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Effects of aerobic dance with brain gym on selected psychological variables among school girls

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Abstract

The purpose of the study was to find out the Effects of combination of aerobic dance and brain gym on selected psychological variables among school girls. The study was formulated as pre and posttest random group design. The selected subjects were the participants of the school girls in the Trichy district. The age of the subjects for the study was ranged in between 14 to 18 years. The subjects were randomly selected and divided into three equal groups - Group I aerobic dance with brain gym and Group II control group and each group consisting of 15 subjects, totally 30 subjects. The selected subjects were initially tested on the criterion variables are anxiety, stress and self esteem used in the study and it is considered as the pre-test. After assessing the pre-test, the subjects belonging to the aerobic dance, the group I treated aerobic dance with brain gym and the group II control group was not given specific training. The collected data were statistically analyzed with a paired (sample) t test to find out the significant improvement between pre and post-test of all the groups. The groups during the experimental period of twelve weeks to the criterion measures were tested for the significance by applying t test at 0.05 levels. It was considered as sufficient for the study. Before and after training the pre-test and the post test was conducted for the two groups. Subjects in the experimental groups were treated with the respective treatment for three days a week for the duration of 12 weeks. After completion of the treatment period all the subjects were again tested on the criterion variables and considered as the post test. It was concluded that the group I aerobic dance with brain gym after 12 weeks training showed a significant improvements on the selected psychology variables.

Keywords: Aerobic training, brain gym and psychology

Introduction

Teachers have been looking for ways to maximize student attention, interest in learning and motivation to succeed. Teachers have tried a variety of strategies to attain this goal. One way some teachers have attempted to do this is to incorporate movement into their classrooms. There are many reasons why physical movement can have such a positive impact. Recent research has shown that incorporating physical movement into student learning helps to awaken different parts of the brain. Some advances in science have allowed researchers to better understand the brain, brain function and how movement influences both. Brain research tells us that the brain is composed of two hemispheres. These two hemispheres include the right hemisphere, which sends information to the left hemisphere, and the left hemisphere, which sends information to the right hemisphere. The constant sharing of information is made possible by nerve cells and fibers that make up the nervous system (Templeton & Jenson, 1996). Templeton and Jenson also found that typical teaching strategies tend to over rely on left-sided techniques and activities (1996). With teaching strategies that focus on the left-side of the brain, one may wonder how we are reaching students whose learning style favors the right side of the brain.

Teachers need to take into consideration that the brain has parallel processes. While one side of the brain is used for more creative thinking and artistic expression, the other is more analytical and logical. Although these processes occur in different parts of the brain, when students learn, they need to be able to access and use both processes simultaneously. The needs of each student are very different and knowledge of how they learn is crucial to developing activities and lessons that will allow them to attain knowledge.

In order to meet the needs of all learners, teachers need to use a plethora of methodologies. By incorporating a variety of methods, the brain is able to find patterns in seemingly random information. This helps to make information more logical and meaningful (Reardon, 1999). One method that has been strongly tied to increasing student learning is incorporating movement into educational practices.

Physical fitness is the body's ability to function efficiently and effectively. It is a state of being that consists of at least five health-related and six skill-related, physical fitness components, each of which contributes to the total quality of life. Physical fitness is associated with a person's ability to work effectively, enjoy leisure time, be healthy, resist hypokinetic diseases, and meet emergency situations. It is related to, but different from, health and wellness. Although the development of physical fitness is the result of many things, optimal physical fitness is not possible without regular physical activity. The five components of health-related physical fitness are body composition, cardiovascular fitness, flexibility, muscular endurance and strength. Each health related fitness characteristic has direct relationship to good health and reduced risk of hypo-kinetic disease (Corbin, 2000).

Aerobic Dance

Aerobic dance is a fitness sport that combines the health and figure benefits of jogging with the fun of dancing. Aerobic dancing is a fun way to get fit. It combines fat burning aerobic movements, muscle building exercises and stretching into routines that are performed according to music. It is a series of callisthenic exercise otherwise she is going beyond her safe limits. At this rate conversation is easy performing an aerobic activity (Virginia, 2002).

Aerobic activities include walking, jogging, bicycling, dancing and swimming etc. anything that involves the large muscle groups, which sustains for thirty minutes or longer, is considered aerobic. It should be done a minimum of five days a week for at least thirty minutes each session. Aerobic exercise is the exercise that involves or improves oxygen consumption by the body. Aerobic means "with oxygen", and refers to the use of oxygen in the body's metabolic or energy-generating process. They are several kinds of aerobic exercise which are performed at moderate levels of intensity for extended periods of time. To obtain the best results, an aerobic exercise session involves a warming up period, followed by at least 20 minutes of moderate to intense exercise, involving large muscle groups, and a cooling down period at the end.

