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A comparative study on agility and co-ordination of sports players and dancers trainees

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Abstract

The purpose of the study was to find out the comparative study on agility and co-ordination of sports players and dancers trainees of Alva's education foundation during 2020-2021. The study has been conducted on 100 male subjects 50 from sports player and 50 from dancers trainees. The subjects were selected Alva's foundation college Moodbidre. The age of the subjects ranged between 18n to 25 years. The study was conducted on the agility and coordination. The data was collected through Alternate hand wall toss and agility test was taken of t test. To find out significant difference among the group the group independent t test was used with the help of SPSS software. The level significance chosen was 0.05. After the analysis, it was revealed that there was significant differences were found that there is significant difference in Co-ordination and Agility between Dancer and Sports player.

Keywords: Agility, coordination, sports player, dancers trainees

Introduction

Sport pertains to any form of competitive physical activity or game that aims to use, maintain or improve physical ability and skills while providing enjoyment to participants and, in some cases, entertainment to spectators. Sports can, through casual or organized participation, improve one's physical health. Hundreds of sports exist, from those between single contestants, through to those with hundreds of simultaneous participants, either in teams or competing as individuals. In certain sports such as racing, many contestants may compete, simultaneously or consecutively, with one winner; in others, the contest is between two sides, each attempting to exceed the other. Some sports allow a "tie" or "draw", in which there is no single winner; others provide tie breaking methods to ensure one winner and one loser.

The classic text of dance and performance arts that has survived is the Hindu text natya shastra, attributed to sage Bharata. He credits the art his text systematically presents to times before him, ultimately to Brahma who created Natya-veda by taking the word from the Rig Veda, melody from the Samaveda, mime from the Yajurveda, and emotion from the Atharva Veda. The first complete compilation of natya shastra is dated to between 200 BCE and 200 CE, but estimates vary between 500 BCE and 500 CE. The most studied version of the Natya Shastra text consists of about 6000 verses structured into 36 chapters. The classical dances are rooted in natya shastra. India has a number of classical Indian dance forms, each of which can be traced to different parts of the country. Classical and folk dance forms also emerged from Indian traditions, epics and mythology (A.C. Bhaktivedanta Swami Prabhupad, Bhagavadgita, 1986.).

Coordination

The definition of coordination is the ability to execute smooth, accurate, controlled motor responses (Optimal interaction of muscle function). Coordination is the ability to select the right muscle at the right time with proper intensity to achieve proper action. Coordinated movement is characterized by appropriate speed, distance, direction, timing and muscular tension. It is the process that results in activation of motor units of multiple muscles with simultaneous inhibition of all other muscles in order to carry out a desired activity.

Agility

For many years, agility has been considered to be the ability to execute fast movements and to stop and restart rapidly.

As a result, the majority of agility research has been devoted to pre-planned, change of direction speed tests. These tests (Illinois Agility Run, Shuttle Run test, Zig Zag Test, 505 Agility test, Hexagon test, Quadrant Jump Test, T-Test, 10 meter shuttle, Quick Feet Test, Side-step Test, 20 Yard Shuttle, Agility Cone Drill, 3-Cone Drill, Box Drill, AFL Agility Test, Arrowhead Drill, 20 Yard Agility, Balsom Agility Run, Lane Agility Drill, Shuttle Cross Pick-Up, etc.) have been proposed to measure speed and agility. Although there is great variation among the tests used, most of them do not involve reactions to stimuli, and therefore do not evaluate the cognitive component of agility performance.

