A COMPARATIVE STUDY OF SELECTED COORDINATIVE ABILITIES AMONG PLAYERS BELONGING TO SEMI-CONTACT AND NON-CONTACT SPORTS OF RASHTRASANT TUKADOJI MAHARAJ NAGPUR UNIVERSITY, NAGPUR

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Abstract: The present study investigated Coordinative abilities between players belonging to semi-contact and non- contact sports of Rashtrasant Tukdoji Maharaj Nagpur University,Nagpur. The subjects for this study were selected from different colleges of Rashtrasant Tukadoji Maharaj Nagpur University,Nagpur. A total of 60 subjects were selected, 30 from each category i.e, semi-contact and non-contact sports. The age of the subjects ranged from 18 to 28 years.The variables selected for the study were Reaction Ability, Orientation Ability, Differentiation Ability and Rhythm Ability. The necessary data on selected coordinative abilities was collected by administering various coordinative ability tests as suggested by Peter Hirtz. To compare the selected coordinative abilities among sportsmen belonging to semi-contact and non-contact sports 't' ratio was used and level of significance was set at 0.05. It was found that there was no significant difference found among the sportsmen of semi-contact and non-contact sports in relation to reaction ability, orientation ability and rhythm ability. On the other hand significant difference found among the sportsmen of semi-contact and non-contact sports in relation to differentiation ability.

Keywords: Coordinative ability, Semi-contact sports, Non-contact sports, Reaction Ability, Orientation Ability, Differentiation Ability, Rhythm Ability

Introduction:

The developing tendencies in international sports are identified as the increase in game tempo, tougher body game and greater variability in technique and tactics. In principle, an increase in performance level can only be achieved by better exploitation of all major components i.e. technique co-ordination, tactics, physical fitness and psychological quantities of the sportsperson. The component technique co-ordination however, plays a greater role in sports.

There are seven coordinative abilities identified. These are: i) Orientation Ability, ii) Differentiation Ability, iii) Coupling Ability, iv) Adaptation Ability, v) Rhythm Ability, vi) Balance Ability, vii) Reaction Ability. All the coordinative abilities are important for learning of sports techniques and for their continuous refinement and modifications during long term training process. The motor learning ability depends to a large extent on the level of coordinative abilities.

Sports are categorised in different categories i.e. semi-contact and non-contact sports. Semi-contact sports are those sports in which physical contact occurs sometimes as per the demands of a situation. For Example: Football. Non-contact sports are those sports in which no body contact occurs during a competition. For Example: Gymnastics. Coordinative abilities are an expression of motor coordination which is of crucial importance in sports movements. The movement quality depends to a great extent on coordinative abilities. The rhythm, flow, accuracy, consistency, amplitude etc. of a movement are expression of motor coordination and hence highly dependent on the level of various coordinative abilities. So in every sport, whether it is semi-contact and non-contact sports requires some type of coordination but it is very difficult to find out, in which sports, which type of coordinative ability is required.

Ghosh conducted a study to compare the coordinative abilities between the athletes of track events and the athletes of field events. 30 athletes of LNIPE Gwalior were selected as subjects for this study. In order to find out the significant difference of five coordinative abilities between sprinters and jumpers, the two sample "t"-ratio test was employed for testing the hypothesis at 0.05 level. Results indicated that Significant difference was found between the sprinters and jumpers in reaction and orientation ability. There was no significant difference

between sprinters and jumpers in differentiation ability, balance ability and rhythm ability. Another study conducted by Dey to compare co-ordinative abilities among different gymnastic ability groups. 100 Gymnasts of Inter-varsity level were selected randomly who participated in All India Intervarsity Gymnastic championship, Amritsar in 2001-2002. To find out the significant difference, the analysis of variance was employed for testing the hypothesis at 0.05level of significance. The result of the study showed significant difference between the level of gymnasts in the reaction ability, whereas the orientation ability, differentiation ability, balance ability and rhythm ability showed no significant difference. Rawat conducted a study to compare the coordinative abilities of basketball and handball players. 30 intervarsity players of basketball and handball of LNIPE, Gwalior were selected for the study. The data was collected by administrating various coordinative ability tests as suggested by Peter Hirtz. To find out the significant difference "t"-ratio was employed at 0.05 level of significance. The results of the study were Basketball and Handball players differ significantly in balance ability and reaction ability. Basketball players and Handball players do not differ significantly in orientation ability, differentiation ability and rhythm ability.

