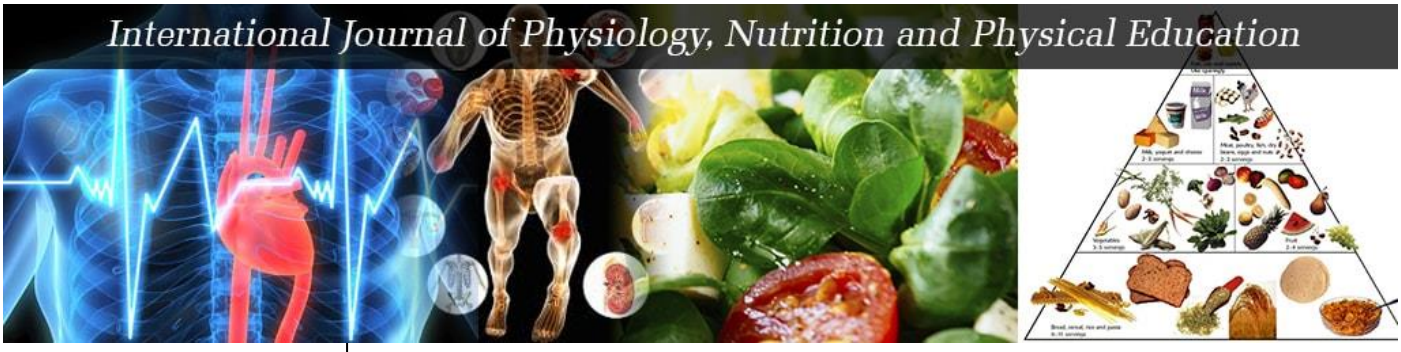

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Comparative study of coordinative ability, balance and reaction time among wrestlers in different weight categories

Umar Jan Shah and Dr. Asha Nair

Abstract
The main purpose of the study was to compare the coordinative ability, balance and reaction time among wrestlers in different weight categories. For the present study, the data were collected from the inter-collegiate players of various different weight category viz. wrestling players from Degree College of physical education (DCPE) Amravati. The data pertaining to coordinative ability, balance and reaction time was collected from 45 subjects and 15 subjects were selected from each weight category I.e. (15) from 51-55 weighted players, (15) from 56-60 weighted players and (15) from 61-66 weighted players, through simple random sampling for testing the hypothesis. The data was collected on the selected subjects by admitting the appropriate test before collection of data. The level of significance was kept at 0.05 to testing the hypothesis. The statistical analysis and interpretation was done on the basis of data collection. The data was analyzed and interpreted by using' 'f' test. The finding of the study shows that there was found insignificant difference in the coordination, reaction time and balance among wrestlers in different weight categories.

Keywords: Coordinative ability, balance and reaction time and wrestling

Introduction
These days sports competitions are very tough. Players are using best techniques and best training methods for better results during competitions. Even then they are not satisfied by their results. Thus the importance of psychology was realized in physical education to give best possible results of players. Sports psychology is the branch of psychology which deals with positive behaviour of sports person during training and competition period to increase performance. It guides coaches and players to give individual attention regarding various methods and various motivational techniques. It gives knowledge regarding adolescence problems, changes during adolescence, managing adolescence problems. It guides sports ethics and sportsmanship to develop sports attitude. The knowledge of sports psychology helps coaches and players to develop and control anxiety level. It also helps to tackle various stresses of life.

Coordinative ability is the ability of the vision system to coordinate the information received through the eyes to control guide and direct the hands in the accomplishment of a given task such as hand-writing or catching a ball.

Reaction Time is the ability of a sports person to respond quickly to a given stimulus and execute will directed actions following a signal. It is the interval between the presentation of the trigger signal and the time of the end of the action, when its measure is taken. Planning and programming are the support for the focal action. In experimental conditions, the behaviour involves the arm touching of one of the pads. It implies that there is a stimulus and a reply of the person after its perception. Two major aspects have to be underlined: the difference between simple and choice Reaction Time and the connection with task complexity.

It is the ability of a sports person to maintain equilibrium of the body both in static and dynamic conditions. In biomechanics, balance is an ability to maintain the line of gravity (vertical line from centre of mass) of a body within the base of support with minimal postural sway. It is the ability to maintain balance boring whole body movement and balance quickly after the balance disturbing movement balance ability can two types.

