

RELATIONSHIP BETWEEN MOTOR ABILITIES AND CLEAR SKILLS OF BADMINTON PLAYERS

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ABSTRACT

The aim of this study was to evaluate the relationship between motor abilities and clear skill of badminton players. **Methodology:** 60 badminton players (40 boys and 20 girls) were selected from various badminton coaching centers of Chandigarh having age ranged from 13 to 16 years. Motor abilities namely agility, balance, flexibility, explosive power (SBJ&VJ), reaction time, speed, strength were measured by conducting 10 yards shuttle run, Stork balance, bend and reach, standing broad jump (SBJ), Sargent jump(VJ), Nelson hand reaction, 30 meter dash, sit-up tests. Hicks clear skill test were used to assess the badminton skill of the selected subjects. Pearson Product moment coefficient of correlation with significant level at ($p < 0.05$) was used to examine the correlations between clear skill and agility, balance, flexibility, explosive power, reaction time, speed, strength. **Result** The findings revealed that in boys badminton players clear skill ability was positively significantly correlated with the strength ($r = 0.32$), (SBJ) explosive power ($r = 0.38$), and negatively correlated with the agility ($r = -0.48$). However it was not significantly correlated with speed, flexibility, reaction time, balance and explosive power (VJ) of boys badminton players. In case of girls badminton players the results indicated that the clear skill was positively correlated with flexibility ($r = 0.48$), (SBJ&VJ) explosive power ($r = 0.53$ and 0.54), and negatively correlated with the speed ($r = -0.48$), agility ($r = -0.62$). But it was not significantly correlated with strength, reaction time, and balance ability of girls badminton players.

Keywords: Motor ability, Clear Skill and Explosive Power.

INTRODUCTION:

Badminton is a racquet sports played by either two opposing player in (singles) or two opposing player (doubles), who takes position on halves of rectangular court that is divided by a net. It is highly important for badminton players to be mentally and physically fit. At high levels of play,

the sport demands excellent fitness, players require aerobic stamina, agility, strength, speed and precision. It is also a technical sport, requiring good motor coordination and the development of sophisticated racquet movements. Downey (1982) stated that physical fitness is an inspirable part of the sports performance and achievements. The quality of its utilization value is directly proportional to the level of performance. That means the greater the level of fitness, the greater the ability of a person to attain higher levels of performance. For successful performance of skill, components of motor abilities contribute independently and interdependently. The role of motor abilities for successful sports performance can not be disputed. Strength, agility, speed, power, reaction time, balance abilities are the prerequisites for motor actions in all sports. The improvement and maintenance of these components are very important and significant in sports training. Pinto (1982) advocated that the top class world national players today require speed, power, endurance and absolutely top physical and mental fitness to withstand the stress and strain of competition. Whetnall and Morris (1981) presented “badminton is a game of skill, speed, power and control. A game of badminton demands quick reaction, fast movement, accuracy and power in stroke, sudden changes in direction, which demand higher level of motor fitness.

METHODOLOGY:

The study has been conducted on the sample of 60 badminton players (40 boys and 20 girls) which were selected from various badminton coaching centers of Chandigarh having age ranged between 13 to 16 years. Motor abilities namely agility, balance, flexibility, explosive power (SBJ&VJ), reaction time, speed, strength were measured by conducting 10 yards shuttle run, Stork balance, bend and reach, standing broad jump (SBJ), Sargent jump (VJ), Nelson hand reaction, 30 meter dash, sit-up test and Hicks clear skill test (Barrow) were used respectively to assess the badminton skill of the selected subjects. Pearson Product moment coefficient of correlation with significant level at ($p < 0.05$) was used to examine the correlations between clear skill and agility, balance, flexibility, explosive power, reaction time, speed, strength.

RESULT:

Descriptive statistics of motor fitness variables and clear skill of boys and girls badminton players has been given in table 1 and shown in figure 1.

Table 1: Descriptive statistics of motor fitness variables and clear skill of boys and girls badminton players

Sr. No.	Variables	Boys		Girls	
		Mean	S.D.	Mean	S.D.
1	Speed	5.53	0.77	6.18	0.45
2	Agility	10.48	0.88	11.6	0.44
3	Strength	41.87	11.28	31.4	14.8
4	flexibility	4.48	2.59	2.97	1.63
5	Reaction time	2.6	0.43	3.20	0.54
6	Balance	5.58	5.26	4.23	3.61
7	Explosive power(VJ)	15.62	3.95	10.7	2.53
8	Explosive power (SBJ)	70.02	11.76	53.5	7.00
9	Clear skill	73.12	12.11	52.1	16.46

The results in the table 1 depicted that the mean of speed of boys and girls badminton players was 5.53 and 6.18 second respectively, whereas the mean of agility was 10.48 and 11.6 second, for strength was 41.87 and 31.4, for flexibility was 4.48 and 2.97, for reaction time was 2.6 and 3.2 second, for balance was 5.58 and 4.23 second, for (VJ)explosive power was 15.62 and 10.72 inch, explosive power (SBJ) was 70.02 and 53.5 inch, for clear skill was 73.12 and 52.1 respectively.

