

FACTORS AFFECTING ACADEMIC STRESS AND ADOLESCENT DISTRESS IN STUDENTS

Saira Taj¹

Warda Anum²

Iqra Akram³

Abstract: *The focus of the study to investigate the factors affecting academic stress and adolescent distress: the experiences of 12th grade students of Lahore city. In this study quantitative method was used and data was collected through survey. In the survey the problem was assessed with the use of scales that measured factors of educational stress, depression and anxiety for adolescent. Convenient sampling method was used. The data was analyzed by independent t-test, one-way ANOVA and Pearson r. These results showed that workload, worry about grades, and perception towards examination system and self-aspiration are the main factors of academic stress and found that there was a significant mean difference between depression and anxiety scores of female and male students. It also concluded that there is an effect of program on 12th grade students' study pressure and shows that pre-medical and pre-engineering students have high study pressure than commerce students and found a relationship between factors of academic stress and depression as well as anxiety.*

Key words: Academic Stress, Adolescent Distress, Anxiety, Depression

¹Author is Assistant Professor in Department Professional Studies at Lahore College for women university, Lahore, E.mail: saira.zainab.taj@gmail.com

²Author is MPhil Scholar in Department Professional Studies at Lahore College for women university, Lahore, E.mail: wardaanum1989@gmail.com

³Author is MPhil Scholar in Department Professional Studies at Lahore College for women university, Lahore

Introduction

In humans stress cannot be avoided because it is a part of life. Usually when a person interacts with his environment, he has to face competition everywhere which usually results in feelings of stress and distress. which cause variety of behavioral and psychological problems. According to World Health Organization stress is a worldwide epidemic problem (WHO, 2003). In particular, consideration was overwhelmingly coordinated at its factors impacts harmful on wellbeing (Marshall, 2009). In a study conducted on undergraduate medical students of Germany, it was found through observations that higher perceived academic-related stress predicts poor academic performance (Kotter, Wagner, Bruheim, & Voltmer, 2017). The findings of Korea, China and Japan are similar and found that students have high rates of behavioural problems, depression and suicidal ideation according to National Crime Records Bureau students committed suicide due to failure in examination (Saha, 2017). Researches demonstrate that students of Asia have high academic burden with respect to their academic achievement the students feel low satisfaction, and high expectations, and may endure more pressure (Perry et al., 2017). Hence academic challenges or disappointment cause mental distress.

In Pakistan, education system in schools and colleges is textbook-oriented that focuses on repetition retention of lessons or memorization and demands long duration of study every day so students have not enough time for recreation and socialization. These things affect on mental state that lead towards stress or tensions. Specific forms of distress regarding academic stress and its factors need to investigate from the perspective of the

Pakistani students. So it is important to focus this issue and know the effects on youth.

Especially in 12th grade students which experience the feeling of stress due to unpleasant psychological situations and the strain to perform well in final exams and entry test to get admission in universities and professional institutions refers to academic stress. At the time when result of exams declared the stress level is so high (Iype, 2004) . These academic challenges lead some students sense of distress due to experiences of various behavioral and mental problems.

Researches demonstrates that students of Asia have high academic burden (Lee & Larson, 2000) with respect to their academic achievement the students feel low satisfaction, and high expectations, and may endure more pressure (Ang & Huan, 2006; Braman, 2007).

According to Bronfenbrenner ecological system theory (1979) different types of environment systems influenced human development. This theory discusses academic stress and adolescent distress from the approach of human development. Variety of factors are responsible for the student's stress that is parents, educators, and school executives, origins of society, customs and values. The particular forms of distress related to academic stress have not explored in Pakistan. So it is needed to explore the topic with the perspective of students experiences of academic stress and adolescent distress.

Objectives

The objectives of the study were to:

1. Investigate the factors affecting academic stress on 12th grade students.
2. Explore the effect of program on 12th grade students' study pressure.
3. Investigate the effect of program on 12th grade students' attitude towards study and grades.
4. Find out the relationship between factors of academic stress with depression and anxiety.

