A COMPARATIVE STUDY ON SELECTED FITNESS COMPONENTS BETWEEN DANCER AND NON DANCER GIRLS

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ABSTRACT:

Dance is one of the activities we can choose for improving our fitness and health. There are numerous styles of dance, each with its own attractions. The creative and collaborative nature of dance can bring further benefits by improved general and psychological well-being, greater self-confidence and self-esteem. Dance is a form of art that normally involves rhythmic movement of the body and accompanied with music. Dance can be a very effective way of establishing a lasting healthy living. This study was to find out the differences on endurance, balance, leg strength, and flexibility between dancer and non dancer girls and if there was any contribution of dance with respect to the following fitness components. So the purpose of the present research was to compare the fitness level of dancer and non-dancer. The research was causal-comparative and the sample consists of 50 students (14-16 years of age) who were selected using convenience sampling from a school of kolkata region.The researcher selected 25 girls who were regularly involved in dance and 25 girls who were never involve themselves in formal dancing classes. Researcher incorporated 600 yard run-walk for endurance test, and standing broad jump for leg strength, sit and reach test and stork stand balance tests for assessment of flexibility and balance respectively. Result showed that the impact of dance practice on the various physical and physiological systems of the body was in a high level.

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I. Introduction

Dance, the movement of the body in a rhythmic way, usually to music and within a given space, for the purpose of expressing an idea or emotion, releasing energy, or simply taking delight in the movement itself. Dance is a powerful impulse, but the art of dance is that impulse channeled by skillful performers into something that becomes intensely expressive and that may delight spectators who feel no wish to dance themselves. These two concepts of the art of dance—dance as a powerful impulse and dance as a skillfully choreographed art practiced largely by a professional few—are the two most important connecting ideas running through any consideration of the subject. In dance, the connection between the two concepts is stronger than in some other arts, and neither can exist without the other.

The English ballet master John Weaver, writing in 1721, argued on the other hand that "Dancing is an elegant, and regular movement, harmoniously composed of beautiful Attitudes, and contrasted graceful Posture of the Body, and parts thereof." The 19th-century French dance historian Gaston Vuillier also emphasized the qualities of grace, harmony, and beauty, distinguishing "true" dance from the crude and spontaneous movements of early man:

Effects of Dance:

Dance provides students with opportunities to develop a clearer sense of their identity.

It involves physical learning. It has positive effect on different physical fitness components. It is learning by doing, through the creation and invention of movement. .

Dance fosters innovation and risk-taking. It encourages students to break free from the "rules" of learning to really think on their feet and find new methods of expression.

Dance prepares students for a wide variety of real-world situations. Students learn to be responsive and adapt to different learning situations.

Dance teaches skills for project management and people management, working to task briefs and deadlines, utilizing technologies, and problem solving.

In dance, students explore their ideas, thoughts, and emotions in a safe social and fun environment.

Dance develops students' literacy and numeracy in active and functional ways as they explore a wide variety of vocabularies and texts. They write dance with their bodies and read dance with their eyes and minds.

Students experiment with shapes, patterns, and formations. They explore structures and time.

Dance is the embodiment of learning. It takes learning off expresses it through the body. And definitely effect the different physical fitness components.

Positive effects have been observed in various areas like flexibility, strength and endurance, balance. Recent studies have shown that dance fitness workout can increase the heart rate up to 65-85 percent. Dancing not only beneficial for cardiovascular health it also helps shape the body and weight loss. Flexibility is the range of motion in a joint or group of joints, or, the ability to move joints effectively. Flexibility is related to muscle strength. Flexibility can be improved with stretching exercises. While stretching does not increase your muscle strength, it is an important part of reducing injury risk and soreness that results from activity. Dancing that improve flexibility feature moves that stretch muscles, tendons, and ligaments. Dancing requires a great amount of flexibility. Dancers must strive to achieve full range of motion for all the major muscle groups. Most forms of dance require dancers to perform moves that require bending and stretching, so dancers naturally become more flexible by simply dancing. Strength is defined as the ability of a muscle to exert a force against resistance. Dancing builds strength by forcing the muscles to resist against a dancer's own body weight. Endurance is the ability of muscles to work hard for increasingly longer periods of time without fatigue. Regular dancing is great for improving endurance. Balance can be defined as the ability to maintain the body's center of gravity over its base of support within minimal way or maximal steadiness (Emery, 2003) and is distinguished into static and dynamic. Static balance is the ability to balance on a stable surface without any other movement, whereas dynamic balance is the ability to balance on a moving surface or to maintain balance while moving (Fleishman, 1972).Balancing ability can also be effected by various dancing movements and dynamic postures.

Purpose of Study:

1. The main purpose of my study is to find out the differences on strength, endurance, flexibility and Balance between Dancer and Non-Dancer girls.
2. To find out the contribution of Dance with respect to the fitness components.

