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## Assessment of selected coordinative ability of international and national level wushu players of India

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### Abstract

The subjects for this study were Fifty female Wushu players were randomly selected from different states and regions of India. The sample was collected from International level (n = 25), National level (n =25) female Wushu players. The ages of the players will be between 18 and 29. On the basis of review of related literature, expert's opinion in the field of Wushu, following variables were selected for the purpose of the study. Coordinative Abilities: Differentiation Ability, Orientation ability, Reaction ability, Balance ability. The particular design used would single group design national and international wushu players were compared on the basis of their coordinative abilities required for the game of wushu. The data for coordinative abilities was measured as follows: Differentiation ability: It was determined by using backward medicine ball throw test and was recorded in points, Orientation ability: It was assessed by using shuttle run test and was recorded in 1/100th of second, Reaction ability: This variable was evaluated by using 'Visual Reaction Timer' and was recorded in 1/100th seconds. RT & VRT were measured by 'Audio-Visual Reaction Time Apparatus RTM-608' of RMS Company. To compare national and international wushu players and prepare the profiles on the coordinative ability parameters Paired T- Test was used, mean and standard deviation were also calculated to find out the variability among the scores. The level of significance will be 0.05.

**Keywords:** Wushu, Coordinative Abilities, Differentiation Ability, Orientation ability, Reaction ability, Balance ability.

### Introduction

The developing tendencies in global sports, especially in team games are identified as the increase in game tempo, tougher body game and greater variability in technique and tactics. An increased performance level can only be achieved by working and training of all major components i.e. technique, coordination, tactics, physical fitness, physiological and psychological qualities. This has motivated sports administrators, coaches, managers and players to spend time and resources evaluating their sports more scientifically.

Physical education has also experienced the impact of scientific advancements. Now the sportsman have been able to give outstanding performance because of involvement of new scientifically substantiated training methods and means of execution of sport exercises such as sports techniques as well as other components and conditions of the system of training.

Wushu is a game of intricate movements combined with great speed, power and accuracy. Great teams are developed by the meshing of fundamentally sound players weaving clever patterns of attack and defence tactics. The spectator realizes this subconsciously but in many cases cannot recognize. It makes little difference how well a team plays the game rather than winning or any other trophy but how does it performs the skills and plays the game it is a pleasure to admire and watch the skills alone.

Coordinative abilities enable the sports man to do a group movement with better quality and effect. The speed of learning of skill and its stability is directly dependent on the level of various coordinative abilities. Coordinative abilities are needed for maximal utilization of conditional abilities, technical skills, psychological parameters and tactical skills.

In different sports requirement of coordinative abilities are different and these abilities ensures higher movement efficiency and movement economy, whereas is some sports events the helps in higher movement frequency with high explosiveness and force application. In strength

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sports they help in putting maximum effort in a short time and at the right time. But, where the technique dominates the event these abilities helps in better learning, stabilization, variability and autoimmunization. Apart from performance improvement, in team games coordinative abilities an effective use of tactical abilities in the continuous changing situations.

Each individual is a unique creation of nature and must be viewed as such. In physical education and sport, psychology is not merely an academic subject at the training colleges. Coaches and athletes practice it in the field setting Psychological interventions. Coping strategies metal skill like imagining, concentrating, focusing etc.

### The objectives of the study will be as follows

- The objective of the study was to prepare profile of Coordinative ability of International and National level female Wushu players of India.
- To compare the Coordinative ability of International and National level female Wushu players of India.
- To establish the relationship between Coordinative ability of International and National level female Wushu players at different levels of achievement.

### On the basis of study reviewed and own understanding of the scholar about the problem, it is hypothesized that

- There will be no significant difference between International and National level Wushu players in relation to their selected Coordinative ability.
- There will be no significant relationship between International and National level Wushu players in relation to their selected Coordinative ability.

