

The Examinations Stress on Adolescents' Social Psychological and Biological Changes in the Body

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Abstract: Stress is the body's emotional, cognitive, physical, or behavioural response to environmental changes. Academics slow learners main cause of suicides in India. Appearing for exams every year 82% of adolescent students under pressured to academic exams and 74% of pressure parent and exam anxiety. The student goes through various kinds of positive and negative emotions during academic's period. humans' brain is very special compared to mammals. with a particularly developed cerebral cortex. Most of the cortex is on the outside of the brain, except the insula. It is composed of grey matter, which is filled with connection points between neurons. The brain has a core neuron, different structures and scientists are still figuring out what their function are. Some of these structures monitor conditions inside your body and relay information. The limbic system is the emotional centre of your brain. Cortisol is a stress hormone. When your baseline of norepinephrine decreases or adrenaline cause of fewer stress hormones in your body, and levels are too high for too long, it can lead to inflammation and weight gain, mood swing physical and psychological behaviour changing. These chemical changes affected adolescent psychological emotional cognitive behavioural in their academics. There is in India every year 2320 adolescent were commit suicide because of failure in exams. (National Crime Records Bureau, India). While Indian parents are known to be deeply involved in their children's education (Larson, Verma & Dworkin, 2000). updated data suggests that depression is caused by a combination of genetic, biological, environmental, and psychological factors.

Keywords: (Emotional, cognitive, anxiety, suicide, genetic, biological).

INTRODUCTION

We are thinking stress is a common biological change process in our daily routine. But it's notable series issues in the current environment. Educational pressure in adulthood is a common problem nowadays. because most of the education systems are following a theoretical basis. when we go to practical education in 100% of the students will come out of this stress level. let us discuss depression, genetic, biological, environmental, and psychological factors. how do these factors affect education? (1,2). Yes, it leads to Major depressive disorder among adolescents. Depression is a mood disorder that leads to constant sadness and a lack of interest. It can affect how teenagers feel, think, and act. Depression often harms many areas of life, including

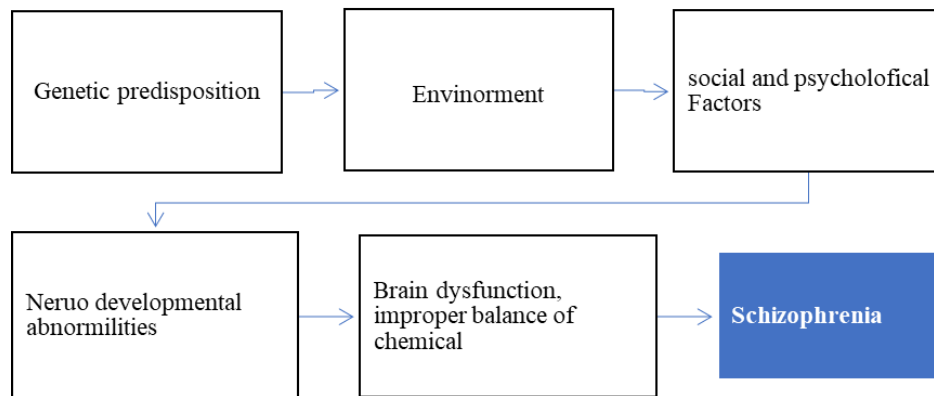
school performance and relationships with family, friends, and society. Hippocrates, a Greek doctor, believed that health depended on a balance of four body fluids: yellow bile, black bile, phlegm, and blood. He thought that too much black bile in the spleen caused melancholia, or sadness (3,4).

THE PSYCHOLOGICAL EFFECTS OF VITAL FLUIDS

Blood is a haemoglobin-rich portion. Phlegm, or the Phlegmatic, is present as the clear plasma portion. Yellow Bile, it is bilirubin, Black Bile, is present as a brownish grey sediment with platelets and clotting factors. It encourages thinking all realism, pragmatism, and pessimism. These four vital fluids can affect the mind, thought, and emotions in adolescents (5).