However, many sports (soccer, basketball, tennis, ice hockey, badminton, racquetball/squash, volleyball, baseball/softball, lacrosse, American football, wrestling, boxing, fencing) which are ranked highest for agility require changes of direction in response to a stimulus (e.g., movement of the ball or a player). Another general feature of field and court sports is that actions are performed alongside the offensive player's movements; thus they involve some sort of competition. Therefore, testing and training conditions should mimic these sport-specific demands. Recently, agility has been defined as a rapid whole body movement with a change of velocity or direction in response to a stimulus (Sheppard & Young, 2006)^[7]. The use of tests of agility that combine changes of direction and/or speed with cognitive measures is encouraged in practice. Such new Reactive agility tests also include anticipation and decision-making components in response to the movements of a tester. Sheppard, Young, Doyle, Sheppard, and Newton (2006)^[7] have found that the Reactive agility test distinguishes between players of different performance levels in Australian football, while traditional closed skill sprint and sprint with direction change tests do not. Similarly, Farrow, Young, and Bruce (2005)^[8] showed that the highly-skilled group was significantly faster in both the reactive and planned test conditions relative to the lesser-skilled group, while the moderately-skilled group was significantly faster than the lesser-skilled group in the reactive test condition only. Indeed, agility skills that involve three information processing stages (i.e., stimulus perception, response selection, and movement execution) represent a crucial part of performance in many sports.

Agility in sports and dancers

Stabilizes your body and improves your balance suddenly coming to a full stop to change directions while going on full speed can definitely throw you off your feet. If you are not agile enough, your balance will give out and you might find yourself stumbling on the field. Personal trainers of professional athletes always put a lot of emphasis on core muscle strength and leg flexibility. This leads to more fluidity in movement and the ability to stabilize the body even when instantly changing pace.

Just imagine a gymnast standing gracefully on her toes even after making a full 360-degree turn on the air. It's not something that she did right away when she began taking gymnastics lessons. This incredible feat is a product of working day and night on her agility and balance, making it possible for her legs to stay strong and prevent her from falling.

Improves your bodily coordination if you're already playing soccer for a long time, you should know that running fast and quickly shuffling your feet are not enough for you to outsmart your defender. You need to coordinate your vision with the movement of your feet so you can either see which teammate you can pass the ball to or which way you need to go to get

closer to the goal. Including agility exercises on your workouts will absolutely help sync your senses and enhance how your body works as a whole.

Coordination in sports and dance

Coordination is the body's ability to perform smooth and efficient movements. Good coordination requires the athlete to combine multiple movements into a single movement that is fluid and achieves the intended goal. This is contrary to what many people first think of, which is hand-eye coordination which refers to the relationship between eye movements and hand movements, so that our hands make an intended movement in response to our eye movement, usually tracking a ball or something similar. Coordination is about our motor skills and can be broken up into fine or gross motor skills. Fine motor skills are about our coordination in relation to small movements and the ease they are performed. An example of a fine motor skill in sport is the snooker shot. Conversely, gross motor skills involve large movements and muscle groups. Examples of gross motor skills include walking, kicking, jumping and much more. Co-ordination ties in closely with movement efficiency, as is clear from the definition above. You could almost say that coordination is movement efficiency. However, the more coordinated a person is the more efficient their movement. This then allows for better performance.

Objective of the study

The purpose of the study is to find out the comparative study on agility and co-ordination of sports players and dancers trainees of Alva's education foundation during 2020-2021.

The delimitations of the study

1. The study was delimited to sports players and dancers trainees of Alva's education foundation during 2020-2021.
2. The age group of the subjects ranged between 18 to 25 years.
3. The test consisted to agility and co-ordination of the sport players and dancers men trainees.
4. The study was total strength of the subjects 100 trainees of Alva's Education Foundation were 50 from sports and 50 from dancers.

The limitations of the study

1. Physiological condition regarding to fatigue was not taken into consideration before data collection on 't' test and alternate hand wall toss test.
2. Body composition of the subject was not taken into consideration during the assessment.

Hypotheses

There is a significant difference between co-ordination and agility among dancers and sports trainees.

Materials and Methods

The purpose of the study is to compare agility and coordination between sports players and dancers trainees of Alva's education foundation during 2020-2021.

Subjects

The sample for the present study was total strength of the subjects 100 trainees of Alva's Education Foundation were 50 from sports and 50 from dancers.

Variables selected for the study

- Alternate hand wall toss” and agility test was taken of “t test” was considered the independent variables.
- Agility and coordination of sports player and dancer was considered the dependent variables.

Data collection

The scores were in numerical from

The analysis s of the data

For analysing the data, descriptive statistic for mean and standard deviation was used and to find out significant difference among the group independent t- test was used with the help of SPSS software. The level of significance chosen was 0.05.

