

## **THE APPLICATION OF YOGA ON EFFECTIVE MIND BODY AND STRESS REDUCTION AMONG STUDENTS**

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Yoga helps in all round development of an individual, which is the main aim of education. Yoga provides internal peace, happiness, develops positive thinking self-confidence, positive approach to life, and state of mind with emotional stability and strong will power. Scientists and doctors not only in India but also around the world are currently researching the effects of yogic practices during and after performance. Against this background the present study were conducted to determine the main effect of yogic practices as well as stress management and emotions, maturity of 120 female adolescents of a representative government school of Chandigarh. The study was experimental in nature and a pre-test, post-test control group design with one experimental group was employed. Standardised scales were used to measure social stress, academic stress and emotional maturity among students. The major finding of the study was that students exposed to yogic practices experienced reduction in stress.

### **INTRODUCTION**

In old times, yoga techniques were passed from guru to disciple of mouth by word of mouth and were neither written of nor exposed to public. This is the way in which experience and guidance and correct path were passed were passed from yogis and sages to their disciple.

Research studies revealed that yoga practices led to reduction in anxiety, neuroticism and hostility (Vinod, 1984) and improvement in attitude, self esteem and self-confidence (Joshi, 1984). Yoga decreased emotional disturbance spells (Dhoundial, 1984) and helped in some psychological and psychological parameters (Singh and Madhu, 1987). Asanas were effective in curbing anxiety (Vicente, 1987). Yoga helped viii th standard student's scholastic aptitude as well as intelligence (Barnes and Nagarker, 1989). Yoga therapy is more effective in comparison to drug therapy in combating anxiety and neuroticism (Shashi, Mohan and Kochar, 1989). Yoga group was more effective when compared with chemotherapy group in reducing anxiety, neuroticism and depression (Grover et.al., 1989). Yoga helped to create harmony between inner and outer worlds of the individual, which is an important and neglected aspect of education (Flak, 1990). Systolic blood pressure also decreased during treatment phases (Latha and Kaliappan, 1991).

Yogic practices helped to deal with delinquency and criminal behaviour and improved academic performance (Samprasad, 1991). Yoga was helpful to deal

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with headache, medication intake and symptoms of stress perception (Latha and Kaliappa, 1992). Yoga helped to solve the confusion between self-ideal disparity and ideal self (Rani and Rao, 1992). Yoga helped to decrease anxiety level in the gymnastic group (Annakli, 1993). It helped to improve the mental health and emotional maturity of adolescents girls (Sharma, 1994) Hatha yoga improved and fastened a psychophysical balance (Yadav, 1999) the modern yoga students understand the importance of this ancient tradition (Garrett, 1999) it is effective in reducing stress using breathing exercises and mindful meditation (Altman, 2001) reducing anxiety level and improving mental health (Sharma, 2001) improving mental health and self-concept (Sunita, 2002) and reducing anxiety and improving adjustment (Batni and Meetu, 2003). Yoga and meditation enhance self-esteem, self-disclosure, improve emotional intelligence and enhance social adjustment of jail inmates (Sharma, 2004) and helped to decrease depression (Rani and Rao, 2005). So yogic practices help to improve physical health, reduce anxiety, depression and stress and improve mental health, self-concept and emotional maturity of individuals.

### **STRESS**

The concept of stress in modern sense was not found in the texts of culture and tradition such as Charaksami, Patanjali yoga sutra and Bhagwadgita. However, a number of concepts developed by ancient Indian scholars relate to or appear similar to phenomenon of stress. Some of the, for example, are dukha (pain, misery or suffering), klesa (affliction), kama and trishna (desires), atman and ahankara (self and ego), adhi (mental abbreviation) and prajnaparadha (failure or lapse of consciousness).

The concept of stress was introduced in the life sciences. The concept has been borrowed from the natural sciences. It was derived from the Latin word "Stringere". Stress have been popularly used in the 17<sup>th</sup> century which means hard ship, strain, adversity and affliction .it was used in the 18<sup>th</sup> and 19<sup>th</sup> centuries to denote force, pressure, strain or strong effort with reference to an object or person.

