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Research Paper

Empowerment Through Yoga: Alleviating Academic Stress and Examination Anxiety in Visually Impaired Secondary School Students

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ABSTRACT

Visual impairment hinders children's neurological progress, markedly impacting their physical, psychological, social, and emotional health. Yoga counts to be a multifarious approach that holds the capacity to help children with visual impairment to cope with varied challenges. The presented research was conducted with an objective to study the role of yoga for alleviation of academic stress and examination anxiety of visually impaired secondary school children in Kolkata. Experimental method of research, specifically Non-Equivalent Control Group Design was used in the conduct of this research. A total of 160 visually impaired secondary school students were taken as sample while deploying Convenient Sampling Method along with Purposive Sampling Method. The period taken into account was of 8 weeks. The training program involved yogic prayer, asanas, pranayama and kriya. The study was conducted in a three-phase manner involving pre-test, training and post-test. Related criterion measures were selected to comprehend the impact of yoga, on academic stress and examination anxiety of the directed group under study. The results highlight a positive impact of yoga on visual impaired students. The intervention was found successful for diversified domains, specific under the presented study being reduction of academic stress and examination anxiety.

Keywords: *Academic Stress, Examination Anxiety, Visual Impairment, Yoga*

Yoga is considered an important medical technique for developing the physical and mental functioning of an individual. Yoga refers to the system of practices that help to control the mind, body, and soul. It is a holistic path that leads to a sense of peace and well-being. Through different poses (asanas), breathing technique (pranayama), and meditation (dhyana), yoga makes the practitioner aware of his inner self. It includes cultivation of correct attitudes and reconditioning of the neuromuscular systems. Yoga helps the whole body to enable it to withstand greater stress and strain. It is one of the most important, effective, and valuable tools available for the students with disabilities to overcome their various physical and psychological problems such as anxiety, emotional instability, frustration, poor mental health, and so on.

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Impairment is concerned with abnormalities of body structure and appearance and with organ or system function resulting from any cause; in principle, impairments represent disturbances at the organ level. Visual impairment is defined as a functional hindrance of the eyes affecting the ability to independently carry out essential routine activities, job-related assignments or leisure activities, or move securely through the environment. Since much of children's learning is visual, visual impairment adversely impacts early development. In this light, early vision loss adversely affects physical, cognitive, social and psychological development of children with visual impairment. Thus, extra support is required to fulfil all facets of their lives. Visual hindrance during childhood debilitates youngsters' neurological turn of events, extraordinarily influencing their physical, mental, social, and passionate wellbeing. To handle these issues, exercises, for example, balance activities, high impact exercise, and rope hopping as exercise preparing have been extraordinarily adjusted for youngsters with visual impairment.

Yoga is a safe and effective exercise for children with visual impairment. Given its gentle nature and tactile barrier of safety (yoga mats), practice of yoga boasts a plethora of benefits for children with visual impairment. Through yoga and its many benefits, this art and practice can help children or adults with visual impairment to face their challenges, and work towards building a strong and confident life with better physical and mental health. It can help them deal with their functional limitations, making their day-to-day living more manageable. Through the regular practice of yoga, their physical body gains strength with works in improving their coordination skills, they become emotionally balanced gaining confidence, and their performance also tends to improve. They develop a better understanding of themselves and the environment they function in.

Academic stress is defined as a student's psychological state resulting from continuous social and self-imposed pressure in a school environment that depletes the student's psychological reserves. It relates to mental distress with respect to some anticipated frustration associated with academic failure or even unawareness to the possibility of such failure

An examination or test anxiety is a psychological condition in which people experience extreme distress and anxiety in testing situations. While many people experience some degree of stress and anxiety before and during exams, test anxiety can actually impair learning and hurt examination or test performance. In situations where the pressure is on and a good performance count, people can become so anxious that they are actually unable to do their best.

