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Appendix – I

Ethical Clearance Certificate

INSTITUTIONAL HUMAN ETHICS COMMITTEE



Avinashilingam

Institute for Home Science and Higher Education for Women
Deemed to be University Under category 'A' By MHRD, (Etd. u/s 3 of UGC Act 1956)
Re Accredited with 'A' Grade By NAAC, Recognised by UGC Under Section 12 B
Coimbatore - 641043, Tamil Nadu, India

Chairman

Dr. S. Ramalingam
Principal, PSG Institute
of Medical Sciences
& Research, Coimbatore

Member Secretary

Dr.S.Uma Mageshwari
Professor,
Dean Student Affairs,
Department of Food Service
Management & Dietetics

Members

Dr.P.R.Padma
Mr. K. Anilmoli (Legal Expert)
Dr. N.S. Rohini
Dr.Subhashini K. Sripathi
Dr.A. Saraswathy
Ms.D.Kavitha
Dr.S. Mathalakshmi
Dr.G.Victoria Naomi
Dr. Judith Justin
Dr.Anitha Subash

16 August 2018

To
Ms. Upashree Dutta
Department of Human Development
Avinashilingam Institute for Home Science and
Higher Education for Women
Coimbatore – 641 043

Dear Madam,

Ref : Your presentation of the proposal No. IHEC/17-18/HD/29
entitled "Determinants of Stress, Anxiety and Depression
among Adolescents and the Effects of Secondary Preventive
Interventions – A Factor Analytic Study" to the IHEC on 13th
August 2018

The Institutional Human Ethics Committee of our University
hereby grants approval to your research proposal No. IHEC/17-
18/HD/29 entitled "Determinants of Stress, Anxiety and Depression
among Adolescents and the Effects of Secondary Preventive
Interventions – A Factor Analytic Study" submitted and presented by
you. The Approval number for the same is AUW/IHEC-17-
18/HD/FHP-07.

We wish you all the best in your research endeavours.

Regards,

V. Uma Nageshwari
Dr.S.Uma Mageshwari
Member Secretary



Appendix – II

General profile questionnaire

Please in the following entries:

1. Name:

2. Age:

3. Date of birth:

5. Gender: Male Female

6. Name of the School:

7. Class:

8. Place:

9. Types of school: Government Aided Private
Boy's only Girl's only Co-ed

10. Types of family:

Nuclear family:

Joint family:

Extended family

11. Locality of Residence

Rural:

Urban :

Semi urban :

12. Your Father educational level:

No formal education Primary Secondary Graduate Post

13. Your Mother educational level:

No formal education Primary Secondary Graduate Post

Appendix – III
Depression Anxiety Stress Scale

<h1 style="margin: 0;">DASS</h1>	<i>Name:</i> _____	<i>Date:</i> _____
<p>Please read each statement and circle a number 0, 1, 2 or 3 which indicates how much the statement applied to you <i>over the past week</i>. There are no right or wrong answers. Do not spend too much time on any statement.</p> <p><i>The rating scale is as follows:</i></p> <p>0 Did not apply to me at all 1 Applied to me to some degree, or some of the time 2 Applied to me to a considerable degree, or a good part of time 3 Applied to me very much, or most of the time</p>		
1	I found myself getting upset by quite trivial things	0 1 2 3
2	I was aware of dryness of my mouth	0 1 2 3
3	I couldn't seem to experience any positive feeling at all	0 1 2 3
4	I experienced breathing difficulty (eg, excessively rapid breathing, breathlessness in the absence of physical exertion)	0 1 2 3
5	I just couldn't seem to get going	0 1 2 3
6	I tended to over-react to situations	0 1 2 3
7	I had a feeling of shakiness (eg, legs going to give way)	0 1 2 3
8	I found it difficult to relax	0 1 2 3
9	I found myself in situations that made me so anxious I was most relieved when they ended	0 1 2 3
10	I felt that I had nothing to look forward to	0 1 2 3
11	I found myself getting upset rather easily	0 1 2 3
12	I felt that I was using a lot of nervous energy	0 1 2 3
13	I felt sad and depressed	0 1 2 3
14	I found myself getting impatient when I was delayed in any way (eg, elevators, traffic lights, being kept waiting)	0 1 2 3
15	I had a feeling of faintness	0 1 2 3
16	I felt that I had lost interest in just about everything	0 1 2 3
17	I felt I wasn't worth much as a person	0 1 2 3
18	I felt that I was rather touchy	0 1 2 3
19	I perspired noticeably (eg, hands sweaty) in the absence of high temperatures or physical exertion	0 1 2 3
20	I felt scared without any good reason	0 1 2 3
21	I felt that life wasn't worthwhile	0 1 2 3

Please turn the page ➤

Reminder of rating scale:

0 Did not apply to me at all

1 Applied to me to some degree, or some of the time

2 Applied to me to a considerable degree, or a good part of time

3 Applied to me very much, or most of the time

22	I found it hard to wind down	0	1	2	3
23	I had difficulty in swallowing	0	1	2	3
24	I couldn't seem to get any enjoyment out of the things I did	0	1	2	3
25	I was aware of the action of my heart in the absence of physical exertion (eg, sense of heart rate increase, heart missing a beat)	0	1	2	3
26	I felt down-hearted and blue	0	1	2	3
27	I found that I was very irritable	0	1	2	3
28	I felt I was close to panic	0	1	2	3
29	I found it hard to calm down after something upset me	0	1	2	3
30	I feared that I would be "thrown" by some trivial but unfamiliar task	0	1	2	3
31	I was unable to become enthusiastic about anything	0	1	2	3
32	I found it difficult to tolerate interruptions to what I was doing	0	1	2	3
33	I was in a state of nervous tension	0	1	2	3
34	I felt I was pretty worthless	0	1	2	3
35	I was intolerant of anything that kept me from getting on with what I was doing	0	1	2	3
36	I felt terrified	0	1	2	3
37	I could see nothing in the future to be hopeful about	0	1	2	3
38	I felt that life was meaningless	0	1	2	3
39	I found myself getting agitated	0	1	2	3
40	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
41	I experienced trembling (eg, in the hands)	0	1	2	3
42	I found it difficult to work up the initiative to do things	0	1	2	3

Appendix IV

Scale on Determinants of Depression, Anxiety and Stress tool

Please read each and every statement carefully and select the number 1, 2, 3, 4, 5 if it is applicable in your daily life over the past week. You are free to give your own view there is no right or wrong answer. Do not spend much time on any one statement.

- 1- Always
- 2- Often
- 3- Sometimes
- 4- Rarely
- 5- Never

i. Determinants of Depression tool

Sl.No	Items	1	2	3	4	5
1	Do you see yourself as a complete failure?					
2	Whenever a teacher asks you any question do you feel that you have lost the ability to think?					
3	Whenever any teacher asks you any question does your hand shake or you feel sweaty or cold before giving answer?					
4	Do you have the feeling that if you don't clean off the room properly your family may get sick because of you?					
5	Are you satisfied with your life?					
6	Do you feel your future is hopeless and you have nothing to look forward to?					
7	Do you feel sad or depressed in daily situation?					
8	Whenever new academic session is starting do you feel nervous?					
9	Suddenly relationship changes between your parents where you have to live with any one of them will cause any kind of anxiety among you?					
10	Do you feel worried or tensed at the changes in appearance than before?					
11	Do you feel yourself that you have failed more than the average person?					
12	Are you as a person dissatisfied or bored with everything?					
13	Do you feel that until all your books are all ordered and perfectly arranged you cannot do your homework/assignment?					
14	Do you feel that until all your books are all ordered and perfectly arranged you cannot do your homework/assignment?					