### **SOCIAL STRESS**

Personal characteristics and experience determine children's success and various social emotional adjustments. The social context in which they live is the most important determinant in children's development.

Social stresses such as unemployment or overwork are associated with hypertension, especially if there is genetic background. People living in urban areas are more exposed to social stress and hence are more prone to get hypertension than people living in rural areas. Personality traits may also contribute to a certain extent in perceiving stress (Udupa, 1989).

### **ACADEMIC STRESS**

The most common form of academic difficulties is depression or depression as a reason to precede academic difficulties. It has been suggested by research that depression may be most strongly associated with academic stress failure.

### **EMOTIONAL MATURITY**

Emotional maturity is concerned primarily with self-control and expression the teacher develops through a variety of experiences. For instance, the school can help the adolescents to arrange situations that will enable them to judge and evaluate their own behaviour. The school can provide a variety of supervised playground activities that permit children to free rather than rigidly prescribe art expression and help children take part in discussions in the classroom or in private conference. Emotional maturity has not only a negative aspect but also positive one and emotional upsets in day to day life.

As a child becomes emotionally mature there are fewer occasions for anger. Children learn to master material objects, the techniques of playing games and how to get on with their peers. They understand better the notions of others so that they are not personally offend by each imagined affront. Children learn their own capabilities and do not set goals so high that they are impossible to realize. As children become emotionally more mature they come to depend upon diplomacy to settle their disputes.

### **REVIEW OF RELATED LITERATURE**

Research studies related to academic stress revealed that it is an important factor accounting for variation on academic achievement (Lazarus, 1961). Academic achievement, academic pressure, and school climate influence academic stress. Need for academic achievement was a predictor for institutional stress and academic stress (Bisht, 1980). Among kindergarten schools of North Carolina anxiety and academic tasks led to academic stress (Wiedey, 1987). Stress interactions and peers led to low academic self-concept and academic problems (Mora-de, 1990). Academic stress and emotional stress were significantly correlated (Alvarez, 1993). Academic settings and test anxiety led to academic stress (Millington, 1993). Recreation activities and greater satisfaction with leisure lowered academic stress among university and college students (Ragheb, 1993). Studying for competitive examinations led to higher academic stress among Korean adolescents (Lee, 1994). Government and public school children of ix grade experienced comparable academic stress (Bector, 1995). Academic stress leaves not enough time for hobbies, sports, social get together (Cunha, 1995). Boarding versus day students status and male and female students exhibited difference in stress level). Acculturation, socio-economic status and gender, social, financial status led to higher academic stress (Rocha, 1996). Culture helps in coping with academic stress (Kaplan, 2001). Athletic

status, race and gender and non-Caucasian college athletes and non-athletes exhibited difference in coping with academic stress (Dalaviras, 2001). Classroom environment and stress level yielded higher achievement scores (Gera and Ahuja, 2001).

Psychosocial school environment and subjective health complaints had an effect on academic stress (Tosheim, 2001). Postgraduate students with higher creativity an intelligence and better mental health experienced less stress as compared to low creative, low intelligence groups (Asha, 2003). Combination of music, visual imagery and deep breathing exercises affected the academic performance and lessened stress of middle school students with behaviour disorder (Behan, 2004). Nursing students exposed to exercises and physical activity exhibited lesser stress (Chen, 2004). In school, traditional seven period, 50 minutes schedule led to higher stress among school students (Flocco, 2005). Intelligence, self-esteem and environmental facilities did not affect emotional maturity of physical education teachers (Sidhu, 1992). Girls were more tests anxious, worrisome and emotional than boys (sigh and broota, 1992). Adolescents males students were less emotionally mature that their female counterparts (Singh, 1993). Stereotypes of feminine personality traits, gender schema and gender self description influenced emotional maturity (Cutler, 1996). Emotions of middle class Indian adolescents were very much like their peers (Sharma, 1999). Emotional maturity is related to environmental factors (Kaur, 2000). Slum and urban areas children's have different emotional maturity (Muley, Patnam and Vasekar, 2003). Emotional expression skills of adolescents should be channelized for their effective mental health and personality development .also post-adolescent boys have higher emotional maturity that female (Chouhan and Bhatnagar, 2003). There exists a positive relationship between emotional maturity and self- concept of secondary level students (Gakhar, 2003). There exists some relationship between emotional intelligence and trait anxiety in adolescents (Markham, 2004). Emotional intelligence is related to ethical decision making (Scoot, 2004).