Objectives of the Research

The undermentioned are the objectives of the research:

- To evaluate the impact of yoga as an alleviating tool for academic stress of visually impaired secondary school children.
- To evaluate the impact of yoga as an alleviating tool for examination anxiety of visually impaired secondary school children.

REVIEW OF LITERATURE

Extensive studies have been conducted in India as well as in abroad related to physical fitness as well as on psychological well-being among visually impaired students.

Pathrose, A. P., & Ramaa, S. (2020) – The study aimed to explore the effect of academic stress on academic achievement among visually impaired students. It found a strong negative correlation between academic stress and academic achievement. Further, this research concluded that girls exhibited higher academic stress compared to boys.

Jameel, H. T., & Shamim, F. (2019) – The objective of the research was to investigate the relationship between body image satisfaction and self-confidence among visually impaired students. It found a strong positive connection between body image satisfaction and self-confidence across gender. Socioeconomic background did not significantly impact students' body image satisfaction. It suggested that creating inclusive environments can enhance the academic achievement of visually impaired students.

Hagen, I., & Nayar, U. S. (2014) – This study examined the role of yoga in helping pupils manage stress and cultivate self-regulation. It found that yoga significantly enhances children's physical and mental well-being by improving resilience, mood, and emotional self-regulation skills. It helps with to cope with stress and distractions of modern lifestyle.

Pant, G., Shete, B., & Uddhav, S. (2012) – This study assessed the impact of yoga on academic performance in relation to stress among adolescent students. It was found that yoga practice improves academic performance. The research suggested to integrate yoga programs into school curricula to enhance student well-being and academic achievement by mitigating stress levels effectively.

Kumar, P. (2011) – The study compared academic anxiety between visually impaired students and those in regular schools. It noted differences in anxiety levels based on vision status and gender. It suggested that limited visual experiences may contribute to lower academic anxiety among visually impaired students.

Ashikali, E., & Dittmar, H. (2010) – This research compared body image concerns and eating behaviours between visually impaired and sighted women. It was found that visually impaired women showed higher body satisfaction and less dieting than sighted women. Differences arouse due to attitudes towards appearance.

Rathee, N. K., & Sharma, A. (2010) – The study evaluated the impact of physical activity program on emotional intelligence and mental health in visually impaired adolescents in India. Participants in the program showed significantly higher emotional intelligence and better mental health compared to the control group.

Research Gap

Reviewing the previously undertaken research, it was established that while a significant number of research was conducted on understanding the benefits of yoga in a diversified domain and the importance of physical exercise and yoga for the visually impaired, no comprehensive study was undertaken to understand and analyse yoga as an intervention tool for academic stress and examination anxiety for visually impaired secondary school children. Hence, the study was undertaken with an attempt to bridge the significant gap visible. This research follows an extensive study constituting the same domain while deploying relevant tools and techniques, and relevant theoretical and philosophical contexts.

RESEARCH METHODOLOGY

Significance of the Study

The present study will provide yogic practices for the purpose of training. It has been observed from the relevant literature that, there is no such yogic practices module developed for the purpose. The study may be helpful for the development of psychological variables i.e., academic stress and examination anxiety of visually impaired secondary school children aged between 13-15 years, both male and female. Overall, the study may prove to be useful for nurturing mentally fit citizen.

Sources of Data Collection

The paper presents an analysis dominated by primary data. The data needed for the purpose of this study was obtained from a blind school, situated in Kolkata, West Bengal, India. Over and above, data forming theoretical contexts, definitions and philosophical grounds were obtained from reliable secondary sources.

Period of Study

The primary data, in lieu of fulfilling the reach objectives was collected for a period of 8 weeks, in the year 2024.

Sampling Design

The presented research is based on convenient sampling method along with purposive sampling method. Students with visual impairment studying in a blind school in Kolkata, West Bengal, India served as the population for the study. A sample of 160 secondary school children aged between 13-15 years, with visual impairment were taken from the school for the conduct of this research.

