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Effect of Stress Management Programme on Learned Helplessness of Adolescents in Mathematics

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ABSTRACT:

The present experimental investigation, which is pre test - post test control group design, was conducted to assess the effectiveness of stress management programme on learned helplessness of adolescents in the subject of mathematics. A sample of 200 learned helpless adolescents in mathematics were selected by the investigator, after administration of learned helplessness in mathematics scale, out of which 100 were assigned to control group and 100 to experimental group. After that investigator had given a four month stress management programme based on three techniques i.e. changing thoughts, changing behaviour and learning to relax for 30 min per day to the experimental group, which was then post tested on the scale of learned helplessness in mathematics. The results of the study revealed that stress management programme was an effective intervention strategy to improve the adolesent's learned helplessness inmathematics. Based on the finding, some implications were made.

Keywords: *Stress management programme, learned helplessness and adolescents.*

INTRODUCTION

In india, mathematics is the subject about which, maximum students are anxious about, because it is the only subject where success and failure are highly salient and more obvious (Dweck & Licht, 1980). Many students believe that mathematical ability is inherited and that learning mathematics is related to ability rather than effort (McLeod, 1992). In addition, students also think that mathematics is governed by rules and problems should be able to be solved within a few minutes (McLeod, 1992). These beliefs have damaging effects on students' behaviours, predominantly when they are confronted with problems for which there are no easy or quick solutions. The net result of these negative attitudes is that when students come across difficulties in learning mathematics, many attribute their failure to their lack of mathematical ability and accordingly decrease their efforts, engage in a variety of work evading strategies, or simply give up trying.

In response to frequently occurring failure, students exhibit characteristically passive learned helplessness behaviours in the classroom (Peterson, Maier and Seligman, 1993; Seligman, 1995) and reduce their participation in the activities and lessons provided by the teachers. The net effect of this learned helpless behaviour pattern is that it will negatively affect their self esteem and self concept and trapped them to the nasty circle of stress. The stress experienced by the pupils with precise learning difficulties, can be exhibited in diverse forms, such as rapid increase

or decrease in effort put into school work. Some show fluctuating moods and increased aggravation and irritability, which can be reduced with the help of various stress avoidance strategies such as time management, meditation, progressive muscular relaxation etc.

STRESS MANAGEMENT PROGRAMME

Stress management programme is a set of preventive approaches used by teachers and counselors to teach their adolescents so that they can learn to manage the stress arised due to academic influences before it turned into crises and affect their physiological, social and emotional aspect of life. Stress management includes time management, relaxation techniques, deep breathing etc.

Lazarus (1974) Stress management is any technique developed to help someone cope with or lessen the physical and emotional effect of everyday life pressure.

Sedgeman (2005) Stress management refers to the wide spectrum of techniques and psychotherapies aimed at controlling a person's levels of stress, especially chronic stress, usually for the purpose of improving everyday functioning.

LEARNED HELPLESSNESS

Learned helplessness is a psychological state of mind which arises when people feel themselves as incapable to change their self or situation. It is the belief that our own actions do not influence outcome or result. This is primarily caused when people attribute negative things in life to internal, stable and global factors i.e. it's me, It will last forever and It'll affect everything I do etc.

Smith (2001) learned helplessness is a phenomenon in which individuals gradually, usually as a result of repeated failure or control by others, become less willing to attempt tasks.

Myers (2002) defines learned helplessness as the hopelessness and resignation learned when a human or animal perceives no control over repeated bad events.

REVIEW OF RELATED LITERATURE

Gentile and Monaco (1988) in their study mentioned that teacher has the ability to influence learned helplessness among adolescents by changing their conviction about success or failure. If teacher provide success experience to adolescents, attribution about efforts, beliefs and strategies, learned helplessness could be improved.

Middleton and Spanias (1999) in their study described that by providing attributional training to students along with skill training, helplessness in mathematics could be reduced which positively affect students mathematical achievement.

Biber and Biber (2014) in their study found that the class room environment where students spend most of their time affect the learned helpless behaviour of the students at the most. Teachers, who are authoritarian, shout on the students, use physical punishment in the class and

motivate the students in a negative way, cause learned helplessness among adolescents towards lesson.

