

MANAGEMENT OF MATHAMATICS EXAMINATION PHOBIA

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Abstract: *More than fifty percent of the students experience examination phobia. Multi-dimensional approach is essential for the management of examination phobia. Since the problem is multifaceted. It's a strong and irrational fear of examinations. Behavior therapy, transactional analysis, relaxation techniques are effective interventions for the management of examination phobia. Management of examination phobia is essential to improve performance, since examination phobia is negatively associated with test performance (Topp 1989). It is concluded from the finding that the package of interventions is useful in the management of examination phobia among upper primary school children.*

Keywords: Examination Phobia, Mathematics, School

Article History: Received: 12th March, 2024, Revised: 25th March, 2024, Accepted: 28th March, 2024,

Published: 31st March, 2024

I. INTRODUCTION

Examination phobia is a major problem that negatively influences performance in the examinations. When taking examination children's experience negative thoughts and unpleasant physical symptoms which prevents children's from performing to the best of their ability (Zeidner, 1998). Common symptoms of examination phobia includes palpitation, nausea, sweating and trembling (Watson and fried, 1969) effective treatment of phobia includes confronting the phobic object or situation in a gradual way (Sulfina k and Farhat. P. 2010). Students having examination phobia experience extreme discomfort and anxiety during exam situations and seek avoidance whenever possible (Loranger, 1988). But it is impossible to avoid as the same is an integral part of our education system. Hence the management of examination phobia is very essential. Examination phobia is the reaction that students exhibit to examinations. If it is not managed, may lead to drop out from school as an avoidance response.

Two principal components of examination phobia are cognition and emotion (Morris 1981). The cognitive component is mental activity that revolves around the testing situation and its potential implications on the individual and constitutes elements, such as thinking about consequences of failure, worrying about great deal of examination and lack of confidence in one's ability. The psychological aspect of test anxiety leading to tension, apprehension and nervousness towards examinations, which may be associated with somatic symptoms such as palpitation, nausea and perspiration (Morris 1981)

Wine (1980) explains the negative effects of test anxiety on academic performance by two models; the inference model and the learning –deficit model. According to the inference model, anxious children's are distracted or perturbed due to task irreverent cognitions and negative thoughts during test taking. However the learning deficit model proposes that it is a student in effective study habits during preparation for a test that causes them to be anxious and affects performance on the test. Hence management of examination phobia should address both the aspects

as both the models sometimes act in an integrated manner to affect a children's performance. Though individuals with test anxiety do not have any kind of intellectual deficiency, they are not able to tackle test taking issues effectively. Children's with high level of test anxiety are more likely to employ less effective study strategies, and more likely to procrastinate and engage in repetitive memorization strategies (Cassady 2004).

Test anxiety has been overwhelmingly identified as a two factor construct, consisting of the cognitive and emotional components (Morris, Davis and Hutching, 1981, schwarzer, 1986). The predominant view of the relationship between these two factors suggest the cognitive components directly impacts performance, while the emotionality component is related but doesn't directly influence test performance (sarason, 1986, Williams, 1991) the apparent relationship between emotionality and test performance is such that emotionality impacts test performance only under situations where the individual also maintains a high level of cognitive test anxiety (deffenbacher, 1980, Hodapp, Glanzmann and Laux 1995). Although emotionality has traditionally not been viewed as central to performance, recent work has demonstrated that emotionality may be the triggering mechanism for self regulation strategies that facilitate performance (schutz and davis, 2000). Standard conceptualizations of the cognitive test anxiety construct have addressed the interplay between state and trait anxiety, but in an evaluative situations, their state anxiety also elevates (Zeidner 1995). this combinatory relationship can lead to feelings of anxiety that interfere with test performance through blocks to cue utilization, attenuated attention recourses, or mere cognitive interference from worries and fears induced by anxiety (Geen 1980, Hembree, 1988, Sarason, 1986). This relationship has also been characterized as an additive function of the dispositional and situational anxiety influences faced by students in evaluative scenarios (Zohar, 1998).

II. METHODOLOGY

The 30 upper primary children from Thrissur district of Kerala as control group and another 30 students as experimental group.