Method of Research

The study is based on Experimental Method of Research; Specifically Non-Equivalent Control Group Design.

Tools and Techniques for Analysis

Non-Equivalent Control Group Design, Dependent and Independent Variable Segregation, Decision of Criterion Measure, Comparison of the group was done with the help of One-Way Analysis of Covariance (ANCOVA)

Hypotheses for the Study

The following hypothesis was framed for the conduct of this research:

- **H01:** There is no significant difference in adjusted mean scores of academic stress of visually impaired secondary school children of yogic practices group and non-yogic practice group by taking pre- academic stress as a covariate.
- **H02:** There is no significant difference in adjusted mean scores of examination anxiety of visually impaired secondary school children of yogic practices group and non-yogic practice group by taking pre- examination anxiety as a covariate.

Specifics of Research Methodology Adopted

Subjects in the experiment were divided into two groups one is the experimental group and one control group, each group consisting 80 subjects. Experimental group were given Yoga and Meditation training program for 8 weeks. The subjects were medically fit for going through the experimental requirements of this research. Dependent Variables as selected for

the study include - Academic stress and Examination Anxiety. Independent Variables as selected include Asanas – Tadasana, Vrikshasana, Utkatasana, Padmasana, Vakrasana, Paschimottasana, Naukasana, Pawanmuktasana, Shavasana, Bhujangasana, Shalabhasana, Ardhshalabhasana; Pranayama - Anulom Vilom; Kriya – Kapalabhati. Criterion Measure is validated as Academic Stress - Academic Stress Inventory for School Students by Dr. Basant Bahadur Singh and Seema Rani (2008) – Score; Examination Anxiety - Test Anxiety Inventory by Dr. Vishal Sood and Dr Arti Anand (2012) – Score.

Understanding of Dependent Variables

- **Academic Stress-** Academic Stress Inventory for School Students by Dr. Basant Bahadur Singh and Seema Rani (2008). It is a self-administering inventory, where the items in the questionnaire are to be ticked. Every question item has four options. 'Very worried' is given a score of 4, 'Worried' is given a score of 3, 'Little worried' and 'Not worried' are assigned a score of 2 and 1 respectively. A student can obtain a maximum 160 score and minimum 40 score in this inventory. Higher the score, the higher stress level of the students and the lower the score lower stress of the students.
- **Examination Anxiety-** Test Anxiety Inventory by Dr. Vishal Sood and Dr Arti Anand (2012). It is a self-administering inventory, where the items in the questionnaire are to be ticked. 'Completely True' is given a score of 1, 'True to large extent' is given a score of 2, 'True to some extent' is given a score of 3, 'Untrue to Large Extent' is given a score of 4, and 'Completely Untrue/False' is given a score of 5. For negative items, the scoring procedure was reversed. A student can obtain a maximum 100 score and minimum 20 score in this inventory. Higher the score, higher the level of examination anxiety of the students and lower the score, lower the level of examination anxiety of the students.

Procedure of the Study

- **Pre-test (Phase I)-** The subjects were instructed properly about the apparatus and events in which they have to participate. During pre-test, the dependent variables as directed in this study were measured.
- **Training (Phase II)-** To make the subjects involve themselves in the training program an orientation was arranged. In this phase, the subjects of the experimental group were exposed to integrated intensive exercises training module for a period of 8 weeks, 5 days per week for 60 minutes each day. Participants were urged to adjust exercise intensity and measure it regularly to ensure that they were exercising at the prescribed intensity. The instructor demonstrated variations in Yogic Techniques to accommodate for individual differences in fitness levels; therefore, all participants were able to exercise within the recommended intensity.