Research Questions

1. What are the factors affecting academic stress on 12th grade students?
2. How academic track or program effect 12th grade students' study pressure and attitude towards study and grades?
3. Is there any relationship between factors of academic stress with depression and anxiety?

Significance of the Study

In Asian countries like Pakistan are under strong family pressure related to academics on adolescents, found higher rates of psychological symptoms than other Western countries, we should paid attention towards it. The aim of the study was to highlight factors affecting academic stress and adolescent distress in 12th grade students of Lahore city. A few studies have been conducted on Adolescent distress and its effect on academic achievement of students which has become a major problem in our students. This study would be helpful for finding out the factors that cause academic stress on students. It would be helpful for students as well as for the parents and teachers for making decisions regarding studying and teaching. This study would cause innovation and improvement of teaching in our country. Moreover, stress management programmed may take benefit from the findings of this study.

Literature review

Stress is a feeling of tension, burdens, pressures, anxieties and worries. It is a psychological state of being tense that brought on by social forces and physical pressures (Reber & Allen, 2000). Stress is considered as a crucial point of life that affects a persons' developmental stage. The extraordinary demands of modern life that an individual has a good job, can prompt variations in emotions and create emotional imbalances that are called stress. Stress exists

from change in a person's thinking and has two opposite effects on individuals. Sometime a mild degree of stress can be beneficial which help to improve the individuals' performance while excessive amount of stress can lead to decreased performance (Uchil, 2017). Anything that challenges a persons' flexibility or mindset are called stressor (Meir Drexler & Wolf, 2017). Stress can be caused by biological, psychological, environmental and social factors.

Interruption Theory of Stress

In this theory Mandler (1982) explain that whenever some organized thought process or actions interrupted then stress is generating there. When an individual completes their task with their proper planning and the task is near to complete at that time some external or internal interruption occur there. At this point an individual mental thought has disturbed due to unexpected interruption and start tensions that may be cognitive, perceptual or behavioral. The result of interruption will always be interpreted emotionally and convert the feeling of joy into most noxious.

Transaction Theory of Stress

According to Lazarus this cognitive appraisal theory of stress based on two processes that is primary appraisal and secondary appraisal. In this theory evaluate an individual what is happening in their life and how he/she cope that situation and check the persons' efforts in actions and thoughts to manage particular demands.

In primary appraisal situation can be classified as beneficial or stressful. If the situation is found stressful then it is examined as harm, a threat or a challenge. Harm refers as damage at any place that can generate the feeling of anger, disappointment or sadness. Threat is an expression of intent to injure or a person that is regarded as a danger that can enhance the feeling of anxiety. A challenge

situation refers to the spirit or potential for growth and competition that produce excitement. Lazarus argues that we cannot evaluate origin of stress it absolutely depend upon the person interaction with the environment which are depend upon previous learning and experiences.

After the evaluation of the situation as a challenge or a threat the secondary appraisal occurs. In this appraisal a person is now assess her/his handle or coping options and resources. A persons' ability how to handle the situation if person not able to cope then negative stress is generate and able to cope the situation then positive stress generate.

Academic stress

Academic stress is a disturbance induced by a students' thinking of future outcomes related to academic performance (Putwain, 2007). In East Asian countries such as China, Japan and Korea the impact of academic stress on students is referred to as "examination hell" and the entire schooling system are designed extremely competitive in nature because of admission in prestigious institution (Woronov, 2007). It has been described to have a harmful affect on students' sentimental state during their everyday activities and to generate a variety of psychological and physical symptoms (Lea & Larson, 2000). The findings of Korea and Japan are similar and found that students have high rates of behavioural problems, depression and suicidal ideation. According to National Crime Records Bureau students committed suicide due to failure in examination (Saha, 2017).

