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IMPACT OF HAND-EYE COORDINATION AND SHOULDER STRENGTH ON VOLLEYBALL SERVING ABILITY

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ABSTRACTS

. The purpose of the study was find out the Impact of hand-eye coordination and shoulder strength on volleyball serving ability. Thirty men volleyball players were selected from Tamil Nadu Physical Education and Sports University, Chennai were selected randomly as subjects. The age of the subjects ranged from 18 to 25 years. The subjects were selected single random group design. College level men volleyball players were randomly selected (N=30) and measured their hand-eye coordination, shoulder strength and volleyball serving ability. The dependent variable namely volleyball serving ability measured by North Carolina State University Volleyball Service Test. The independent variables namely Hand-eye coordination measured by Alternate Hand Wall Toss test and Shoulder Strength Measured by Push-Up test. The data were collected from each subject statistically analyzed by using mean and standard deviation for the dependent and independent variables were calculated separately and data were analyzed to find out the relationship within the independent variables using Pearson Coefficient of Correlation to find out whether the shoulder strength and volleyball serving ability had any influence on volleyball serving ability of college men volleyball players. It was found that there was significant improvement on volleyball serving ability variables.

INTRODUCTION

Fitness for living, be in the home, on the office, in the factory, or in military service implies freedom disease, enough strength, agility, endurance and skill to meet the demands of daily living, sufficient to with stand ordinary stresses without harmful strain, and mental development and emotional adjustment appropriate to the maturity of the individual. Physical fitness is the basic fitness of all other fitness. Physical fitness is not only the most important ways to a healthy body but it is also the basis of dynamic and creative activity. Physical fitness is the combination of strength, speed, flexibility, agility and endurance. It is the ability to enjoy our lives and achieve our goals without undue fatigue or stress. Physical fitness varies from person to person and different type of fitness and needed for different types of profession.Though volleyball was originally invented to be a recreational game; it has now developed into high competitive sports, requiring a high degree of fitness. The requisite levels of fitness will vary depending upon the level of

competition. Participation in top-notch competitive volleyball requires that a person should be in a state of optimum fitness. It is evident that these components of performance are essential for volleyball players. Nicholls recommends power, speed, agility, co-ordination, flexibility, muscular and cardio respiratory endurance as well as quick thinking and reaction time as the factors basic to performance in volleyball. **(Timothy smith, 1982).**

REVIEW OF RELATED LITRATURE

Jose Afonso, et al. (2012) investigated the perceptual cognitive processes underpinning skilled performance in volleyball: evidence from eye-movements and verbal reports of thinking involving an in situ representative task. An extensive body of work has focused on the processes underpinning perceptual-cognitive expertise. The majority of researchers have used film-based simulations to capture superior performance. We combined eye movement recording and verbal reports of thinking to explore the processes underpinning skilled performance in a complex, dynamic and externally paced representative volleyball task involving in situ data collection. Altogether, 27 female volleyball players performed as center backcourt defenders in simulated sessions while wearing an eye-tracking device. After each sequence, athletes were questioned concerning their perception of the situation. The visual search strategies employed by the highly-skilled players were more exploratory than those used by skilled players, involving more fixations to a greater number of locations. Highly-skilled participants spent more time fixating on functional spaces between two or more display areas, while the skilled participants fixated on the ball trajectory and specific players. Moreover, highly-skilled players generated more condition concepts with higher levels of sophistication than their skilled counterparts. Findings highlight the value of using representative task designs to capture performance in situation.**Tamara Karalic, et al. (2012)** determined the factorial structure of motor abilities of precision for male volleyball players. The task was to determine the correlation between motor tasks with the main components defined as potential factors of the research area. The sample consisted of 40 male volleyball players, members of volleyball teams from Nis (SRB), 14-16 years of age. Eleven motor tests were used to assess the following potential factors: the precision of shooting targets in the horizontal plane, the precision of shooting targets in the vertical plane body coordination at the, volleyball court, the precision of spike technique and nerve-muscle reaction. It was found that there are certain manifest dimensions within the subjects area defined as the area of precision. Then, in the structure of this area of volleyball, acting as precision factors in shooting targets with fingers and “bump” in the horizontal and vertical plane, also confirmed that the coordination of work and factor in the space of volleyball court and a velocity factor of nerve-muscle response. In general it is concluded that within the structure of technical-tactical elements operates particular type of precision in volleyball that can be defined as factors of precision in the technique of adding a ball with fingers, forearm pass technique (“bump”) and spike technique.**Alexander Gil Arias, et al. (2011)** analyzed the volleyball serve formative stages based on the function punch game player and receiver, and its effectiveness, and also establishing partnerships between these variables and gender. To this end, we analyzed a total of 1827 shares belonging to pull Spain Championship regional selections cadet class of 2005. The results show that both boys and girls guide to serve the ball to

