

Study of Stress and Coping Strategies in Competitive Entrance Exams Aspirants Attending Medical and Engineering Coaching Institutes in Delhi

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Abstract

Aims: To study the sources of stress of the medical and engineering competitive entrance exam aspirants attending coaching institutes in Delhi. Second, to study stress coping strategies used by the medical and engineering competitive entrance exams aspirants attending coaching institutes in Delhi. Third, to suggest some more stress coping strategies to parents and teachers. **Methods:** The study was descriptive in nature and cross-sectional study design was used. The study was conducted in August 2019. The population of the study consisted of the students preparing for medical and engineering competitive entrance exams who attend full time coaching institutes in Delhi and also attend their school. The sample of the study was 400 students, 200 each from medical and engineering coaching institutes in Delhi. A self -designed questionnaire was used to collect data. The questionnaire consisted of two sections, the first section consisted of questions related to sources of stress and the second section comprised of questions related to stress coping strategies practice by the medical and engineering competitive entrance exam aspirants attending coaching institutes in Delhi .The questions were open ended based on 4 point Likert Scale. The questionnaire was administered to students and they were asked to fill the questionnaire. A total of 380 students out of 400 completed the questionnaire. The

data was analysed using descriptive statistics. Frequency and Percentage analysis of each item of the questionnaire was done. Mean score and standard deviation of each item of the questionnaire was compiled. **Findings:** The study findings indicated that majority of the students reported academic (48%) and parental (39%) stressors as sources of stress. However personal (8%) and environmental stressors (5%) also contributed as the sources of stress to the medical and engineering competitive entrance exams aspirants attending coaching institutes in Delhi. The aspirants cope stress by using strategies such as practising yoga , listening music, surfing the internet , talking to like -minded people , playing outdoor games , communicating with parents and doing meditation. Some other coping strategies suggested by the researcher are practice visualization, taking calming breathe, practice progressive muscle relaxation, get organised, trying self- hypnosis. **Novelty:** The study investigates stress and coping strategies in competitive entrance exams aspirants attending medical and engineering coaching institutes in Delhi . It throws light on adolescent's stress and the coping strategies used by these adolescents; hence the study contributes in providing remedies to handle stress by the parents, students and teachers. The study also provides basis to researchers for further in depth study of stress faced by students preparing for other

competitive entrance exams and also to those students who do not attend coaching institutes and still aspires to prepare for competitive exams.

Keywords: Stress; Competitive Exams Aspirants; Medical students; Engineering students; Coaching Institutes ; Stress coping strategies.

Introduction: Stress is defined as body's nonspecific reaction to demands made on it. It is a process by which we perceive and cope with environmental threats and challenges. Hence, stress is defined as emotional and behavioural changes caused by stressors. Growing competition and pressure of performance is turning student into victims of stress. This is true with those appearing for competitive exams. The student's performance is evaluated through examinations. This has increased academic pressure on student's preparing for competitive exams. Academic stress has become a prevalent problem across countries, cultures , and ethnic groups. Parental expectations and fear of failure in exams are the two significant factors responsible for academic success (1). Academic stress is a major concern for secondary and tertiary students. The ongoing stress related to education has demonstrated negative impact on students learning capacity, academic performance , education and employment attainment ,sleep quality and quantity ,physical health ,mental health and substance use outcomes(2). Academic stress is positively related with parental pressure and psychiatric problem. Examination related anxiety is also observed to be related to psychiatric problem (3). Recent findings of UNESCO reveal that students preparing for competitive exams are undergoing severe stress, which results in anxiety disorders and mental stress. Recent statistics reveal that suicide rates among students preparing for entrance examinations after plus 2 and professional colleges are on the rise. According to reports of National Crime Records Bureau (NCRB), in 2019, at least one student died by suicide every hour in India. The year recorded the highest number of student suicides, 10,335, in the past 25 years for which data is available. Between January 1,1995 and December 31,2019, India lost more than 1.7 lakh students to suicide. In 2019 , at least one

