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Test and Academic Anxiety, and Coping Resources of 10th Standard Students Studying in Unconventional and Conventional Schools in Pune

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Abstract: The highly competitive atmosphere during 10th board examinations has led to a substantial increase in test and academic anxiety among students over the years. This research compares the test and academic anxiety, and coping resources of 10th board exam students from schools in Pune who have adopted unconventional (alternative) teaching methods with those from conventional (traditional) teaching methods. The unconventional schools preferably do not engage in ranking or comparative marking of their students based on performance but use unique, practical-based teaching methods, promoting conceptual understanding which could be one of the important reasons of reduced stress levels. From each school type, a sample of 61 students (36 girls, 25 boys) was obtained. Intervening variables of school board and medium were controlled. The tools used were Short Form of the Test Anxiety Inventory (Taylor & Deane, 2002); Academic Anxiety Scale for Children (Singh & Sen Gupta, 2013) and Coping Resources Inventory – Youth Form (Moos, 1993). Although there is no significant difference on test anxiety of unconventional and conventional school students, the mean scores indicate that unconventional school students have higher test anxiety. On the other hand, unconventional school students have significantly lower academic anxiety, and the conventional school students show avoidant coping resources. These results support the emergence of unconventional education systems to reduce academic anxiety of students and lower avoidant coping. It can also be understood that exam practice is necessary for unconventional school students to reduce their test anxiety of 10th board exams.

Keywords: Test anxiety, academic anxiety, coping resources, unconventional schools, 10th board exam.

INTRODUCTION

Pune city is predominantly characterized by schools that fit into the conventional or stereotypical teaching methods that have been ongoing for years. Yet, there are a few schools that have overlooked the ordinary teaching methods and have undertaken a student-friendly environment in schools. These schools usually have their predominant focus on individual development, practical learning, and knowledge-based conceptual understanding by retaining the best interests of students. The number of conventional schools in Pune outnumbers the handful of unconventional schools, with the total number of unconventional schools in Pune city being around eight.

Many parents opt for homeschooling to promote learning through practical experience and reduce the stressful situations at schools. But homeschooling has a very significant disadvantage of not getting to socialize with peers on a daily basis; not being able to engage in interesting science practicals as the material and apparatus required for chemistry, biology and physics experiments is not readily available at home; not getting to interact with dignitaries at social events in schools; not being able to actively participate in team activities like team sport, debate competitions; etc. These activities that take place in a school setting are a very important part of the childhood and brings out many skills in the individual. Therefore, the necessity of unconventional schools in our society increases, as such schools provide all the facilities that are lacked at homeschooling and yet provide a non-authoritarian stress-free learning environment.

Unconventional schools provide an advantage over homeschooling as they provide the formal platform for conducting laboratory experiments as per syllabus, participation in extra-curricular activities and a peer group for socialization. They have a central focus on conceptual understanding and predominantly engage in a practical-based learning experience by promoting independent thinking and various extra-curricular activities. Also, unconventional schools have an advantage over conventional schools, where they provide an environment to encourage experiential learning, connecting what is learnt in the classroom to real life, a focus on life-skill development, etc. (https://www.amansetumyschool.com/; https://www.dlrc.in/index.php; http://aksharnandanschool.org/index.html#; https://swadhaawaldorfschool.org/). The conventional education system does not promote any meaningful contact between pupils and teachers. Hence, unconventional schools aim in the development of informal relationships between student and teacher with adequate discipline and sense of responsibility. Cooperative learning is encouraged with productive activities such as farming, cooking, carpentry, art and craft, etc. Examinations and rankings based on intelligence and capabilities induce stress among students; and hence are preferably eliminated in unconventional schools.

The 10th standard board exam has become a rite of passage for students, and those learning in the unconventional schools must appear for these exams. Various studies have noted that students appearing for board exams (10th as well as 12th) experience high levels of test anxiety (Chakraborty, 2016; Mary, Marslin, Franklin, & Sheeba, 2014; Parekh, 2008). In addition to test anxiety, students also experience academic anxiety – the feeling of anxiousness in an academic setting due to the pressure of academic curriculum and the feeling of incompetence due to burdensome and stressful educative environment (Dhull, 2013). Bihari (2014) noted that scores on academic anxiety from government and private schools differed significantly.