Ability to maintain balance during stationary position or slow movement (static balance). It depends primarily on kinesthetic tactile and some extent on vestibular sense organs. Ability to maintain or regain balance during large range movements and during rapidly changing positions of the body it depends primarily of the verribular sense organ. Balance ability is necessary prerequisite for all m for the movements. Static balance is required for the execution of all movements whether slow or fast, part body movement or whole body movement. Static balance ability develops to significant extent through various activities in childhood. Dynamic balance ability is important in sports in which frequent and rapid change of body position is required e.g., gymnastics, ski jump etc. In those sports the performance has positive relationship with dynamic balance.

Wrestling is hand combat between two competitors subject to certain rules, during which each competitor tries to control the movement of the other through the complex technical- tactical moves and by using all their physical and psychological potential. Wrestling is a sport involving two athletes engaged in a physical competition that is limited to a specified area defined on a mat. The general object of all types of wrestling is one wrestler attempts to force the shoulders of the opponent to the floor in a prescribed manner. The contest, a bout, is generally two rounds, each three minutes in duration. A wrestler wins a bout by either scoring a fall against the opponent, or by accumulating points through the successful execution of various manoeuvres. In wrestling, a referee will supervise the contest, and judges positioned near the mat will score the progress of the contest. The two different types of wrestling competition are freestyle (in which men and women compete in separate divisions) and Greco-Roman.

Methodology

Source of Data

For the present study the researcher had taken the male subjects from Degree College of physical education (DCPE) Amravati and these subjects were taken as sources of data.

Selection of Subjects

15 male wrestlers were selected from each of the weight categories of the concerned level.

Sampling method

The 45 subjects were selected by the simple using of random sampling method.

Collection of data

The data was collected on the selected subjects by admitting the appropriate test before collection of data. The scholar explained the purpose of the study to the subject; so as to they put their best.

Equipment used for collection of data: Following equipment's and test was used for collection of data:

Hand Eye Co-ordination Test: To find out the eye hand coordination of wrestler.

Static Balance Tests: This test was used to measure the static balance.

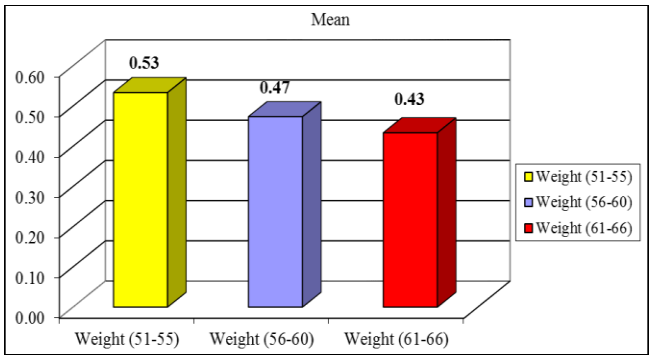
Nelson's Hand Reaction Time Test: This test was used to measure the reaction time of hand movement in to a visual stimulus.

Analysis and Interpretation of Data

The statistical analysis and interpretation was done on the basis of data collection. The data was analyzed and interpreted by using' 'f' test. The statistical result of the undertaken coordinative ability, balance and reaction time of different weight category players for verifying researcher's hypothesis has shown in the following tables.

Table 1: Mean value of reaction time in audio among wrestlers in different weight categories**.**

Weight Categories	Mean
51-55	0.53
56-60	0.45
61-66	0.43



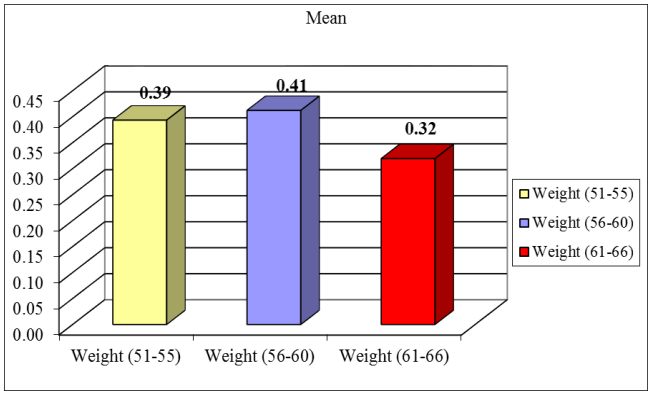
Graph 1: Graphical Representation of Reaction time in Audio among Wrestlers in Different Weight Categories.