Table 1: Schedule of Yoga Training over a period of 8 weeks:

Yogic Practice	**Repetition (In times)**			**Total Time (In minutes)**
	Week – 1, 2, 3	**Week – 4, 5, 6**	**Week – 7, 8**	
Prayer	-	-	-	2
ASANAS				37
Tadasana	1	1	1	-
Vrikshasana	1 (both sides)	1 (both sides)	2 (both sides)	-
Utkatasana	1 (both sides)	1 (both sides)	1 (both sides)	-
Padmasana	1	1	1	-
Vakrasana	1 (both sides)	1 (both sides)	1 (both sides)	-

Yogic Practice	Repetition (In times)			Total Time (In minutes)
	Week – 1, 2, 3	Week – 4, 5, 6	Week – 7, 8	
Paschimottasana	-	2	2	-
Naukasana	1	1	2	-
Pawanmuktasana	1	2	2	-
Shavasana	-	-	-	5
Bhujangasana	1	1	2	-
Shalabhasana	1 (both sides)	1 (both sides)	2 (both sides)	-
Ardhshalabhasana	1 (both sides)	1 (both sides)	1 (both sides)	-
PRAYANAM				13
Anulom Vilom	4	5	6	-
KRIYA				8
Kapalbharti	30 X 2(strokes)	30 X 2(strokes)	30 X 2(strokes)	-

- **Post-test (Phase III) -** After the given integrated Yogic Practices for the period of 8 weeks, all the subjects were directed to go through tests as scheduled in Criterion Measure.

ANALYSIS AND DISCUSSION

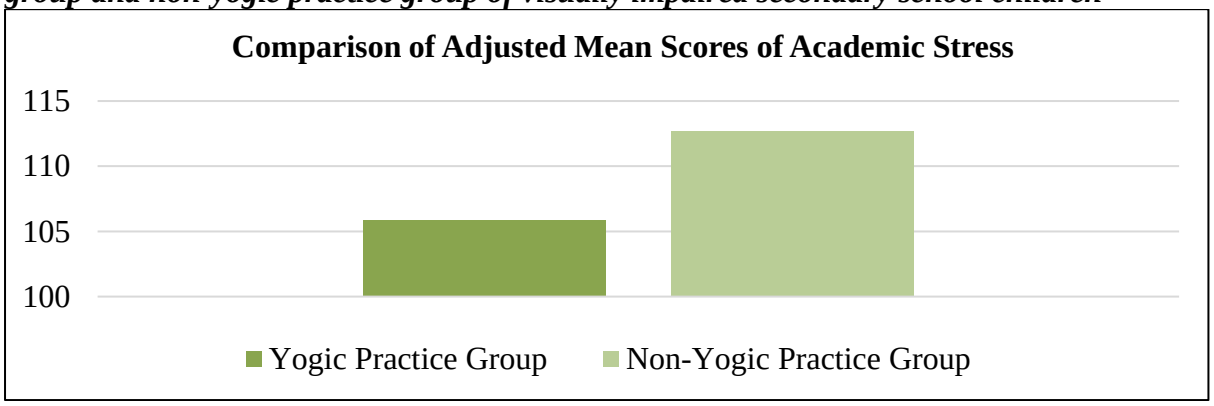
Analysis of Data Related to Academic Stress

Table 2: Summary of one-way ANCOVA of academic stress by taking pre-academic stress as covariate of visually impaired secondary school children of yogic practices group and non-yogic practice group:

Source of Variance	df	SSy.x	MSSy.x	Fy.x	Remark
Group	1	458.78	458.78	103.84	P < 0.01
Error	157	163.48	4.42		
Corrected Total	159	-	-		

Source: Author's own computation

Graph 1: Comparison of adjusted mean scores of academic stress between yogic practices group and non-yogic practice group of visually impaired secondary school children



