

EFFECT OF MIX DRILL AND CALISTHENIC EXERCISES TRAINING ON PHYSICAL STRESS OF SCHOOL STUDENTS OF MUMBAI

Dr. Rajendra N. Shelke

Assistant Professor, B.P.C.A's College of Physical Education,
Wadala, Mumbai.

INTRODUCTION

The conservation of health, the provision of strength and endurance, the development of neuromuscular coordination is required for development, grace and effective moment. In school emphasize is to be given on the proper coordination between movement pattern. The aspect of agility, balance, and coordination in the early teen age plays a vital role in bringing effectiveness in motor skills.

Physical Education aims at the promotion of proper growth and development of organic system. In school emphasize is to be given on the proper coordination between movement pattern. Performing various drills of Indian indigenous activities such as callisthenic exercises, wands, dumbbells, Lezim, Flag, Hoops, develops the coordination, balance and agility as well as strength and flexibility in the growing stage of the children or child. This drill with various other equipments and if performed in a mass will increase the aesthetic senses, creating cordial atmosphere in the education system. The combination of two, three or more properties, if performed together with various inter simultaneously movements increases the activity and is called as mix drill.

HYPOTHESES

H01: There is no signification difference in adjusted mean scores of Physical Stress of school student of callisthenic exercises, mix drill training group and control group by taking pre Stress as a covariate.

OBJECTIVES OF THIS STUDY

1. To compare the adjusted mean scores of Physical Stress of school student of callisthenic exercises, mix drill training group and control group by taking pre Stress as a covariate.

LIMITATION OF THE STUDY

The following limitations are considered for the study.

- There was no control on day to day activity of the subject for experimental as well as control group.
- There was no control on diet of subject of experimental and control
- There was no control on standard of living of the school student of Shree SarwajanikBalmandir High School, Cotton green, Kalachowki.

DELIMITATIONS OF THE STUDY

- The study was restricted to only six weeks training programme.
- The study was delimited to the boys student of Shree SarwajanikBalmandir High School, Cotton green, Kalachowki.
- Aged 12 To 15 Years.
- The study was delimited only to stress
- The study was delimited only to selected callisthenic, Mix Drill exercises

METHODOLOGY

The purpose of this study to see the effect of mix drill training on Stress of school student of Mumbai. The subject was divided in to two groups i.e. Mix Drill training group (Experimental Group) and Non-mix drill training group (Control group) for testing the effect of callisthenic mix drill training program.

SELECTION OF POPULATION AND SAMPLE

A sample of forty (n=40) boys students were randomly selected for the studies of age ranging between 12-15 were identified as subject from Shree SarwajanikBalmandir High School, Cotton green, Kalachowki.Mumbai. Training was restricted to only experimental group 1 hour per day for 5 days per week for a total period of 6 weeks.

Further, they are divided in two equal groups.

Group “A” = Exercise Group (Experimental Group n=20)

Group “B” = Non- Exercise Group (Control Group n=20)

TABLE 3.2.1 Selection of sample.

Group	No of students
Exercise Group (Experimental Group)	20
Non Exercise Group (Experimental Group)	20
Total	40

SELECTION OF VARIABLES

- **DEPENDENT VARIABLES**

The following Coordination and Stress variables are considering as dependent variables of the present study.

1. **Stress**

2. **STRESS**

- Physical stress

- **INDEPENDENT VARIABLES**

The callisthenic, Mix drill training was consider as an independent variable for the

Present study which includes following aspect.

- **Dumbbell Drill**

- Upper NeecheThok

- Kamar Zuk

- **Flag Drill**

- Cross Flags In Front Of Chest

- Raise Arms Sideward.

RELIABILITY OF DATA

The reliability of data was taking the consideration the factors such as reliability of test, tools as well as test are competency.

RELIABILITY OF TEST

All the test were standardized, the test were used for the data collection referred by the book entitled a practical Approach to Measurement and evaluation written by Kansal, D.K. (2012)

RELIABILITY OF TOOLS

Tools such as Measuring Tape, Stopwatch, yoga mat, football, and whistle has been used for test and it is standardized. The required instruments were taken from the research laboratory of B.P.C.A's College of Physical Education, Wadala Mumbai - 400031.