Selection of samples:
The subjects for this study were selected from various colleges of Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur who participated in Inter-Collegiate competitions in selected games and sports i.e.(semi-contact and non-contact sports). A total of 60 subjects was selected, 30 from each category i.e. semi-contact and non-contact sports. In semi-contact sports 30 subjects were selected from Football and Hockey. In non-contact sports 30 subjects were selected from Ball-badminton and Volleyball. The age of subjects ranges from 18 to 28 years.

Selection of variables:
The following variables were selected for the study:

1) Reaction ability
2) Orientation ability
3) Differentiation ability
4) Rhythm ability

Criterion Measures:
Following criterion measures was used for testing the hypothesis:
1) Reaction ability was measured by the ball reaction exercise test and recorded in centimetres.
2) The orientation ability was measured by using numbered medicine ball run test and recorded in seconds.
3) Differentiation ability was measured by using backward medicine ball throw test recorded in number of points.
4) Rhythm ability was measured by using sprint at given rhythm test and recorded in seconds.

Design of the study:
While leading this study purposive sampling method was adopted in selection of the subjects. Two groups were formed as semi-contact and non-contact and each comprising of 30 subjects.

Findings:
• The mean value of semi-contact and non-contact sports players in Ball Reaction Exercise test is 159.47 and 158.77 respectively. Value of 't' ratio is 0.16, this value is not significant at 0.05 level. To be significant at 0.05 level, the value of 't' ration should be greater or equal to 2.00.

• The mean value of semi-contact and non-contact sports players in Numbered Medicine Ball Run Test is 8.56 and 8.65 respectively. Value of 't' ratio is 0.35, this value is not significant at 0.05 level. To be significant at 0.05 level, the value of 't' ration should be greater or equal to 2.00.

• The mean value of semi-contact and non-contact sports players in Backward Medicine Ball Throw Test is 9.5 and 12 respectively. Value of 't' ratio is 2.43. The t-value at 0.05 level of confidant should be greater than 2.00. Hence the t-value is found statistically significant.

• The mean value of semi-contact and non-contact sports players in Sprint at the Given Rhythm Test is 1.3 and 1.74 respectively. Value of 't' ratio is 0.52, this

value is not significant at 0.05 level. To be significant at .0.05 level, the value of 't' ration should be greater or equal to 2.00.

Discussion of Findings:
Findings of the present study showed that there was no significant difference found among the sportsmen of semi-contact and non-contact sports in selected Coordinative abilities i.e, Reaction Ability, Orientation Ability and Rhythm Ability. On the other hand there was significant difference found among the sportsmen of semi-contact and non-contact sports in Differentiation Ability.

1) Result of the study revealed that no significant difference was found among the sportsmen belonging to semi-contact and non-contact sports in reaction ability. The reason for this may be reaction ability is needed in each category of sports i.e, Hockey, Football, Ball-Badminton and Volleyball.

2) According to the results of the study no significant difference was found between sportsmen of semi-contact and non-contact sports. This might be because of the different types of demands in orientation ability in different types of sports as according to Singh. The demand on the orientation ability are vastly different in different sports, E.g.Team games, Combat Sports, Technical Sports. This supported the result of the present study because the subject i.e Hockey, Football, Volleyball and Ball-badminton all are team games sports, thus require same orientation ability.

3) The result of the study revealed that in rhythm ability no significant difference was found between sportsmen of semi-contact and non-contact sports. The reason for that is may be because in semi contact and non-contact sports the sportsmen is required to perceive the rhythm of his team mates in order to coordinate in a better way. Thus Rhythmis ability is needed in semi contact and non-contact sports.

4) Results showed that significant difference was found between the sportsmen of semi-contact and non-contact sports in Differentiation ability. It is assumed that certain games may require a better differentiation ability whereas in other games may require limited differentiation

ability. As each sports put different types of demand on the control and regulation process. Hence, the significant difference found in differentiation ability among players belonging to semi-contact and non-contact sports.