Researches has also revealed that stress arises due to academic factors such as demands of teachers and parents, heavy study schedule, fear of failure in test and exams, unrealistic expectations, time management, competition, many assignments, lack of parent pocket money and poor school environment that can

affect on students' mind that leads to increase mental health problems (Ang & Huan, 2006; Banerjee, 2012; Deb,et al., 2015). Empirical studies have showed that expectations of parents and teachers and as well as self-expectations as major sources of academic stress and comparatively more common in Asian countries than Europe countries.

Adolescent Distress

In this period of growth and development in which almost all aspects of children i.e. mental, emotional and physical is change. In this stage an individual developed relationship, feel responsibilities, thinking about future and a lot of experienced gained from environment. It is a confusing time period for adolescence a child thought that he/she is mature enough to handle all situations while they are immature. So parents and teachers should behave them as adults. In this stage different biological, psychological and social transitions generate in an individual.

In this present era distress is a major problem for adolescence with the advancement of technology and science everyone wants to reach the peak of success and live luxurious life. As a result they experienced high level of stress which has drastically impact on their emotional and cognitive state and a person feels unhappy and nervous if these type of emotional experience continuous and also starts interpersonal relationship problems (Chalfant et al., 1990).

Depression and Anxiety

Those students who experience academic stress mostly express themselves in the form of somatic symptoms, depression and anxiety (Deb, Strodl & Sun, 2015). The World Health Organization (WHO) also reported that depression is a worldwide problem. In colleges across the country depression and anxiety are prevalent problems. During colleges students experience new lifestyle,

friends, exposure to a new culture and responsibility about career. If a student cannot manage well become easily susceptible of anxiety and depression.

Depression is a medical condition that can effect on students' ability to work interaction with peers and study. It is also associated with mental illness and the symptoms are appetite changes, hopelessness, difficulty in sleeping, and concentration problems on schoolwork and always unhappy. Sometimes it leads to suicidal thoughts. In daily routines of students feel anxious about their schoolwork. If these feelings become intense and uncontrollable and interferes their daily routine maybe it is sign of an anxiety disorder.

Research Design

The study was descriptive in nature. This research study is based on quantitative approach and use survey method for data collection purposes. Both descriptive (Mean and standard deviation) and inferential statistics (t-test, ANOVA and Pearson r) were employed to determine the current status of population with respect to variables.

Population and Sampling

The population of the study was comprised of 193 private and government colleges of Lahore city. Convenient sampling method

was used for this study which was based on the availability of students of 12th grade. The sample consisted of 10 colleges of Lahore city (6 government and 4 were private colleges). The study was conducted on a convenient sample of 335 12th grade students.

Research Instrument

Three questionnaires were used as a research instrument to collect information about the factors of academic stress and adolescent distress. One questionnaire was assessed factors of academic stress which was developed by researcher after pilot testing and the reliability of the questionnaire is equal to 0.81 was measured by Cronbach's α . Instrument validity was confirmed by experts. In the questionnaire 35 items were finalized which comprise of 11 different categories. Other two questionnaires assessed adolescent distress through depression and anxiety scale (2011) with the permission of Jiandong Sun and Michael P. Dunne.

Data Analysis

Data was analyzed by SPSS software 24.0 version. Basic descriptive analyses revealed the extent and prevalence of academic stress and adolescent distress, and the data was further analyzed by independent t-test, one way ANOVA and Pearson r.

Results and Discussions

Table 1. Factors of the educational stress scale based on gender and Program

Factors	Gender		Program		
	Male	Female	Commerce	Pre-medical	Pre-engineering
	Mean	Mean	Mean	Mean	Mean
	SD	SD	SD	SD	SD
Study Pressure	13.37	14.51	13.09	14.68	14.53
	3.496	3.478	3.172	3.630	3.500
Workload	6.52	7.19	6.85	6.94	6.82
	1.983	1.801	1.800	2.050	1.913
Grades' tension	10.75	12.06	10.37	12.28	11.54
	3.018	2.307	2.903	2.476	2.590