Research design adopted for the study was pre and post experimental design with control group. Level of examination anxiety, subjective unit of distress score and scholastic data of both the group were measured, which served as a baseline data. Then interventions were administered for 6 weeks to the experimental group only. Again the level of examination anxiety, mathematics exam stress and scholastic data of both the groups were measured. The data was statistically treated and conclusions were drawn. Intervention was then introduced to the control group also for six weeks. Again the level of examination Anxiety, subjective unit of distress score and Scholastic data of the control group were measured. The data was statistically treated and conclusions were drawn, as double test.

Interventions used:

The following interventions are used

1. Progressive muscular relaxation technique
 2. Mindfulness
 3. Transactional analysis
 4. Neuro- linguistic programming – visualization
- Statistical tools used

Mean, standard deviation, t- test

III. RESULTS AND DISCUSSIONS

Table-1; state anxiety, mathematics exam stress and scholastic score of experimental and control group before intervention (N=30)

FACTORS	EXPERIMENTAL GROUP (SD)	CONTROL GROUP (SD)	MEAN DIFFERENCE	CRITICAL RATIO
STATE ANXIETY	64 (2.04)	64.2 (1.63)	0.20	0.21
MATHEMATICS EXAM STRESS (MES)	68 (2.04)	67.5 (2.01)	0.50	0.60
SCHOLASTIC SCORE	54.4 (1.67)	54.3 (1.93)	0.10	0.15

The pre interventional score of the experimental group in state anxiety is 64.00 with a standard deviation of 2.04. The pre- intervention score of the control group in state anxiety is 64.20 with a standard deviation of 1.63. Mean difference is 0.20 and critical ratio is 0.21. The pre intervention MES score of the experimental group is 68.00 with standard deviation of 2.04. The pre intervention MES score of control group is 67.50 with a standard deviation of 2.01. Mean difference is 0.50 and critical ratio is 0.60. The pre-intervention scholastic score of the experimental group is 54.40 with standard deviation of 1.67. The pre intervention scholastic score of control group is 54.30 with standard deviation of 1.93. Mean difference is 0.10 and critical ratio is 0.15. The result shows that the level of state anxiety, mathematics exam stress AND SCHOLASTIC SCORE OF

EXPERIMENTAL GROUP and control group before intervention doesn't differ significantly and the groups are homogeneous in terms of these factors.

Table-2; state anxiety, mathematics exam stress and scholastic score of experimental and control group before and after intervention (N=30)

FACTORS	BEFORE INTERVENTION	AFTERINTERVENTION	MEAN DIFFERENCE	CRITICAL RATIO
STATE ANXIETY	64 (2.04)	44.6 (1.34)	19.40	3.15**
MATHEMATICS EXAM STRESS	68 (2.04)	49.8 (1.24)	18.20	3.14**
SCHOLASTIC SCORE	54.4 (1.67)	71.3 (1.40)	16.90	3.14**

**P<0.01

The pre interventional score of the experimental group in state anxiety is 64.00 with a standard deviation of 2.04 and post intervention score is 44.60 with standard deviation 1.34. Mean difference is 19.40 and critical ratio is 3.15. The pre- intervention MES score of the experimental group is 68.00 with a standard deviation of 2.04 and the post intervention score is 49.80 with a standard deviation of 1.24. Mean difference is 18.20 and critical ratio is 3.14. The pre intervention scholastic score of the experimental group is 54.40 with a standard deviation of 1.67 and post intervention score is 71.30 with a standard deviation of 1.40 mean differences is 16.9 and critical ratio is 3.14. The result shows that level of state anxiety, mathematics exam stress and scholastic score of experimental and control group before and after intervention differ significantly.

Table-3; state anxiety, mathematics exam stress and scholastic score of experimental group in the pre-post tests (N=30).