Various studies have been done on topics related to the subject, viz. the role of yogic practices on mental health, anxiety, fatigue, etc. Its various manifestations like depression, anxiety, insomnia, frustration and emotional imbalances with regard to adolescents at secondary school level.

So, the present study focused on exploring the effect of yogic practices on stress and emotional maturity of secondary school children. The study would not only add to the body of knowledge related to the importance of yoga, but also provides a great help to psychologists, educationists, principals, parents and counsellors for effective handling of the adolescents.

### **OBJECTIVES OF THE STUDY**

1. To study the effect of yogic practices on social stress and components of social stress, viz., social frustration, social conflict, social pressure and social anxiety of senior secondary school students.

2. To study the effect of yogic practices on academic stress and components of academic stress viz. academic frustration, academic conflict, academic pressure and academic anxiety of senior secondary school students.
3. To study the effect of yogic practices on areas of emotional maturity viz., emotional instability, emotional regression, social maladjustment, personal disintegration and lack of independence of senior secondary school students.

### **HYPOTHESES**

H1 There is no significant difference in the mean reduced scores of social stress between students of experimental and control groups.

H2 There is no significant difference in the mean reduced scores of academic stress between students of experimental and control groups.

H3 There is no significant difference in the mean difference scores of emotional maturity between students of experimental and control groups.

### **METHOD**

The present study was experimental in nature and a pre-test, post-test control group design with one experimental group was employed. Treatment was the independent variable and the three dependent variables were social stress, academic stress and emotional maturity.

### **SAMPLE**

The sample comprised of 120 class xi female adolescents from a representative school of Chandigarh, government girls senior secondary school, Chandigarh. 120 students were randomly assigned to two groups, one experimental and another control group. Average age of the girls was 16 years.

### **TOOLS USED**

Social stress scale comprising of 84 items and academic stress scale comprising of 80 items from Abha Rani Bisht Battery of Stress Scales (1987), Emotional Maturity scale has a total of 48 items from Vashvirsingh&Dr.Mahesh Bhargava (1990). In each of the 5-point scales, stress was conceptualized as having the following components viz. frustration, conflict, pressure and priority. Reliability of the two scales was 0.88. Emotional maturity was conceptualized as having five areas viz. emotional instability, emotional regression, social maladjustment, personality disintegration, lack of independence. Reliability of the scale was 0.75.

### **PROCEDURE**

Phase-1 selection of the sample and orientation of the students to the experiment

Phase-2 Pre-test

The following tests were administered on 120 students of both experimental and control groups.

- Social stress scale from Abha Rani bisht battery of stress scales.
- Academic stress scale from Abha Rani Bisht Battery of stress scales.
- Emotional maturity Scale from Singh and Bhargava scale

Phase -3: Experimental treatment

Shatkriyas

- Kapalbhathi-5 rounds daily for 1 min.
- Trataka-2mins daily

Pranayamas

- Anulom-vilom- 5rounds daily for 1 min.
- Shitali-5rounds daily for 1 min.
- Shitkari-5 rounds daily for 1 min.
- Bhramari- 3rounds daily for 1 min.

Meditation

2<sup>nd</sup> month

Shatkriyas

- Kapalbhathi-10 rounds daily for 2mins.
- Trataka-3mins daily.

Pranayamas

- Anulom-vilom-7 rounds daily for 2mins.
- Shitali-7 rounds daily for 2mins.
- Shitkari-7 rounds daily for 2mins
- Bhramari-7 rounds for 2mins.

Meditation- for ten minutes daily.

- 3<sup>rd</sup> month

Shatkriyas

- Kapalbhathi-15 rounds daily for 3 mins.
- Trataka-5 mins daily.

Pranayamas

- Anulom-vilom-7 rounds daily for 5mins.
- Shitali-7 rounds daily for 5mins.
- Shitkari-7 rounds daily for 5 mins.
- Bhramari-7rounds daily for 5mins.