Self aspirations	10.34	11.24	10.10	11.55	10.69
	2.529	2.351	2.404	2.305	2.527
Disappointment	8.55	8.62	8.48	8.65	8.61
	2.410	2.612	2.377	2.805	2.348
Self efficacy	13.83	13.80	13.57	13.33	14.46
	2.866	2.999	2.949	2.930	2.825
Perception towards	11.12	10.90	11.46	10.54	11.03
college	3.111	2.902	2.730	3.182	3.025
Conflict with teachers	5.48	5.64	5.84	5.25	5.60
	2.059	1.991	1.780	1.882	2.304
Attitude towards	10.02	10.72	9.90	10.94	10.25
study and grades	2.530	2.424	2.334	2.530	2.529
Examination system	10.07	11.00	10.19	10.73	10.68
	2.620	2.299	2.349	2.561	2.571
Parents relationship	14.02	2.299	13.97	13.07	13.46
	4.315	3.942	3.789	4.240	4.386

According to table 1 the mean value of pressure from the study for male students is 13.73 while for female students is 14.51 which shows that female students have feel more pressure from study than male students. Also, the Mean value for worry about grades of male students is 10.75 and of female students are 12.06 so it is concluded that female students have more worry about grades than male students. Furthermore, mean value of parents' relationship for male students is 14.02 and for female is 2.299 which tells that male students have better parents' relationship than female students. The mean value of study pressure for commerce students is 13.09, for pre-medical students is 14.68, for pre-engineering students is 14.53 which indicates that science students have feel greater pressure from study than commerce students. Also, the mean value for grades' tension for commerce students is 10.37, for pre-medical students is 12.28, for pre-engineering students is 11.54 which shows pre-medical students have more worry about grades than pre-engineering and commerce students. The mean value for self-expectation for commerce students is 10.10,

for pre-medical students is 11.55, for pre-engineering students is 10.69 which shows pre-medical students have high self-aspirations than pre-engineering and commerce students.

Table 2 tells that the mean value of male students is 45.88 and the mean value of female is 46.29 which show that female students are more depressed than male students. Also the mean value of pre-medical students is 47.59 which are greater than commerce and pre-engineering students which shows that pre-medical students have high depression. While the mean value of anxiety of commerce students is 51.01 which show that commerce students have high anxiety than science students. Table 3 shows that t value (2.741) is significant at $p \leq 0.05$ level of significance. So it is concluded that there is a significant mean difference between male and female students in the factors of stress.

Table 4 shows that t value (2.103) is significant at $p \leq 0.05$ level of significance. It is concluded that there is a significant mean difference between depression of male and female students of 12th grade.

Table 2. Depression and Anxiety across Gender, Academic Track/ program

Categories		Depression	Anxiety
		Mean SD	Mean SD
Gender	Male	45.88 8.719	50.35 6.080
	Female	46.29 8.789	50.48 5.935
Program	Commerce	45.56 6.730	51.01 5.457
	Pre-Medical	47.59 9.514	50.21 6.318
	Pre-engineering	45.15 9.406	50.09 6.151

Table 3. Independent sample t-test for mean difference between male and female factors of stress

Variables	N	Mean	df	T	Sig.
Male	164	108.62	333	2.741	.006
Female	171	112.65			

Table 4. Independent sample t-test for mean difference between depression of male and female students of 12th grade

Variables	N	Mean	df	T	Sig.
Male	164	41.63	333	2.103	.036
Female	171	43.29			

Table 5. Univariate analysis for effect of program on 12th grade students' study pressure

Sources of variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	165.924	2	82.962	6.983	.001
Within Groups	3944.297	332	11.880		
Total	4110.221	334			

Table 5 shows that F ratio (6.983) is significant at $p \leq 0.05$ level of significance. It

is concluded that there is a significant effect of program on 12th grade students' study pressure.

Table 5.1. LSD post hoc for effect of program on 12th grade students' study pressure

Comparison	Mean difference	Sig.
Pre-medical Vs Commerce	1.592	.001
Pre-engineering Vs Commerce	1.443	.002
Pre-medical Vs Pre-engineering	0.149	.743

LSD post hoc for multiple comparisons shows that pre-medical and pre-engineering students have high study pressure than commerce students.