Discussion of hypotheses:
On the basis of the result of the study and after overall numerical and statistical analysis it is revealed that:

1) There is no significant difference found among the sportsmen of semi-contact and non-contact sports in relation to reaction ability.
Hypothesis of the research scholar has been accepted in this case.

2) There is significant difference found among the sportsmen of semi-contact and non-contact sports in relation to differentiation ability.
Hypothesis of the research scholar has been accepted in this case.

3) There is no significant difference found among the sportsmen of semi-contact and non-contact sports in relation to orientation ability.
Hypothesis of the research scholar has been rejected in this case.

4) There is no significant difference found among the sportsmen of semi-contact and non-contact sports in relation to rhythm ability.
Hypothesis of the research scholar has been accepted in this case.

Conclusion:
On the basis of findings the following conclusions are drawn:

1) There is no significant difference found among the sportsmen of semi-contact and non-contact sports in relation to reaction ability.

2) There is significant difference found among the sportsmen of semi-contact and non-contact sports in relation to differentiation ability.

3) There is no significant difference found among the sportsmen of semi-contact and non-contact sports in relation to orientation ability.

4) There is no significant difference found among the sportsmen of semi-contact and

non-contact sports in relation to rhythm ability.

References:
1) **Ajmer Singh, J. B. (2003).** Essentials of Physical Education. new delhi: kalyani.
2) **Anders, E. (2008).** human Kinetics. Retrieved from Human Kinetics: Barrow, H. M. (1983). Man and Movement-Principles of Physical Education. new delhi: Philadlphia: lea & Febiger.
3) **Barrow, H. M. (1983).** Man and Movement-Principles of Physical Education. Philadelphia: Lea & Febiger.
4) **Hirtz, P. (1985).** Koordinative Fachigkeiten in Schulsport. Berlin: Volk and Wissen,Valk Seigener Verlag.
5) **Sharma, O. (2001).** physical education history and its development. delhi: khel sahitya kandra.
6) **Singh, H. (1991).** science of sports training. new delhi: DVS.
7) **Singh, H. (1991).** Science of Sports Training. New Delhi: D.V.S .
8) **Singh, H. (1984).** Sports Training-general theory and technique. patiala: NSNIS.
9) **Bakshi, R. (1994).** Comparison of two groups in coordinative abilities. Gwalior, Madhya Pradesh, India: Unpublished Master's Thesis, Jiwaji University.
10) **Dey, A. (2002).** Comparison of coordinative Abilities among different level of Gymnasts. Gwalior, Madhya Pradesh, India: Unpublished Masters Thesis, LNIPE .
11) **Dutta, S. (2014).** Comparative Study of Psychomotor Abilities of Athletes in Relation to Sex and Area. Innovative Thoughts International Research Journal , 26-30.
12) **Ghosh, G. (2002).** A Comparative study of Co-ordinative Abilities between the athletes of Track events and Field Events. Gwalior, Madhya Pradesh, India: Unpublished Masters Thesis. LNIPE.
13) **Khetmalis, M. S. (2012).** Comparative Study Between Selected Coordinative Abilities and Motor Abilities of Female Athletes of Selected International Schools in Pune. International Journal of Research Pedagogy and Technology in Education , 1-13.
14) **Kumar, K. A. (2007).** Coordinative abilities of Indian Kabaddi players at sub junior and junior levels of participation. Research Bi-Annual for Movement , 13-19.
15) **Manilal, S. A. (1990).** Comparison of coordinative abilities of Junior Indian Basketball Players and Junior Indian Volleyball Players. Bangalore, India: Unpublished Research Report, NSNIS .
16) **Mishra, G. S. (2012).** Comparative Study of Coordinative Abilities of Taekwondo Players in Different Weight Categories. Indian JOurnal of Movement Education and Exercises Sciences .
17) **Rawat, B. (1999).** Comparison of Selected Co-ordinative abilities of Basketball and Handball Players. Gwalior, Madhya Pradesh, India: Unpublished Masters Thesis, LNIPE.

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