FACTORS	experimental group mean	control group mean	MEAN DIFFERENCE	CRITICAL RATIO
STATE ANXIETY	44.6 (1.34)	65.4 (3.16)	20.80	3.13**
MATHEMATICS EXAM STRESS	49.8 (1.24)	65.6 (1.96)	15.80	3.10**
SCHOLASTIC SCORE	71.3 (1.40)	55.1 (1.81)	16.20	3.09**

**P<0.01

The post interventional score of the experimental group in state anxiety is 44.6 with a standard deviation of 1.34 and post intervention score of the control group in state anxiety is 65.40 with standard deviation of 3.16. Mean difference is 20.80 and critical ratio is 3.13. The post intervention MES score of the experimental group is 49.8 with a standard deviation of 1.24 and the post intervention MES score control group is 65.60 with a standard deviation of 1.96. Mean difference is 15.80 and critical ratio is 3.10. The post intervention scholastic score of the experimental group is 71.30 with a standard deviation of 1.40 and post intervention scholastic score of the control group is 55.10 with a standard deviation of 1.81. Mean differences is 16.20 and critical ratio is 3.09. The result shows that level of state anxiety,

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mathematics exam stress and scholastic score of experimental and control group after intervention differ significantly.

Table-4; state anxiety, mathematics exam stress and scholastic score of control group in the pre-post tests (N=30)

FACTORS	post test mean (SD)	pre test mean (SD)	Mean Difference	Critical Ratio
STATE ANXIETY	64.2 (1.63)	65.4 (3.16)	1.20	0.45
MATHEMATICS EXAM STRESS	67.5 (2.01)	65.6 (1.96)	1.50	0.83
SCHOLASTIC SCORE	54.3 (1.93)	55.1 (1.81)	0.80	0.56

The pretest score of control group in state anxiety is 64.20 with a standard deviation of 1.63 and post test score is 65.4 with standard deviation 3.16. Mean difference is 1.20 and critical ratio is 0.45. The pre test MES score of the control group is 67.5 with a standard deviation of 2.01 and post test score is 65.60 with standard deviation of 1.96. Mean difference is 1.50 and critical ratio is 0.83. The pre test scholastic score of the control group is 54.3 with a standard deviation of 1.93 and the post test score is 55.10 with a standard deviation of 1.81. Mean difference is 0.80 and critical ratio is 0.56.

The result shows that level of state anxiety, mathematics exam stress and scholastic score of control group in pre and post test doesn't differ significantly.

Table-5; state anxiety, mathematics exam stress and scholastic score of control group before and after intervention (N=30).

FACTORS	before intervention mean (SD)	after intervention mean (SD)	MEAN DIFFERENCE	CRITICAL RATIO
STATE ANXIETY	64.2 (1.63)	45.1 (1.70)	16.00	3.15**
MATHEMATICS EXAM STRESS	67.5 (2.01)	48.2 (1.25)	22.40	3.12**
SCHOLASTIC SCORE	54.3 (1.93)	70.9 (1.57)	16.60	3.13**

**p<0.01

The pre intervention score of the control group in state anxiety is 64.20 with a standard deviation of 1.63 and post intervention score is 45.10 with standard deviation 1.70. Mean difference is 16.00 and critical ratio is 3.15. the difference in the score is significant and it is concluded that on introducing interventions the state anxiety level of the control group also have significantly changed. The pre intervention MES score of the control group is 67.50 with a standard deviation of 2.01 and post intervention score is 48.20 with standard deviation 1.25. Mean difference is 22.4 and critical ratio is 3.12. the difference in the score is significant and it is concluded that on introducing interventions of MES scores of the control group also have significantly changed. The pre- intervention scholastic score of the control group is 54.30 with a standard deviation of 1.93 and post intervention score is 70.9 with standard deviation 1.57. Mean difference is 16.60 and critical ratio is 3.13.

The difference in the score is significant and it is concluded that on introducing interventions the scholastic scores of the control group also have significantly improved.

The result shows that the level of state anxiety, mathematics exam stress and scholastic score of control group didn't differ significantly in the pre and post test condition without introducing interventions, but after intervention the difference in the levels of state anxiety, mathematics exam stress and scholastic score were significant.

CONCLUSION

It is concluded from the findings that the package of interventions is useful in the effective management of mathematics examination phobia among high school students.

IMPLICATIONS

Major implication of the present study is the introduction of an easily usable package of intervention comprising of behavior therapy and transactional analysis for the management of mathematics examination phobia among UP school children and can be used for other groups of sample and for the management of other phobia also.

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