Table 6: Univariate analysis for effect of program on 12th grade students' attitude towards study and grades

Sources of variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	60.320	2	30.160	4.942	.008
Within Groups	2026.038	332	6.103		
Total	2086.358	334			

Table 6 shows that F ratio (4.942) is significant at $p \leq 0.05$ level of significance. It is concluded that there is a significance effect of program on 12th grade students' attitude towards study and grades.

Table 6.1. LSD post hoc for effect of program on 12th grade students' attitude towards study and grades

Comparison	Mean difference	Sig.
Pre-medical Vs Commerce	1.034	.002
Pre-engineering Vs Commerce	0.348	.294
Pre-medical Vs Pre-engineering	0.685	.036

LSD post hoc for multiple comparisons shows that science students have high attitude towards study and grades than commerce students.

Table 7. Univariate analysis for effect of program on 12th grade students' self expectations

Sources of variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	116.575	2	58.288	9.984	.000
Within Groups	1938.213	332	5.838		
Total	2054.788	334			

Table 7 shows that F ratio (9.984) is significant at $p \leq 0.05$ level of significance. It is concluded that there is a significant effect of program on 12th grade students' self expectations.

Table 7.1. LSD post hoc for effect of program on 12th grade students' self expectations

Comparison	Mean difference	Sig.
Pre-medical Vs Commerce	1.457	.000
Pre-engineering Vs Commerce	0.593	.068
Pre-medical Vs Pre-engineering	0.864	.007

LSD post hoc for multiple comparisons shows that pre-medical and Commerce students have high self expectations than pre-engineering students.

Table 8. Univariate analysis for effect of program on 12th grade students' depression

Sources of variance	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	393.947	2	196.974	3.781	.024
Within Groups	17293.635	332	52.089		
Total	17687.582	334			

Table 8 shows that F ratio (3.781) is significant at $p \leq 0.05$ level of significance. It is concluded that there is a significant effect of program on 12th grade students' depression.

Table 8.1: LSD post hoc for effect of program on 12th grade students' depression

Comparison	Mean difference	Sig.
Pre-medical Vs Commerce	1.397	.156
Pre-engineering Vs Commerce	1.215	.211
Pre-medical Vs Pre-engineering	2.112	.006

LSD post hoc for multiple comparisons shows that pre-medical and pre-engineering students have high depression score than commerce students.

Table 9. Relationship between factors of academic stress and depression

Variables	N	Pearson r value	Sig.
Academic Stress & Depression	335	0.306	.000

Table 9 shows that Pearson r value (0.306) is significant at $p \leq 0.05$ level of significance. It is concluded that there is a significant relationship between factors of academic stress and depression of 12th grade students.

Table 10. Relationship between factors of academic stress and anxiety

Variables	N	Pearson r value	Sig.
Academic Stress & Anxiety	335	0.182	.001

Table 10 shows that Pearson r value (0.182) is significant at $p \leq 0.05$ level of significance. It is concluded that there is a significant relationship between factors of academic stress and anxiety of 12th grade students.

Conclusion

In the light of this research it was concluded stress is unavoidable part in the life of students either it is psychological, or it comes from society or academic challenges so many factors are responsible for it. Previous researches showed that academic achievement was the major factors of the stress. In this research the results showed that students have high expectations from themselves and the parents' aspirations from them were also high that revealed in this research. The expectations mostly concern their future or career due to this reason they forget their social life and entertainment activities and work hard in their studies to achieve their goals and fulfill their expectations. Mostly science students feel more stressed as compared commerce students it may be science students have high expectations from their self. So they worked very hard to achieve their goals.