student died by suicide every hour in India, 28 such suicides reported everyday . The NCRB data shows that 10,159 students died by suicide in 2018 , an increase from 9,905 in 2017 ,and 9,478 in 2016. Between 1999 and 2003, 27,990 students ended their lives : 28,913 between 2004 and 2008 and 36,913 between 2009 and 2013. The period 2014-2018 saw a 26% jump from the preceding 5 year period to 46,55 (16). The statistics for student suicides 2020 by the NCRB is not available till on NCRB portal. Failure in examinations accounted for 2% student suicides. With one student committing suicide every hour , inability of coping with failure and fear of letting their family down makes students resort to such desperate measures. Forced career choices and the inability of children to speak up about the pressure , especially with their parents is also a major contributor to the student suicide numbers. According to Md. Sanjeer Alam , faculty at the Centre for the Study of Developing Societies , New Delhi, said,"A student commits suicide when he doesn't get emotional support at the time of crisis. This might happen when individual expectations are too high. Parental and peer pressure also have an adverse effect"(The Hindu). United Nations Annual Global Education Monitoring Report 2016 -17 by UNESCO reveals that private tuitions increase student's academic burden and stress. According to a recent study published by the National Institute of Mental Health and Neuro- Sciences, one in every five teenagers in India faces mental illness. According to the World Health Organisations (WHO) , mental health problems in India is equivalent to 2,443 DALYs (Disability Adjusted Life Years) per 100,000 population(5). Adolescents who have joined coaching institutes for admission to professional courses experience self- inflicted stress, parent inflicted and peer inflicted stress . The highly competitive education and learning processes are affecting adolescent's mental state (6).Kota , primarily known as a coaching centre hub (Medical and Engineering) has seen a series of students deaths every year. As per the data available from the district administration , 58 students ended their lives in Kota between 2013 and 2017. Results of a study reveals that among 400 participants, 19.5% were found to be in a mild depression, 20.3% in moderate depression and

8.8% were found to be severely depressed. Overall depression on management involves complete lifestyle change that requires a range of strategies and techniques. They include good eating habits, proper exercise, good family and social life, mood management and relaxation techniques (7). Park and Adler reported that effective and appropriate coping strategies may buffer the impact of newly encountered stressful situations on mental and physical health. Therefore, using coping strategies effectively and appropriately will help the students in improving their stress level (8). Few studies have been done on stress and stress coping strategies of

the medical and engineering competitive entrance exams. Therefore, this topic study of stress and coping strategies in competitive entrance exams aspirants attending medical and engineering coaching institutes in Delhi was decided for study by the researcher.

Year Wise Comparison of Students Suicides

According to the data provided by the National Crime Records Bureau

Year	Student Suicides
2011	7,696
2012	6,654
2013	8,423
2014	8,068
2015	8,934
2016	9,478
2017	9,905
2018	10,159
2019	10,335
2020	Still not available on NCRB website

Percentage (%) Increase in Students Suicides Over the Years

From Report Published In Times Of India September 07, 2020

Period Suicides Percentage increase	1995 to 1999 27,359 -----
Period Suicides Percentage increase	2000 to 2004 27,880 2
Period Suicides Percentage increase	2005 to 2009 30,064 8
Period Suicides Percentage Increase	2010 to 2014 38,220 27
Period Suicides Percentage increase	2015 to December 2019 48,537 27

Research Questions

1. What are the sources of stress experienced by the competitive entrance exam aspirants attending medical and engineering coaching institutes in Delhi?
2. What are the stress coping strategies used by the competitive entrance exam aspirants attending medical and engineering coaching institutes in Delhi?
3. What are some other stress coping strategies suggested to the parents and teachers ?