15	Are you in good spirit most of the time?					
16	Do you feel physically slowed down, like body was stuck in mud?					
17	Do you feel that your physical health has been reduced than before?					
18	Do you blame yourself if any bad things happen to your family members?					
19	Do you blame yourself for everything bad that has happened in your life?					
20	Do you feel alone while being with your close friends?					

ii. Determinants of Anxiety tool

Sl.No	Items	1	2	3	4	5
1	Do you feel scared to stand in very high building and look down?					
2	Do you feel afraid of bad weather such as thunderstorms?					
3	Whenever you do any work do you feel about yourself as stupid or worthless?					
4	Do you worry more about your work and you think that everything should be perfect?					
5	Are you afraid of insects and feel nervous when you find them near you?					
6	Do other people comments make you think more about yourself?					
7	Do you think more about your past bad experience and get panic?					
8	If any competition is conducted when there are participants from other schools do you get nervous easily even though you are well prepared?					
9	Are you frequently worried of what society is thinking about you?					
10	If you are rejected in any fields one or two time do you feel that you should try until you get selected?					
11	Do you feel scared about test even though it has been announced before hand?					
12	Before exam do you feel that you will get less marks/fail and that thought makes you tensed you are not able to read?					
13	Do you feel afraid of small things?					
14	Do you have the habit of washing your hand each and every work you do?					
15	Do you feel shy in almost all the situation?					
16	When some problem come to you or in some difficult situation do you feel shaky?					

iii. Determinants of Stress tool

Sl.No	Items	1	2	3	4	5
1	Do you give more importance to your friends than family and you feel bad when you are being neglected by them?					
2	Does the choice of whether to study arts or science or commerce brings in mental conflict in you?					
3	Do you feel that you have less self confidence/self esteem and it affects you to progress in any work?					
4	Does getting late during examination increase your tension?					
5	Does dishonour of your family by others increase your stress level?					
6	Does your friend circle pressurize to dress in a certain way, which is beyond your personality?					
7	Does the routine maintenance of diet not create uneasiness?					
8	Does the arrival of guests at the time of examination cause stress in you?					
9	Do you feel pressurized in your daily life when your parents expect more than what you have achieved?					
10	Have you faced any verbal/physical abuse by friends?					
11	Do you feel tensed or stress due to change in your physical features?					
12	Do you feel sometime that you are expecting too much from yourself and you are not being able to achieve it?					
13	Does any family member developing physical illness create stress in you?					
14	Do you feel that you become irritated easily at little things in a new environment?					
15	Have you ever felt that you have not been recognized for your work?					
16	Do you feel that your concentration and memory are impaired?					
17	Does tension of completing a target in a short span of time causes stress in you?					

Appendix- V

Detailed lesson plan of Comprehensive School-based Intervention Training to alleviate Depression, Anxiety and Stress (CSIT-DAS)

Class	Group		Topics Covered (Total Session 15, Total hours-30)	
			Stage 1	Trust Building and Eligibility check : 2 sessions Total Time: 4 hours (each session 2 hours)
8 th and 9 th	Experimental Group	Wait-list control group	Session 1 : Two hour Ice Breaking Sessions Administered collection on background profile tool	
	1-09-2021 (FN)	1-09-2021 (AN)		
8 th and 9 th	6-09-2021 (FN)	6-09-2021 (AN)	Session 2: Two hour IQ test (Ravens progressive Matrices)	
8 th and 9 th	Experimental Group	Wait-list control group	Stage 2	Orientation and Pre-test evaluation: 1 session Total Time:2 hour
	9-09-2021 (FN)	9-09-2021 (AN)	Session 3:DASS-42 (Tools to measure the level of depression, anxiety and stress)	
8 th and 9 th	Experimental Group		Stage 3	Education and training session Total Time: 22 hours, Total session: 11 (each session 2 hours)
			Session 4 till 14	
			Session 4: 13-09-2021	Psycho Education (1 session, 2 hours) <ul style="list-style-type: none"> ✓ Conceptualization of DAS ✓ Understanding DAS <ul style="list-style-type: none"> What is DAS Adolescents and DAS Types of DAS ✓ Signs and symptoms

		Triggers and effects of DAS on performance
8 th and 9 th	Session 5 and 6: 16-09-2021, 20-09-2021	Behavioural Techniques and Cognitive techniques Total session: 10 (each session 2 hours) ✓ Demonstration of the various DAS reduction and prevention skills Pranayama Breathing Exercise Understanding the concept of Body and Mind
	Session 7: 23-09-2021	✓ Practise of Thought Dairy (Date/Time/Situation/Thought/Emotions) Maintaining a dairy
8 th and 9 th	Session 8: 27-09-2021	✓ Repetition of the above practise to see whether they are doing correctly Relaxing Technique Guiding Interaction Round etc.
	Session 9: 30-09-2021	✓ Introduction of process of Thought Validation through intuition of thought dairy Worksheet Video clipping Interaction Round
	Session 10: 4-10-2021	✓ Practise of Thought Reattribution and detailed explanation on differentiation between thought validation and thought attribution Role play Demonstrating
	Session 11: 8-10-2021	✓ Rehearsal of the skills and discussion of the techniques with new different situation Demonstrating Video clip Case studies

				Worksheet
			Session 12: 25-10-2021	✓ Practise of Cognitive Rehearsal Role Play (Social Behaviour mainly understanding the concept of Non Verbal Communication)
			Session 13 and 14: 28-10-2021, 1-11-2021	✓ Repetition of the above techniques with new situations like Assertive skills and Conflict Resolution Role play Brainstorming Video clip Case studies
8 th and 9 th	Experimental Group	Wait-list control group	Stage 4 Session 15:	Post-test evaluation and follow –up
	8-11-2021 FN	8-11-2021 AN		DASS-42 (Tools to measure the level of stress, anxiety and depression)
8 th and 9 th	Experimental Group		15-11-2021 FN	Follow up 1 (After 1 week of the post-test evaluation) <ul style="list-style-type: none"> • Just interaction with the students to see whether the students were able cope up with the application of skills • Helping the students to restructure environmental stressors
			16-12-2021 FN	Follow up 2 (After 1 month of the 1 st follow up) <ul style="list-style-type: none"> • Clearing any doubts if they had during the 1 month gap • Final boosting the students for better furfure • Distrusting distributed leaflet among the adolescents and teachers so that it would be helpful for them.



Avinashilingam Institute for Home Science and Higher Education for Women
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Coimbatore - 641 043, Tamil Nadu, India)

Appendix L2

(Item No 5 of Check List) Details of Research Publications

S.No	Article	Journal	Other Details Vol/No/Page No/ Year	Published in UGC- CARE / Scopus Indexed/ Web of Science
1	Depression, anxiety and stress (DAS) among school-going adolescents and efficacy of Intervention	The Indian Journal of Home Science	Vol.35(1), Page No: 225-236, Year: 2023	Published in UGC Care Group I
2	Stress, Anxiety and Depression among Adolescents	Studies on Ethno-Medicine	Vol.14(1-2), Page No: 68-74, Year: 2020	Published in UGC Care Group II

*Proof of list of Journals from Internet to be attached along with copies of reprints.

Scholar : Upashree Dutta
Supervisor : Ananda Manachuli.

Checked By: *[Signature]* 26/3/2023

HoD/Dean of Respective School
(116) *[Signature]* 28/3/23

The scholar Ms. Upashree Dutta (17PH11DFO01) has published her articles in

- "Stress, Anxiety and Depression among Adolescents", in the journal "Studies on Ethno-medicine" V. 14 (1-2), Pg. 68-74, 2020 and this journal is active in Scopus, the coverage years from 2009 to present.
- "Depression, anxiety and stress (DAS) among school going adolescents and efficacy of Intervention" in the journal "The Indian Journal of Home science", V. 35 (2), Pg. 225-236, 2023 and this journal is active in UGC Care Group I, from July 2020 - present.