BIOLOGICAL FACTORS AND GENETICS, AND PHYSICAL HEALTH

CHART 1



Schizophrenia it's a mental disorder. Systems are positive, negative emotions, disorganized thinking behavioural disorder. negative symptoms" such as very limited speech, restricted experience and expression of emotions, inability to experience interest or pleasure, and social withdrawal, and/or extreme agitation or slowing of movements (6).

NEUROENDOCRINE

Increased HPA activity is the hallmark in Depression. Activity of Brain derived `neurotrophic growth factor is decreased. Hypercortisolism leads to decreased feedback inhibition from pituitary non-suppression of cortisol secretion. Reduction in total sleep time Increased REM sleep leading to reduced REM latency (7).

NEUROTRANSMITTERS:

Decreased serotonin, decreased norepinephrine, Increased Acetylcholine, Decreased Dopamine, decreased GABA (8).

IMMUNOLOGICAL

The primary causes of lymphocytopenia in children are often related to genetic disorders. Lymphocyte production has decreased, leading to an increased secretion of pro-inflammatory factors, including cytokines such as interleukin-6 IL-6, TNF-alpha, and IL-1beta, as well as adhesion molecules. There are several potential causes of lymphocytopenia in children. adolescent get chronic mental stress (9).

ENVIRONMENTAL, SOCIAL, AND PSYCHOLOGICAL FACTORS

Divorce, separation, family discord, lack of adequate care, Parental Deprivation, Childhood sexual abuse, peer children domination, these are the factors contributing to adolescent stress in academic (10).

WHAT ARE THE HAPPY HORMONES? HOW DO HAPPY HORMONES GET DISTURBED IN STRESS?

There are four hormones that are known to pave the way for a happy life: dopamine, endorphins, oxytocin, and serotonin. Let's understand each of them. Dopamine is your brain's reward system. Whenever you get rewarded or praised, dopamine is released in your body, making you feel good and motivated. Endorphins are your body's natural pain relievers. When stress or discomfort causes strain or pain, endorphins are released to reduce the sensation of pain and protect the body from damage. Oxytocin, often referred to as the "love hormone," is released when you are around people you bond with or trust. This hormone enhances feelings of connection and happiness. Serotonin plays a major role in regulating mood, sleep, appetite, and digestion. It acts as a mood stabilizer—feeling good is often thanks to serotonin, while feeling upset might indicate low serotonin levels. In addition to these mood-related hormones, the hypothalamic-pituitary-adrenal (HPA) axis is a critical neuroendocrine system that manages the body's response to stress. Activation of this axis begins with the hypothalamus secreting corticotropin-releasing factor (CRF), which then stimulates the pituitary gland to release adrenocorticotrophic hormone (ACTH). During times of stress, the plasma levels of CRF and ACTH can increase two to five times. The paraventricular nucleus of the hypothalamus is supervised for the jointed response to stress. Norepinephrine, serotonin and acetylcholine umpire of the neurogenic encouragement of corticotrophin- releasing factor mass production (11,12).