Results

Table 1: Showing the Co-ordination of Dancers and Sports player’s men trainees Difference between Mean and Standard Deviation.

Variables	Mean	S.D
Dancer	22.56	3.07
Sports player	23.88	2.36

The above table-1 shows that co-ordination of Dancer and sports players men trainees, at the mean and standard deviation as are follows. Dancer trainees mean is 22.56 and standard deviation is 3.07, as well as Sports players’ trainees mean is 23.88 and standard deviation is 2.36.

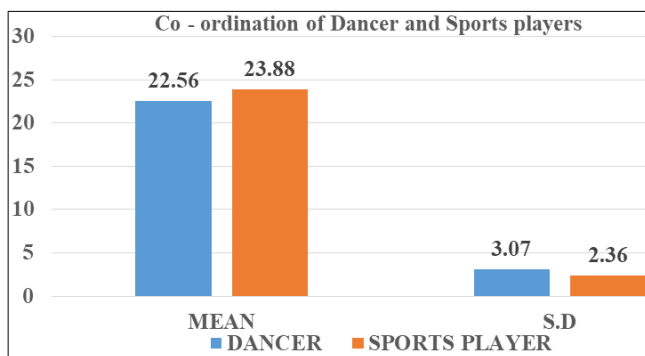


Fig 1: Graphical Illustration of Co-ordination between Dancer and Sports player’s trainees

The above chart-2 showing us that the coordination of both Sports players and Dancer men trainees, according to the chart the Sports players have more co-ordination than the Dancer trainees.

Table 2: Showing the Agility of Dancer and Sports players men trainees means, Difference between Mean, Standard Deviation.

Variables	Mean	S.D
Dancer	11.43	0.53
Sports players	10.61	0.55

The above table-2 clearly shows that a Agility of Dancer and Sports players men trainees, at the mean and standard deviation are follows. Dancer mean is 11.43 and standard deviation is 0.53, as well as Sports player trainees mean is 10.61 and standard deviation is 0.55.

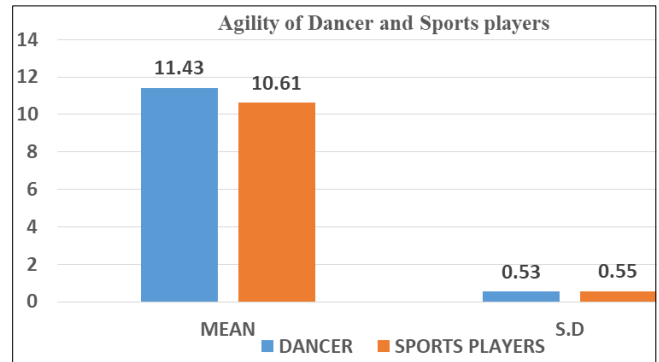


Fig 2: Graphical Illustration of Agility between Dancer and Sports player’s Trainees

The above chart-2 clearly showing that the Agility of both Sports players and Dancer men trainees, according to the chart the Sports player have more Agility compares to Dancer trainees.

Table 3: Showing the Co-ordination and Agility of Dancer and Sports players men trainees ‘t’-Test value

Variables	‘t’ Value of co-ordination	‘t’ Value of agility
Sports player	0.018	1.828
Dancers		

The above table-3, shows that t-calculated values of the Co-ordination and Agility of Dancer and Sports players trainees. Dancer and Sports player men trainees ‘T’ value of Co-ordination is 0.018. ‘t’ value of Agility among sports players and dancers is 1.828.

Conclusions

- The calculated comparison the mean value and standard deviation of coordination among dancer trainees and sports players, the sports players’ coordination is higher than that of dancers.
- The calculated comparison of the mean value and standard deviation for agility among dancer trainees and sports players, the sports players’ agility is higher than that of dancers.
- Finally conclude that there is significant difference in Co-ordination and Agility between Dancer and Sports player of trainees.

The concluded result reveals that the Dancer and sports player groups showed significant difference in selected variables such as Co-ordination and Agility. The sports player group showed significant difference in as Co-ordination and Agility variables improvement compare with Dancer.

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