### Methodology

The subjects for this study were Fifty female Wushu players were randomly selected from different states and regions of India. The sample was collected from International level (n = 25), National level (n =25) female Wushu players. The ages of the players will be between 18 and 29. On the basis of review of related literature, expert's opinion in the field of Wushu, following variables were selected for the purpose of the study. Coordinative Abilities: Differentiation Ability, Orientation ability, Reaction ability, Balance ability. The particular design used would single group design national and international wushu players were compared on the basis of their coordinative abilities required for the game of wushu. The data for coordinative abilities was measured as follows: Differentiation ability: It was determined by using backward medicine ball throw test and was recorded in points, Orientation ability: It was assessed by using shuttle run test and was recorded in 1/100th of second, Reaction ability: This variable was evaluated by using 'Visual Reaction Timer' and was recorded in 1/100th seconds. RT & VRT were measured by 'Audio-Visual Reaction Time Apparatus RTM-608' of RMS Company. The particular design used would single group design national and international wushu players were compared on the basis of their Coordinative Abilities required for the game of wushu.

### Analysis of data and Results of the study

The data of two groups namely was examined by applying mean, standard deviation and 'Paired T-Test' on the basis of there for comparison on Differentiation Ability, Orientation ability, Reaction ability, Balance ability for 50 Girls of from International level (n = 25), National level (n =25) Wushu

players selected by a simple random sampling.

The results pertaining to find the relationship and to find out the significant difference if any, between pre and post data for anxiety were found out with the help of 'T- Ratio. The analysis of data pertaining to National and international wushu player's data for Differentiation ability is presented in Table 1.

**Table 1:** Mean and standard deviation (national and international) of female wushu players in differentiation ability (power ball throw)

Nature of Test	N	Mean	Standard Deviation
National	25	10.25	12.68
International	25	11.85	13.68

The means and standard deviations for national and international wushu players for Differentiation ability it was found that the score of the subjects was normal as per the national standards in national players, difference is very significant as the score is in points and higher the score better the score, hence it could be said that the International Players have higher Differentiation ability. The standard deviation in national and international wushu players was more or less same which suggests that the scores did not vitiate much among the subjects in national as well as international being from the same age group and sex.

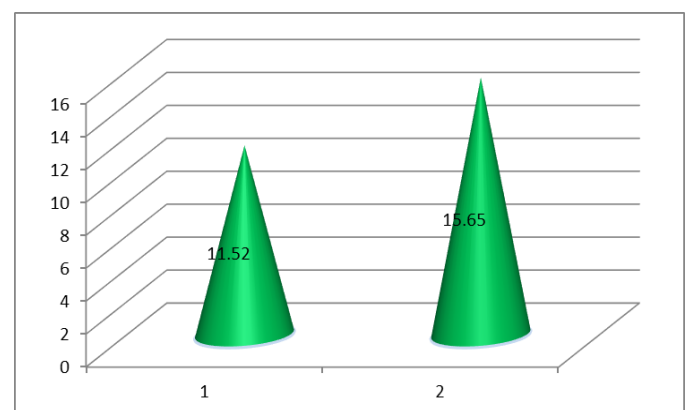
To find out the significant difference if any, between national and international in test of Differentiation ability of wushu players in Power ball throw were found out with the help of 'Paired T-Test'. The analysis of data pertaining to is presented in Table 2.

**Table 2:** Paired t-test for national and international wushu players with respect to differentiation ability of female subjects in power ball throw

Variable	Groups	df	T- Ratio
Score in Power Ball Throw	2	24	1.98*

\*Significant at .05 level of confidence.  $T.05 (2.24) = 0.867$

It is evident from Table – 8 that variability exists among the national and international wushu players of differentiation ability of national and international wushu players in Power Ball Throw. The difference is very significant as the score is in points and higher the timing better the score, hence it could be said that the international players have higher differentiation ability, better than the national players. Difference between the means of differentiation ability of national and international wushu players in Power Ball Throw, is shown in Fig. - 1.



**Fig 1:** Bar diagram representing means of differentiation ability of national and international wushu players in power ball throw

### National International

The analysis of data pertaining to National and international wushu player's data for Orientation ability is presented in Table 3.

**Table 3:** Mean and standard deviation (national and international) of female wushu players in orientation ability (shuttle run)

Nature of Test	N	Mean	Standard Deviation
National	25	12.54	05.65
International	25	13.63	05.85

The means and standard deviations for national and international wushu players for orientation ability it was found that the score of the subjects was normal as per the national standards in national players, difference is very significant as the score is in points and higher the score better the score, hence it could be said that the International Players have higher orientation ability. The standard deviation in national and international wushu players was more or less same which suggests that the scores did not vitiate much among the subjects in national as well as international being from the same age group and sex.