Meditation- for 15 minutes daily

Phase-4: post-test

The following tests were given administered on 120 students of both experimental and control groups after three months.

- Social stress scale from Abha rani bisht Battery of stress scales.
- Academic stress scale from Abha rani Bisht Battery of stress scales.
- Emotional maturity scale from Singh and Bhargava scale.

**DATA ANALYSIS RELATED TO SOCIAL STRESS**

The inference regarding social stress scores was made by computing t-ratios to test the hypotheses related to means, S.Ds and t-ratios of mean reduced scores of experimental and control groups on social stress and its components have been shown in table 1.

As shown in table 1, t-ratio for the mean reduced scores between the experimental and control groups on social stress was found to be significant at 0.01 level of confidence (t=10.242). Thus, H1 was rejected as the experimental

TABLE 1: MEANS, S.D'S AND T-RATIOS OF MEAN REDUCED SCORES OF EXPERIMENTAL AND CONTROL GROUPS ON SOCIAL STRESS AND ITS COMPONENTS

<i>Components</i>		<i>mean</i>	<i>S.D.</i>	<i>t-ratio</i>
Social stress (total)	T1	14.10	11.837	10.242**
		N=60		
	T2	1.65	1.325	
		N=60		
Social frustration (component of social stress)	T1	3.73	5.082	6.342**
		N=60		
	T2	.47	.700	
		N=60		
Social conflict (component of social stress)	T1	3.78	4.101	8.172**
		N=60		
	T2	.63	.843	
		N=60		
Social pressure (component of social stress)	T1	3.30	4.035	6.546**
		N=60		
	T2	.17	.740	
		N=60		
Social Anxiety(component of social Stress)	T1	3.28	4.727	5.986**
		N=60		
	T2	.43	.890	
		N=60		

\*\*Significant at 0.01 level

\* Significant at 0.05 level

N.S- not significant

group students who were exposed to yogic practices exhibited reduction in social stress as compared to their counterparts of the control group.

For each of the four components of social stress, the t-ratios between the mean reduced scores of the experimental and control groups were found to be significant at 0.01 level of confidence. The t-ratio between mean reduced scores of the two groups for social frustration was 6.342, for social conflict 8.172, for social pressure 6.546 and for social anxiety 5.986. All these t-values were significant at 0.01 level confidence. Thus, hypothesis were rejected, as yogic practices did help in the reduction of social frustration, social conflict, social pressure and social anxiety among students of who were exposed to yogic practices as compared to the control group students, who were not exposed to yogic practices.

### DATA ANALYSIS RELATED TO ACADEMIC STRESS

The inference regarding academic stress scores was made by computing t-ratios to test the hypotheses related to mean reduced scores of experimental and control groups on the variable of academic stress and its components.

As shown in table 2, t-ratios for the mean reduced scores between the experimental and control groups on academic stress was found to be significant at

TABLE-2: MEANS, S.DS AND T-RATIOS OF MEAN REDUCED SCORES OF EXPERIMENTAL AND CONTROL GROUPS ON ACADEMIC STRESS AND ITS COMPONENTS.

<i>Components</i>		<i>Mean</i>	<i>S. D.</i>	<i>t-ratio</i>
Academic Stress (total)	T1	12.93	11.216	9.905**
	T2	1.47	1.016	
Academic frustration (Component of Academic stress)	T1	4.27	2.686	12.260**
	T2	.32	1.081	
Academic Conflict (Component of Academic stress)	T1	4.03	7.093	4.963**
	T2	.55	.928	
Academic pressure (component of Academic stress)	T1	2.62	2.450	8.944**
	T2	.53	1.200	
Academic Anxiety (component of Academic stress)	T1	2.35	4.270	4.223**
	T2	.07	1.191	

\*\* Significant at 0.01 level

\* Significant at 0.05 level

N.S.-not significant

0.01 level of confidence ( $t=9.905$ ). Thus, hypothesis was rejected as the experimental group students who were exposed to yogic practices exhibited reduction in academic stress as compared to their counterparts of the control group.

