

## Original Research Article

# Academic stress and coping in high school adolescents

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### ABSTRACT

**Background:** Education stress is widely recognized as one of the most important precursors leading to depression in adolescent life. This study explores the prevalence of academic stress among high school going adolescents, contributing factors and the coping strategies used by students. The finding of this study aids the teaching institutes to better the understanding of the stress due to present teaching methods.

**Methods:** A cross-sectional study was conducted in 2020 at both private and government schools of Kozhikode, Kerala. 371 students were selected randomly. A questionnaire was developed incorporating educational stress scale for adolescent (ESSA), academic stress scale (ASC) and simplified coping styles questionnaire (SCSQ).

**Results:** 70.8% students have minimal stress, 25.8% moderate stress, 0.002% high stress, 0.02 did not have stress. Female participants experienced more stress compared to male participants (p value=0.04). Participants with less educated father (p value <0.001) and with less educated mother (p value <0.001) experienced more stress. Last year final exam grade (p value=0.005) and parental pressure (p value=0.008) were important factors contributing to stress. With regard to deployment of coping strategies 0.5% never used any coping strategies, 53.6% students used coping occasionally, 45% often used coping, 0.8% used coping frequently.

**Conclusions:** Most of the children studying in high school have minimal to moderate stress. The main factors that contribute to stress more are female gender, low parental education level, and poor final exam grade. Positive association for factors like parental pressure with increasing age was present. Most of the students used different coping strategies to cope with the education stress. Students often use active coping strategies compared to passive coping strategies.

**Keywords:** Adolescent, Academic stress, Coping strategies, School, Students

### INTRODUCTION

The world health organization (WHO) defines adolescence as progression from appearance of secondary sex characteristics (puberty) to sexual and reproductive maturity. Development of adult cognition and adult identity Transition from total socio-economic dependence to relative independence.<sup>1</sup> Adolescence has been well thought-out as period of heightened stress.<sup>2</sup> Research has shown that academic pressure is one of the main causes of stress for young people.

Multiple studies have been done on the topic of academic stress. All studies have shown variable prevalence of academic stress from 63.5% according to study by Sibnath et al to 84% according to study by Feld et al.<sup>3,4</sup> Research and studies were done in various age groups starting from primary school to college students. Studies also tried to find an association between multiple factors like age, gender, work load, peer pressure, exam grades, and parental expectation.<sup>3,5-8</sup> This research uses reviewed and relevant literature as the basis and views the causes of stress from different points; to assist the teaching units in understanding the related problems of stress of students of

modern teaching technology, thereby proceeding to provide assistance and preventive measures. Consequently, the research is of great value and importance. The current study was aimed to find out the prevalence of educational stress among school going adolescents and associated factors, and to study the use of stress coping strategies.

## METHODS

Our study was a cross sectional study. The study was done in was done at KMCT Medical College, Calicut, Kerala. The study was done for a period of 6 months (March 2020-September 2020). Participants were selected randomly. Informed consent taken from school authority, teachers, parents and adolescents.

Questionnaire prepared was based on 2 stress assessment scale and 1 scale to assess coping strategies used. The stress tools used were educational stress scale for adolescent (ESSA) and academic stress scale (ASS).<sup>9,10</sup> This modified scale contains 22 statements rated in 4-point Likert scale. The scale ranging from 1-never; 2-occasional; 3-often; 4-frequently. 22 questions with total score of 66. In view of comparison among different factors causing stress and to evaluate the contribution the stress was subclassified based on the score of individual subjects (score 0-no stress; 1-22-minimal stress; 23-44-moderate stress; 45-66-severe stress).<sup>9</sup>

Simplified coping styles questionnaire (SCSQ) also was used this scale was designed based on Folkman and Lazarus problem focused and emotion-focused model and the ways of coping questionnaire (WCQ).<sup>11,12</sup> SCSQ consists of 24 items referring to different ways of coping, with a total score range from 0 to 72 (each item uses a 4-point Likert- type scale 0=not use, 1=use occasionally, 2=use sometimes, and 3=use frequently).

The questionnaire was distributed via WhatsApp in the form of google forms (a survey administration software) to adolescents between the age of 13-17 belonging to different private and government schools in Calicut, Kerala. Questionnaire was explained to the participants over phone. All questionnaire was recollectd within 3 days. The questionnaire was completed by students at home unsupervised.