other players who are neither attackers-front, or underwriters, or releasing. However the variable effectiveness, predominate in children serves to permit the construction of multiple attacks, while girls performed serves to limit the options of building the attack. In the inferential analysis, the gender variable is significantly associated with the three variables considered in the investigation, where the completion of the service by receptor-bombers and effectively services 1and 0 are associated significantly and positively with male gender while carrying out the services from the opposite and the central and efficacy 3 and 4 associated significantly and positively with the female gender.

METHODOLOGY

To achieve purpose, thirty men volleyball players were selected from Tamil Nadu Physical Education and Sports University, Chennai were selected randomly as subjects. The age of the subjects ranged from 18 to 25 years. The subjects were selected single random group design. College level men volleyball players were randomly selected (N=30) and measured their hand-eye coordination, shoulder strength and volleyball serving ability. The data were collected from each subject statistically analyzed by using mean and standard deviation for the dependent and independent variables were calculated separately and data were analyzed to find out the relationship within the independent variables using Pearson Coefficient of Correlation to find out whether the shoulder strength and volleyball serving ability had any influence on volleyball serving ability of college men volleyball players.

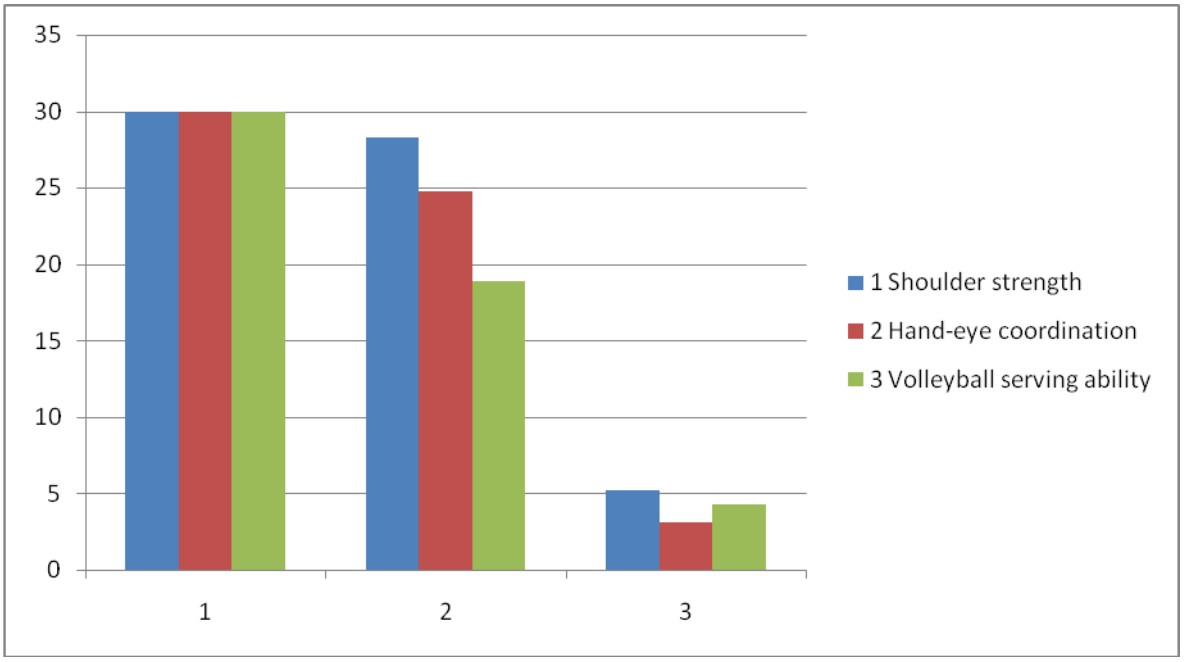
RESULTS AND DISCUSSIONS

The data pertaining to the variables in this study were examined by using mean and standard deviation for the dependent and independent variables were calculated separately in order to determine the difference and tested at 0.05 level of significance. Data were analyzed to find out the relationship within the independent variables using Pearson Coefficient of Correlation to find out whether the hand-eye coordination, shoulder strength and volleyball serving ability had any influence on volleyball serving ability of college men volleyball players have been analyzed in Table-I.