Brain GYM

Brain Gym is a system of simple movements that relieve stress naturally and quickly enhance brain function. Simply put, "Brain athletic facility is moving your body to awaken your brain." Brain athletic facility was developed by Paul Dennison, Ph.D within the early Nineteen Seventies. It's practiced in over eighty eight countries, with courses translated into fifteen languages. Brain athletic facility integrates the left and right neural structure functions of the brain. It draws out innate gifts and talents and brings about "whole-brain" learning. It controls emotional stress that is so often created in new learning situations. Brain Gym addresses

the physical components of learning -- the auditory, visual, fine motor and postural skills.

Statement of the problem

The purpose of the study was to find out the effects of combination of aerobic dance with Brain gym on selected Psychological variables among school girls.

Hypotheses

The hypotheses formulated in the present study are as follows

1. It was hypothesized that there would be significant improvement on selected variables due Aerobic dance with Brain gym among high school girls.
2. It was hypothesized that the Aerobic dance with Brain gym will be more significant improvement than control group on selected variables among high school girls.

Methodology

The selected subjects were the participants of the school girls in the Trichy District. The age of the subjects for the study was ranged in between 14 to 18 years. The subjects were randomly selected and divided into three equal groups namely Experimental group-I, Aerobic dance with Brain gym (ADWBG) and Group-II and Control Group (CG) each consisting of 15 subjects. The selected subjects were initially tested on the criterion variables used in the study and it was considered as the pre-test. After assessing the pre-test, the subjects belonging to the subjects belonging to the experimental group-I were treated with the aerobic dance with Brain gym. As far as the subjects in the group II - Control Group (CG) was concerned they were not given any specific training. Subjects in the experimental groups I were treated with their respective treatments for five days and for a duration of 12 weeks. After completion of the treatment period, all the subjects were again tested on the criterion variables and considered as the post test.

Dependent variables

Sedentary life style has become the norm of the day leading to many ailments. Dance is a great form of exercise that can positively affect many aspects of the physical and mental health of human. Thus the investigator selected the following dependent variables for the study.

Psychological variables

1. Anxiety
2. Stress
3. Self esteem

Independent variables

The investigator understand the values of Aerobic dance, Aerobic dance with Brain Gym and Aerobic dance with Yogasana was interested to find whether the combination of Aerobic dance, Brain Gym and Yogasana will bring out positive changes in selected physical, physiological and psychological among high school girls. Hence, in this study of Aerobic Dance, Aerobic dance with Brain Gym and Aerobic dance with Yogasana were selected in different combination as independent variables. They were Aerobic dance with Brain gym (ADWBG).

Table 1: Training programme for experimental groups

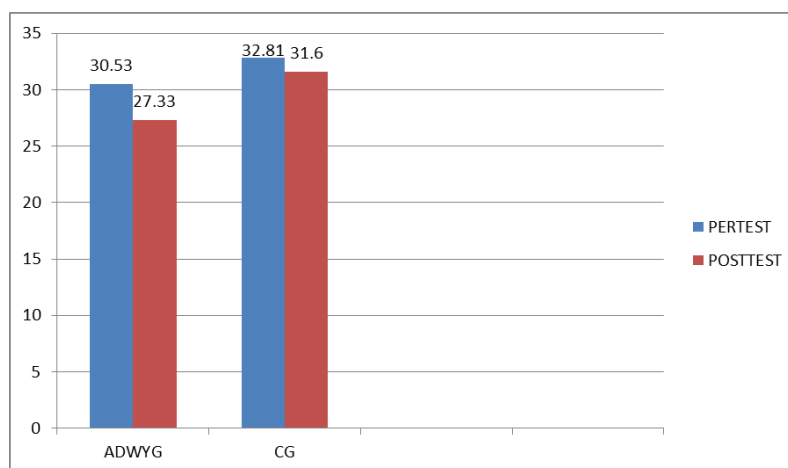
S. No	Name of the group	Duration	Frequency	Sessions
1.	Experimental group-III Aerobic Dance with Brain gym Training Group (ADWYTG)	12weeks	Five days per week	one

Sixty women school girls were divided into four groups namely, Experimental Group I - Aerobic dance with Brain gym Training Group (ADWBG TG) and group II - Control Group (CG). Each group consists of 15 subjects. To test the significant changes made from the base line to post-test on all the groups individually, the ‘t’ ratio was applied. The significance of the means of the obtained test results was tested at 0.05 level of confidence. It was considered as sufficient for the present study.