Different researchers also found that high expectations of parents and restrictions of their parents, among other factors were the reasons of the students' stress and parents influence their study environment directly and indirectly. In this study some students' experiences academic stress due to parental pressure and comparison and in some cases, it was a source of distress. While some students disagree with that and they thought that the involvement of their parents brought a positive change for them. In this research

findings showed that the adolescents of 12th grade expressed their distress in variety of ways. Some expressed in the form of anxiety and some expressed their distress in the form of depression. This research also found that a relationship between factors of academic stress and depression as well as between academic stress and anxiety. Moreover it indicated relationship between anxiety and depression. The strength of this research study that it investigated about a problem which has cross-culture and wide spread importance. These results are important for understanding the factors of Stress and their relationship between each other. Now it is the time to realize the need of increasing and improving our students' stress-management skills and stress coping abilities which is an important target for change. Mostly the behaviours and patterns related to ones health developed at adolescence and early adulthood that's why Good stress-management skills have the strength to facilitate youth in an ongoing manner throughout their lives (Sawyer et al., 2012). Therefore, it's a goal to provide opportunities to youth regarding enhancing their academic stress-related coping abilities during adolescence. (OECD, 2015). Programmes related to stress-management and coping strategies can be initiated and developed in education settings which can help students, parents and teachers. The limitation of this research study is that it was conducted on a sample of 12th grade students so it is recommended that similar kind of research study should be conducted on a variety of samples of students with different phases of education level and majors. Qualitative research methods would also be

used in order to have a deeper understanding of student's stress factors and their impact.

Recommendations

Based on findings of this study, the followings recommendations can be drawn:

- 1) Teachers and policy makers should modify grading system as much as possible and encourage students to develop their intrinsic motivation and reduce the students' distress.
- 2) Use evaluative methods that encourage conceptual learning without threatening students instead of using traditional evaluative methods which focuses on memorization of students that leads them towards academic stress.
- 3) Proper chance should be given to the students to communicate with teachers as well as with students so that they can enhance their meaningfully learning instead of memorizing it. They should be given opportunities to express and relax through arts and sports. Sometime communication leads towards new discoveries that reduce tensions and able student to discover something new.
- 4) Teachers must be praise the performance and effort of the student that develop positive attitude in students and decrease their anxiety and depression.
- 5) An appropriate time should be allocated for counselling and moral lessons integrated with religion so that students develop a positive attitude towards life.
- 6) When students make a mistake or they get low grades, encourage them to try again and harder instead of letting them broad about their failure. Because it is believed those students who learn by trying again and again can handle their difficulties more easily and they become highly motivated and reduce the stress.
- 7) Deep conceptual understanding of the students can be achieve when students spend more time on their studies so curriculum

developers should develop curriculum in such a way that allows students to spend a considerable amount of time on each topic. By doing this it decreases stress in students' learning, and they don't need extra classes to clear their concepts.

- 8) Students must know about their strengths and weaknesses and be mature enough to gracefully realize and accept these facts. They should be guided and given confidence to make achievable goals and to plan to achieve them successfully.

Different Programs related to stress-management should be developed in educational institutions which can counsel and help teachers, parents and students in coping student related stress. Especially teachers should be trained in order to help students with depression, anxiety and stress by teaching them relaxation techniques and coping strategies so that they become emotionally intelligent and can live a healthy and balanced life.

References

- Ang R. P, Huan V. S., Braman O. R. (2007) Factorial structure and invariance of the academic expectations stress inventory across Hispanic and Chinese adolescent samples. *Child Psychiatry and Human Development* , 38: 73–87.
- Banerjee N. C. Academic Stress Suicidal Ideation & Mental Well-Being Among 1st Semester & 3rd Semester Medical, Engineering & General Stream Students. *Researchers World*. 2012;73-80. Retrieved from <https://search.proquest.com/docview/1816764514?pq-origsite=gscholar>
- Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, MA: Harvard University Press.