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22.3.2023

Stress, Anxiety and Depression among Adolescents

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KEYWORDS Mental Health. DASS 42. Academic Pressure. Obsessive-Compulsive Disorder. Negative Mental State

ABSTRACT The impact of mental health on the well-being of adolescents has become a significant concern. The mental health of an individual depends on the coping skills acquired in alleviating stress, anxiety and depression. As stress, anxiety and depression are interlinked in its aetiology, symptoms, consequences and its effect on behaviour, the study attempts to explore the level and identify its determinants. 1,038 adolescents from the age group of 12 to 15 years were chosen as the sample. A standardised tool named DASS 42 and a self-formulated questionnaire with seventy items were used to determine the level and the determinants of stress, anxiety and depression, respectively. Adolescents do exhibit a moderate level of stress, anxiety and depression. Academic pressure has been the most influential factor for stress and depression and obsessive-compulsive disorder for anxiety. The finding cautions the academicians, teachers, parents to explore the causative factors at an early stage and implement appropriate preventive measure.

INTRODUCTION

The term ‘adolescence’ is a theoretical construct learnt through psychosomatic, psychosocial, chronological and cultural views. Steinberg in the year 2014 also termed that this period of lifespan is typically marked as the period between the onset of puberty and the formation of social autonomy. Hari Krishnan and Sailo (2019) said that early adolescence is a span of remarkable biological changes in the human lifespan and adolescents need both mental and physical wellbeing for better growth.

About ten to twenty percent of the children and adolescents worldwide suffer from one or the other mental health problems (World Health Organisation (WHO) 2017). It is adjudged that fifty percent of the mental disorders are initiated by the age of 14 and this increases to seventy-five percent by the age of 18 years (Kessler et al. 2007). As per the Young Health Movement (2017), the prevalence of mental health disorders, like anxiety and depression, has increased by seventy percent in the past 25 years among the adolescent community. These disorders were found to have adverse consequences on their overall development, including lower educational performance, increased rate of school dropouts, impaired social interactions, augmented risk of substance abuse, and suicide (Copeland et al. 2014; Hetrick et al. 2016).

As it is known that the prevalence of mental health condition issues is present among school-going adolescents is a universal concern, with global studies informing the clinical levels of psychopathology, including stress, anxiety and depression in student populations worldwide where many studies have also talked about it. The prevalence of DAS increases as the parents’ love decreases, and lack of parental affection takes toll on the mental peace of children (Sandal et al. 2017).

Stress, anxiety and depression were found to be associated with each other, and several studies also show it. Dusselier et al. (2005) had also mentioned that the coinciding symptoms and behaviours of these three psychological problems can lead to all sorts of educational issues, which in turn impact the academic achievement of students. It has also been proven that the academic performance from school education to the higher education level is influenced by the symptoms of stress, anxiety and depression, as these mental disturbances lead to difficulties in concentration, lack of motivation and interest, poor attendance, and poor physical health. A study done by Sandal et al. in 2017 also showed the importance of early identification of stress, anxiety and depression and its prevention among adolescents.

Thus, adolescence is the period where the prevalence of mental health pressure is more

common, and its consequences may have effects on behaviour. Thus, the key rationale of the current study is to explore the level of the major mental disturbances, like stress, anxiety and depression, and to understand its determinants among the schoolgoing adolescents as a strategy of early detection towards preventing and protecting the students against these mental disturbances.

Objectives

General Objectives

- To determine the states of stress, anxiety, and depression
- To analyse the determinants of stress, anxiety and depression

Specific Objective

- To identify the correlation between stress, anxiety and depression

METHODOLOGY

The study adopted a descriptive longitudinal research design. Certain inclusion and exclusion criteria were set to identify the schools of study. With the schools identified for the study, the criteria for the selection of the sample were also set. A total of 1,038 students enrolled in 8th and 9th grades within the age ambit of twelve to fifteen years were selected for the study. To identify the states of stress, anxiety and depression, a standardised tool developed by Lovibond and Lovibond in 1995 titled the DASS 42 (Depression Anxiety Stress Scale) was used. DASS comprises of three self-report scales formulated to examine the levels of depression, anxiety and stress among adolescents. Each of the three scales contains seven items. Anxiety, depression and stress are all negative feelings, divided into subscales of 2 to 5 items with similar content. Subjects are asked to use 4-point severity/frequency scales to rate the degree to which they have experienced each mental state over the past week. Scores for each of the mental states are calculated by summing the scores for the pertinent items. The scale has four levels of each of the mental states of stress, anx-

ety and depression that were categorised as Normal (0-7), Mild (8-9), Moderate (10-14), Severe (15-19), and Extremely severe (20+). Reliability of the three scales is considered adequate and test-retest reliability is likewise considered adequate with 0.71 for depression, 0.79 for anxiety and 0.81 for stress. A self-formulated rating scale with seventy items under each of the three mental disturbances, namely stress, anxiety and depression, was devised. These seventy items are to identify the determinants of the mental disturbances among schoolgoing adolescents. Face validation of the self-formulated questionnaire has been found. The content of the self-formulated tool was also validated with the help of five experts from different fields of study. The tool is a five-point rating scale with 1 as always, 2 as often, 3 as sometimes, 4 as rarely and 5 as never. The scores were categorised under three levels, namely, 1-17 (severe), 18-35 (moderate) and 36-50 (mild). The data were subjected to statistical analysis through SPSS 20.

RESULTS AND DISCUSSION

General Profile of the Identified Sample

The general profile of the respondent was depicted in Table 1. A total of 1,038 students within the age ambit of 12 years to 15 years were engaged for the study through random sampling. The highest percentages of them (44.4%) were 13 years old, followed by 14 years (38.5), 12 years (10.4) and 15 years (7%). Relatively, a high-

Table 1: General profile of the identified sample

<i>Variables and its description</i>	<i>Number</i>	<i>Percent</i>
<i>Gender</i>		
Male	512	49.3
Female	526	50.7
<i>Age of the Child</i>		
12 yrs	108	10.4
13 yrs	457	44.0
14 yrs	400	38.5
15 yrs	73	7.0
<i>Class</i>		
8 th Std	504	48.6
9 th Std	534	51.4
<i>Type of School</i>		
Aided	293	28.2
Private (Co-ed)	745	71.8

er percentage of the respondents were from the 9th grade standard (51.4%) followed by grade 8 (48.6%).

Levels of Stress, Anxiety and Depression

Table 2 projects the level of stress, anxiety and depression of the selected group of respondents being categorised into five categories and the percentage analysis was given. Looking into the data, 23.8 percent of adolescents are said to have stress at a moderate level, followed by a mild level (21.2%). Stress is commonly reflected as the common disease of the contemporary age. It is a pattern of negative physiological symptoms and psychological behaviour that happens in an individual.

Table 2: Levels of stress, anxiety and depression

<i>DASS</i>	<i>Classification</i>	<i>Frequency</i>	<i>Percent</i>
<i>Stress</i>	Normal	516	49.7
	Mild	220	21.2
	Moderate	247	23.8
	Severe	49	4.7
	Extremely severe	6	0.6
<i>Anxiety</i>	Normal	272	26.2
	Mild	140	13.5
	Moderate	312	30.1
	Severe	202	19.5
	Extremely severe	112	10.8
<i>Depression</i>	Normal	399	38.4
	Mild	252	24.3
	Moderate	297	28.6
	Severe	78	7.5
	Extremely severe	12	1.2

A significant finding that appeared from the study was that most of the selected group of adolescents had a certain amount of anxiety when it was classified under mild, moderate, severe and extremely severe. However, it was observed that nearly thirty percent of adolescents are on a moderate level (30%) followed by severe (19.5%), which was found to be very dangerous. A study had suggested that high levels of anxiety predict the development of panic attacks and anxiety symptoms. Studies had also observed that anxiety is a risk factor for adolescents (Anderson and Hope 2009).