Source: Author's own computation

From the summary table, it is visible that adjusted f-value is 103.84 which is significant at 0.01 level with df=1/159 when pre-academic stress was taken as covariate. It shows that adjusted mean scores of academic stress of yogic practices group and non-yogic practice group differ significantly when pre-academic stress was taken as covariate. Thus, the null hypothesis that there is no significant difference in adjusted mean scores of academic stress

of visually impaired secondary school children of yogic practices group and non-yogic practice group by taking pre- academic stress as covariate is rejected. Further, the adjusted mean score of academic stress of yogic practices group was calculated as 105.88 which is significantly lesser than that of non-yogic practice group where adjusted mean score of academic stress resulted to 112.67. It may, therefore, be said that yogic practices group was found to be effective in improving (reducing) academic stress of visually impaired secondary school children than non-yogic practice group where pre- academic stress was taken as covariate.

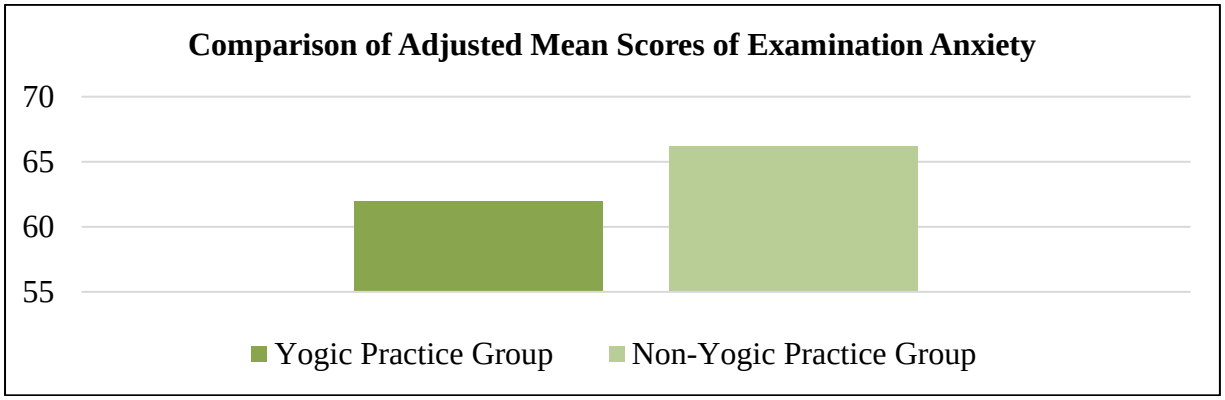
Analysis of Data Related to Examination Anxiety

Table 3: Summary of one-way ANCOVA of examination anxiety by taking pre-examination anxiety as covariate of visually impaired secondary school children of yogic practices group and non-yogic practice group:

Source of Variance	df	SSy.x	MSSy.x	Fy.x	Remark
Group	1	153.22	153.22	11.70	P < 0.05
Error	157	484.66	13.10		
Corrected Total	159	-	-		

Source: Author's own computation

Graph 2: Comparison of adjusted mean scores of examination anxiety between yogic practices group and non-yogic practice group of visually impaired secondary school children



Source: Author's own computation

From the summary table, it is visible that adjusted f-value is 11.70 which is significant at 0.05 level with df=1/159 when pre- examination anxiety was taken as covariate. Adjusted mean scores of examination anxiety of yogic practices group and non-yogic practice group differ significantly when pre- examination anxiety was taken as covariate. Thus, the null hypothesis that there is no significant difference in adjusted mean scores of examination anxiety of visually impaired secondary school children of yogic practices group and non-yogic practice group by taking pre- examination anxiety as covariate is rejected. Further, the adjusted mean score of examination anxiety of yogic practices group was calculated as 61.94 which is significantly lesser than that of non-yogic practice group where adjusted mean score of examination anxiety resulted to 66.21. It may, therefore, be said that yogic practices group was found to be effective in improving (reducing) examination anxiety of visually impaired secondary school children than non-yogic practice group where pre- examination anxiety was taken as covariate.