The earlier literature shows that 12th Class students have more test anxiety than 10th Class students because of the examination format, mental pressure and the fact that future admissions are fully dependent on the exam marks (Mary, Marsli, Franklin, & Sheeba, 2014). Reconstructing conventional examination methods to reduce anxiety of Arts students was seen to be very effective (Kumari & Jain, 2014). Interventional counselling had a positive effect in reducing test anxiety (John, 2012). Highly evaluative classrooms lowered achievement and motivation of students (Hancock, 2001). Higher levels of worry were associated with significantly lower test results on Scholastic Aptitude Test (Cassady & Johnson, 2002). Research also showed that there is no significant correlation between test anxiety and teaching style (Crisan, Albulescu, & Copaci, 2014). If wellbeing was promoted by schools with teachers' support to students, it was seen to alleviate stress (Östberg, Plenty, Laftman, Modin, & Lindfors, 2018). Research showed that more the self-efficacy, lesser is the test anxiety (Brooks, Grimsley, & Taylor, 2014). Effective communication techniques showed to lower the test anxiety of students (Aydin, Karakuzu & Elkiliç, 2009). Academic anxiety was found to be higher in private school students than government school students (Dhull, 2013). Help from teachers and parents helped in lowering academic problems and anxiety of students (Hooda & Saini, 2017). Research showed that differential teaching style leads to higher motivation and reduced test anxiety (Rana & Mahmood, 2010). Alternative education including flexible curriculum and non-controlling environment showed more of problem-focused coping strategies, task-oriented coping strategies and high intrinsic motivation among students (Shankland, Riou França, Genolini, Guelfi, & Ionescu, 2009). Nontraditional approaches to learning or alternative teaching styles improved students' relationships, attendance, decreased temper outbursts, and led to a change in attitude towards school (Kilmer, 2013). Ndirangu, Muola, and Kithuka (2008) noted that elevated test anxiety is experienced before any subject's examination by secondary school students in Nyeri District, Kenya. The results indicated that teachers do not sufficiently help students cope with academic anxiety.

This review of literature led to formulation of the following hypothesis:
1. There will be a significant difference between the test anxiety of unconventional school students and conventional school students.
2. Unconventional school students will have significantly lower academic anxiety compared to conventional school students.
3. Unconventional school students will have significantly higher approach coping resources than conventional school students.
4. Unconventional school students will have significantly lower avoidant coping resources than conventional school students.

More than 2 lakh students appear for the 10th standard board exams every year and around 40,000 students do not clear the exam. The 2019 Pune region passing percentage was 82.48%, as compared to 92.08% recorded in 2018. A downfall in the passing percentage is seen. The reason behind the sudden downfall has its roots in the change of syllabus and exam pattern. Nevertheless, a study needs to be carried out on the impact of differential and alternative teaching methods which might increase the student's confidence as well as knowledge, as hypothesized. The present study was conducted for students expecting to appear for the 10th board exams in March 2020. It is a

significant research question in today's time because of the highly competitive atmosphere during examinations that lead to stress among school children and increased incompetencies, mental health issues and reduced performance. The review seemed to indicate that, a comparative study among schools with different teaching methods has not been done in Maharashtra, in co-educational schools using these standardized tools on 10th board students. The rationale behind this study is to provide findings that may support and promote the emergence of unconventional educational systems or may further be used to modify teaching methods in schools to enable a practically educative approach for students that may lead to better knowledge and understanding among the future generation, with a stress-free environment. Also, as the new National Education Policy of India is aimed at making the conventional schools as similar to unconventional ones, the results of this study will be useful for policymakers.

METHODS

The participants of the study were those students admitted to the 10th standard in the academic year of 2019-20, studying in co-educational schools in the city of Pune, Maharashtra. The Board of examination and Medium of school were controlled by equating the sample size. Data from a sample of 36 girls and 25 boys (total N=61) each from the unconventional schools with alternative teaching methods and conventional schools with traditional teaching methods.