Table 1.1: Showing one way analysis of variance (ANOVA) in reaction time in audio among wrestlers in different weight categories**.**

Source of variance	Df	Sum of squares	Mean Variance	F Calculated	F Tabulated
Between Groups	K-1 3-1=2	0.08	8.45	2.60	3.23
Within Groups	N-K 45-3=42	0.61	2.41		

Table 2: Mean value of reaction time in visual among wrestlers in different weight categories.

Weight Categories	Mean
51-55	0.39
56-60	0.41
61-66	0.32



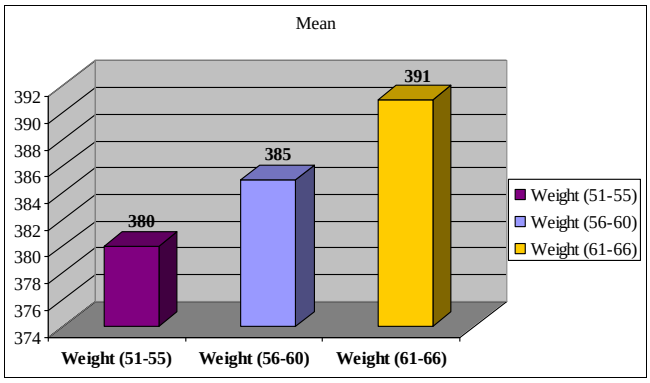
Graph 2: Graphical representation of reaction time in visual among wrestlers in different weight categories

Table 2.1: Showing one way analysis of variance (ANOVA) in reaction time in visual among wrestlers in different weight categories.

Source of variance	Df	Sum of squares	Mean Variance	F Calculated	F Tabulated
Between Groups	K-1 3-1=2	0.07	0.04	3.55	3.23
Within Groups	N-K 45-3=42	0.43	0.01		

Table 3: Mean value of coordinative ability among wrestlers in different weight categories.

Weight Categories	Mean
51-55	380
56-60	385
61-66	391



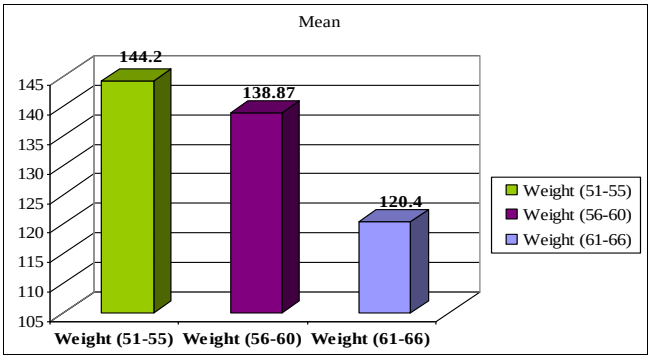
Graph 3: Graphical representation of coordinative ability among wrestlers in different weight categories.

Table 3.1: Showing one way analysis of variance (ANOVA) in coordinative ability among wrestlers in different weight categories.

Source of variance	Df	Sum of squares	Mean Variance	F Calculated	F Tabulated
Between Groups	K-1 3-1=2	4.04	2.02	0.35	3.23
Within Groups	N-K 45-3=42	329.6	5.70		

Table 4: Mean value of balance among wrestlers in different weight categories.

Weight Categories	Mean
51-55	144.2
56-60	138.87
61-66	120.4



Graph 4: Graphical representation of balance among wrestlers in different weight categories

Table 4.1: Showing one way analysis of variance (ANOVA) in balance among wrestlers in different weight categories

Source of variance	Df	Sum of squares	Mean Variance	F Calculated	F Tabulated
Between Groups	K-1 3-1=2	4679.51	2339.76	2.85	3.23
Within Groups	N-K 45-3=42	34523.73	821.99		

Conclusion

With the limitations of the study and from the statistical analysis of the collected data it is concluded that there was found significant difference in the coordination, reaction time and balance among wrestlers in different weight categories.

The researcher initially pre assumed that there would be significant difference in the coordination, reaction time and balance among wrestlers in different weight categories of Degree college of physical education(DCPE) Amravati and after the statistical analysis interpretation of data it was found that there is significant difference in the coordination, reaction time and balance among wrestlers in different weight categories because in some cases the calculated 'f' exceeded the tabulate 'f' and some cases the calculated 'f' unexceed the tabulated 'f' at level of significance 0.05. Hence the Researchers pre assumed have been rejected.

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