ANCOVA Hypothesis Testing

Table 4: Summary of one-way ANCOVA Hypothesis Testing

Dependent Variables	F-Value	P-Value	Null Hypothesis	
			Accepted	Rejected
Academic stress	103.84	P < 0.01		✓
Examination Anxiety	11.70	P < 0.05		✓

Test Basis:
F-value > P-value; P-value < [0.05, 0.01] => Significant difference; Null hypothesis rejected.
Source: Author's own computation

There is a significant difference in academic stress levels between the groups exposed to different levels of yoga intervention. The lower P-value (< 0.01) indicates strong evidence against the null hypothesis, suggesting that the yoga intervention had a significant effect on reducing academic stress among visually impaired secondary school students.

There is a significant difference in examination anxiety levels among the groups subjected to varying degrees of yoga intervention. Although the effect size as indicated by the F-value (11.70) is smaller compared to academic stress, the P-value (< 0.05) still falls below the conventional significance threshold, providing evidence to reject the null hypothesis. This suggests that the yoga intervention also effectively reduced examination anxiety among visually impaired secondary school students.

Findings

- The yoga intervention significantly reduced academic stress levels among participants. Students who practiced yoga showed lower levels of academic stress compared to those who did not participate in yoga sessions.
- The yoga intervention significantly reduced examination anxiety levels among the participants. Students who engaged in yoga reported lower levels of anxiety related to examinations compared to their peers who did not practice yoga.
- The findings from this study indicate that implementing a yoga intervention can be beneficial in mitigating both academic stress and examination anxiety among visually impaired secondary school students in Kolkata. These results underscore the potential of yoga as a therapeutic approach to improve psychological well-being in this population, contributing valuable insights to the field of special education and psychological interventions.

Recommendations

Practically admissible recommendations with regard to the study are as below:

- It is proposed that schools at all levels – lower primary, upper primary, secondary and higher secondary, offer yoga as part of the curriculum. The same would act as an opportunity for children – normal and differently abled, to enjoy learning and practicing it from an early age. The results of such investment can be observed over the long-term.
- Developing policies initiating yoga in schools, and training teachers to practice yoga with children.

- Advancing a theoretical framework relating children's mental health and well-being to adequate self-regulation processes, in order to create a better theoretical understanding of the potential effects of yoga.

CONCLUSION

The all-round development of a child is necessary for a balanced personality which can be developed with the help of one of the very effective practices of yoga. Yoga education is useful in self-realization and self-awareness of students, teachers, and other professionals. The health benefits of yoga, pranayama and meditation are unique as it brings balance and harmony of body, mind and soul through self-actualization. Yoga is beneficial for the flexibility of body and mental calmness which are necessary for all to cope up with the environmental conditions in the society.

This study inferred that exploration and development of a set of holistic practices, directive of yogic practices, in the curriculum for differently-abled children, specific to the study being visually impaired children, can help reduce their academic stress and examination anxiety. Further, it is suggesting that yoga education be given a place of compulsory subject – both theoretically and practically, at school level because of its benefits for the students.

Limitations of the Study

- Daily activities of the subjects, other than school hours, were not monitored as the same constituted beyond the control of the researcher.
- The researcher exercised no control on the factors such as intake of diet nutrition, recreational activities and other similar factors that hold capacity to influence the subject's psychological state thereby affecting the result of the research undertaken.
- The study was undertaken for the short-term training program of 8 weeks only.
- The study was limited only to the visually impaired secondary school children, aged 13 to 15 years.
- The study involved exposure to selected to yogic practices.

Scope of Further Study

- The presented study was restricted to a blind school in Kolkata, West Bengal, India. The same study can be undertaken on a broader geographical domain.
- Study under same dependent variables can be undertaken for normal children or children with other disabilities; or on varied age groups.
- A broader or different dependent variable base can be structured to gain more insight on the benefits of yogic practices on varied and diverse groups.

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Conflict of Interest

The author(s) declared no conflict of interest.

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