TESTERS COMPETENCY

The research scholar is knowledgeable and capable of using the tools and applying them to the test. The other testing personnel assisting the study are equality capable.

PSYCHOLOGICAL VARIABLE

STRESS

TEST ADMINISTRATION

The questionnaire was administrated to all the subjects with request that they shall give correct and accurate answers. All the subjects were given necessary instruction, on the basis of instructions given in the questionnaire. Subjects were told that not give answer right or wrong and they should express their frank opinion as what they feel about themselves according to each question of the questionnaire Proper instruction regarding the objectives of the study and procedure for filing in the questionnaire was also given. All subjects were agree to concentrate and be cooperative to the research scholar. The subjects were also instructed to write their names, age, gender and state on the questionnaire was distributed at the time in order to ensure that they have The data was collected on each subjects separately. The subjects were given help in understanding the language of the questionnaire, whenever required. Students are given the Stress Scale questionnaire along with pen/pencil

Method

Item Analysis

Original, 67 items were written and submitted to the group of language experts who made necessary corrections and modification. Subsequently, they were submitted to a group of expert (college teachers) of Psychology for expressing their judgment but the suitability of the contents of the item. Out of the 67 items, 54 reached common consensus. Then the scale was administrated on 300 adolescent and scored were obtained. The responses was to be given in either 'yes' or 'no'. Score of + 1 and 0 was given. The answer

of this item which tallied with answer given in the scoring key were given a score of +1. If they didn't Tally, they were given a score of zero. The responses of the subject on each item was scored and a total score where obtained. Following it, items analysis where done by using point-biserial correction (Singh, 2013). Out of the 54 items, only 40 items are found significant, some at .01 and other at .05 level. Finally a set of those 40 items wear retained for stress scale for adolescence. Items provided for each dimensions.

Part	Area	Total No. of items	Total
I	Physical stress	2,9,15,16,21,22,27,28,29,32,34,35,36,38	14
II	Pressure	1,3,30and39	4
III	Anxiety	6,8,14,17,18,19,20,23,25,31,33,37&40	13
IV	Frustration	4,5,7,10,11,12,13,24&26	9
Total			40

Scoring:

The answers of those items which tally with the answers given in the scoring key are given a score of +1. If they did not tally, they are given a score of zero. Positive items are given a score of +1 on 'Yes' and zero on 'No' and negative items are given +1 on 'No' and zero on 'Yes'. Higher the score, greater is the level of stress.

Item	Yes	No
Positive	1	0
Negative	0	1

Scoring Table

Sr No.	Dimensions	Items	Serial wise items No.	TOTAL	
1.	Pressure	Positive	2, 9, 15, 16, 22, 27, 28, 29, 32, 34, 36, 38	12	14
		Negative	21, 35	2	

2.	Physical stress	Positive	1, 3, 30, 39	4	4
		Negative	----	---	
3.	Anxiety	Positive	6, 8, 14, 17, 18, 19, 20, 23, 25, 31, 33, 37, 40	13	13
		Negative	----	---	
4.	Frustration	Positive	4, 5, 7, 10, 11, 12, 13, 24, 26	9	9
		Negative	----	---	
Total			40		

Reliability

The test re-test reliability was found to be .82, which was significant at .0.01 level.

Validity

Stress scale was validated against the following scales :

- 1.Singh’s Personal Stress Source Inventory (2004) and the resulting validity coefficient was 0.72.
- 2.With stress dimension of Anxiety, Depression and Stress Scale by Bhatnagar et al.(2011)and the resulting validity coefficient was 0.83.

4.3 RESULTS ON PSYCHOLOGICAL VARIABLES

4.3.1 TREATMENT WISE COMPARISON OF ADJUSTED MEAN SCORES PHYSICAL STRESS OF MIX DRILL TRAINING GROUP AND CONTROL GROUP.

The Second objective was to compare adjusted mean scores of Physical Stress of Students of Mix Drill Training Group and Non-Mix Drill Training Group by taking Pre-Physical Stress as Covariate. The data were analyzed with the help of One Way ANCOVA and results are given in Table 4.3.1.