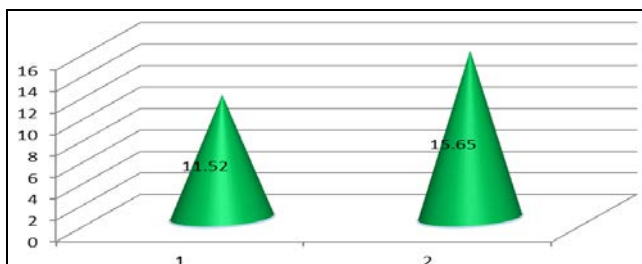
To find out the significant difference if any, between national and international in test of orientation ability of wushu players in shuttle run were found out with the help of "Paired T-Test". The analysis of data pertaining to is presented in Table 4.

**Table 4:** Paired t-test for national and international wushu players with respect to orientation ability of female subjects in shuttle run

Variable	Groups	df	T- Ratio
Score in Shuttle Run	2	24	2.86*

\*Significant at .05 level of confidence.  $T_{.05}(24) = 0.867$

It is evident from Table – 4 that variability exists among the national and international wushu players of orientation ability of national and international wushu players in shuttle run. The difference is very significant as the score is in points and higher the timing better the score, hence it could be said that the international players have higher orientation ability, better than the national players. Difference between the means of orientation ability of national and international wushu players in shuttle run, is shown in Fig. - 2.



**Fig 2:** Bar diagram representing means of orientation ability of national and international wushu players in shuttle run

### National International

The analysis of data pertaining to National and international wushu player's data for Reaction ability is presented in Table 5.

**Table 5:** Mean and standard deviation (national and international) of female wushu players in reaction ability (visual reaction time)

Nature of Test	N	Mean	Standard Deviation
National	25	12.56	12.35
International	25	13.65	10.25

The means and standard deviations for national and international wushu players for reaction ability it was found that the score of the subjects was normal as per the national standards in national players, difference is very significant as the score is in points and higher the score better the score, hence it could be said that the International Players have higher reaction ability. The standard deviation in national and international wushu players was more or less same which suggests that the scores did not vitiate much among the subjects in national as well as international being from the same age group and sex.

To find out the significant difference if any, between national and international in test of reaction ability of wushu players in visual reaction time were found out with the help of "Paired T-Test". The analysis of data pertaining to is presented in Table 6.

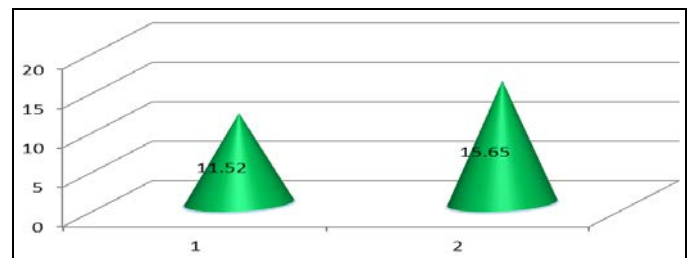
**Table 6:** Paired t-test for national and international wushu players with respect to reaction ability of female subjects in visual reaction time

Variable	Groups	df	T- Ratio
Score in VRT	2	24	3.86*

\*Significant at .05 level of confidence.  $T_{.05}(24) = 0.867$

It is evident from Table – 6 that variability exists among the national and international wushu players of reaction ability of national and international wushu players in visual reaction time. The difference is very significant as the score is in points and higher the timing better the score, hence it could be said that the international players have higher reaction ability, better than the national players.

Difference between the means of reaction ability of national and international wushu players in Visual Reaction Time, is shown in Fig. - 3.



**Fig 3:** bar diagram representing means of reaction ability of national and international wushu players in visual reaction time

### National International

The analysis of data pertaining to National and international wushu player's data for Balance ability is presented in Table 7.