Statement of problem: The main purpose of my study is to find out the differences on strength, endurance, flexibility and balance between Dancer and Non-Dancer girls. Accordingly the title was stated as "**a comparative study on selected fitness components between dancer and non dancer girls".**

II. Methods and Materials:

The Subject

The research was causal-comparative and the sample consists of 50 students (14-16 years of age) who were selected using convenience sampling from a school of kolkata region. The researcher selected 25 girls who were regularly involved in dance and 25 girls who were never involve themselves in formal dancing classes.

Criterion measure:

Researcher incorporated 600 yard run-walk for endurance test, and standing broad jump for leg strength, sit and reach test and stork stand balance tests for assessment of flexibility and balance respectively.

Tools used:

- Electronic Stop watch
- Sit and Reach table
- One Measuring tape
- Clapper and finishing point.

Standing broad jump

A long jump pit was prepared for conducting the test. The take-off line was marked. The subject took position behind this line and jumped in forward direction as far as possible. The distance of the jump was measured of three trials and the best performance was considered as his performance.

Procedure for Stork Stand Test:

Purpose: to measure the static balance of the performer.

Procedure: From a stand on the foot of the dominant leg , place the other foot on the inside of the supporting knee and place the hands on the hips. Upon a given signal, raise the heel from the floor and maintain the balance as long as possible without moving the ball of the foot from the initial position or letting the heel touch the floor.

Scoring: The scoring is the greatest number of seconds counted between the time the heel is raised and the balance is lost On three trials with the preferred foot. Only the highest score is recorded.

The Sit and Reach Test is conducted as follows

Purpose : To evaluate flexibility of the lower back and the hamstring muscles.

Procedure: Students should warm up by stretching the low back and hamstring by performing slow, sustain steady stenches. Have students remove shoes and sit at the test apparatus with knees fully extended hill should be about a shoulder width apart, and feet should be flat against the box. Arms are extended forward palms down, with one hand on top of the others. Students then lean forward extending the fingers tips along the ruler as far forward as possible. Four trials are taken, the four trial should be held for at least one second.

Scoring: The score, measure to the nearest to cm. is the most distance point reach the four trial by both hand held for one second.

600 yard run-walk

Purpose: to measure endurance.

Procedure : The girls run individually. With sound of clapping the girl started to run and stop watch started to take time ant it stop when the girl touch the finishing line of 600 yrds.

Scoring: The score is the elapsed time in minutes and seconds.

Results The results and discussion on the findings of the different physical fitness components were measured for the study are presented below.

Mean and standard deviation of the scores of the girls are presented in table 1.

Table - 1: Descriptive statistics of different physical fitness components

Variables	Groups	Number	Mean	Standard deviation
Balance	Dancer	25	16.56	3.01
	Non Dancer	25	11.84	3.06
Flexibility	Dancer	25	5.83	2.08
	Non Dancer	25	3.96	1.93
S B J	Dancer	25	1.63	0.13
	Non Dancer	25	1.54	0.15
Endurance	Dancer	25	2.35	0.11
	Non Dancer	25	2.43	0.22

T test was applied to compare the ability in strength, endurance, balance and flexibility between dancer and non dancer girls.The results are presented below

Table – 2 t-test on different physical fitness components between dancer and non dancer.

Variables	Groups	Number	DF	SED	"t" Value
Balance	Dancer	25	48	0.84	5.54*
	Non Dancer	25			
Flexibility	Dancer	25	48	0.56	3.33*
	Non Dancer	25			
S B J	Dancer	25	48	0.04	2.00
	Non Dancer	25			
Endurance	Dancer	25	48	0.04	2.25*
	Non Dancer	25			

*t value is significant at 0.05 level.

The table-2 showed that significant difference on the variables between the Dancer and Non-dancer girls were found. According to descriptive statics the variables showed difference which cleared from mean values presented in table no.1 and t value was significant for balance, flexibility and endurance but somehow it was cleared that the difference was not statistically significant in case of strength though the t value was 2.00 which is quite closer to significant value at 0.05 level. Thus it can be said from the above discussion that dance obviously have some positive impact on the fitness variables endurance , strength balance and flexibility.

Discussion and Conclusion

The results of the present research show that endurance of dancer is significantly higher than that of the non-dancer. It is concluded that dance positively influence the cardiac function with respect to cardio respiratory endurance. This finding is consistent with the results of S. Sabaananth. Perhaps years of competitive experience and higher practice can be the reasons that justify this finding of the research. Also a significant difference was observed between the dancer and non-dancer in terms of flexibility and balance as a component of physical fitness. The results of this study, involving dancer, gave some positive answers. Namely, the proprioceptive system, on a conscious level, enables the correct function of the loco-motor one, because it gives the correct information about the position of the body, or some parts of the body in space (kinesthetic sense). We are aware of our movements and we can direct our attention to the fine details of sensory awareness at any time, as we do when we pay attention to all the specific movements in dance. At a subconscious level, it retains muscle tonus, which automatically affects joint stabilization and the maintenance of a balanced position. It is especially expressed in situations of sudden changes in muscle contractions made because of unexpected changes in the movements of the entire body or some of its parts **(**Adriana Ljubojević1, Snežana Bijelić1, Meta Zagorc e.t.c,2012) . There was found no significant difference between the performance of dancer and non dancer girls in leg strength.

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