Objectives

1. To explore the sources of stress experienced by the competitive entrance exam aspirants attending medical and engineering coaching institutes in Delhi.
2. To assess the stress coping strategies used by the competitive entrance exam aspirants attending medical and engineering coaching institutes in Delhi.
3. To suggest some other stress coping strategies to parents and teachers.

Materials and Methods

The nature of the study was descriptive. The study was conducted in August 2019 . Cross-sectional design was used as design of the study .The population of the study comprised of students preparing for medical and engineering competitive entrance exams and attending coaching institutes in Delhi. The sample of the study was 400 students , 200 each from engineering and medical coaching institutes in Delhi and studying in 11th and 12th standards in schools and attended full time coaching institutes to prepare for medical and engineering entrance exams and are knowledgeable enough to answer the questionnaire.

Authorizing letter issued to the researcher for data collection by the Amity Institute of Education, Amity University, Noida ,Uttar Pradesh was

produced to directors of the medical and engineering coaching institutes of Delhi. Only six coaching institutes gave their written consent for the conduct of study and data collection. The students were informed about the study and their consent was obtained along with the consent of their parents.

Self -structured questionnaire consisting of open ended questions was used as tool of the study to assess sources of stress and coping strategies used by the students preparing for medical and engineering competitive entrance exams attending coaching institutes in Delhi. The questionnaire consisted of two parts. The first part consisted of twenty open ended questions, categorised under five main headings to assess the sources of stress in the students. The second part comprised of twenty-two open ended questions to assess the coping strategies used by the medical and engineering students preparing for competitive entrance exams, to relieve stress. The face validity of the questionnaire was checked by sending it to experts. The reliability of the questionnaire was calculated using Cronbach's alpha reliability coefficient and was found to be 0.87.

After a brief introduction of the tool, the study questionnaire was distributed to all the 400 aspirant participants. The participants were provided instructions how to answer the questions in the questionnaire. All the participants (students) were instructed to answer all the questions. The participation of the students was voluntary. The completely filled questionnaire was collected by the researcher.

Statistical Analysis of Data

Descriptive statistics was used to analyse data. The data was analysed using frequency count and percentage. Mean and Standard deviation of each item of the questionnaire for sources of stress and coping strategies was calculated.

1 .Sources of stress in medical and engineering competitive entrance exam aspirants attending coaching institutes in Delhi

Table 1 Specific Stressors of Students

Stressor	Strongly not agree N (%)	Not agreed N (%)	Agree N (%)	Strongly agreed N (%)	Mean	Standard deviation
Academic						
Lack of concentration in studies.	22(5.7)	47(12.3)	172(45.2)	139(36.5)	3.12	1.11
Too much homework from school	116(30.5)	112(29.4)	110(28.9)	40(10.5)	2.18	1.0
Low grades than anticipated	117(30.7)	45(11.8)	189(49.7)	29(7.6)	2.34	1.07
Unnecessary tension during studies	109(28.6)	52(13.6)	176(46.3)	43(11.3)	2.40	1.01
Feel sleepy in class	50(13.1)	60(15.7)	170(44.7)	100(26.3)	2.84	1.01
Parental						
Lack of guidance by the parents	138(36.3)	103(27.1)	87(22.8)	52(13.6)	2.13	1.10
Pressure for success and high expectations of the parents	51(13.4)	39(10.2)	190(50)	100(26.3)	2.89	1.02
Lack of parental communication	121(31.8)	131(34.4)	76(20)	52(13.6)	2.15	1.11
Lack of parental motivation	148(38.9)	87(22.8)	84(21.9)	61(16)	2.15	1.11
Demand for domestic work by the parents	193(50.7)	101(26.5)	73(19.2)	13(3.42)	1.75	1.08
Personal						
Change in sleeping habits	17(4.4)	62(16.3)	190(50)	111(29.2)	3.03	1.10
Negative feelings towards own self	80(21)	103(27.1)	134(35.2)	63(16.5)	2.47	1.01
High self - expectations regarding success	25(6.5)	63(16.5)	155(40.7)	137(36)	3.06	1.11

