



International Journal of Arts & Education Research

A STUDY OF CORRELATION BETWEEN COORDINATIVE ABILITY AND PERFORMANCE OF WOMEN VOLLEYBALL PLAYERS

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ABSTRACT

The present study is survey type study where the survey was conducted on female players of Kurukshetra district. Various coordinative abilities such as agility, differentiation ability, rhythmic ability, lateral movement ability and flexibility of the volleyball players were measured through zig-zag run test, control run test, rhythmic ability test, side step test and bend and reach test respectively, where as volleyball playing ability of female players were measured through petry volleyball playing ability test. Based on the result it was concluded that there was an average positive and significant correlation existed between components of coordinative ability with the volleyball playing ability of female volleyball players.

INTRODUCTION

Sports is medium which can provide a sense of purpose, a sense of continuous challenge, as well as a range of emotions which is something difficult to experience elsewhere. There are few occasions where we have such close contact with people, with physical environment and with ourselves, as in sports. Great satisfaction came from the actual experience of being competent and in control. There are numerous opportunities for personal growth and far stretching fourth the limits of human potential both physically and psychologically.

Coordinative Ability

Hirtz (1985), Harse (1986) Meinel and Schnabal (1987) defined coordinative ability as relatively stabilized and generalized control of motor control and regulation processes.

These enable the sportsmen to do a group of movements with quality and effect.

LITERATURE REVIEW

Lewin (1967) stated that in 3 years to 7 years of age, there is a rapid development of coordinative abilities.

Joseph (1983) conducted a study to determine the relationship of agility, shoulder flexibility, arm length and leg length of volleyball playing ability. For this purpose he selected 30 volleyball male players and found that agility was significantly to volleyball playing ability.

Harre (1986) stated about the characteristics of coordinative abilities that in an athletic coordination is determined by the repertoire of technical skills and by his level of coordinative abilities pre requisite for several; athletic activities.

Kala (1998) compared the coordinative abilities of Kabbaddi and Kho-Kho players of Kurukshetra university and found that Kho-Kho players had significantly better rhythmic ability as compared to the Kabbaddi players.

Neeraj (1999) "Compared the coordinative ability variables of Handball and basket Ball female players of Haryana state". She found that Basket Ball Players had significantly better rhythmic ability, lateral movement ability and Agility ability of coordinative ability as compared to the Handball players.

METHODOLOGY

For the present study 50 females volleyball players between the age of 17 to 21 years from various institutions of Kurukshetra were selected as subjects. These volleyball players were regular practicing player at Ram Nagar Kheri Distt. Kurukshetra volleyball coaching centre. They had at least participated in intercollege or inter district championship.

RESULT AND DISCUSSION

Table 1: Description Of The Scores On Coordinative Ability Tests And Volley Ball Players

Test Description	Test Item	Lowest Score	Highest Score	Range	Mean Score	S.D.	SE
Coordinative ability Test Item	Zig-zag Run Test	15.35 Sec.	26.91 Sec.	11.56 Sec.	22.70 Sec.	6.61	.93
	Control Run Test	.001 Secs	0.93 Secs	.929 Secs	0.22 Secs	.43	.06
	Rhythmic Ability Test	3.99 Sec.	5.97 Sec.	1.18 Sec.	5.04 Sec.	.54	.08
	Side Step Test	37	60	23	49.6	2.85	.40
	Bend of Reach Test	5 Cms.	22 Cms.	17 Cms.	15.9 Cms.	4.18	.60
Volley Ball Playing Ability Test	Petry Volley Ball Skill Test	151	250	99	202.28	22.41	3.17

Table 2: Correlation matrix between coordinative ability and volleyball playing ability scores

S. No.	Test Item	Volleyball Playing Ability	Correlation Coefficient (r)
1	Zig-zag Run Test	Petry Volley Ball Skill Test	-0.44**
2	Control Run Test	Petry Volley Ball Skill Test	0.52**
3	Rhythmic Ability Test	Petry Volley Ball Skill Test	-0.49**
4	Side Step Test	Petry Volley Ball Skill Test	0.70*
5	Bend of Reach Test	Petry Volley Ball Skill Test	0.73*

* Highly Significant,** Moderate Significant

Table 2 gives the coefficient of correlation between the zig-zag run test score and volleyball playing ability test score. The coefficient of correlation as show is - 0.44 which is average and significant correlation. Since the time score in zig-zag run test is inversely proportioned to performance given in this test and the high scores on zig-zag run test means low performance and nice-versa, it meant that the -ve sign of correlation meant a positive relationship. Agility as one of the component of coordinative ability is being measured through zig-zag run test, the correlation coefficient indicated a positive but average significant correlation between the agility and volleyball playing ability of women volleyball players.

The coefficient of correlation between the scores of control run test and Petry volleyball playing ability test as indicated in the table 2 is 0.52 which is significant and average correlation. As differentiation ability, one of the coordinative ability is being measure through control run test, the correlation coefficient indicated a significant and average correlation between the differentiation ability and volleyball playing ability.

The coefficient of correlation between the scores of rhythmic ability test and volleyball playing ability test as lighted in the above table was found as 0.49, which is average significant. Time factor taken on court step test being a negative factor for performance the negative sign indicated a positive significant correlation. The court step test is meant to determine the rhythmic ability, therefore the correlation coefficient indicated a positive significant relationship between the rhythmic ability as one of the coordinative ability with volleyball playing ability.

