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# Comparison of Coordinative Abilities between Female Kabaddi and Chess Players

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**Abstract**

*The purpose of this study was to compare the coordinative abilities among female kabaddi and chess players. To achieve this purpose, Hundred (N=100) Female players, that is fifty kabaddi players and fifty chess players were selected as subjects from Periyar University College of Arts and Science and Royal College of Arts and Science, Mettur Dam, Salem and their age ranged from 19 to 25 years. All the participants were informed about aim and methodology of the study and they volunteered to participate in this study. These subjects were tested on Hand & Eye Coordination, Reaction Time and Balance. One way Analysis of Variance (ANOVA) was applied to find out the significance mean differences between kabaddi and chess players. The level of significance was set at 0.05.While comparing the means; it revealed that kabaddi players had better coordinative abilities than the chess players and there is a significance mean difference on coordinative abilities (Hand & Eye Coordination, Reaction Time and Balance) among the kabaddi chess players of college Women.*

**Keywords:** Co-Ordinative Ability, Kabaddi Players, Chess Players, College Women.



## Introduction

Coordination ability means an ability to quickly and purposefully perform difficult spatio-temporal movement structures. Within this context, coordination abilities are understood as an externally visible manifestation of the control and regulation processes of the motor activity of the central nervous system. Coordinative abilities primarily depend upon the motor control and regulation process of control nerves system. The theory and motor coordination therefore is the basis of understanding the nature of coordinative abilities as mentioned by Bloume (1978). Different experts have described different number of coordinative abilities. Zacroskij (1971) stated that agility depends upon three coordinative abilities. An individual with a high level of motor ability, possessing the basic motor qualities necessary for achieving excellence in a number of activities, may still be unable to perform well in a particular sport unless he has developed specific skills for that sport through long hours of practices. Hand-eye coordination 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 handwriting or catching a ball. Hand-eye coordination uses the eyes to direct attention and the hands to execute a task. Balance is your ability to maintain equilibrium, or control your body's position in space. This component can further be broken down into static balance, which is maintaining equilibrium while not moving, and dynamic balance, which is maintaining control of the body while moving without succumbing to gravity or momentum. Balance is important in sports such as dance, gymnastics, ice hockey, figure skating and other sports requiring extreme control. Reaction time is a subcomponent of speed and refers to the time it takes for the neuromuscular system to produce movement from stimulus to reaction. Moving your foot from the accelerator to the brake is an example of reaction time. Combined, speed and reaction time equate to total response time, which is the time it takes from stimulus to completion of a movement. Speed and reaction times are thought to be greatly influenced by genetics.

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## Methodology

The purpose of this study was to compare the coordinative abilities among female kabaddi and chess players. To achieve this purpose, Hundred (N=100) Female players, that is fifty kabaddi players and fifty chess players were selected as subjects from Periyar University College of Arts and Science and Royal College of Arts And Science, Mettur Dam, Salem and their age ranged from 19 to 25 years. All the participants were informed about aim and methodology of the study and they volunteered to participate in this study. These subjects were tested on Hand & Eye Coordination, Reaction Time and Balance. One way Analysis of Variance (ANOVA) was applied to find out the significance mean differences between

kabaddi and chess players. The level of significance was set at 0.05.

**Results**

**Table I.** Descriptive statistics on hand & eye coordination

| variables | Players | N | Mean | Standard deviation | Standard Error |
|---|---|---|---|---|---|
| Hand And Eye Coordination | Kabaddi | 50 | 22.36 | 6.10 | 0.862 |
| | Chess | 50 | 11.88 | 4.36 | 0.617 |

Table – I reveals the Descriptive statistics on Hand & Eye Coordination among Kabaddi and Chess Players of college Women. Thus mean and standard deviation on Hand Eye Coordination of kabaddi and chess players are 22.36±6.10 and 11.88±4.36 respectively.

**Table II.** Analysis of variance on hand &eye coordination

| variables | Source | Sum of squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Hand & Eye Coordination | Between group | 2745.76 | 1 | 2745.76 | 97.61 | 0.000 |
| | Within Group | 2756.80 | 98 | 28.131 | | |
| | Total | 5502.56 | 99 | | | |

*significant at 0.05 level of confidence.

Table II reveals that the obtained F- value (97.61) to be Significant at 0.05 level of significance, which requires the table value 3.94 for the degree of freedom (1,98). Here the observed 'f' value (97.61) was found to be significant since it reaches the significant level. From the result, it was inferred that the mean difference on Hand & Eye Coordination among kabaddi and chess players was statistically significant.