Also drilling further into the depression level of the adolescents, more than 1/4th of them were at the moderate level (28.6%) followed by mild level (24.3%), which is also dangerous. A

study conducted by Kessler et al. (2003) found that depression has been the commonest reason why people go to a therapist, although the common perception is that all psychological problems are depression. Several studies have also indicated that the prevalence rates of the individual disorders of stress, anxiety and depression are growing at an alarming rate among adolescents.

Determinants of Stress

The psychological and physiological well-being of adolescents is affected by the daily stressors that they encounter (Yahav and Cohen 2008). Table 3 captures the finding regarding the determinants of stress in an encapsulation.

Table 3: Determinants of stress

<i>Determinants of stress</i>	<i>Classification</i>	<i>Frequency</i>	<i>Percent</i>
<i>Academic Stress</i>	Mild	338	32.6
	Moderate	675	65.0
	Severe	25	2.4
<i>Social Stress</i>	Mild	365	35.2
	Moderate	658	63.4
	Severe	15	1.4
<i>Family Stress</i>	Mild	365	35.2
	Moderate	655	63.1
	Severe	18	1.7
<i>Attitudinal Stress</i>	Mild	345	33.2
	Moderate	671	64.6
	Severe	22	2.1
<i>Poor Time Management</i>	Mild	375	36.1
	Moderate	632	60.9
	Severe	31	3.0
<i>Physical Stress</i>	Mild	352	33.9
	Moderate	663	63.9
	Severe	23	2.2
<i>Drastic Change in Life/Traumatic Event/Romantic Relationship</i>	Mild	362	34.9
	Moderate	658	63.4
	Severe	18	1.7
<i>Total Score</i>	Mild	312	30.1
	Moderate	714	68.8
	Severe	12	1.2

It was very clear from Table 3 that the determinants of stress were classified under seven determinants, namely, academic pressure, social stress, family stress, attitudinal stress, poor time management, physical stress, drastic change in life or a romantic relationship. In the present study, almost all the factors had a moderate ef-

fect on influencing stress among the identified sample, but the highest was observed by the adolescents' academic stress (65%). In the present day scenario, 8th and 9th grade students feel more pressure in specific subjects like mathematics, science and language, as those subjects help them secure good marks in their board exams and henceforth. Moreover, they were also forced to do comparatively better than their counterparts, which stresses them a lot and in turn, affects their mental well - being. In their study based on a sample of adolescents aged 12-13 years, Banerjee S (2011) found that academic stress is kind of stress that arises due to academic factors such as heavy school agenda, unrealistic belief and demands from their parents and teachers, poor study habits, low academic performance, etc. Stress is anything that inflicts an additional demand on an individual's capability to cope, often with academic stress. Mostly every student feels stressed in his or her education period (Sahu et al. 2016). Certain factors like a long school calendar, deprived socioeconomic status, educational background of the family, unreasonable belief and demands of teachers' and low academic performance intensify stress (Liu and Lu 2012).

It was seen that attitudinal stress stood second at 64.4 present, which shows that lack of confidence in them and perception of indifferent behaviour of people towards them creates mental conflict. A study by Malinowska-Cieslik et al. in 2019 also mentioned that adolescent communication in the family and with peers showed stronger impact of adolescents' optimism and was significantly related to their classroom involvement and to students' self-reported adjustment and attitude towards their school. Hence, these daily stressors are essential to be explored to understand the healthy as well as problematic development in adolescence.

Determinants of Anxiety

Table 4 presents the distribution of the respondents with respect to the most influential determinants of anxiety within the identified categories of mild, moderate and severe.

It was apparent from Table 4 that determinants of anxiety were classified under seven factors, that is, separation anxiety, specific pho-

Table 4: Determinants of anxiety

<i>Determinants of stress</i>	<i>Classification</i>	<i>Frequ-ency</i>	<i>Per-cent</i>
<i>Separation Anxiety</i>	Mild	356	34.3
	Moderate	655	63.1
	Severe	27	2.6
<i>Specific Phobias</i>	Mild	321	30.9
	Moderate	691	66.6
	Severe	26	2.5
<i>Social Anxiety</i>	Mild	371	35.7
	Moderate	642	61.8
	Severe	25	2.4
<i>Generalised Social Disorder</i>	Mild	334	32.2
	Moderate	678	65.3
	Severe	26	2.5
<i>Generalised Panic</i>	Mild	339	32.7
	Moderate	674	64.9
	Severe	25	2.4
<i>Academic Anxiety</i>	Mild	339	32.7
	Moderate	677	65.2
	Severe	22	2.1
<i>Obsessive and Compulsion Disorder</i>	Mild	315	30.3
	Moderate	695	67.0
	Severe	28	2.7
<i>Total Score</i>	Mild	300	28.9
	Moderate	720	69.4
	Severe	18	1.7

bias, social anxiety, generalised social disorder, generalised panic, academic anxiety and obsessive and compulsion issues. It was seen that almost all the factors had a moderate effect on influencing anxiety, but the highest was registered with the obsessive and compulsion disorder (67%). The adolescent develops OCD (Obsessive Compulsion Disorder) and is characterised by obsessions, which are invasive and upsetting judgment and descriptions. This, in turn, may cause anxiety, and compulsions, which were opinionated as otherwise behaviours.

Drilling further into the determinants of anxiety, it was seen that specific phobias (towards a tall building, dark place, doctor, etc.) had also been another influential factor. It is common to have particular phobias during the period of adolescence. This finding of the study was also supported by Merikangas, He and Burstein et al. (2010), who reported that specific phobia is often the first of any anxiety disorder to be present throughout development. Specific phobia is defined as an irrational fear, which has a substantial adverse effect on daily living (American Psychiatric Association (APA) 2000).

Determinants of Depression

Depressive disorders among adolescents have become a major public health issue because of their high occurrence (Costello et al. 2006). Table 5 presents the distribution of the respondents within the identified categories of mild, moderate and severe levels of the determinants of depression.

Table 5: Determinants of depression

Determinants of stress	Classification	Frequency	Percent
Academic Pressure	Mild	330	31.8
	Moderate	679	65.4
	Severe	29	2.8
Present/Future Life	Mild	343	33.0
	Moderate	668	64.4
	Severe	27	2.6
Physical and Psychological Concerns	Mild	354	34.1
	Moderate	657	63.3
	Severe	27	2.6
Attitudinal Issues	Mild	369	35.5
	Moderate	646	62.2
	Severe	23	2.2
Social Environment	Mild	384	37.0
	Moderate	633	61.0
	Severe	21	2.0
Family Matter	Mild	354	34.1
	Moderate	658	63.4
	Severe	26	2.5
Others	Mild	379	36.5
	Moderate	628	60.5
	Severe	31	3.0
Total Score	Mild	315	30.3
	Moderate	704	67.8
	Severe	19	1.8

Table 5 lucidly explains the seven determinants of depression, namely academic pressure, present/future life, physical and psychological concerns, attitudinal issues, social environment, family matters and others. It was seen that academic pressure (65.5%) had been the most influential factor followed by present and future life (64.4%) as per the perception of 8th and 9th grade schoolgoing adolescents. As most of the adolescents are under tremendous pressure by their parents and the school's demands, it is no wonder that academic pressure stands tall in affecting their mental health. The interwoven signs and responses of these three psychological states can lead to all sorts of educational issues with an adverse impact on the academic performance of these adolescents. It has been found

that students' performance at all levels of education is subjective to their mental states (Duselie et al. 2005). The negative mental states lead to difficulties in concentration, lack of motivation and interest, poor attendance, and impaired physical health.