Lack of free time with family and friends	109(28.6)	87(22.8)	136(35.7)	48(12.6)	2.32	1.07
Problem in staying awake	38(10)	79(20.7)	189(49.7)	74(19.4)	2.78	1.03
Environmental						
Personal problems at home	129(33.9)	77(20.2)	79(20.7)	94(24.7)	2.35	1.12
Distractions from outside environment	158(41.5)	120(31.5)	77(20.2)	25(16.5)	1.91	0.96
Change in living environment	139(36.5)	109(28.6)	89(23.4)	43(11.3)	2.09	0.98
Divorce between parents	180(47.3)	122(29.4)	50(13.1)	39(10.2)	1.86	0.96
Lack of vacation while studies	71(18.6)	99(26)	188(49.4)	22(15.7)	2.42	1.01

Table 1 shows various sources of stress in students. Among the academic stressors over 81.7% found lack of concentration in studies, nearly 57.3% found low grades than anticipated as source of academic stress, over 57.6% found unnecessary tension during studies. Among the parental stressors, over three quarters students 76.3% were stressed by pressure for success and high expectations of the parents. Among the personal stressors about three quarters 79.2% feel change in sleeping habits and

more than half 51.7% were reported to have negative feelings towards own self. 76.7% reported problem in staying awake as cause of stress. Among the environmental stressors, 69.1 reported problem in staying awake as cause of stress. Among the environmental stressors 65.1 students reported lack of vacation while studies as major source of environmental stress. Total stressors were 20 with mean (sd) stressor score 2.41.

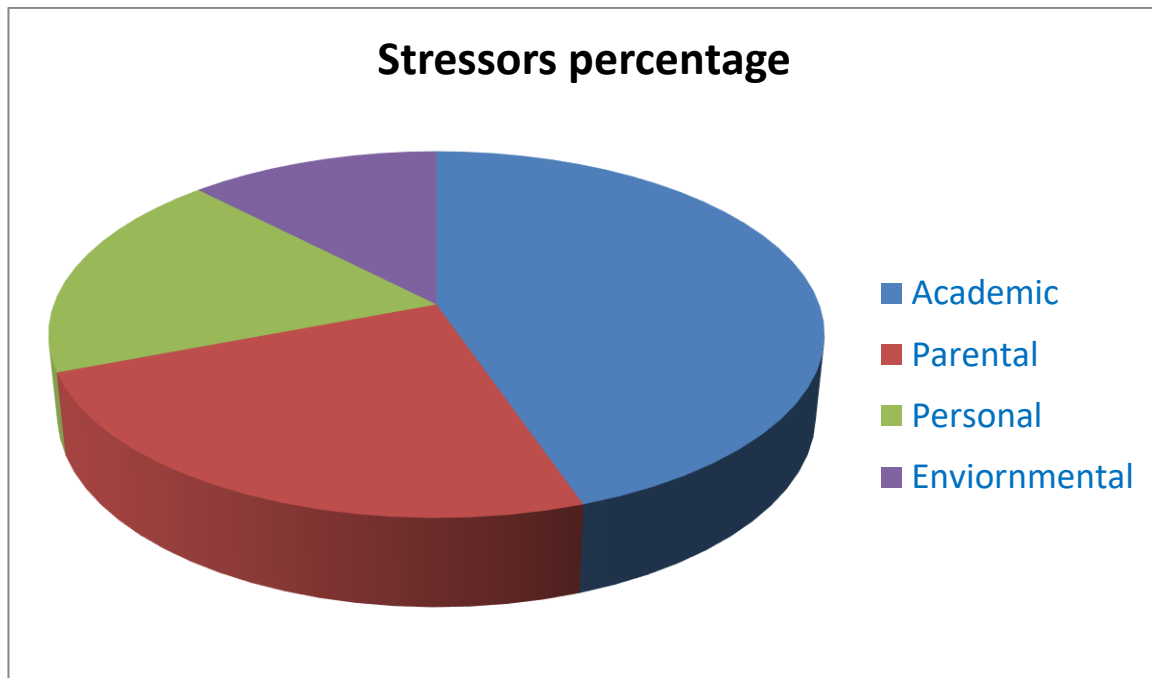


Fig 1. Major stressors in medical and engineering competitive entrance exam aspirants in Delhi