- Chalfant, P.H., Heller, P.L., Roberts A., Briones, D., Aguirre-Hochbaum, S. & Farr, W. (1990). The clergy as a resource for those encountering psychological distress. *Review of Religious Research*, 31, 305-313.
- Meir Drexler., & Wolf. S. (2017). Stress and memory consolidation. *Cognitive neuroscience of memory consolidation* (pp.285-300). Cham, Switzerland:Springer.
- Deb, Sibnath & Strodl, Esben & Sun, Jiandong. (2015). Academic Stress, Parental Pressure, Anxiety and Mental Health among Indian High School Students. *International Journal of Psychology and Behavioural Sciences*. 5. pp. 26-34. 10.5923/j.ijpbs.20150501.04.
- Huan, V.S, Yeo, L.S, Ang, R.P, & Chong, W.H. (2006).The influence of dispositional optimism and gender on adolescents' perception of academic stress. *Adolescence*, 41, pp.533-546. <https://europemc.org/article/med/17225666>
- Iype, G. (15 April 2004). South India: World's suicide capital. Retrieved from www.rediff.com/news/2004/apr/15spec.htm.
- Kotter, T., Wagner, J., Bruheim, L., & Voltmer, E. (2017). Perceived Medical School stress of undergraduate medical students predicts academic performance: An observational study. *BMC Medical Education*, 171, p. 256. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/29246231>
- Lee, M. Larson, R.W. (2000). The Korean Examination Hell: Long hours of studying, distress, and depression. *Journal of Youth and Adolescence*, 29, pp.249-272.
- Laurence, B., C. Williams., & D. Eiland.(2009). The prevalence and socio-demographic correlations of depression, anxiety, and stress among a group of university students. *Journal of American Health*, 58: pp.94-105.
- Marshall, Leisa & Allison, Amy & Nykamp, Diane & Lanke, Shankar. (2009). Perceived Stress and Quality of Life Among Doctor of Pharmacy Students. *American journal of pharmaceutical education*. 72. 137. 10.5688/aj7206137. https://www.researchgate.net/publication/24238548_Perceived_Stress_and_Quality_of_Life_Among_Doctor_of_Pharmacy_Students/citation/download
- Mandler, G. (1982). Stress and thought processes. In L. Goldberger & S. Breznitz (Eds.), *Handbook of stress: Theoretical and clinical aspects* (pp. 88-104). New York: Free Press.
- OECD. (2015). PISA 2015 Results (Volume III). Paris, France.
- OECD. (2017). PISA 2015 Results (Volume III). Paris, France.
- Perry, Y., Werner-Seidler, A., Calear, A., Mackinnon, A., King, C., Scott, J., ... Batterham, P. J. (2017). Preventing depression in final year secondary students: school-based randomized controlled trial. *Journal of Medical Internet Research*, 1911, e369. Retrieved, [Google Scholar]
- Putwain, D. (2007), Researching academic stress and anxiety in students: some methodological considerations. *British Educational Research Journal*, 33: 207-219.doi:10.1080/01411920701208258
- Reber AS and Allen R (2000) Individual differences in implicit learning: Implications for the evolution of consciousness. In

- Kunzendorf RG and Wallace B (eds) Sawyer, Pamela & Major, Brenda & Casad, Bettina & Townsend, Sarah & Mendes, Wendy. (2012). Discrimination and the Stress Response: Psychological and Physiological Consequences of Anticipating Prejudice in Interethnic Interactions. *American journal of public health*. 102. pp. 1020-6. 10.2105/AJPH.2011.300620.
- Saha, D. (2017). Every hour, one student commits suicide in India. *Hindustan Times*. Retrieved from <http://www.hindustantimes.com/health-and-fitness/every-hour-one-student-commits-suicide-in-india/story-7UFFhSs6h1HNgrNO60FZ2O.html>
- Uchil, H.B. The Effect of Stress on Students Performance. *Stress Management Professional International Journal*, 5(1): pp. 17-21 (2017).
- Woronov, Terry. (2007). Chinese Children, American Education: Globalizing Child-rearing in Contemporary China.
- World Health Organization (WHO). (2003). *Investing in mental health*. Geneva: Nove Impression, Switzerland. https://www.who.int/mental_health/media/investing_mnh.pdf