**Figure I.** Mean values of Hand Eye Coordination between kabaddi and chess players.

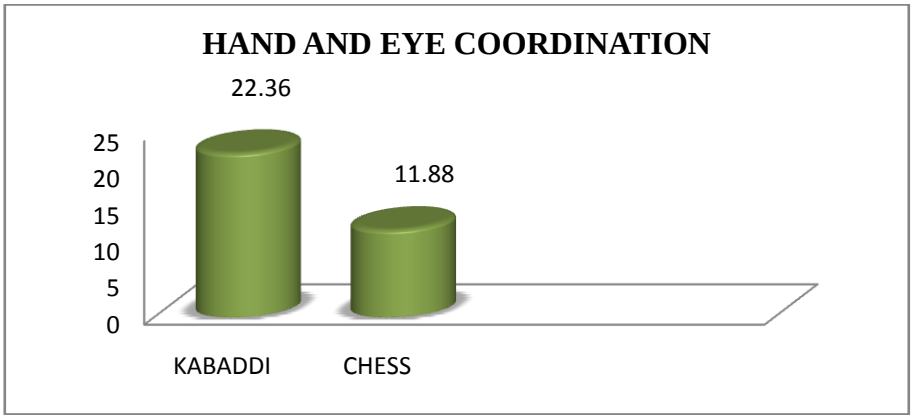



**Table III.** Descriptive statistics on reaction time

| variables | Players | N | Mean | Standard deviation | Standard Error |
|---|---|---|---|---|---|
| Reaction Time | Kabaddi | 50 | 7.88 | 0.68 | 0.097 |
| | Chess | 50 | 10.38 | 1.16 | 0.164 |

Table – III reveals the descriptive statistics on Hand & Eye Coordination among Kabaddi and Chess Players of college Women. Thus mean and standard deviation on reaction time of kabaddi and chess players are 7.88±0.68 and 10.38±1.16 respectively.

**Table IV.** Analysis of variance on reaction time

| variables | Source | Sum of squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Reaction time | Between group | 155.60 | 1 | 155.601 | 170.994 | 0.000 |
| | Within Group | 89.18 | 98 | 0.910 | | |
| | Total | 244.78 | 99 | | | |

*significant at 0.05 level of confidence.

Table-IV reveals that the obtained F- value (170.994) to be Significant at 0.05 level of significance, which requires the table value 3.94 for the degree of freedom (1,98). Here the observed 'f' value (170.994) was found to be significant since it reaches the significant level. From the result, it was inferred that the mean difference on reaction time among kabaddi and chess players was statistically significant.

**Figure II.** Mean values of reaction time between kabaddi and chess players

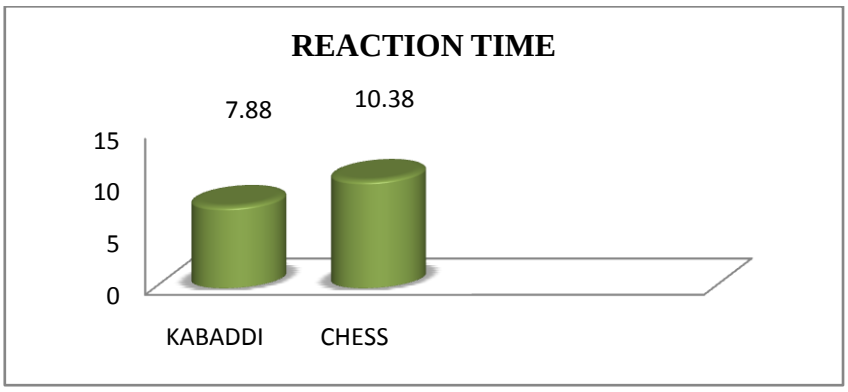



**Table V.** Descriptive statistics on balance

| variables | Players | N | Mean | Standard deviation | Standard Error |
|---|---|---|---|---|---|
| Balnce | Kabaddi | 50 | 16.44 | 3.99 | 0.564 |
| | Chess | 50 | 8.06 | 2.62 | 0.371 |

Table – V reveals the descriptive statistics on Hand & Eye Coordination Among Kabaddi and Chess Players Of college Women. Thus mean and standard deviation on Reaction time of kabaddi and chess players are 16.44±3.99 and 8.06±2.62 respectively.