2. Stress coping strategies used by the medical and engineering competitive entrance exam aspirants attending coaching institutes

Table 2
Coping Strategies used by the students.

No.	Coping strategy	Never N (%)	Sometime N (%)	Often N (%)	Mostly N (%)	Mean	Standard deviation
1	Have positive thinking	15(23.1)	138(36.12)	127(43.42)	95(25)	2.76	1.03
2	Take adequate sleep	13(3.4)	85(22.3)	141(37.1)	139(36.5)	3.05	1.10
3	Play outdoor games	21(5.5)	133(35)	112(29.4)	99(26)	2.68	1.02
4	Communicate with parents	66(17.3)	141(37.1)	109(28.6)	52(13.6)	2.32	1.07
5	Talking to friends	53(13.9)	100(26.3)	138(36.3)	89(23.4)	2.69	1.21
6	Offer prayers in routine	67(17.6)	159(41.8)	92(24.2)	62(16.3)	2.39	1.07
7	Practice yoga	22(5.7)	134(35.2)	101(26.5)	118(32)	2.80	1.21
8	Refer to counsellor	66(17.3)	164(43.1)	99(26)	41(10.7)	1.98	1.19

9	Do self - entertainment	19(5)	133(35)	134(35.2)	89(23.4)	2.74	1.03
10	Talking to teachers	65(17.1)	164(43.1)	93(24.4)	48(12.6)	2.27	1.19
11	Organise tour with family	40(10.5)	118(31)	208(54.7)	14(3.6)	2.51	1.01
12	Do meditation	30(7.1)	125(32.5)	99(26)	119(31.3)	2.77	1.02
13	Playing with pets	142(37.3)	149(39.2)	31(8.1)	58(15.2)	2.01	0.97
14	Time management for studies	19(5)	49(12.8)	176(46.3)	136(35.7)	3.12	1.12
15	Attend stress management course	62(16.3)	189(49.7)	104(27.3)	25(6.5)	2.24	1.19
16	Attend health awareness program	146(38.4)	153(40.2)	42(11)	39(10.2)	1.93	1.10
17	Visit recreation centre	78(20.5)	146(38.4)	75(19.7)	80(21)	2.40	1.01
18	Have breaks between long study hours	36(9)	25(6.5)	161(42.3)	158(41.5)	3.16	1.13
19	Listen music	73(19.3)	117(30.7)	109(28.6)	81(21.3)	2.52	1.01
20	Interact on social media	23(6)	56(14.7)	208(54.7)	93(24.4)	2.97	1.05
21	Play computer games	164(43.1)	41(10.7)	149(39.2)	21(5.5)	2.04	1.01
22	Go shopping	167(43.9)	123(32.3)	41(10.7)	48(12.6)	1.91	1.22

Majority of the students [380(95%)] often followed stress coping strategies that would make them feel happy and relaxed when they felt stress. The various measures adopted by students to deal with stress were interact on social media 54.7% , taking adequate sleep 73.6% , talking with friends 59.7%

, practice meditation 57.3% , performing yoga 59.6% , managing full time for studies 82% , listen to music 49.9% . Other methods like play computer games, have break between long study hours , do self- entertainment were also reported by students.