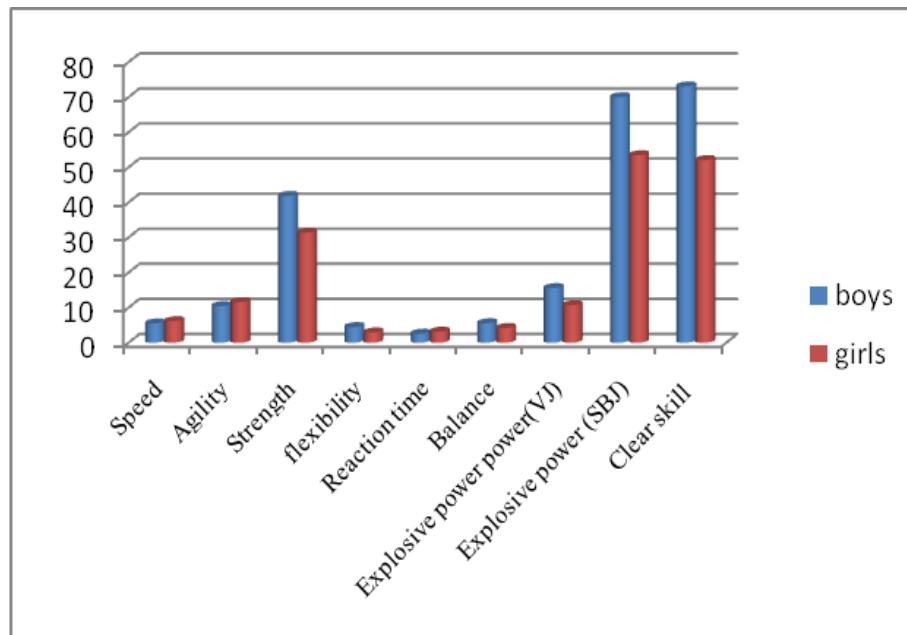


Figure 1: Means of motor fitness variables and skills variables of clear of boys and girls badminton players

Analysis of coefficients of correlation between badminton skill of clear and motor fitness variables of boys badminton players has been given in table 2 and shown in figure 2.

Table 2: Coefficients of correlation of clear skill with motor fitness variables of boys badminton players

Sr. No.	Variables	R	'p' value
1	Speed	-0.23	0.151
2	Agility	-0.48	0.002*
3	Strength	0.32	0.043*
4	Flexibility	0.05	0.769
5	Reaction time	-0.14	0.397
6	Balance	0.17	0.293
7	Explosive power (VJ)	0.19	0.240
8	Explosive power (SBJ)	0.38	0.014*

* = significant

Table 2 revealed that there were statistically significant relationship between clear skill and motor fitness variables of agility ($r = -0.48$), strength ($r = 0.32$), and (SBJ) explosive power ($r = 0.38$). The values for these variables were found significant at 0.05 level. However, coefficient of correlation between clear skill and motor fitness variables of speed ($r = -0.23$), flexibility ($r = 0.05$), reaction time ($r = -0.14$), balance ($r = 0.17$), and (VJ) explosive power ($r = 0.19$) were not found to be statistically significant.

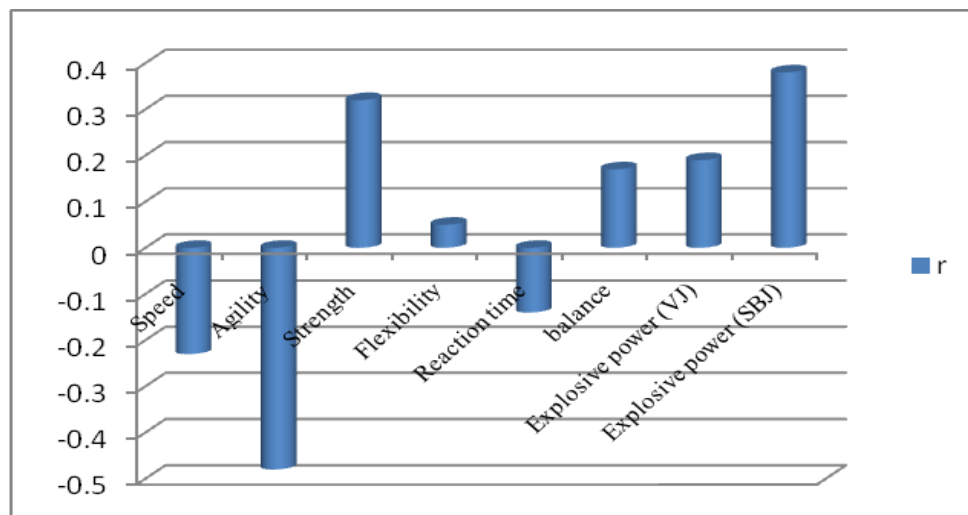


Figure 2: Coefficients of correlation of clear skill with motor fitness variables of boys badminton players