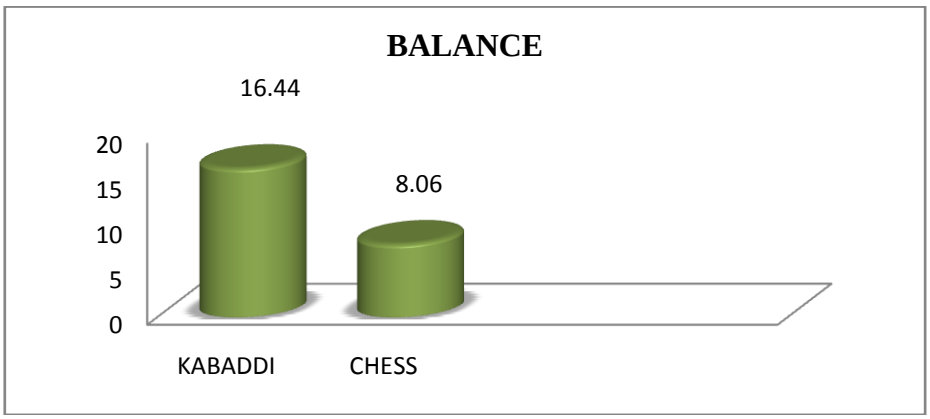
**Table VI.** Analysis of variance on balance

| variables | Source | Sum of squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| Balance | Between group | 1755.61 | 1 | 1755.61 | 154.009 | 0.000 |
| | Within Group | 1117.14 | 98 | 11.399 | | |
| | Total | 2872.75 | 99 | | | |

*significant at 0.05 level of confidence

Table-VI reveals that the obtained F- value (154.009) to be Significant at 0.05 level of significance, which requires the table value 3.94 for the degree of freedom (1,98). Here the observed 'f' value (154.009) was found to be significant since it reaches the significant level. From the result, it was inferred that the mean difference on balance among kabaddi and chess players was statistically significant.

**Figure III.** Mean values of balance between kabaddi and chess players.




**Discussion**

Human being is an integration of the body and mind. Both components through their combinations make him more successful. The mental process and the physical expression are beautifully interwoven in the mechanism of the whole man and his wholeness in no case should be made to suffer by separating mental and physical aspects (Kamlesh 1988). Man's life is a continuous flow of activity. Every moment he is doing something and his every activity is the result of the joint efforts of the body and mind; more integrated efforts yield more success to the individual. Things in this world, outside ourselves, come via the body (some organs) into our mind and things in our mind reach the world outside through the body (Sushil Chandra Gupta 1983). The result of the present study reveales that kabaddi players had better coordinative abilities than the chess players and there is a significance mean difference on coordinative abilities (hand & eye coordination, reaction time and balance) among the kabaddi chess players of college women.

**Conclusions**

Coordination is a skill that recruits the senses such as sight and hearing in conjunction with body parts to perform tasks accurately and with efficiency of movement. Coach brian mac contends that coordination integrates the various skill-related components of fitness into accurate and effective movements. It is concluded that kabaddi players had better coordinationon hand and eye coordination, reaction and balance than their counterparts (chess players) and also there is a significance mean difference on coordinative ability among kabaddi and chess players.

**Reference**

1. Freiwald, J., Papadopoulus, C., Slomka, M., Bizzini, M., & Baumgart, C. (2006). Prävention im Fubballsport. *Sportorthopädie Sporttraumatologie, 22*, 140–150.
2. Singh, H. (1991). Science of Sports Training. D.V.S. Publisher, New Delhi, 164-165.
3. Kapri, B.C. & Choudhary, R. (2010). Coordination abilities of Indian football players pertaining to different playing positions in football. Human Kinetics, 1(1): 66-73.
4. Gstottner, M., Neher, A., Scholtz, A., Millonig, M., Lembert, S. and Raschner, C. (2009). Balance Ability and Muscle Response of the Preferred and Non preferred Leg in Soccer Players. Motor Control, 2009, 13, 218-231.
5. Pawar, V. (2012).Indian National Women Soccer Team – A Profile Study. Variorum, Multi- Disciplinary e-Research Journal.2 (3):1-5.
6. Raghupathi, K. & Krishnaswamy, P. C.(2013). Comparative analysis of coordinative and balancing abilities among 10-15 years of rural and urban school boys. Global Research Analysis. 2(5):214-216.
7. Ruhal, G.S., Ruhal, A.S. & Singh, M.K. (2010). Coordinative abilities of cricket players in relation to different playing positions. Human Kinetics, 1(1): 42-46.
8. Bakshi, Reema (1994). Comparison of Two Group in Coordinative Abilities." (Unpublished Master"s Thesis, Jiwaji University,).
9. Ehab Mostafa Kamel and Mahmoud Houssain Mahmoud(2011), "Coordination Abilities as a Defining Element in Raising the Physical and Skill Performance Level of Basketball Female Juniors (A Factorial Study)." *World Journal of Sport Sciences* 4 (4): 386-393, 2011 ISSN 2078-4724.

10. Manilal, K.P.; Sabstian, P.J. and Thomas, Raju (1990), "Comparison of Coordinative Abilities of Junior Indian Basketball and Volleyball Female Players." (Unpublished Research Report, NSNIS, Bangalore).