TABLE-I

MEAN AND STANDARD DEVIATION OF SHOULDER STRENGTH, HAND-EYE COORDINATION AND VOLLEYBALL SERVING ABILITY AMONG COLLEGE MAN VOLLEYBALL PLAYERS

S.NO	Variables	No. of Subjects	Mean	Standard Deviation
1	Shoulder strength	30	28.26	5.19
2	Hand-eye coordination	30	24.77	3.11
3	Volleyball serving ability	30	18.9	4.32



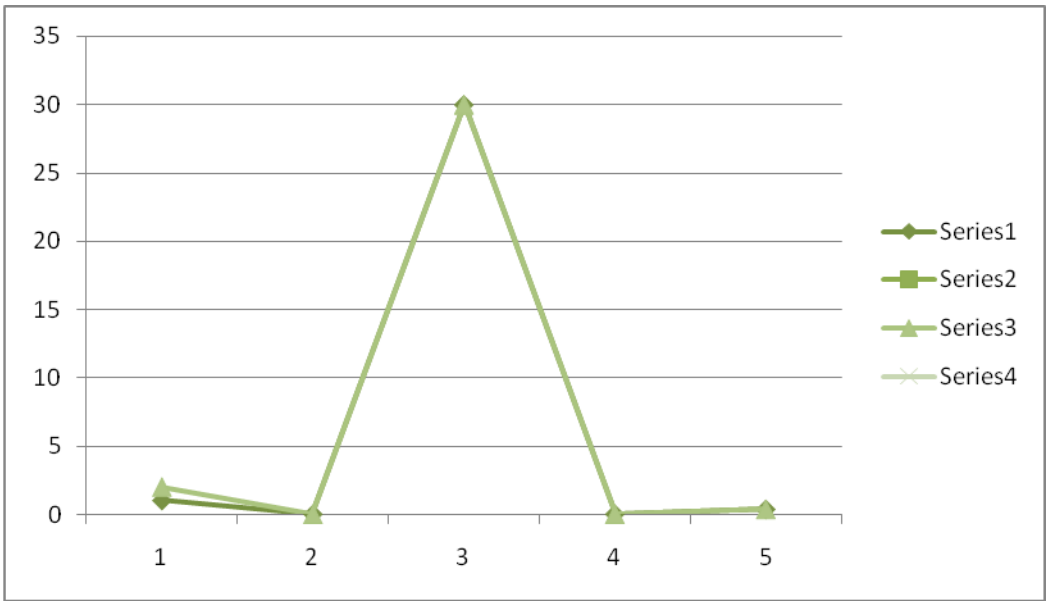
The obtained mean value of shoulder strength was 28.26 with standard deviation ± 5.19. The mean value of hand-eye coordination was 24.77 with standard deviation ± 3.11.The mean value of volleyball serving ability was 18.9 with standard deviation ± 4.32. Have been analyses and presented in Table II.

TABLE-II
SHOWING PEARSON PRODECT MOMENT CORRELATION VALUES BETWEEN SHOULDER STRENGTH AND HAND-EYE CORDINATION AND VOLLEYBALL SERVING ABILITY

S.N	Volleyball Serving Ability	No. of. Subjects	Obtained 'r'	Required 'r'
1	Shoulder strength	30	0.48*	0.355
2	Hand-eye coordination	30	0.56*	0.355

*Significant at 0.05 level of confidence. Table value 0.355 with the df (N-1) = 29.

The results presented in table II showed that there was significant relationship between volleyball serving ability and shoulder strength in the 'r' value of 0.48 was greater than 'r' value 0.355. There was significant relationship between volleyball serving ability and shoulder strength in the 'r' value of 0.56 was greater than the table value 'r' value 0.355. Which is higher than the table value 0.355 with df (N- 1) = 29 required for significance at 0.05 level. The results of study showed there was a significant impact between the volleyball serving ability with hand-eye coordination and shoulder strength.



CONCLUSIONS

1. It was concluded that there was a significant relationship between volleyball serving ability and shoulder strength among college men volleyball players.2. It was concluded that there was a significant relationship between volleyball serving ability and hand-eye coordination among college men volleyball players.

REFFERENCE

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