For each of the four components of academic stress, the t-ratios between the mean reduced scores of the experimental significant at 0.01 level of confidence. The t-ratio between mean reduced scores of the two groups for academic frustration was 12.260, for academic conflict 4.963, for academic pressure 8.944 and for academic anxiety 4.223. All these t-values were significant at 0.01 level of confidence.

Thus, hypothesis were rejected as yogic practices did help in reduction of academic frustration, academic conflict, academic pressure and academic anxiety among students of experimental group as compared to the control group students, who were not exposed to yogic practices.

#### **DATA ANALYSIS RELATED TO EMOTIONAL MATURITY**

The inference regarding academic stress scores was made by computing t-ratios to test the hypotheses related to mean difference/reduced scores of experimental and control groups on the variable of emotional maturity and its areas.

As shown in Table 3, t-ratios for the Mean difference/reduced scores between the experimental and control groups on emotional maturity was found to be significant at 0.01 level of confidence ( $t=13.208$ ). Thus, H3 was rejected as the experimental group students who were exposed to yogic practices exhibited more difference in emotional maturity for the better as compared to their counterparts of the control group. The areas of emotional maturity were such that the lesser the score, the better the emotional maturity.

For each of the five areas of emotional maturity, the t-ratios between the mean reduced scores of experimental and control groups was found to be significant at 0.01 level of confidence. The t-ratio between mean reduced scores of the two groups for the emotional instability was 8.956, for emotional regression was 8.587, for social maladjustment was 10.001, for personality disintegration was 9.829 and for lack of independence was 9.288. All these t-values were significant at 0.01 level of confidence.

Thus hypothesis were rejected as yogic practices did help in reduction of emotional instability, emotional regression, social maladjustment, personality disintegration and lack of independence among students of experimental group as compared to the control group students, who were not exposed to yogic practices.

Udupa (1989) showed that yogic exercises helped in stress reduction. Latha and kaliappan (1992) also reported that yoga as a therapeutic aid helped in stress reduction and improvement in coping behaviour.

Altman (2001) reported that breathing exercises, meditation and yoga stretching lead to stress reduction.

TABLE 3: MEANS, S.D'S AND T-RATIOS OF MEAN DIFFERENCE/REDUCED SCORES OF EXPERIMENTAL AND CONTROL GROUPS ON EMOTIONAL MATURITY AND ITS AREAS

<i>Areas</i>		<i>Mean</i>	<i>S.D.</i>	<i>t-ratio</i>
EmotionalMaturity (total)	T1	10.97 N=60	7.081	13.208**
	T2	1.22 N=60	.958	
Emotional Instability (Area of Emotional maturity)	T1	2.42 N=60	1.951	8.956**
	T2	.20 N=60	1.147	
Emotional Regression (Area of Emotional maturity)	T1	3.00 N=60	2.655	8.587**
	T2	.20 N=60	1.132	
Social Maladjustment (Area of Emotional maturity)	T1	2.27 N=60	1.849	10.001**
	T2	.20 N=60	.480	
Personality disintegration (Area of Emotional Maturity)	T1	1.92 N=60	1.576	9.829**
	T2	.20 N=60	.546	
Lack of independence (Area of Emotional Maturity)	T1	1.37 N=60	1.340	9.288**
	T2	.42 N=60	.645	

\*\*Significant at 0.01 level

\*Significant at 0.05 level

N.S. - Not significant

Yoga helped to reduce anxiety level, a major source of stress among Bed trainees (Sharma, 2001). Yogic practices successfully reduced the anxiety level of adolescents (Batani Devi and Meetu, 2003). Breathing helped to reduces stress among school students (Behan, 2004). Physical activity also helped to reduce stress (Chen, 2004). Also yogic practices lead to decrease in depression among adults (Rani & Rao, 2005).

Anxiety is a source of stress among adolescents and yogic practices help to reduce academic anxiety, as has been shown in the present study. Yogic exercises help to release muscle tension, which further helps to combat tensions (Grossman, 1967). Academic frustration is influenced by interactive effect of n-A Ach and school climate according to Bisht (1980).