A total of three psychological tests were used for data collection. The Short Form of the Test Anxiety Inventory (TAI) by Charles D. Spielberger developed by Taylor and Frank (2002) was used to measure Test Anxiety. It consisted of five items using a 4-point Likert Scale. It measured two dimensions of Test Anxiety – worry (cognitive concerns about consequences of failure) and emotionality (reactions evoked by evaluative stress). Cronbach's Alpha was .87 and Concurrent validity was established. The second scale used was Academic Anxiety Scale for Children (AASC) by Dr. A.K. Singh and Dr. A. Sen Gupta (2013). It consisted of twenty items having a dichotomous-Yes/No response. The split-half reliability was .65. The third scale used was the Coping Resources Inventory (CRI) (Youth Form) by Rudolf M. Moos (1993). It consists of 48 items using a 4-point Likert Scale, measuring eight Dimensions, four in Approach coping and four in Avoidant Coping Resources. The four Approach Coping Resources are Logical Analysis (LA), Positive Reappraisal (PR), Seeking Guidance and Support (SG), and Problem Solving (PS). The four Avoidant Coping Resources are Cognitive Avoidance (CA), Acceptance or Resignation (AR), Seeking Alternative Rewards (SR), and Emotional Discharge (ED). The internal consistency reliability ranged from 0.55 to 0.79, and criterion-related validity was established.

RESULTS AND DISCUSSION

The data was analysed using SPSS ver. 21, and it was seen that the data was normally distributed. The results for the comparison across conventional and unconventional schools for the variables related anxiety are presented in table 1. Table 2 presents the results for comparison across conventional and unconventional schools on the coping resources variables.

Table-1: Mean, SD and t-test across conventional and unconventional schools for the dimensions of Coping Resources

Group	Dimension	N	Mean	SD	t
Unconventional	Logical Analysis	61	9.80	3.47	2.161*
Conventional		61	11.10	3.14	
Unconventional	Positive Reappraisal	61	10.44	3.42	0.804
Conventional		61	10.92	3.11	
Unconventional	Seeking Guidance and Support	61	7.70	4.14	0.734
Conventional		61	7.18	3.75	
Unconventional	Problem Solving	61	10.57	3.82	0.898
Conventional		61	11.15	3.21	
Unconventional	Cognitive Avoidance	61	8.87	3.40	1.838*
Conventional		61	9.95	3.09	
Unconventional	Acceptance or Resignation	61	7.56	3.78	0.074
Conventional		61	7.51	3.57	
Unconventional	Seeking Alternative Rewards	61	9.97	3.78	2.613**
Conventional		61	11.82	4.04	
Unconventional	Emotional Discharge	61	7.43	3.96	1.874*
Conventional		61	8.64	3.15	

* $p<.05$, ** $p<.01$

As seen in Table 1, the use of Approach Coping Resource of Logical Analysis was significantly higher among students from conventional schools than from non-conventional schools (t= 2.161, p<.05). The differences on the remaining three dimensions of Approach coping were not significant. Thus, the hypothesis stating that "Unconventional school students will have significantly higher approach coping resources than conventional school students" is not being accepted. Of the four dimensions of Avoidant

Coping Resources, it is seen that conventional schools students are significantly higher on Cognitive Avoidance (t=1.838, p<.05), Seeking Alternative Rewards (t=2.613, p<.01) and Emotional Discharge (t=1.874, p<.05). Therefore, the hypothesis stating that "Unconventional school students will have significantly lower avoidant coping resources than conventional school students" is accepted. This research finding is in line with the previous research (Shankland, Riou França, Genolini, Guelfi, & Ionescu, 2009).

Table-2: Mean, SD and t-test across conventional and unconventional schools for the Test and Academic Anxiety

Group	Dimension	N	Mean	SD	t
Unconventional	Emotionality	61	2.33	1.468	0.477
Conventional		61	2.21	1.171	
Unconventional	Worry	61	1.46	1.444	0.552
Conventional		61	1.33	1.165	
Unconventional	Test Anxiety	61	5.56	2.796	1.718
Conventional		61	4.77	2.232	
Unconventional	Academic Anxiety	61	7.67	3.771	-1.881*
Conventional		61	8.92	3.542	