The study was approved by the institutional ethics committee and institutional research committee KMCT Medical College, Calicut.

### Sample size

The study included 371 adolescents. In the formula,  $ep$ =specified relative precision,  $Z_{\alpha/2}$ =1.96 for  $ep$ =0.05, and  $P$ =anticipated value of proportion in the population.

By the formula given below= $Z1 - \alpha/2^2 p(1-p)/ep^2$

## Statistical analysis

Data entry and analysis were entered in Microsoft excel and analyzed using statistical package for the social sciences (SPSS). Descriptive and frequency analysis was done. Chi square test was used for analysis. Qualitative variables were expressed as means $\pm$ SD. Qualitative variables will be expressed in terms of proportion.

## RESULTS

A total of 371 school going adolescents of age group between 13 to 17 years completed this study. A total of 371 students participated in the study out of which 207 were  $\leq 15$  years and 164 were  $>15$  years of age. 177 (47.7%) were males and 194 (52.3%) were females.

The overall prevalence of educational stress was as follows: 70.8% children had minimal stress, 25.8% moderate stress, and 0.002% had high stress (Figure 1).

48 (23.2%) children  $\leq 15$  years and 48 (29.3%)  $>15$  years of age had moderate stress but was statistically insignificant ( $p$  value=0.35).

Stress was found to be more in female children compared to male children which was statistically highly significant ( $\chi^2=9.16$ ;  $p$  value=0.04). Adolescents with illiterate fathers had significant stress which was highly significant ( $\chi^2=12.47$  and  $p$  value is  $<0.001$ ). 37.5% of children with illiterate mothers had minimal stress, 50% had moderate stress and 12.5% had severe stress. Academic stress was less when mother is either graduate or post graduate which is statistically highly significant ( $\chi^2=17.56$ ;  $p$  value=0.001). The type of school was not related to stress ( $\chi^2=2.08$ ;  $p$  value=0.55). There was a significant association between final exam grade in the previous year and academic stress ( $\chi^2=15.9$ ;  $p$  value=0.005). No statistically significant association between different age and stress due to school and teachers ( $\chi^2=3.37$ ;  $p$  value=0.3). Statistically significant association was noted between the age and stress due parental pressure. Increased stress was noted over 15 years of age ( $\chi^2=11.96$ ;  $p$  value=0.008). There was no statistically significant association between age and stress due to exams ( $\chi^2=2.47$ ;  $p$  value=0.47) or between age of the participant and peer stress ( $\chi^2=2.47$ ;  $p$  value=0.49). There was no statistically significant association between age and workload and time management ( $\chi^2=1.56$  and  $p$  value=0.66), between age and stress due to self-despondency ( $\chi^2=5.65$ ;  $p$  value 0.13), and between age and stress due to self-expectation ( $\chi^2=4.28$  and  $p$  value=0.23).

Coping strategies were never used by 0.5% of students, while 53.6% used them occasionally, 45% used them often, and 0.8% used them frequently. No significant association was found between age and use of coping strategies ( $\chi^2=1.32$  and  $p$  value=0.72), and between gender of the students and use of coping strategies ( $\chi^2=4.97$  and  $p$  value=0.17).