Analysis of coefficients of correlation between badminton skill of clear and motor fitness variables of girls badminton players has been given in table 3 and shown in figure 3.

Table 3: Coefficients of correlation of motor fitness variables with clear skill of girls badminton players

Sr. No.	Variables	'r'	'p' value
1	Speed	-0.48	0.033*

2	Agility	-0.62	0.004*
3	Strength	0.23	0.32
4	Flexibility	0.45	0.048*
5	Reaction time	-0.13	0.590
6	Balance	0.28	0.239
7	Explosive power (VJ)	0.54	0.014*
8	Explosive power (SBJ)	0.53	0.016*

* = significant

Table 3 indicated that there were statistically significant relationship between clear skill and motor fitness variables of speed ($r = -0.48$), agility ($r = -0.62$), flexibility ($r = 0.45$), (SBJ&VJ) explosive power ($r = 0.53$ & 0.54). The values for these variables were found significant at 0.05 level. Whereas coefficients of correlation between clear skill and motor fitness variables of strength ($r = 0.23$), reaction time ($r = -0.13$), balance ($r = 0.28$), were not found to be statistically significant.

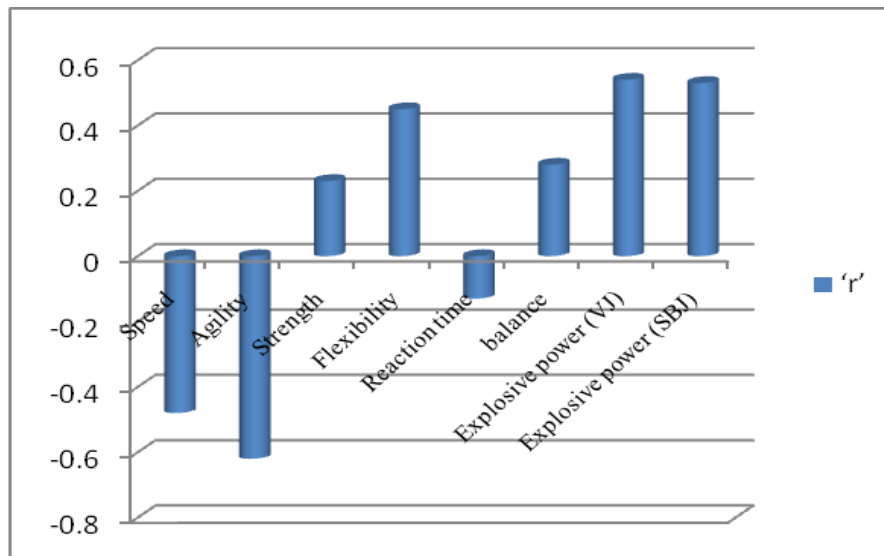


Figure 3: Coefficients of correlation motor fitness variables with clear skill of girls badminton players

Discussion of findings: It has been observed from the findings that the boys badminton players had shown significant relationship between clear skill and strength, explosive power (SBJ), agility. The results indicated that clear skill ability can be improved by agility, strength, and explosive power. Similarly Raza (2008) observed the significant correlation between badminton performance and physical fitness variables of agility, flexibility of badminton players. No correlation was observed between strength and badminton performance. The results of the present study for girls badminton players indicates that the clear skill was significantly correlated with flexibility, (SBJ & VJ) explosive power, speed, and agility. These findings were supported by the study of Chi (1996) who indicated that female badminton players must have footwork, cardio respiratory function, power and agility and elite male players must have muscle strength, muscle endurance, and agility to improve the badminton performance.

CONCLUSIONS:

Motor fitness variables of agility, strength and explosive power (SBJ), showed significant relationship with clear skill of boys badminton players.

Motor fitness variables of speed, flexibility, balance, reaction time, explosive power (VJ), for boys badminton players did not show any significant correlation with the clear skill.

Motor fitness variables of speed, agility, flexibility, explosive power (VJ, SBJ), showed significant relationship with clear skill of girls badminton players.

Motor fitness variables of strength, balance, reaction time for girls badminton players did not showed any significant relationship with clear skill of girls badminton players.

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