* p<.05, ** p<.01

Table 2 indicates that the difference on Test Anxiety and its dimensions was not significant, and therefore the hypothesis stating that "There will be a significant difference between the test anxiety of unconventional school students and conventional school students" is not accepted. These results are in line with the previous ones indicating that teaching methods do not influence test anxiety (Crisan, Albulescu, & Copaci, 2014). Although the differences were not significant, the mean scores indicate that unconventional school students have higher test anxiety scores as compared to conventional school students. The probable causes of the findings of test anxiety could be that unconventional school students do not regularly have formal exams like other conventional schools that are based on intellectual evaluation instead they use unique, practical-based teaching methods, promoting conceptual understanding. Therefore, these students do not have much practice of taking tests until they are in high school or secondary school. Students from unconventional school thus get lesser practice in order to prepare for 10th standard board exams. This might likely be the probable cause of heightened test anxiety scores of unconventional school students.

Students from unconventional schools had a significantly lower Academic Anxiety (t=1.881, p<.05). Therefore, the hypothesis stating that "Unconventional school students will have significantly lower academic anxiety compared to conventional school students" was accepted. This finding is in line with previous researches which show that institutes and subjects contribute in determining academic anxiety (Bihari, 2014; Dhull, 2013).

Contradictory to the hypothesis, the mean scores of approach coping indicate that conventional school students have higher scores on total approach coping as compared to unconventional school students. The probable cause of this is unknown and out of capacity of this study but it can be a scope for further research. A unique finding of conventional school students having significantly higher scores on Logical Analysis than that of unconventional school students is contradicting the hypothesis, and this can also be a scope for further research. The Part 1 of the Coping Resources Inventory (Youth Form) that was used in the research shows that on an average majority of the boys had study-related issues whereas majority of the girls had friendship-related issues; despite the type of school they were in. This finding can also be statistically evaluated and analyzed in further research in order to get a concrete understanding of this phenomenon and its probable causes. The limitations of this research can be considered in order to replicate this research for better results. 10th standard students who are being homeschooled were not included in this research which can be a good scope for further analysis, if alternative educational system is taken into consideration.

Implications

The research findings indicate that the mean scores of test anxiety seem to be higher in unconventional school students as compared to conventional school students though the t-test does not show scores to be significantly different than each other. These results are useful in understanding that unconventional school students do not get required practice of test taking throughout their schooling years as these schools have differential assessment techniques. They do have tests from high school years or for secondary school as a form of practice and training for the mainstream board examinations, but the results indicate that, the practice might not be sufficient

which would likely be the cause of increased test anxiety. These results are helpful in considering giving additional practice techniques for unconventional school students which might aid in reducing their test anxiety for 10th standard board exams. Further ahead, the research findings show that there is significantly lower academic anxiety among unconventional school students because of the stress-free and autonomic environment available to students. Autonomy in terms of decision making and freedom to express as well as informal bond with teachers has shown to aid in reducing academic anxiety of students. If this environment is made available in all the schools, the harmful consequences that are seen among students due to academic anxiety can be diminished. Previous literature shows that reduced anxiety leads to better academic performance, better memory and in turn this would lead to a better education system promoting knowledge rather that rote-learning. Stress-free schooling may also lead to better mental health of students, less chances of school dropouts and motivation to learn. Unique subjects that are taught in unconventional schools may also help in reducing academic anxiety and generating motivation to learn. Lastly, the results of Coping Resources Inventory show that conventional school students tend to use avoidant coping resources more often. It can be concluded that differential teaching methods aid in lowering avoidant coping resources. This result can be used in promoting approach coping resources among conventional school students in order to inculcate better and quality well-being for future. The Part 1 of the test shows that on an average majority of the boys had study-related issues whereas majority of the girls had friendship-related issues despite the type of school they were in. These findings can be helpful for the school counsellor to gain a better understanding of the students' problems and helping them accordingly. Also, the implementation of the National Education Policy in schools should take into consideration these findings, and groom the students for the competition to be faced in higher education.

CONCLUSION

According to the research findings, it can be concluded that there is no significant difference between the test anxiety of unconventional and conventional school students, but unconventional school students have significantly lower academic anxiety than that of conventional school students; and conventional school students show avoidant coping resources.