TABLE 4.3.1: Summary of One Way ANCOVA of Physical Stress by taking Pre-Physical Stress as Covariate

Source of Variance	df	SSy.x	MSSy.x	Fy.x	Remark
Group	1	27.20	27.20	23.32	p<0.01
Error	57	66.48	1.17		
Total	59	93.73			

From Table 4.3.1 it can be seen that the adjusted F-value is 23.32 which is significant at 0.01 level with $df=1/59$ when Pre-Physical Stress was taken as covariate. It shows that adjusted mean scores of Physical Stress of Students of Mix Drill Training Group and Non-Mix Drill Training Groups differ significantly when Pre-Physical Stress was taken as covariate. Thus, the Null Hypothesis that there is no significant difference in adjusted mean scores of Students of Mix Drill Training Group and Non-Mix Drill Training Group by taking Pre-Physical Stress as covariate is rejected. Further, the adjusted mean score of Physical Stress of Mix Drill Training Group is 0.59 which is significantly higher than that of Non-Mix Drill Training Group where adjusted mean score of Physical Stress is 1.94. It may, therefore, be said that Mix Drill Training was found to be effective in decreasing Physical Stress of Students of Mix Drill Training Group than Non-Mix Drill Training Group Where Pre-Physical Stress was taken as covariate. The result is also graphically presented in figure 4.2

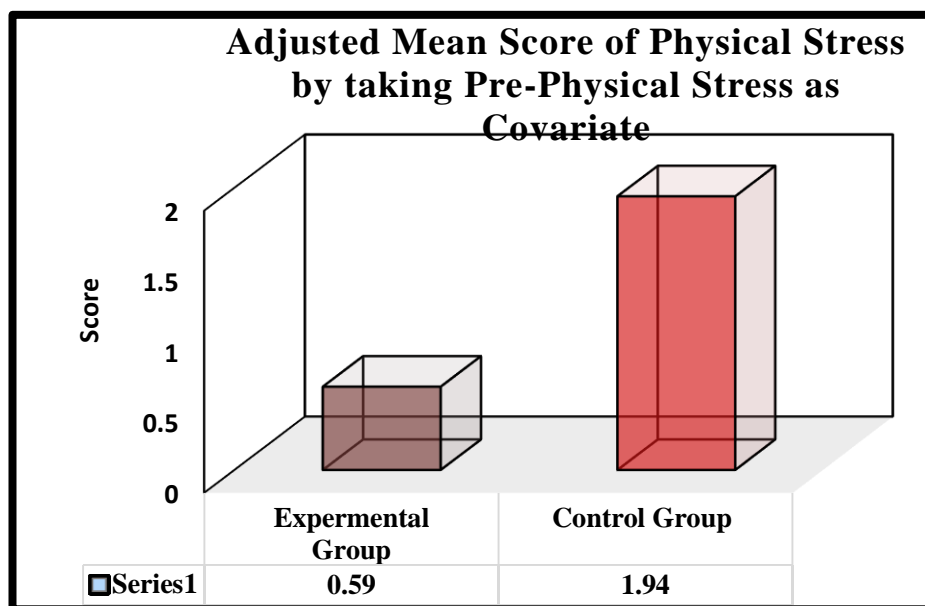


FIGURE 4.2 Comparison of Adjusted Mean Scores of Physical Stress between Experimental and Control Group

Qualitative interpretation

Top obtained final score of stress scale of Adolescents can also be qualitatively interpreted easily with the help of following Table 5 and 6 for the two sex group. The subject have been classified into three categories viz. High, moderate and low level of stress on the basis of the raw scores for each dimension separately and also for a total score on the stress scale. In case of the means score, the decimals shall be converted to whole number as per as per rule. The interpretation is given as follow:

Qualitative interpretation of stress scale score for adolescent boys:

Dimensions	Level of stress		
	High	Moderate	Low
Pressure	7and above	3 to 6	0 to 2
Physical stress	3and above	2	0 to 1
Anxiety	7and above	4to 6	0 to 3
Frustration	6and above	3 to 5	0 to 2
Over all stress	22and above	12 to 21	0 to11

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