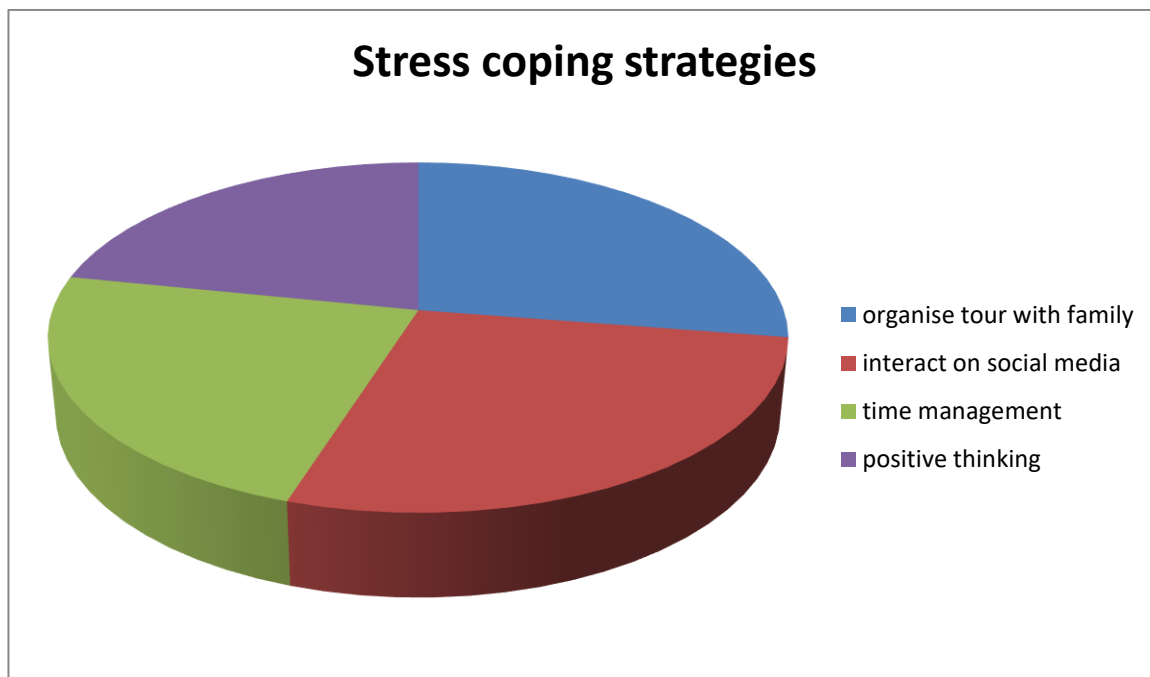


Fig 2. Major stress coping strategies

Major Findings and Discussions

The study was carried out to explore the sources of stress and to assess the stress coping strategies employed by the medical and engineering competitive entrance exam aspirants attending coaching institutes in Delhi .A number of 380 (95%) students participated in this study .The prevalence of stress due to its sources was high. In this study major sources of stress were academic and parental. Students also reported being affected by personal and environmental sources. Academic stressors contributed 81.7% , as the source of stress. While among the parental stressors 76.3% students were stressed by pressure for success and high expectations of the parent. Among the personal stressors 79.2% felt change in sleeping habits as stressor . Environmental factors also influenced the preparation of the medical and engineering students . Majority of the students used stress coping strategies such as listening to music 49.9% , practice yoga 59.6% , and meditation 57.3% , talking to friends 59.7%, interacting social media 54.7% , take adequate sleep 73.6% and managing time for studies.The mean score and standard deviation of each item of academic , parental ,personal and environmental stressors was calculated . Similarly the mean score and standard deviation of each item of stress coping strategies

was calculated . Other students also used strategies like organising tours with family , playing outdoor games , visit to recreation centre , getting guidance and counselling services in order to relieve stress. The findings of the study will be beneficial to teachers , parents and students themselves.The findings will also be useful to the students preparing for other competitive entrance exams. The study will serve as a base to further researchers.