Relationship Between Stress, Anxiety and Depression

Table 6 depicts the correlation between stress, anxiety and depression. It was exciting to notice that the association between stress, anxiety and depression depends on each other, as the correlation was highly significant at the 0.01 level. The positive correlation between the three mental states, namely, stress, anxiety, and depression has been proven in various studies (Hammen et al. 2004). Moreover, it is also demonstrated that high levels of perceived stress do increase the risk for an individual in developing anxiety and depression symptoms and vice-versa.

Table 6: Relationship between stress, anxiety and depression

Variable	Corr. coeff	Stress	Anxiety	Depression
Stress	Correlation	1	.517**	.490**
	Sig.		.000	.000
Anxiety	Correlation		1	.536**
	Sig.			.000
Depression	Correlation			1
	Sig.			

** Significant correlation at 0.01 level.

CONCLUSION

The key finding was that academic pressure was found to be the most influential factor for stress and depression and obsessive-compulsive disorder for anxiety. In sum, the moderate level of stress, anxiety and depression exhibited by the selected lot of school students cannot be ignored. It has to be addressed with caution by postulating a suitable intervention that can help them in acquiring coping skills towards encountering every determinant of stress, anxiety and depression.

RECOMMENDATIONS

Adolescence is the period where the prevalence of mental health pressure is more com-

mon, and its consequences may have adverse effects on their performance as well as behaviour. Hence, this study would serve as a back-up study for the psychologists to devise a suitable intervention to alleviate these mental disturbances at the right age and to customise the overall intervention as per the need of the student population and also at the same time would try to observe its efficacy in coping with stress, anxiety and depression.

LIMITATIONS

The permission and the cooperation to be sought from schools was a herculean task. Moreover, the tool formulated was too large and it was time consuming.

ACKNOWLEDGEMENT

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ABBREVIATIONS

DASS: Depression Anxiety Stress Scale
 WHO: World Health Organisation
 DAS: Depression anxiety stress
 OCD: Obsessive Compulsion Disorder
 APA: American Psychiatric Association

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DEPRESSION, ANXIETY, AND STRESS (DAS) AMONG SCHOOL-GOING ADOLESCENTS AND EFFICACY OF INTERVENTION

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in 34th Biennial Conference of HSAI, 2022

ABSTRACT

Prevalence of Depression, Anxiety, and Stress (DAS) among student population has an increased risk of psychiatric disorders, which may exert significant triggers having an adversative effect on their mental health. The increased competition among oneself to perform better than their counterparts in all aspects of life further adds to the risks. The aim of the study was to assess the association of DAS with socio-demographic factors and specific predictors among 12-15 years school-going adolescents and to evaluate the efficacy of CSIT - DAS (Comprehensive School-based Intervention Training- Depression, Anxiety, and stress) in alleviating DAS. School-based action research, one group Pretest, and Post-test design were adopted. The study was conducted among 1038 students by administering a standardized tool developed by Lovibond, DASS-42 (Depression, Anxiety, and Stress Scale), and a self-formulated questionnaire to determine the factors influencing DAS. The first tool along with a general profile tool was utilized to garner information about the level of DAS (Both pre and post-intervention) and its association with the socio-demographic determinants and the second tool was administered to assess the most influential factor triggering DAS. For the experimental phase of the study, 60 children from one particular school and 80 children from another school for the control group were randomly selected for the study and the DASS-42 tool was re-administered after the intervention, and after the stipulated follow-up cycles. The study alerts that out of 1038 school-going adolescents a total of 947 were found to be anxious, 847 were depressed and 778 were stressed between mild to extremely severe levels. Cross tabulation and Chi-square test for association were done to know the distribution of the students across the three domains with respect to socio-demographic variables, where the class of study and qualification of parents were found to influence DAS to varying degrees. Data were also analysed by using a Mann-Whitney U test and Friedman Test for the bunching effect of CSIT. The experimental group showed a tremendous decline in the post-intervention mean score on DAS when compared to the pre-evaluation mean score in all three mental issues with a significant difference between groups for DAS score ($p > 0.01$). These findings suggest that the program is efficacious in alleviating the onset of symptoms of DAS among the selected respondents. The follow-up cycles after the intervention clearly stated that the training should be a continuous one with periodic sessions of rejuvenation

Keywords: Depression, Anxiety, Stress, DAS, School-based Intervention

INTRODUCTION

Adolescence is often regarded as the developmental period which may be conservatively understood as the years between the onset of puberty as well as the establishment of social autonomy that occurs between ages 13 and 19 and is usually subjected to numerous exposures.

Several studies in recent years had manifestly demonstrated that this section of the population group is going through more levels of psychological distress which included Depression, Anxiety, and Stress (DAS) and that can lead to enormous problems in later years.

Patel V, *et al.*, (2007) stated that “mental disorders contribute to an enormous proportion of disease burden through all societies”. Among them, DAS is the foremost cause of illness as well as disability among young adolescents at present-day (Adolescent Mental Health, 2021). WHO, (2017) also mentioned that “the physical, emotional, and behavioural modifications that occur throughout adolescence predispose them to a diversity of mental health issues”. WHO, (2003) similarly has identified in their survey that “mental health and mental disorders are largely overlooked and not given the same significance as physical health”.

Merikangas, *et al.*, (2005) said that around, 20 percent of adolescents have been diagnosed with a mental health disorder. However, Rushton, *et al.*, (2002) found that may be about 20- 30 percent may have one major depressive occurrence before they reach adulthood whereas a quarter of them with a mood disorder like depression emerges during adolescence and nearly 50 -75 percent of adolescents are with anxiety disorders. Kappahn CJ, *et al.*, (2006) points out that if this mental health remains untreated among adolescents, it may lead to poor school performance or school dropping out, strained family relationships as well as substance abuse, and engaging in some risky sexual behaviours.

Creed *et al.*, (2011) also stated in their research that “school-based programming has numerous unique qualities including, the ability to reach a large number of students simultaneously”, furthermore, it would help to identify students who are at high risk for clinical mental health-related issues. Lastly, Fletcher (2010) noticed that “there is evidence of a relationship between mental health and academic success; school-based mental health programs may also serve as a way to increase students’ academic performance for those experiencing mental health problems”.

Significance of the study: Adolescents are exposed to multiple factors which affect mental health. Factors that contribute to psychological urges during adolescence include exposure to adversity, pressure to conform to peers, and exploration of identity. The present study was carried out to assess the socio-demographic factors and specific predictors causing DAS among 12-15 years school-going adolescents and to evaluate the effectiveness of School-based Intervention to alleviate DAS among school-going adolescents as we know the magnitude and risk factors of symptoms of DAS due to limited access to psychological and psychiatric services in early adolescence often go undiagnosed and untreated.

OBJECTIVES

1. To assess the association of the socio-demographic factors (class and educational status of parents) with DAS among the respondent
2. To assess the most influential factor triggering DAS among the respondents
3. To evaluate the efficacy of School-based Intervention in alleviating DAS among them.

METHODOLOGY

School-based action research, one group Pretest, and Post-test design were adopted. The study was piloted among 1038 students by administering a standardized tool developed by Lovibond, DASS-42 (Depression, Anxiety, and Stress Scale), and a self-formulated questionnaire to determine the factors influencing DAS. The first tool along with a general profile tool was

utilized to garner information about the level of DAS (Both pre and post-intervention) and its association with the socio-demographic determinants and the second tool was administered to assess the most influential factor triggering DAS in the respondents.