REFERENCES

- Aydin, S., Karakuzu, M., & Elkiliç, G. (2009). Teacher effect on the level of test anxiety among young EFL learners. *Asian EFL Journal, Teaching Articles*, 190-194.
- Bihari, S. (2014). Academic Anxiety among Secondary School Students with reference to Gender, Habitat and Types of School. *International Journal of Education and Psychological Research (IJEPR) Volume 3*.
- Brooks, B., Grimsley, J., & Taylor, C. (2014). Test Anxiety and Self-Efficacy. *Southeastern Psychological Association*.
- Cassady, J. C., & Johnson, R. E. (2002). Cognitive test anxiety and academic performance. *Contemporary educational psychology*, 27(2), 270-295.
- Chakraborty, S. (2016). Test Anxiety and Academic Achievement: A study on Class-X Students of the Borboruah Block of Dibrugarh District, Assam. *International Journal of English Language, Literature and Humanities, 4*(3).
- Crișan, C., Albulescu, I., & Copaci, I. (2014). The Relationship Between Test Anxiety and Perceived Teaching Style. Implications and Consequences on Performance Self-Evaluation. *Procedia-Social and Behavioral Sciences*, 142, 668-672.
- Dhull, J. (2013). Academic Anxiety of the X Class Students in Government and Private Schools in Relation to Their Achievement in Science. *Research Journal of Humanities and Social Sciences*, 4(4), 523-526.
- Hancock, D. R. (2001). Effects of test anxiety and evaluative threat on students' achievement and motivation. *The Journal of Educational Research*, 94(5), 284-290.
- Hooda, M., & Saini, A. (2017). Academic Anxiety: An Overview. *Educational Quest*, 8(3), 807-810.
- http://aksharnandanschool.org/index.html#
- https://swadhaawaldorfschool.org/
- https://www.amansetumyschool.com/
- https://www.dlrc.in/index.php
- John, J. C. (2012). The relevance of school counselling among adolescents to control exam anxiety with special references to Pathanamthitta district. Accessed online in October 2019 from https://shodhgangotri.inflibnet.ac.in/bitstream/123456789/623/2/02_synopsis.pdf
- Kilmer, T. (2013). A study of the effectiveness of two alternative middle schools: How prepared are students for high school success? Virginia Commonwealth University. Accessed online in October 2019 from https://www.proquest.com/openview/466fe41a0bdc6537243e8ba86b48aafc/1?pq-origsite=gscholar&cbl=18750
- Kumari, A., & Jain, J. (2014). Examination stress and anxiety: A study of college students. *Global Journal of Multidisciplinary Studies*, 4(1), 31-40.
- Mary, A.R., Marslin, G., Franklin, G., & Sheeba, C. J. (2014). Test anxiety levels of board exam going students in Tamil Nadu, India. *BioMed research international*, 2014.

- Moos, R. M. (1993). Coping Resources Inventory (CRI) (Youth Form) Manual. Psychological Assessment Resources, Inc.
- Ndirangu, G. W., Muola, J. M., Kithuka, M. R., & Nassiuma, D. K. (2009). An investigation of the relationship between test anxiety and academic performance in secondary schools in Nyeri District, Kenya. *Global journal of educational research*, *8*(1-2).
- Östberg, V., Plenty, S., Låftman, S. B., Modin, B., & Lindfors, P. (2018). School Demands and Coping Resources− Associations with Multiple Measures of Stress in Mid-Adolescent Girls and Boys. International journal of environmental research and public health, 15(10), 2143.
- Parekh, M. C. (2008). *A Study of Examination Anxiety of Students of Secondary Schools.* Amhedabad.
- Rana, R., & Mahmood, N. (2010). The relationship between test anxiety and academic achievement. *Bulletin of Education and Research*, *32*(2), 63-74.
- Shankland, R., França, L. R., Genolini, C. M., Guelfi, J. D., & Ionescu, S. (2009). Preliminary study on the role of alternative educational pathways in promoting the use of problem-focused coping strategies. *European Journal of Psychology of Education*, *24*(4), 499-512.
- Singh, A., & Sen Gupta, A. (2013). Academic Anxiety Scale for Children (AASC) Manual. Patna: National Psycholoical Corporation.
- Taylor, J., & Deane, F. P. (2002). Development of a short form of the Test Anxiety Inventory (TAI). *The Journal of General Psychology*, *129*(2), 127-136.