Conclusion

It is clear from the findings of this study that the students preparing for competitive entrance exams , who have joined coaching institutes for admission to medical and engineering professional courses experience academic ,parental, personal and environmental stress. The highly competitive education, high pressure for success and parental expectations for success in competitive entrance exams are affecting student’s state of mind, which results in lack of concentration, negative feelings towards own -self and lack of sleep among majority of students. Students also feel academically stressed when they get low grades than anticipated in their practice tests. Three quarter students feel very high pressure for success and high expectations from parents as source of

their stress and thus study for long hours. Majority (two-third) of the students feel change in sleeping habits, while some reported negative feelings towards own-self and problem in staying awake as personal source of stress. A majority of students reported lack of free time and vacation as environmental source of stress. These stressors affect the students by affecting their physical, emotional, social, sleep and behavioural aspects of life. Stress coping involves complete change in lifestyle of students that requires various strategies and techniques. They include taking adequate sleep, communicating with parents, talking with like-minded people, practising yoga and meditation, managing time for studies, listening music, interacting social media. These allow the adolescents to reduce and cope with negative feelings and help in recognition of situations that lead to negative emotions. Majority of the students often follow stress coping strategies. About three-quarter of participants follow time management for their studies. More than half of the aspirants take adequate sleep to cope with stress, majority of the students talk with like-minded people to relieve their stress. Others practise yoga and perform meditation as coping strategies. A few participants manage their stress by using strategies like playing computer games, do self-entertainment and have breaks between long study hours. It is evident from the study that most of the students practice one or the other stress coping strategies to relieve stress. It is also essential that both parents and teachers should understand their children and help them in relieving stress and should not become the contributor factors. The students must adopt stress coping strategies on a routine basis and if one strategy does not work then other strategy should be applied to relieve stress.

Financial Disclosure/ Conflict of Interest

The author declare that there was no financial aid received and no conflict of interest associated with this research work.

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APPENDIX -1

The Sources of Stress Questionnaire for Medical and Engineering Competitive Exams Aspirants

Instructions:-

This scale is designed to know the frequency of occurrence of the sources of stress. Kindly read each statement in the following scale carefully and indicate the response by placing a tick mark in the appropriate column. The information provided by you will be kept confidential and will be used only for the study purpose.

Stressor	Strongly not Agree N (%)	Not Agreed N (%)	Agree N (%)	Strongly Agreed N (%)
ACADEMIC				
Lack of concentration in studies				
Too much homework from school				
Low grades than anticipated				
Feel sleepy in class				
PARENTAL				
Lack of guidance by the parents				

Pressure for success and high expectations of parents				
Lack of parental communication				
Lack of parental motivation				
Demand for domestic work by the parents				
PERSONAL				
Change in sleeping habits				
Negative feelings towards own self				
High self – expectations regarding success				
Lack of free time with family and friends				
Problem in staying awake				
ENVIRONMENTAL				
Personal problems at home				
Distractions from outside environment				
Change in living environment				
Divorce between parents				
Lack of vacation while studies				

APPENDIX-2

The Coping Strategy Questionnaire for Medical and Engineering Competitive Entrance Exams Aspirants

S. No	Coping Strategies	Never N (%)	Sometime N (%)	Often N (%)	Mostly N (%)
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1	Have positive thinking				
2	Take adequate sleep				
3	Play outdoor games				
4	Communicate with parents				
5	Talk with like-minded people				
6	Offer prayers in routine				
7	Practice Yoga				
8	Refer to counsellor				
9	Do self – entertainment				
10	Talking to teachers				
11	Organise tour with family				
12	Do meditation				
13	Playing with pets				
14	Time management for studies				
15	Attend stress management course				

16	Attend health awareness program				
17	Visit recreation centre				
18	Have breaks between long study hours				
19	Listen music				
20	Interact on social media				
21	Play computer games				
22	Go shopping				

Frequency count of the number of responses against each option was calculated and percentage analysis was done.