Study setting and sample size: With certain inclusion and exclusion criteria sampling procedure adopted for the current study was Purposive sampling. The researcher selected schools following “Samacheer pattern” for the study. Overall, 1,038 students from 8th and 9th standard within the age realm of ‘12 to 15’ years were selected for study whereas a total of 60 (Experimental group) and 80 (Control group) children from two particular schools were randomly selected for the intervention programme.

Sample characteristics: The current study focused mainly on the 8th and 9th standards because throughout the entire stages of development it is during this phase, they are exposed to much psychological adversity which had a greater potential impact on their mental health and moreover due to lack of proper guidance and more pressure from school as well as home sometimes the situation gets very worsen.

Ethical Considerations - The approval number for the study was IHEC / 17-18HD/29.

Instruments used

1. **General Background Questionnaire:** A questionnaire to elicit the general and personal profile of the selected school-going children was framed.
2. **DASS (Depression, Anxiety, and Stress Scale):** A standardized tool developed by Lovibond DASS was used in order to assess the levels of DAS to find out the association with the socio-demographic variables. The tool is a questionnaire comprising 42 items where three self-report scales were designed to measure the negative emotional state which was further divided into subscales of ‘2 to 5’ items with related content. The scores were categorized into five levels for each of the mental states - DAS. The standardized tool is a five-point rating scale where they were written off as (1 as always, 2 as often, 3 as sometimes, 4 as rarely, and 5 as never) and were categorised as “Normal (0-7), Mild (8-9), Moderate (10-14), Severe (15-19), and Extremely severe (20+)”. This tool along with the general profile tool was utilized to garner information about the level of DAS both in pre and post evaluation
3. **Depression Stress Anxiety Determinants Checklist (SF-DSAD):** After reviewing the whole literature a checklist was formulated to ascertain the factors influencing each mental state namely DAS. The checklist was subjected to face validity by sending it to experts. A self-formulated rating scale with seventy items under each of the three mental disturbances, namely DAS, was devised. The checklist is a five-point rating scale “1- always, 2- often, 3- sometimes, 4 – rarely, 5- never”. The scores were categorised under three levels namely “1-17 (severe), 18-35 (moderate), 36-50 (mild)”. The lower the score higher is the severity level.
4. **CSIT-DAS:** Structured on the results of the first phase of the study, where school children were found to be affected by DAS at moderate to extremely severe levels and with the help of collated literature a school-based intervention to combat DAS was proposed for the current research. As Cognitive behavioural therapy (CBT) focuses on anxiety and depression and School Stress Inoculation Training (SSIT- developed by Maraichelvi AK, 2016) on stress, these two techniques when combined together might be helpful for all the three major mental issues of adolescents was the basic assumption of the researcher. With this backdrop, the investigator made an attempt to customize CBT and SSIT together and formulated a pilot model, and tested among the school-going adolescents in such a way that the intervention equips them with repertoires of skills for alleviating the three major emotional disorders – DAS. Accordingly, a school-based intervention programme, planned for the student population as this section of the

population is recognized as being at risk of developing mental health issues. CSIT-DAS was conducted through four-stage training phases namely Rapport Building, Pre-Test Evaluation, Implementation, and lastly Follow-up sessions, tailored to the need of the students. The phases of implementation mainly comprise two techniques i.e., Psycho-Education and secondly Behavioural techniques and Cognitive techniques.

Method of analysis:

The Chi square test was conducted to see the significant association between socio-demographical factors (class and educational status of parents) with the levels of DAS. The 'Non-Parametric' - Whitney U test and Friedman test was performed to see the efficacy of CSIT-DAS in alleviating DAS among the selected experimental group of school-going adolescents in relation to the control participants.

RESULTS AND DISCUSSION

Objective 1: To assess the most influential factor triggering DAS among the respondents

- The study alerts that out of 1038 school-going adolescents a total of 947 were found to be anxious, followed by 847 (depressed) and 778 (stressed) between mild to extremely severe levels.
- Whilst, none of the seven determinants academic pressure, present/future life, physical and psychological concerns, attitudinal issues, social environment, family matters and Drastic change in life/traumatic event/ Romantic Relation chosen from collating literature were found to trigger depression among the selected sect of the population. Hence further analysis is recommended to reason out the causes of depression among these adolescents.
- For anxiety all seven determinants were found to be statistically significant – separation nervousness, phobias, social worry, generalized social disorder, generalized panic, academic anxiety and obsessive and compulsion with i.e., $p < 0.01$.
- Among all the seven determinants for stress – a statistically significant difference was found between the total stress mean score to the determinants namely social stress, family stress, and poor time management with $p < 0.05$.

Objective 2: To assess the association of DAS with socio-demographic factors among the school-going adolescents

Table 1 to 3 portrays the Non-parametric Test carried out to see the comparison between socio-demographic variables and levels of DAS

Table 1 Class of study and levels of DAS

Class of study	Normal	Mild	Moderate	Severe	Extremely Severe	Total	X ²	Df	p-value
DEPRESSION									
8 th	69 (13.3%)	143 (27.7%)	188 (36.4%)	90 (17.4%)	27 (5.2%)	517	6.386	4.000	0.172
9 th	94 (18%)	123 (23.6%)	175 (33.6%)	100 (19.2%)	29 (5.6%)	521			
Total	163 (15.7%)	266 (25.6%)	363 (35%)	190 (18.3%)	56 (5.4%)	1038			
ANXIETY									

8 th	28 (5.4%)	77 (14.9%)	201 (38.9%)	133 (25.7%)	78 (15.1%)	517	17.784	5	0.003*
9 th	62 (11.9%)	70 (13.4%)	164 (31.5%)	140 (26.9%)	85 (16.3%)	521			
Total	90 (8.7%)	147 (14.2%)	365 (35.2%)	273 (26.3%)	163 (15.7%)	1038			
STRESS									
8 th	152 (29.4%)	126 (24.4%)	147 (28.4%)	77 (14.9%)	15 (2.9%)	517	16.578	4	0.020*
9 th	104 (20%)	129 (24.8%)	195 (37.4%)	73 (14%)	20 (3.8%)	521			
Total	256 (24.7%)	255 (24.6%)	342 (32.9%)	150 (14.5%)	35 (3.4%)	1038			

The table authenticates that the class 8 respondents were found to be more at a moderate level of depression, whereas, at a severe level the class 9 respondents (19.2% against 17.4%) are more. However, the difference between the class of study and the depression domain was not statistically significant.

Students from class 8 perceived themselves to be affected by anxiety at a moderate level, wherein the distribution at a severe level was slightly on an increase among the respondents of class 9. The chi-square test for association reveals that there was a significant association (i.e., $\chi^2(5) = 17.784, p < 0.05$) between the class of study and the anxiety domain. A study conducted by Schmidt et al., (2010) even “cautioned that high levels of anxiety predict the development of fright attacks and anxiety symptoms, even when domineering for baseline anxiety symptoms”.

The difference in levels of stress shows that more of class 9 students were stressed at a moderate level (37.4%) and extremely severe (3.8%). Accordingly, the chi-square test for association cogently reveals to be significant at a five percent level. A study conducted by Geeta Jain and Singhai in the year (2018) also concluded that with “academics, the parents and the institutions want the students to participate in extracurricular activities too, and the current expectation from the students is to be an all-rounder”.