Long-term practice of meditation leads to long-term psychological changes such as reduction in anxiety, leading to stress reduction (Udupa, 1989). Yoga training program could prove useful in reducing anxiety thereby preventing

delinquency and criminal behaviour and ultimately in improvement of academic performance (Samprasad,1991). Greater the students' participation in leisure time activities lower is their perceived stress (Ragheb, 1993 and Lee, 1994).

Academic stress is a cause for great concern among adolescents. Peace and stress-free life for today's students appears to be a mirage. He is caught in a dynamic technological whirlpool and seems to be precariously poised on the brink of disaster. In a school situation there is lot of academic pressure. Stress is an important factor affecting academic achievement factors like writing term papers, poor study skills, excessive academic load and poor classroom environment. They cause academic stress, which in turn forms a major part of general stress, which in turn forms a major part of general stress in adolescents. Result-oriented world of today puts too much stress on students to achieve better for which they have to work very hard; this is possible only if they are physically and mentally healthy. At adolescent stage, students worry about their future, what course they will get admission in and so on. Will they get admission in and so on? Will they be able to have a secure job? Because, today even if one gets high distinction marks, there is no guarantee that he/she will get admission in the course/ institution of their choice.

Yogic practices help to decrease anxiety and have positive effect on physical relaxation and decrease in emotional disturbances (Vinod *et al.* 1984).

Meditation helps to bring about an improvement in emotional maturity among individuals (Udupa, 1989). Mathew (1989) reported that yoga students were more emotionally stable. Yoga helps in the balance between the inner and outer worlds of the individuals. Training in yoga and meditation practices was found to be effective in enhancing each dimension of emotional intelligence (Sharma, 2005), such as self regulation, empathy, social skills, motivation and self-awareness among adolescents of jail.

Yogic practices can help adolescents to become emotionally mature and become emotionally stable for appropriate decision making and meet the challenges of the rapidly changing of rapidly changing world.

Yoga leads to restraints of mental fluctuations and modifications and leads to balance of mind thus helping an individual to become emotionally mature. Meditation helps to enhance self-control over the senses of the mind and intellect. Training in yogic practices ultimately helps individuals not to feel hurt in the state of dualism, i.e. pain-pleasure, gain-loss, respect-disrespect, etc. which gradually enhances emotional maturity of individuals.

Also, yoga gives mental strength to a person to face reality and deal with it, ability to accept frustration, freedom from tension and enhances capacity to relate positively to life experiences, both positive and negative.

Meditation helps to increase concentration of mind, capability to memorize faster and think creatively, which helps them to perform better in academics. Because of too much academic pressure on students they are not able to spend

enough time on hobbies, sports, social get together, etc. low stress level leads to higher achievement scores.

### **EDUCATIONAL IMPLICATIONS**

Yoga helps in all round development of an individual, which is the main aim of education. Yoga provides internal peace, happiness, develops positive thinking self-confidence, positive approach to life, and state of mind with emotional stability and strong will power. Scientists and doctors not only in India but also around the world are currently researching the effects of yogic practices during and after performance.

The present study investigated the effect of yogic practices on social stress and academic stress of adolescents. Yogic practices help to reduce stress, whether social or academic among adolescents. The study is of great significance for psychologists, educationists, principals, parents and counsellors for handling adolescents effectively. In fact, yoga should be a compulsory subject in the school curriculum because the younger one starts the better it is. People all over the world, such as America and the western countries have adopted yoga enthusiastically, but sadly in India, It is not given as much importance as should be the case.

On a more practical level enthusiastically, but sadly in India, It is not given as much importance as should be the case. The main causes of stress among adolescents are: examinations, learning outcomes, too much to do, Worry over future, making choices about career, studying for examinations, amount to learn, need to do well imposed by others and self-imposed need to do well. Also high family stress and high school stress could lead to high adolescent problem behaviour.

Yoga leads to integration between the emotional, mental and physical levels, and how a disturbance in any of those affects the others. Yoga is simply a means of maintaining health and well-being in an increasingly stressful society.

Finally, yoga should be included in the school curriculum as a compulsory subject for the harmonious development of all students (body, mind and soul)-the ultimate aim of education.

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