The table 2 also show the coefficient of correlation between the scores of side step test and Petry Volleyball playing ability test. The coefficient of correlation found was 0.70 which is highly significant. The side step test is designed to measure the lateral movement ability as one of the coordinative ability, the correlation coefficient relationship existed between the side movement ability and volleyball playing ability have significant correlation.

Table 2 also show the coefficient of correlation between the scores of bend and reach test and Petry volleyball playing ability test. The coefficient of correlation between the two mean scores was found 0.73 which is highly and significant correlated to each other. Flexibility as one of the additional component of coordinative ability as being measured through bend and reach test, the correlation coefficient indicated a highly significant relationship between the flexibility and volleyball playing ability.

FINDINGS

The findings of the present study are being discussed in the following order:-

1. Agility and Volleyball Playing Ability

The volleyball games is being played by six members of a team in a very small area of 9mt.X 9mt. i.e. half court of the; total area. The services returned by the opponent team players block and smash provide a fast range of movements covering the whole 9mt. X 9mt. area. Since the ball returns successively at a very high pace and speed, each and every member of the team have to move forward backward, sideways, up and down to receive and react on the ball. There movements are very agile. The continuous involvement in the practice of volleyball may increase the agility of their player. This might be the reason that the scores obtained by the women volleyball players on zig-zig run test were very high performance oriented and as such, a positive significant relation ship was established between the agility and volleyball playing ability.

2. Differentiation ability and volleyball playing ability

While smashing and projecting the ball, receiving an opponent's returned ball, jumping and blocking or even dropping a ball by jumping requires a great deal of observation, assessment and differentiation ability to co-opt with the timing of the strike and movement of the ball to reach a particular point and at a particular time. The involvement and experience in the volleyball playing develop this observation and differentiation ability. It may be the reason that a significant correlation was observed between the differentiation ability and volleyball playing ability of the subjects of the study i.e. by the women volleyball players.

3. Rhythmic ability and volleyball playing ability

Receiving the opponent's sent ball, during to receive the low ball, jumping up for blocking, smashing and moving to each and every area, even sometimes outside the court involve almost all type of body movement. For the subsequent and sequential movements to be performed a great deal of rhythmic is being required. Probably these game orders develop the rhythmic ability in the players of volleyball, who hence forth, were able to show a significant correlation between the rhythmic ability and volleyball playing ability.

4. Side Stepping ability and volleyball playing ability

Beside a lot of agility movements depending upon the covering of balls in the forward backward side and upward down ward movement the dominating performed movements are the side movement when the ball is "being received from left or right side by the players. A lot of side stepping movement are being performed during the entire game situation resulting in the players the development by side stepping ability. Due to this reason a positive and very high correlation was being observed between the side stepping ability and volleyball playing ability.

5. Flexibility and Volleyball playing ability

Smashing a ball with force, a great deal of explosive strength is being required. Besides strength of the abdominal region and that of arms and shoulders, the greatest explosive strength can be developed from a large range of body movement finally converted to a striking explosive strength. Large movements to facilitate body movement before strike the ball, the back must be extended back and they picked or flexed and bend forward after the strike. Both these acts require a lot of flexibility at the lumbar region of the volleyball players. The experience in the volleyball game for excellence performance leads to develop this quality. Henceforth, the volleyball women players showed a very high positive and significant correlation between the flexibility with volleyball playing ability.

The above findings and discussion revealed that a high to very high positive and significant correlation existed between the various components of coordinative ability and the volleyball playing ability.

Coordinative ability as explained earlier was the outcome of agility which is one of the physical fitness factor. The agility is a combination of speed and turning ability and also depends upon the

flexibility of the individual to facilitate the movement of turn as fast as possible. Singh (1984) and Hare (1986) stated that physical fitness includes coordinative abilities i.e. agility, besides flexibility, strength, speed, etc. The finding of the present study are being supported by the researches carried out by Peter and Haleski (1950), Prince (1968), Newlon and Robert (1970), Prastige (1972), Bosco(1975), Bailey (1977), Fukushinnia (1981), and by Wang(1981). The finding of the present study which showed a positive, high and significant correlation between the coordinative ability variables and volleyball playing ability of women players rejected the Null Hypothesis of the present study.

CONCLUSION

An average positive and significant correlation existed between the agility, differentiation ability and rhythmic ability components of coordinative ability with the volleyball playing ability of female volleyball players.

A high positive and significant correlation existed between the side stepping ability and flexibility as components of coordinative ability with the volleyball playing ability of female volleyball players.

REFERENCES

Lewin K. Turnen In v. Orschulal Ter, (Gymnastic in Pre-school age). Yolk and Wissen, V. Olksiegner Verlag, Berlin, 1965.

Joseph VK. Relationship of power, agility, flexibility and measurement of selected body segments to volleyball playing ability", unpublished Master's thesis Jiwaji University, 1983.

Harre D. Principles of Sports training, 1986; 150.

Kala DS. A comparative study of physical psychological and coordinative ability of Kho-Kho and Kabaddi male players, Unpubished Ph.D. thesis 1998.

Neeraj. A comparative study of Co-coordinative Ability variables of Handball and Basketball female players of Haryana State. M.Phil Dissertation, 1999.