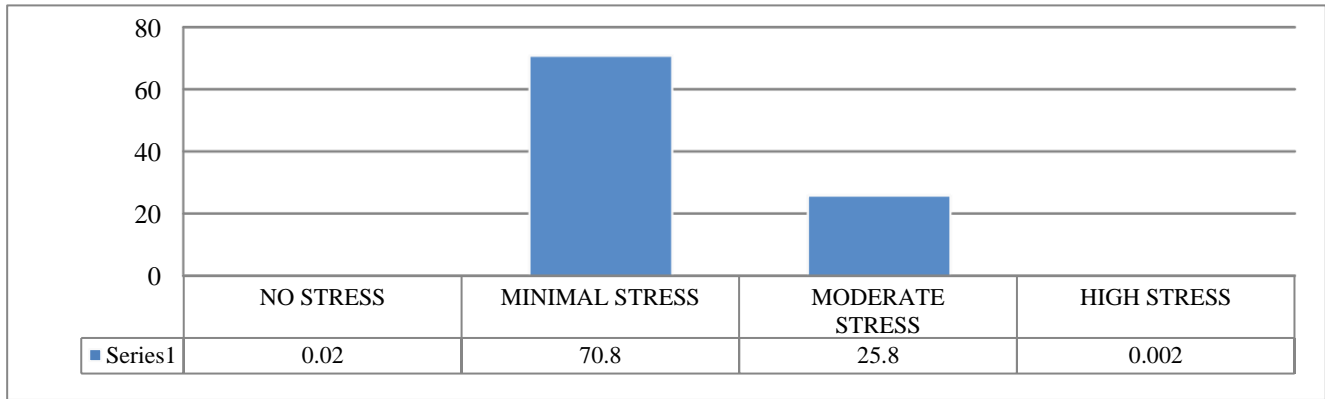


Figure 1: Prevalence of academic stress in high school adolescent.

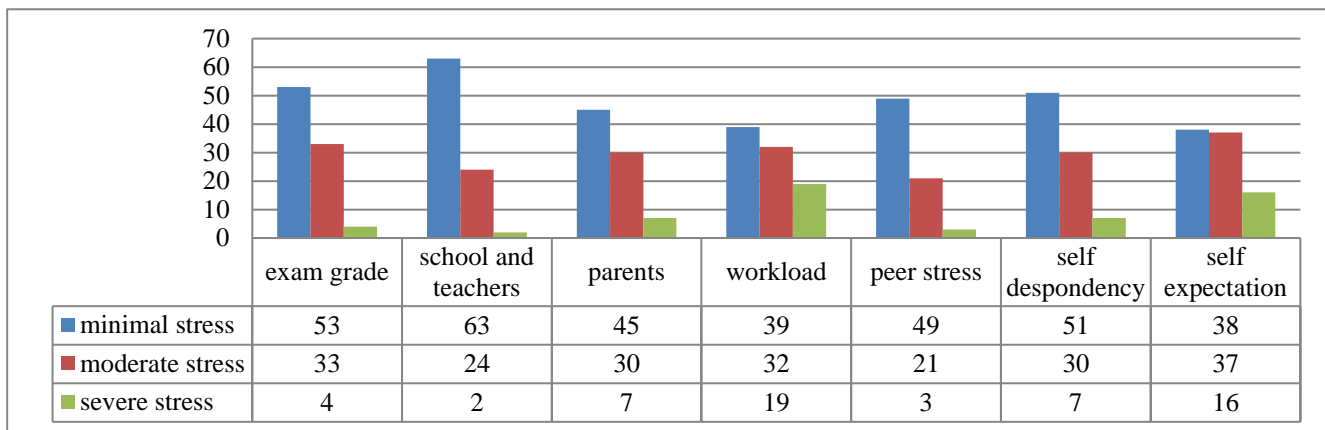


Figure 2: Comparison of different factors.

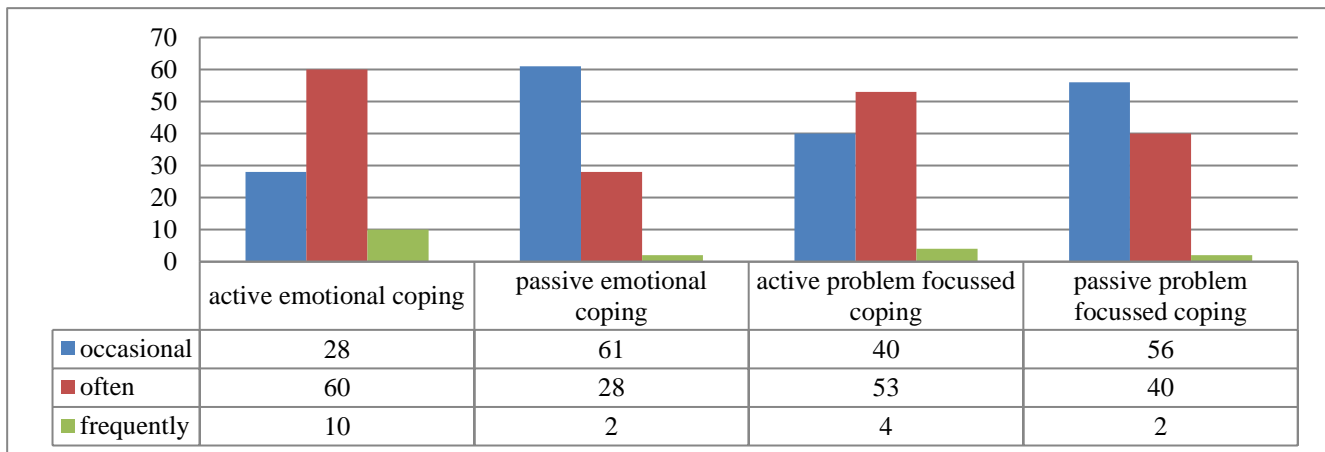


Figure 3: Students using different types of coping.