Table 2 Father's qualifications and levels of DAS

DEPRESSION									
	Normal	Mild	Moderate	Severe	Extremely Severe	Total	X ²	Df	p-value
No Formal education	5 (10.2%)	14 (28.6%)	15 (30.6%)	12 (24.5%)	3 (6.1%)	49	29.400	16.000	0.021**
Primary	27 (13.5%)	52 (26%)	79 (39.5%)	35 (17.5%)	7 (3.5%)	200			
Secondary	39 (10.6%)	99 (26.9%)	140 (38%)	67 (18.2%)	23 (6.3%)	368			
UG	69 (22.7%)	69 (22.7%)	96 (31.6%)	56 (18.4%)	14 (4.6%)	304			
PG	23 (19.7%)	32 (27.4%)	33 (28.2%)	20 (17.1%)	9 (7.7%)	117			
Total	163	266	363	190	56	1038			

	(15.7%)	(25.6%)	(35%)	(18.3%)	(5.4%)				
ANXIETY									
No Formal education	1 (2%)	2 (4.1%)	23 (46.9%)	13 (26.5%)	10 (20.4%)	49	35.109	20	0.020**
Primary	16 (8%)	33 (16.5%)	68 (34%)	53 (26.5%)	30 (15%)	200			
Secondary	24 (6.5%)	49 (13.3%)	130 (35.3%)	113 (30.7%)	52 (14.1%)	368			
UG	39 (12.8%)	42 (13.8%)	101 (33.2%)	67 (22.1%)	55 (18.1%)	304			
PG	10 (8.5%)	21 (17.9%)	43 (36.8%)	27 (23.1%)	16 (13.7%)	117			
Total	90 (8.7%)	147 (14.2%)	365 (35.2%)	273 (26.3%)	163 (15.7%)	1038			
STRESS									
No Formal education	16 (32.7%)	12 (24.5%)	14 (28.6%)	6 (12.2%)	1 (2%)	49	38.318	16	0.001**
Primary	45 (22.5%)	52 (26%)	78 (39%)	22 (11%)	3 (1.5%)	200			
Secondary	89 (24.2%)	100 (27.2%)	123 (33.4%)	44 (12%)	12 (3.3%)	368			
UG	63 (20.7%)	65 (21.4%)	104 (34.2%)	55 (18.1%)	17 (5.6%)	304			
PG	43 (36.8%)	26 (22.2%)	23 (19.7%)	23 (19.7%)	2 (1.7%)	117			
Total	256 (24.7%)	255 (24.6%)	342 (32.9%)	150 (14.5%)	35 (3.4%)	1038			

A high percentage of children whose fathers had 'no formal education' seemed to be depressed at a severe level and children of fathers with PG qualifications at an extremely severe level. However, the chi-square test for association reveals that there was a significant association (i.e., $\chi^2(16) = 29.4, p < 0.05$) between the father's qualification and depression domain.

Whereas levels of anxiety based on their father's educational status clearly shows an increased percentage of children of illiterate fathers being at risk in both moderate and extremely severe levels (46.9% and 20.4%). The remarkable difference in the percentages is evident with the chi-square test for association revealing a significant association (i.e., $\chi^2(20) = 35.109, p < 0.05$) between the father's qualification and anxiety domain. Deb, S (2001) concluded that "In India, it was seen that the main documented cause of anxiety among school children and adolescents is parents' high educational expectations and pressure for academic achievement".

The percentage of children with a normal level of stress was found to be augmented among the fathers with PG educational status closely followed by fathers who had no formal education. A sizeable percentage of children of fathers with PG educational status were severely stressed (19.7%), whereas stress at an extremely severe level was found to be the highest among children whose fathers had completed UG (5.6%). On the whole, the qualitative analysis (chi-square test) for association reveals that there was a significant association (i.e., $\chi^2(16) = 38.318, p < 0.01$) between the father's qualification and stress domain.

Table 3 Mother's qualifications and levels of DAS

DEPRESSION									
	Normal	Mild	Moderate	Severe	Extremely Severe	Total	X ²	Df	p-value
No Formal education	7 (7.6%)	30 (32.6%)	19 (20.7%)	32 (34.8%)	4 (4.3%)	92	56.8 49	16. 00 0	0.000*
Primary	26 (13%)	50 (25%)	88 (44%)	25 (12.5%)	11 (5.5%)	200			
Secondary	45 (12.6%)	99 (27.7%)	132 (37%)	64 (17.9%)	17 (4.8%)	357			
Graduate	68 (24.3%)	59 (21.1%)	83 (29.6%)	51 (18.2%)	19 (6.8%)	280			
Postgraduate	17 (15.6%)	28 (25.7%)	41 (37.6%)	18 (16.5%)	5 (4.6%)	109			
Total	163 (15.7%)	266 (25.6%)	363 (35%)	190 (18.3%)	56 (5.4%)	1038			
ANXIETY									
No Formal education	2 (2.2%)	7 (7.6%)	30 (32.6%)	30 (32.6%)	23 (25%)	92	48.1 46	20	0.000*
Primary	15 (7.5%)	31 (15.5%)	76 (38%)	50 (25%)	28 (14%)	200			
Secondary	22 (6.2%)	52 (14.6%)	130 (36.4%)	105 (29.4%)	48 (13.4%)	357			
Graduate	38 (13.6%)	34 (12.1%)	100 (35.7%)	64 (29.9%)	44 (15.7%)	280			
Postgraduate	13 (11.9%)	23 (21.1%)	29 (26.6%)	24 (22%)	20 (18.3%)	109			
Total	90 (8.7%)	147 (14.2%)	365 (35.2%)	273 (26.3%)	163 (15.7%)	1038			
STRESS									
No Formal education	26 (28.3%)	22 (23.9%)	31 (33.7%)	10 (10.9%)	3 (3.3%)	92	20.2 84	16	0.208
Primary	42 (21%)	54 (27%)	70 (35%)	31 (15.5%)	3 (1.5%)	200			
Secondary	78 (21.8%)	96 (26.9%)	127 (35.6%)	44 (12.3%)	12 (3.4%)	357			
Graduate	73 (26.1%)	59 (21.1%)	87 (31.1%)	48 (17.1%)	13 (4.6%)	280			
Postgraduate	37 (33.9%)	24 (22%)	27 (24.8%)	17 (15.6%)	4 (3.7%)	109			
Total	256 (24.7%)	255 (24.6%)	342 (32.9%)	150 (14.5%)	35 (3.4%)	1038			

Depressive symptoms in line with anxiety were found to be highest at the moderate level among children of mothers with primary education (44%), whereas at the severe level the children whose mothers had no formal education exceeded their counterparts (34.8%). A study conducted by Sukla *et al.*, (2019), also found “depression to be significantly higher among those whose mothers were educated up to primary (OR 3.19; $P < 0.01$) or up to intercollege (OR 1.59; $P < 0.001$) when compared with illiterate mothers”. At an extremely severe level, the children of graduated mothers had an upsurge (6.8%) against their cohorts, which should not go unnoticed.

The highest percentage (38%) of children belonging to families whose mothers had primary education seemed to be anxious at a moderate level whereas anxiety at a severe and extremely severe level was found to be the highest among children from families whose mothers had no formal education (32.6% and 25% respectively).

However, the chi-square test for association reveals that there is a significant association in the domains of anxiety and depression. This result was similar to the results stated by Finkelstein *et al.*, (2007) who revealed that “adolescents from families with lower parent education are less optimistic than those from more educated families”.

