe distractions, Bustling environment, academic stress and other disorders associated with mental health etc.

Also financial factors, such as income of the student and/or family did not have a significant effect on academic achievement in this study. This may be explained by the fact that all students receive a monthly allowance from the university. Also, it is the norm in our culture that the student remains under the care of the family until after graduation.<sup>[9]</sup>

Factors which affect academic performance adversely

According to our study done on first year medical students it shows that Individuals that is the students itself is the main factor, their interest towards studies is the most influenced factor as 56.1% of students agreed. Pinyopornpanish M et al in their study also found that factors causing low academic performance are predominantly individual in 79% of cases with only 15.5% related to environment and 5.2% to family<sup>[8]</sup> Where as according to our study 24.7 % say it's the ambience which affects them by creating disturbance, 15.3% relate it to their excess amount of time spent in smartphone (smartphones addiction), Other 4.1% says its because of irregularity in studying and rest 1.8% believes that to teachers attitude towards them and their teaching styles.

Also school should make sure that if the medical school is located far from the students residence the school has to meet the requirements of the students to reach the school. proper bus facility has to be made so that reaching to college should not be a problem for the student in learning process.

In the studies uptake we could see that some of the factors severely affect the students studies such factors can be related to poor effort and lack of interest which is ultimate result of demotivating and depression. Difficulty in understanding, not being regular (absentees), addiction to smartphones, video games, irregularity in revising the subjects are main problems faced by students. 34% of students accepted that they face problem with teaching language which ultimately results in poor understanding on subjects, Also this acts as a barrier to Express themselves on both class hours and practical hours.<sup>[10]</sup> Other factors which affect them are found to be poor junior senior relationship and effect of smoking which

results in depression of students as 21% agree that they smoke to feel relaxed.

Also to be known important factors for absentees are illness (52%), lack of sleep(25.6%) especially in morning classes, going home(15.4%) with half attendance for various reasons.

Factors which help in improving academic performance

Factors which help students to improve their learning were also the individual, his interest towards the subject matters with proper teacher motivation and guidance. Taking regular revision and tests helps a lot with interactive teaching style daily life example and pictorial representations.

71.4% of students agreed that interactive lectures were always great that it always keeps the student with the class. Group studies and discussions with batchmates is also found to be effective among high achievers.

Optimum hour to study doesn't count as it largely varies among individual to individual but studies say that most of the medical students work late into night and don't get enough sleep.<sup>[11]</sup>

## **OUTCOME**

The study done here assures that we could learn about most of the factors which affect academic performance, by knowing then positive and negative factors we can reshape the approach towards students.

Taking the positive factors and reducing negative factors will make sure the student perform better. Also teachers can approach students with appropriate teaching style for better understanding. Factors making the students performance dull can be corrected by working on it.

## **LIMITATIONS**

- Amount of students taken for survey to be less compared to total strength that of 150.
- Time was limiting factor as survey cannot be done with large numbers.
- Relation between positive and negative factors could not be done

## **CONCLUSION**

- Personal attitude of the student that is self interest of the student is the most important factor that affects academic performance.
- Another important factor is teachers who shape students. Teachers should give proper guidance to students and lead them in right way by motivation with friendly attitude.
- Peer and family circle ultimately brings out the good and bad in the student. It can act both way so good family structure and support combined with good peer relationship makes the student positive and decreased stress
- Environmental factor such as providing optimal learning ambience should be provided with facilities such as hostel environment and food also plays major role.
- Teaching styles and learning methods very much affects students academics. Teaching styles should be very interactive and clinically oriented.

## RECOMMENDED SOLUTIONS

- For students facing poor focus that is lack of interest should be given extra care by faculties and make sure they get interest towards subjects through counseling.
- Proper appreciation during classes and extra motivation always gives extra boost to students making them to perform better.
- Special attention should be given if student feels difficult with english or other native language spoken in lecture hours.
- Students should be pushed into physical exercise or should be included in any form of sports by which it helps in decreasing stress and to maintain proper health at the same time.
- Where as teaching methods should be much interactive and clinical based so that students get into the subject with interest. Also pictorial learning should be encouraged with use of powerpoints and blackboards.

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