Table 1: No. of students using coping strategies.

Parameters	N	%
Never	2	0.5
Occasional	199	53.6
Often	167	45.0
Frequently	3	0.8
Total	371	100

1.9% students never used emotional coping, 27.5% students used coping strategies occasionally, 60.4% often used active emotional coping and 10.2% students frequently used active emotional coping. 9.2% students never used passive emotional coping, 60.9% occasionally used passive emotional coping, 27.8% often used passive emotional coping and 1.9% frequently used passive emotional coping. 3.2% never used active emotional

coping, 39.9% occasionally used active problem coping, 52.8% often used active emotional coping and 4% students frequently used active emotional coping. 2.4% students never used passive problem coping, while 55.8% occasionally used passive emotional coping, 39.9% often and 1.9% frequently used passive problem coping.

## DISCUSSION

The present study aimed to find out 2 major outcomes. The primary outcome was to determine the prevalence of academic stress. In our study we found 263 (70.8%) students had minimal stress, 96 (25.8%) had moderate stress and only 1 (0.02%) student had high stress. 11 (0.02%) students did not have stress. A study conducted by Koushal et al in Gwalior to assess prevalence of academic stress among 1400 adolescents between age group 10-19 found that 43% participants had minimal stress, 56.6% had moderate stress and 0.4% had high stress.<sup>8</sup> A study by Saiful et al reveals the figure for Malaysian students at 32.8% of stress.<sup>12</sup>

In our study no statistically, significant association was present between age of the students and academic stress. A study by Altaf and Kausar in 2013. found a significant difference on the mean scores between younger and older students on the perceived stress scale (PSS).<sup>5</sup> Our study found that female students are more prone for stress compared to males which is similar to the study by Koushal et al.<sup>8</sup> According to Prabu et al there was no significant difference in the academic stress scores of male and female students.<sup>6</sup> Our study found students whose parents are graduates had less stress compared to non-graduate parents. Kirmani et al found the academic environment is the effective variable for students and has positive relationship with fathers' education and grade level.<sup>13</sup> Prabu et al did not find any relation between the two.<sup>6</sup> The study by Ghosh in a group of 200 tenth grade adolescent students from two government and two private schools in Ranchi town found that students in government schools had less stress (mean academic stress score of 271.52) compared to private school students (mean score of 299.68).<sup>14</sup> Our study did not find any relation between type of school and stress among students.

Our study found a significant association between low final exam grade in the previous year and academic stress, whereas Koushal's study in 2017 found that more grades lead to more stress.<sup>8</sup>

Our study did not find any association between factors like academic workload, peer pressure, self-dependency, self-expectation and stress. According to our study 63% students had minimal stress, 24% had moderate stress and 2% had severe stress due to school and teachers. Yumba's study in 2008 showed that female students were relatively higher stressed compared to male students.<sup>15</sup> Rao found that a majority of students (77.5%) reported feeling stressed about their senior year. Stress was found to be

more in science students (82%) compared to commerce students (66%).<sup>16</sup>

We found a positive correlation between parental pressure and academic stress. Larson et al said Indian parents are found to be greatly involved in their children's education.<sup>17</sup> Desforges et al defined parents' involvement in many forms like parenting style, stable and secure environment, intellectual stimulation, parent-child discussion, contact in school, participation in school events and activities.<sup>18</sup> The findings suggest that parent involvement influences child's achievement positively. Koushal et al did not find any significant relation between parental expectation and stress.<sup>8</sup>

Coping with the stress is equally important as passive coping can lead a child to depression. In our study 0.5% never used any coping strategies, 53.6% students used coping strategies occasionally, 45% of the students often used coping strategies, 0.8% students used coping strategies frequently. No significant association was found between gender of the participants and use of coping strategies. Most students often use active emotional coping compared to active problem focused coping and passive problem focused coping. Least participants used passive emotional coping (negative coping). There was no significant relation between age and use of different coping strategies.