Equal distribution of respondents stressed at a moderate level was found among children whose mothers had completed primary and secondary education (35% and 35.6%) and it was high when compared to their cohorts (UG – 31.1%, PG - 24.8%, and No formal education-33.7%). Whereas stress at the severe and extremely severe was found to be highest among children whose mothers had completed graduation (17.1% and 4.6%) closely followed by PG-completed mothers’ children (15.6% and 3.7%) compared to their counterparts. However, the differences in the levels of stress in relation to the mother’s education were not statistically significant

Objective 3: To evaluate the efficacy of CSIT-DAS in alleviating DAS

Table 4 Comparison between pre-test and post-test mean scores on DAS between Experimental and Control Group

	Experimental (n= 60)		Control (n=80)	
DEPRESSION				
<i>Stages of assessment</i>	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>
<i>Mean</i>	25.43	9.08	17.26	20.51
<i>SD</i>	8.079	6.904	7.592	7.674
<i>Median</i>	28.00	7.50	17.00	21.00
<i>z value</i>	-5.730		-7.441	
<i>p value</i>	0.000**		0.000**	
ANXIETY				
<i>Stages of assessment</i>	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>
<i>Mean</i>	24.05	7.55	13.51	17.90
<i>SD</i>	9.004	5.134	6.533	4.970
<i>Median</i>	26.50	6.00	12.00	17.00
<i>z value</i>	-6.432		-8.567	
<i>p value</i>	0.000**		0.000**	
STRESS				
<i>Stages of assessment</i>	<i>Pre</i>	<i>Post</i>	<i>Pre</i>	<i>Post</i>

<i>Mean</i>	25.28	13.35	19.70	19.74
<i>SD</i>	8.457	7.618	8.139	7.597
<i>Median</i>	28.00	11.00	19.00	18.00
<i>z value</i>	-3.946		-5.110	
<i>p value</i>	0.000**		0.000**	

It is evident from the above table that the experimental group showed a tremendous decline in the post-intervention mean score on depression, anxiety, and stress when compared to the pre-evaluation mean score (9.08 from 25.43 for depression; 7.55 from 24.05 for anxiety; 13.35 from 25.25 for stress). In other words, the participants' level of DAS has declined by practicing and applying the coping skills learned through the CSIT-DAS. The results were also further statistically analysed by Mann Whitney U test and it reveals statistically significant variations in the three domains (z value = -5.730 (depression); z value = -6.432 (anxiety); z value = -3.946 (stress) with p value= 0.000 p<0.01).

The table further authenticates an important fact that the mean score in post-evaluation was higher in the control group when compared to pre-evaluation scores on the two domains of mental disorder namely depression (17.26 to 20.51) and anxiety (13.51 to 17.91). The stress mean scores were almost the same for pre and post-test data (19.70 to 19.74). The results were also further statistically analysed which reveals statistically significant for the three domains (z value = -7.441 (depression); z value = -8.567 (anxiety); z value = -5.110 (stress) p value= 0.000 p<0.01). A review of the adolescents by Bertha and Balázs (2013) showed a high prevalence of depression and anxiety among adolescents, which has a negative impact on quality of life and is a significant risk indicator later.

The context of the both the control and the experimental group was similar in terms of workload, exams and the parental/ teacher expectations, the experimental group of participants were significantly better in handling DAS. The reason is owed to the CSIT-DAS that had facilitated them to practice a repertoire of coping skills and it was the only reason for their decreased DAS levels. In other words, CSIT-DAS helped them confront depression, anxiety, and stress in them, which otherwise would have been elevated as the students of control group. In sum, the CSIT-DAS that was tailored for school-going children conducted in three phases had hand-held the experimental group of students and provided a shield over the susceptible stressful events. Moreover, the augmented mean score of DAS among the control group cautions the academicians that the level

Table 4 Comparison between pre-test, post-test and follow up cycles for DAS

Comparison between pre-evaluation, post-evaluation and follow up				
Overall (n=60)	Pre-Evaluation	Post-Evaluation	Follow Up 1	Follow up 2
Depression				
Mean	25.43	10.62	8.58	7.90
Median	28.00	8.00	7.00	7.00
SD	8.079	7.339	5.625	5.461
Friedman Test	$\chi^2(3) = 76.805$			

p-value=0.000**				
Anxiety				
Mean	24.03	7.55	6.35	6.40
Median	26.50	6.00	5.00	5.00
SD	9.048	5.134	4.686	4.691
Friedman Test	$\chi^2(3)= 85.402$			
	p-value=0.000**			
Stress				
Mean	25.28	13.35	9.27	9.75
Median	28.00	11.00	7.50	9.00
SD	8.457	7.618	7.025	7.175
Friedman Test	$\chi^2(3)= 70.402$			
	p-value=0.000**			

Interfering into the data that authenticates the difference in pre, post, and follow-up assessment mean scores of depressions, the mean score in pre-evaluation (25.43) is higher than post-test (10.62). The researcher had given a follow-up 1 after an interval of a 1-week gap of the post-intervention programme and follow-up 2 was conducted after an interval of 1 month, where a lowered mean score was observed in follow-up 1 and follow-up 2 (8.58 and 7.90 respectively from 10.62).

The second part of the table reveals that the overall mean score on anxiety in Pre-Evaluation is significantly higher than the post-intervention mean score (from 24.03 to 7.55). In other words, the experimental participants learned the techniques to alleviate anxiety through the sessions of CSIT-DAS. The mean score on anxiety in follow-up 1 also shows a noticeable decline, however, follow-up 2 is on a slight increase. This verity cautions the researcher that the CSIT-DAS implemented to alleviate DAS should be refreshed periodically to maintain its sustainability.

The same pattern of anxiety was witnessed for stress Pre - 25.28 prior, Post - 13.35, Follow-up 1 - 9.27 and Follow-up 2 - 9.75), Which further confirms the continuation of the CSIT-DAS in a periodic manner.

The results were further statistically analysed through the Friedman test, which reveals a statistically significant value for all three domains of mental concerns (Depression -i.e., $\chi^2(3) = 76.805$, $p < 0.000$; Anxiety-i.e., $\chi^2(3) = 85.402$, $p < 0.000$; Stress- i.e., $\chi^2(3) = 70.402$, $p < 0.000$ at one percent $p < 0.01$). Therefore, the need for CSIT-DAS especially tailored for school children was found to be effective in reducing DAS.

CONCLUSION

Depression, anxiety, and stress directly or indirectly have an impact on one's lifestyle in different aspects. These issues mandate research in the domain of mental health. The key finding of the present study is that out of 1038 total respondents, 3/4th of them had perceived to be depressed, anxious, and stressed, at varying levels between mild and extremely severe where more children were found to be anxious, followed by depression and stress. The analysis of potential indicators of DAS among the selected students shows that the anxiety was highly correlated to the seven chosen anxiety indicators (separation nervousness, phobias, social worry, generalized social disorder,

generalized panic, academic anxiety and obsessive and compulsion) and stress with three indicators namely social stress, family stress, and poor time management. However, for depression no significant correlation was found with the seven chosen determinants.

The CSIT-DAS formulated for this sect of population was found to be effective in two terms. Firstly, the experimental group showed a tremendous decline in the post-intervention mean score on DAS compared to the pre-evaluation mean score and was statistically significant. Secondly, the sustainability of CSIT-DAS was also witnessed with the stipulated follow up cycles. The finding clearly states that the CSIT-DAS should be a continuous training with periodic sessions of rejuvenation.

Limitation: The sample size was too big and it was very difficult to collect data as it was too time-consuming. Moreover, making the students come for intervention daily was also another difficulty faced by the researcher.

Implications: On the whole, CSIT-DAS has boosted the students' vigilance and developed a sense of mastery over the usage of coping skills, which undoubtedly validates the efficacy of the CSIT-DAS intervention provided to them. Therefore, CSIT-DAS especially tailored for school children is strongly recommended to be used by every school to alleviate the risks of mental issues prevalent among the student population.

Future directions: The alarming risk of DAS among school students is also caused by the family pressure to perform better, hence the researcher feels that the focus of intervention should not only be on children but also on the parents. All the more, the school environment should be a positive one as perceived by the school children by providing extra co-curricular activities and make every child feel important.

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