METHODOLOGY AND RESULTS

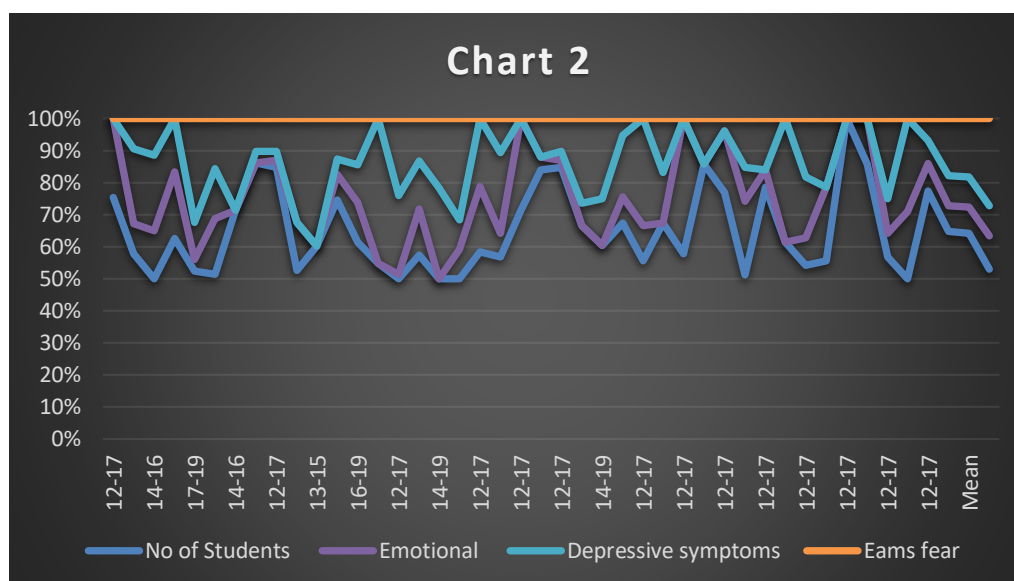
We conducted a literature review encompassing genetic, biological, environmental, social, and psychological factors. The focus is on adolescent stress, based on an analysis of 50 articles and books to illustrate its impact on academic behaviour

and the underlying reasons for these changes. Among these articles, 9 are not related to this method. Finally, 41 articles screened participants aged between 12 and 19. Out of 17,214 individuals screened by various researchers, the gender information was available for 53% of the participants, while 47% did not have this data. Among the total adolescent population, the mean value was 419.85. The emotional average indicated that 62.20% of adolescents experienced depressive symptoms. Additionally, the mean score for exam-related fear was reported at 118.73%, S.D of three variables 81.79%,75.27%,219.01%. This literature review aims to explore these findings further. The analysis shows that exam fear is mostly high among two of the three variables related to adolescents (ref table 1,2& chart 2).

Table I				
Mean S.D, value of Senior Secondary Boys and Girls.				
Sr.No	Group	Total population	Mean value	S.D
1	Emotional	17214	145.52	81.79
2	Depressive symptoms		62.2	75.27
3	Eams fear		118.73	219.01

Table 2: systematically examine stress level in healthy school adolescent(13to52)