EMERGENCE OF THE PROBLEM

In comparison with many other subject areas, mathematics has the least positive level of student motivation (Pintrich, Wolters, & De Groot, 1995). Learned helplessness is likely to occur in mathematics (Gentile & Monaco,1986), because it is an area of the curriculum in which success and failure are highly salient and more obvious (Dweck & Licht, 1980), with answers to questions and problems viewed frequently as either right or wrong (McLeod, 1992). Furthermore, learned helpless students believe that mathematical ability is inherited and that learning mathematics is related to ability rather than effort (McLeod, 1992).
In addition to this, learned helpless adolescents face debilitation in there cognitive and logical perception, which leads them to depression and lowered self-esteem. These depressed children express their feeling through anger, aggression, running away, stealing, truancy, and other rebellious acts. These feelings create barriers to their academic success, increase anxiety and lower the self-concept, thus entering into a vicious circle which may with time magnify the symptoms. So, investigator felt adhere need of initial sessions of short term intervention for the eradication of the feeling of helplessness by eliminating negative stressors and using behaviour modification techniques.

OBJECTIVES OF THE STUDY

1. To assess the learned helplessness of adolescent in mathematics.
2. To study the effectiveness of technique of changing thoughts on learned helplessness of adolescents in mathematics.
3. To study the effectiveness of technique of changing behaviour on learned helplessness of adolescents in mathematics.
4. To study the effectiveness of technique of learning to relax on learned helplessness of adolescents in mathematics.
5. To study the effectiveness of overall stress management programme on learned helplessness of adolescents in mathematics.

HYPOTHESES

1. There will be no significant effect of technique of changing thoughts on learned helplessness of adolescents in mathematics.
2. There will be no significant effect of technique of changing behaviour on learned helplessness of adolescents in mathematics.
3. There will be no significant effect of technique of learning to relax on learned helplessness of adolescents in mathematics.

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4. There will be no significant effect of overall stress management programme on learned helplessness of adolescents in mathematics.

SAMPLE

A sample of 200 students of class VIII and IX having learned helplessness in mathematics was selected for the present study. To select the sample of 200 students, a scale of learned helplessness in mathematics was administered on as many students of class VIII and IX of randomly selected Government Schools of Punjab, District Mohali as required to get the desired sample.

DESIGN OF THE STUDY

The present study was experimental in nature. A pre test - post test control group design was used in this study. The effect of three techniques of stress management programme on adolescent's learned helplessness in mathematics was studied. These techniques were changing thoughts, changing behaviour and learning to relax.
The dependent variable in this study was learned helplessness in mathematics and independent variable was stress management programme. A pre test of learned helplessness in mathematics was administered on subjects to select learned helpless subjects for the study before allocating them to experimental group and control group and then a four month treatment was given to the experimental group. After the end of the treatment, post test of learned helplessness in mathematics was administered on both the groups. The difference between the means of pre test and post test was found out for each group and these mean difference scores were compared with the help of t- test in order to ascertain whether the experimental treatment produce a significant effect than the controlled condition.

METHOD AND PROCEDURE

Investigator had first administered the scale of learned helplessness in mathematics on adolescents studying in class VIII and IX to draw out 200 learned helpless adolescents in mathematics and then randomly assign 100 adolescents to experimental and 100 to control group. After that a four months stress management programme (one month for technique of changing thoughts, one month for technique of changing behaviour, one month for technique of learning to relax and one month for all the three techniques) was conducted by the investigator on 100 adolescents of experimental group for 30 minutes per day.
Thereafter investigator had again administered the scale of learned helplessness on both 100 adolescents of experimental group and 100 adolescents of control group. The scores so obtained from both groups were compared to found out the effect of stress management programme on adolescent's learned helplessness in mathematics.

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DELIMITATION OF THE STUDY

1. For the present study, sample was confined to the Government Schools of Punjab, District- Mohali only.
2. Adolescents studying in the class VIII and IX were considered for the study.
3. Effect of stress management programme on adolescent's learned helplessness in mathematics subject was only studied.

TOOLS USED

Following research tools were used in the present study:

1. Stress Management Programme (developed by the investigator herself).
2. Learned Helplessness Scale (developed by the investigator herself).

STATISTICAL TECHNIQUES TO BE USED

Descriptive statistics such as mean, standard deviation, skewness, kurtosis was used to ascertain the nature of distribution of scores. ANOVA and t- test was used to found out interaction among the variables and significance of difference between the means respectively.