The main limitation of our study was it was done in a small sample in one district with a small sample size. Other limitation was that it was online survey hence probability of dishonest, unconsciously response is high.

## CONCLUSION

Our study revealed that most of the children studying in high school have minimal to moderate stress. Factors that affect the stress are gender, parent education, last exam grade, academic pressure and workload, peer pressure, parental pressure, self dependency and self expectation. Females appeared to be more stressed compared to males. Similarly bad grades in last exam also increase stress. Positive association for factor like parental pressure with increasing age among adolescent was present. However, this association could not be proved with other factors like academic pressure and workload, peer pressure, exams, self dependency and self expectation. Most of the students used different coping strategies to cope with the education stress. Students found to often use active coping strategies when compared to passive coping strategies which they use only occasionally. Knowledge of these factors can help us to restructure our curriculum to reduce the stress. Yearly academic stress assessment, regular counselling for both students and parents is advisable.

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## REFERENCES

1. Casey BJ, Jones RM, Levita L, Libby V, Pattwell SS, Ruberry EJ, Soliman F, Somerville LH. The storm and stress of adolescence: insights from human imaging and mouse genetics. *Dev Psychobiol.* 2010;52(3):225-35.
2. Spear LP. The adolescent brain and age-related behavioral manifestations. *Neurosci Biobehav Rev.* 2000;24(4):417-63.
3. Deb S, Strodl E, Sun J. Academic Stress, Parental Pressure, Anxiety and Mental Health among Indian High School. *Int J Psychol Behav Sci.* 2015;5(1):26-34.
4. Feld LD, Shusterman A. Into the pressure cooker: Student stress in college preparatory high schools. *J Adolesc.* 2015;41:31-42.
5. Khan MJ, Altaf S, Kausar H. Effect of Perceived Academic Stress on Students' Performance. *FWU J Soc Sci.* 2013;7(2):146-51.
6. Prabhu PS. A Study on Academic Stress among Higher Secondary Students. *Int J Humanities Soc Sci Invent.* 2015;4(10):63-8.
7. Deb S, Strodl E, Sun J. Academic Stress, Parental Pressure, Anxiety and Mental Health among Indian High School. *Int J Psychol Behav Sci.* 2015;5(1):26-34.
8. Kaushal Y, Koreti S, Gaur A. Educational stress and coping strategies in school going adolescents. *Int J Contemp Pediatr.* 2018;5:1452-6.
9. Sun J, Dunne J, Hou MP, Xu XY, Ai-Qiang. Educational stress scale for adolescents: development, validity, and reliability with Chinese students. *J Psychoeduc Assessment.* 2011;29(6):534-46.
10. Hesketh T, Zhen Y, Lu L, Dong ZX, Jun YX, Xing ZW. Stress and psychosomatic symptoms in Chinese school children: cross-sectional survey. *Arch Dis Child.* 2010;95(2):136-40.
11. Lazarus RS, Cohen JB. Environmental Stress. In Altman I, Wohlwill JF, editors. *Human Behavior and Environment.* Volume 2. New York: Plenum. Ice-Hall, Inc. 1998.
12. Yusoff MS, Yee LY, Wei LH, Siong TC, Meng LH, Bin LX, Rahim AF. A study on stress, stressors and coping strategies among Malaysian medical students. *Int J Students' Res.* 2011;1(2).
13. Mushtaq I, Khan SN. Factors affecting students' academic performance. *Global J Management Business Res.* 2012;12(9):17-22.
14. Ghosh S. Academic Stress among Government and Private High School Students. *Int J Indian Psychol.* 2016;3(2).
15. Yumba W. Academic Stress: A Case of the Undergraduate students [Internet] [Dissertation]. 2010.
16. Rao AS. Academic stress and adolescent distress: The experiences of 12th standard students in Chennai, India. The University of Arizona. 2008.
17. Larson R, Verma S, Dworkin J. Men's work and family lives in India: The daily organization of time and emotion. *J Fam Psychol.* 2001;15(2):206.
18. Desforges C, Abouchar A. The impact of parental involvement, parental support and family education on pupil achievement and adjustment: A literature review. London. 2003.

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