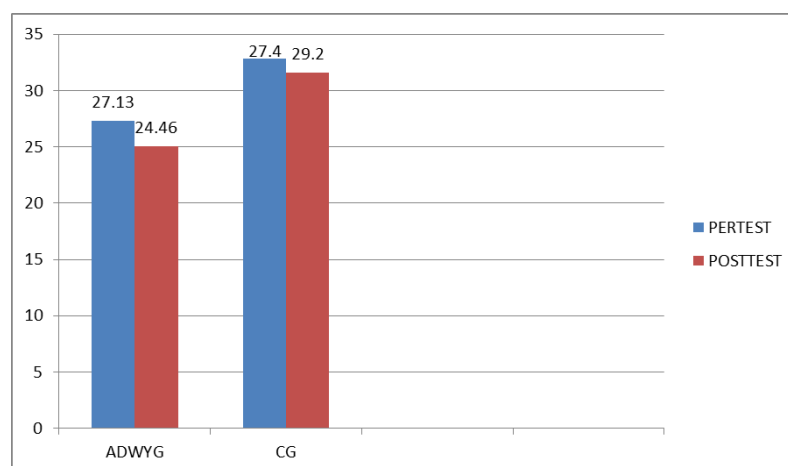
Table 2: Pre-Test and post-test mean values of aerobic dance with brain gym training group on selected psychological variables among school girls

Group		Pre-Test	Post-Test	Md	Sd	Sem	t-ratio
ADWBGG	Anxiety	30.53	27.33	3.20	1.52	0.39	8.15*
Control		32.81	31.6	0.40	1.12	0.28	1.38*
ADWBGG	Stress	27.13	24.46	2.66	0.81	0.21	12.64*
Control		27.4	29.2	1.80	2.48	0.64	2.80*
ADWBGG	Self esteem	11.26	12.6	1.33	0.89	0.23	5.73*
Control		10.51	9.93	0.60	0.98	0.25	2.35*

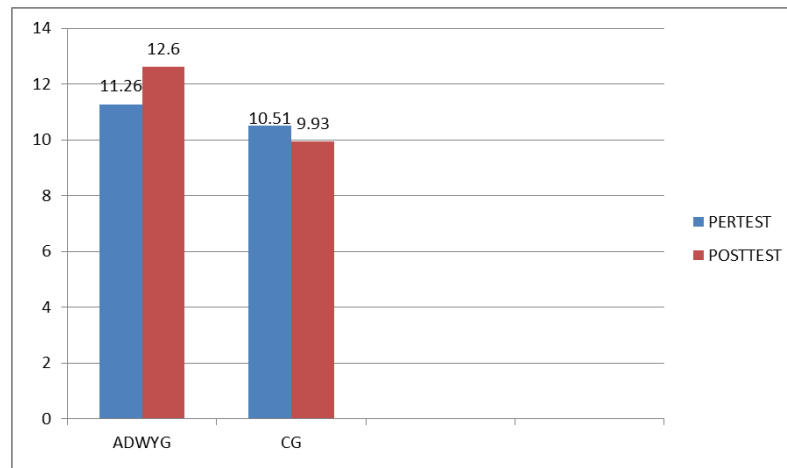
The Table-I reveals that the pre and posttest values of aerobic dance, combination of aerobic group with yogasana group and control group on selected psychological variables namely anxiety, stress and self-esteem. The pre-test mean values of combination of aerobic dance with brain gym group are 30.53, 27.13 and 11.26 respectively. The pre-test mean values of control group are 32.81, 27.4 and 10.51 respectively. The post-test mean values of combination of aerobic dance with brain gym group are 27.33, 24.46 and 12.6 respectively. The post-test mean values of control group are 31.6, 29.2 and 9.93 respectively. The obtained t-values of aerobic dance with brain gym group are, 8.15, 12.64 and 5.73 respectively. The required table value was 2.02. Since the obtained t-ratios are greater than the required table value at 0.05 level of confidence there were significant difference, between pre and posttest values of psychological variable among school girls. The obtained t-values of control group are 1.38, 2.80 and 2.35 respectively. The required table value was 2.02. Since the obtained t-ratios are less than the required table value at 0.05 level of confidence there were insignificant differences, between pre and post-test values of psychological variable among school girls.



Graph 1: Graphical representation shows the pre test and post test mean values of experimental groups and control group on anxiety



Graph 2: Graphical representation shows the pre test and post test mean values of experimental groups and control group on stress



Graph 3: Graphical representation shows the pre test and post test mean values of experimental groups and control group on stress

Discussion on Findings

Having such salient features the investigator has intended to varied combination of aerobic dance, brain gym and brain gym on selected psychological variables among school girls. It was tested under two different forms namely experimental group-I Aerobic dance with brain gym (ADWBG) and group II control group. Aerobic dance with brain gym group (ADBGG) and control group (CG-group-III) on criterion variables from their base line to post treatment, the treatment groups I, II produced significant effects.

The result of the study showed that the Aerobic dance with brain gym group would have significant improvement on selected psychological variables namely stress, self-esteem and anxiety of school girls.

Conclusion

- In light of the above findings of the present study the following conclusions have been made. It was conclude that the aerobic dance with brain gym produced a significant improvement on selected psychological variable namely anxiety, stress and self esteem school girls.
- It was concluded that the control group will not be significant improvement on selected psychological variable namely anxiety, stress and self esteem school girls.

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