RESULTS AND DISCUSSION

Inferential statistics

Table 1. t - ratio statistics obtained for pre-test and post-test scores for changing thoughts

Learned Helplessness		N	Mean	S. D.	t-value	p-value
Experiment	Pre Score	100	225.98	16.99	71.18	p<.01 (Significant)
	Scores after tech. of changing thoughts	100	185.22	11.34		

The above table 1 shows a significant difference in learned helplessness between pre test means and means after technique of changing thoughts in favour of technique of changing thoughts. Since t- value (71.18) was significant at p<.01, it means that by changing thoughts of the adolescent learned helplessness in mathematics can be reduced significantly. So, the null hypothesis that there exists no significant effect of technique of changing thoughts on learned helplessness of adolescents in mathematics has been rejected and alternate hypothesis that technique of changing thought is effective in reducing learned helplessness of adolescents in mathematics has been accepted.

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Table 2. t - ratio statistics obtained for pre-test and post-test scores for changing behavior

Learned Helplessness		N	Mean	S. D.	t-value	p-value
Experiment	Scores after tech. of changing thoughts	100	185.22	11.34	79.44	p<.01 (Significant)
	Scores after tech. of changing behaviour	100	175.45	11.43		

The above table 2. shows a significant difference in learned helplessness between means after technique of changing thoughts and means after technique of changing behaviour in favour of technique of changing behaviour. Since t- value (79.44) was significant at p<.01, it means that by changing behaviour of the adolescent from emotional focused to problem focused, learned helplessness in mathematics can be reduced significantly. So, the null hypothesis that there exists no significant effect of technique of changing behaviour on learned helplessness of adolescents in mathematics has been rejected and alternate hypothesis that technique of changing behaviour is effective in reducing learned helplessness of adolescents in mathematics has been accepted.

Table 3. t - ratio statistics obtained for pre-test and post-test scores for learning to relax

Learned Helplessness		N	Mean	S. D.	t-value	p-value
Experiment	Scores after tech. of changing behaviour	100	175.45	11.43	31.97	p<.01 (Significant)
	Scores after tech. of learning to relax	100	170.01	12.83		

The above table 3. shows a significant difference in learned helplessness between means after technique of changing behaviour and means after technique of learning to relax in favour of technique of learning to relax. Since t- value (31.97) was significant at p<.01, it means that by teaching adolescents how to relax learned helplessness in mathematics can be reduced significantly. So, the null hypothesis that there exists no significant effect of learning to relax on learned helplessness of adolescents in mathematics has been rejected and alternate hypothesis that learning to relax is effective in reducing learned helplessness of adolescents in mathematics has been accepted.

Table 4. t - ratio statistics obtained for pre-test and post-test scores for overall stress management programme (all the three techniques)

Learned Helplessness		N	Mean	S. D.	t-value	p-value
Experiment	Scores after tech. of changing behaviour	100	170.01	12.83	37.96	p<.01 (Significant)
	Scores after tech. of learning to relax	100	166.59	12.93		

The above table 4. shows a significant difference in learned helplessness between means after technique of learning to relax and means after overall stress management programme (a

combination of all the above technique) in favour of overall stress management programme. Since t- value (37.96) was significant at p<.01, it means that by providing training on all the above techniques of stress management learned helplessness in mathematics can be reduced significantly. So, the null hypothesis that there exists no significant effect of overall stress management programme on learned helplessness of adolescents in mathematics has been rejected and alternate hypothesis that overall stress management programme is effective in reducing learned helplessness of adolescents in mathematics has been accepted.

Table 5. Repeated Measure ANOVA to test within subject effect of techniques of stress management programme on Learned Helplessness

Tests of Within-Subjects Effects					
Source	**Sum of Squares**	**Df**	**Mean Square**	**F-value**	**p-value**
Techniques	233362.700	4	58340.675	9598.615	p<.01 (Significant)
Error	2406.900	396	6.078		

F-value obtained for techniques shows a high significant value (F= 9598.615, p<.01) implying all adolescents have shown a reduction in their learned helplessness in mathematics after providing stress management programme.

IMPLICATION OF THE STUDY

This study has useful implication not only for adolescents studying mathematics but for all those who face the problem of learned helplessness in any phase of life, whether at home or at play ground. If these people learn how to cope with their stress or deal with the stress combating activities by learning stress management techniques, learned helplessness can be reduced.

CONCLUSION

To conclude, we can say that techniques of stress management i.e. changing thoughts, changing behaviour and relaxation therapies are effective not only to combat stress prevailed in the academic life of adolescents but also to reduce the helpless feeling which decrease their overall academic functioning.

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