**Table 7:** Mean and standard deviation (national and international) of female wushu players in balance ability (stork test)

Nature of Test	N	Mean	Standard Deviation
National	25	11.52	06.35
International	25	15.65	06.32

The means and standard deviations for national and international wushu players for balance ability it was found that the score of the subjects was normal as per the national standards in national players, difference is very significant as the score is in points and higher the score better the score, hence it could be said that the International Players have higher balance ability. The standard deviation in national and

international wushu players was more or less same which suggests that the scores did not vitiate much among the subjects in national as well as international being from the same age group and sex.

To find out the significant difference if any, between national and international in test of balance ability of wushu players in stork test were found out with the help of "Paired T-Test". The analysis of data pertaining to is presented in Table 8.

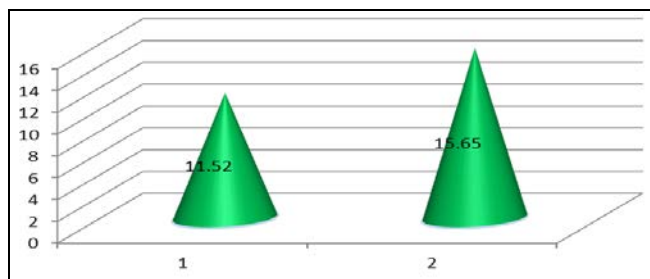
**Table 8:** Paired t-test for national and international wushu players with respect to balance ability of female subjects in stork test

Variable	Groups	df	T- Ratio
Score in VRT	2	24	2.86*

\*Significant at .05 level of confidence.  $T_{.05}(2,24) = 0.867$

It is evident from Table – 8 that variability exists among the national and international wushu players of balance ability of national and international wushu players in stork test. The difference is very significant as the score is in points and higher the timing better the score, hence it could be said that the international players have higher balance ability, better than the national players.

Difference between the means of balance ability of national and international wushu players in stork test, is shown in Fig. - 4



**Fig 4:** Bar diagram representing means of balance ability of national and international wushu players in stork test

## National International

### Discussion of Findings

- Paired T-Test was applied for testing the difference between the national and international wushu players in terms of differentiation ability of female subjects in differentiation ability was measured by Overhead Power Ball Throw. The groups showed significant difference as lower the timing better the performance. This depicts that international wushu players have higher differentiation ability, better than the national players, might be the cause they are at a higher level.
- Paired T-Test was applied for testing the difference between the national and international wushu players in terms of orientation ability of female subjects in orientation ability was measured by shuttle run test and was recorded in 1/100th of second. The groups showed significant difference as lower the timing better the performance. This depicts that international wushu players have higher orientation ability, better than the national players, might be the cause they are at a higher level.
- Paired T-Test was applied for testing the difference between the national and international wushu players in terms of reaction ability of female subjects in reaction ability was evaluated by using 'Visual Reaction Timer' and was recorded in 1/100th seconds. RT & VRT were measured by 'Audio-Visual Reaction Time Apparatus

RTM-608' of RMS Company. The groups showed significant difference as lower the timing better the performance. This depicts that international wushu players have higher reaction ability, better than the national players, might be the cause they are at a higher level.

- Paired T-Test was applied for testing the difference between the national and international wushu players in terms of balance ability of female subjects in balance ability was measured by stork test and was recorded in 1/100th of second. The groups showed significant difference as higher the timing better the performance. This depicts that international wushu players have higher balance ability, better than the national players, might be the cause they are at a higher level.

## Conclusions

- Paired T-Test was applied for testing the difference between the national and international wushu players in terms of differentiation ability of female subjects in differentiation ability was measured by Overhead Power Ball Throw. The groups showed significant difference as lower the timing better the performance. This depicts that international wushu players have higher differentiation ability, better than the national players, might be the cause they are at a higher level.
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- Paired T-Test was applied for testing the difference between the national and international wushu players in terms of balance ability of female subjects in balance ability was measured by stork test and was recorded in 1/100th of second. The groups showed significant difference as higher the timing better the performance. This depicts that international wushu players have higher balance ability, better than the national players, might be the cause they are at a higher level.

## Discussion of Hypothesis

- It was hypothesized that there will not be any significant difference between national and international wushu players in terms of selected coordinative abilities in relation to female national and international wushu players may be rejected.
- It was hypothesized that there will not be any significant

relationship between national and international wushu players in terms of selected coordinative abilities in relation to female national and international wushu players may be rejected.

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