NO	Age	No of Students	Table 2		Emotional	Depressive symptoms	Fams fear	Topic
			Boys	Girls				
1	12-17	110	63	47	36	0	0	Adolescent depressed mood and difficulties with emotion regulation: Concurrent trajectories of change
2	14-16	160	80	80	26	65	26	Emotional Competence and Stress Among Adolescent Students
3	14-16	70	37	33	21	33	16	Effect of mindfulness and gratitude on exam anxiety and stress among students
4	17-19	30	15	15	10	8	0	A Study of Academic Stress among Senior Secondary Students
5	17-19	180	90	90	12	40	111	Exam anxiety among senior secondary school students
6	17-19	250	118	132	85	76	76	A study on Academic stress of higher secondary school Students,
7	14-16	400	200	200	0	0	160	Academic Stress and Socio-Emotional School Climate: A Study of Secondary School Students
8	12-17	470	257	213	0	20	56	Prevalence of Depression, Anxiety and Stress among school going adolescent in Chandigarh
9	12-17	812	0	812	20	27	98	Prevalence and correlates of depression, anxiety, and stress among high school students in a block of Hooghly district, West Bengal: Across-sectional study
10	16-19	570	244	326	163	0	351	Academic stress, perceived parental pressure, and anxiety related to competitive entrance examinations and the general well-being among adolescents – A cross-sectional survey from Karnataka, India
11	13-15	2030	0	0	0	0	1340	Construction and Standardization of Examination Anxiety Scale for Adolescent Students
12	12-17	1877	0	0	200	120	319	Frequency of Irritable Bowel Syndrome, Entrance Examination-Related Stress, Mental Health, and Quality of Life in High School Students
13	16-19	863	0	0	174	168	202	Depression, Anxiety and Stress Among Higher Secondary School Students of Imphal, Manipur
14	14-19	242	0	0	0	200	0	Depression, anxiety and stress among adolescent students belonging to affluent families: A school-based study
15	12-17	468	0	0	13	230	225	Depression, anxiety and stress among high school students: A cross-sectional study in an urban municipality of Kathmandu, Nepal
16	14-16	200	100	100	50	52	46	Study of Depression, Anxiety and Stress among School Going Adolescents
17	14-19	411	0	0	0	234	177	An Examination of Several Mental Health Factors Among Indian Students Who Retake the Board Examination: Predictors of Depression, Anxiety, and Stress
18	14-19	190	0	0	35	35	120	Academic stress, parental pressure, anxiety and mental health among Indian high school students
19	12-17	178	0	0	62	65	0	Academic stress and mental health among high school students
20	12-17	371	207	164	48	164	70	Academic stress and coping in high school adolescents
21	12-17	400	200	200	160	0	0	Academic Stress and Socio-Emotional School Climate: A Study of Secondary School Students
22	12-17	407	257	213	20	0	58	Prevalence of Depression, Anxiety and Stress among school going adolescent in Chandigarh
23	12-17	812	0	812	20	27	98	Prevalence and correlates of depression, anxiety, and stress among high school students in a block of Hooghly district, West Bengal: Across-sectional study
24	12-17	250	99	151	0	26	99	Adolescent Stress Questionnaire: Reliability and validity of the Greek version and its description in a sample of high school (lyceum) students
25	14-19	879	49	51	0	210	365	The Impact of School Reopening on Chinese Adolescents' Mental Health During COVID-19: Considering the Role of Academic Stress and Academic Orientation
26	12-17	336	162	174	40	96	26	Understanding Academic Stress among Adolescents
27	12-17	100	50	50	20	60	0	Academic Stress and Adjustment Among High School Students
28	12-17	60	60	0	0	14	15	Can Schools Reduce Adolescent Psychological Stress? A Multilevel Meta-Analysis of the Effectiveness of School-Based Intervention Programs
29	12-17	569	323	246	415	0	0	Yoga for controlling examination anxiety depression and academic stress among students appearing for indian board examination
30	12-17	374	0	0	0	0	62	Prevalence and sociodemographic correlates of depression and anxiety among secondary school students in Chennai, South India: A cross-sectional study
31	12-17	120	32	88	30	0	6	Yoga as an Intervention for the Reduction of Symptoms of Anxiety and Depression in Children and Adolescents: A Systematic Review
32	12-17	125	62	63	56	26	37	A study on impact of Academic Stress on Self-Efficacy among the Late Adolescents
33	12-17	449	0	0	30	0	92	Academic stress among Urban School Going Adolescent Students
34	12-17	400	206	194	0	252	0	Investigation of Depression, Anxiety & Stress Symptoms on Students
35	12-17	190	0	0	30	66	64	Academic related stress among private secondary school students in India
36	12-17	520	0	520	216	0	200	Academic stress, parental pressure, anxiety and mental health among Indian high school students
37	12-17	84	0	0	0	0	0	Academic stress among Indian adolescent girls
38	12-17	36	20	16	6	0	0	The Program Affects Me 'Cause it Gives Away Stress': Urban Students' Qualitative Perspectives on Stress and a School-Based Mindful Yoga Intervention
39	12-17	371	207	164	48	70	164	Effect of Yoga-nidra on Adolescents Well-being
40	12-17	50	0	0	21	29	0	Academic stress and coping in high school adolescents
41	12-17	800	400	400	89	75	70	Evaluate the effectiveness of Assertiveness Training program on improving academic stress among school students in selected schools
	Total	17214	3538	5554	2156	2488	4749	



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