



Academic Sports Scholars

A STUDY ON RELATIONSHIP BETWEEN INTELLIGENCE AND MOTOR FITNESS OF SCHOOL LEVEL KABADDI AND KHO-KHO PLAYERS

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ABSTRACT

Human being is an interaction of body and mind which is known as psycho-physical unity. The better co-ordination between two, the better would be the performance. Intelligence is integral part of human nature. We do distinguish individual in our everyday life. Movement is the major part of motor fitness. In the field of sports, the performance of a particular motor task / skill requires a top level of intelligence depending upon the complexity of the skill or task.

The purpose of the study was to observe the relationship between intelligence and motor fitness of school level kabaddi and kho-kho players. For this purpose one hundred (100) kabaddi and one hundred (100) kho-kho players were taken as subject. The Motor fitness components and Psychological Trait Intelligence were selected as the criterion measures for this study. The Psychological trait intelligence was measured by Dr. G. C. Ahuja's, 'Group Test of Intelligence' questionnaire and the

Motor fitness components were measured by "AAHPER Youth Fitness Test". For this purpose Pearson correlation was used. It was observed that players possessed better motor fitness qualities, has higher level of intelligence level. Kho-kho group was better in both intelligence and motor fitness than kabaddi group. Those performers who are with better motor fitness always have fair chance of exhibiting a higher level of intelligence and



vice-a-versa.

KEYWORDS :Intelligence, motor fitness, school level kabaddi players, school level kho-kho players.

I. INTRODUCTION :

. A Intelligence is the thing that brings difference between the human beings and the other living beings and it plays a pivot role on which the whole evolutionary history of man is based and subsequently the various changes evident in the organs of the 'Homo sapiens'. The intelligence Quotient i.e., the IQ separates two persons on the basis of capability and it is proved that top positions are assured to persons with higher intelligence. The ability to reason, plan, solve problems think abstractly, comprehend ideas and learn quickly from ones experience – included in a general mental capability, which are not judged as merely book learning or narrow academic skills. On the whole, it rather reflects a deeper and broader capability for comprehending our surroundings of 'making secure' of things and 'figuring out' what to do.

According to curator –'Motor fitness is a readiness or preparedness for performance with special regard for big muscle activity without undue fatigue', which include the individual capacity with more efficiency and strength and force over a reasonable length of time.

Thoughts which do not get into muscles, never fully possess the mind". Research in psychophysiology has proved, more or less accurately, that the strength for the nerves is derived from the strength of the muscles. The more efficiently the muscles are exercised, the more efficiently the muscles are exercised, the more efficiently they nourish and serve other systems of the body especially the brain and the nervous system on which is dependent our intelligence.

Human being is made-up with body and mind and this interaction is known as Psycho-physical Unity. The better the co-ordination between two, the better would be the performance. The response capabilities of the individual are dependent upon his innate neuro-motor make-up, his physical structure and his typical of activation, as well as his inclination to move at a given moment in a given task More recently Tomporowski, et al. (2008)¹ reviewed research studies that examined physical activity effects on children's intelligence, cognition, and academic achievement. When the brain is activated during physical activity, existing brain cells are rejuvenated and new ones are stimulated. Specifically, there is an increase in cerebral blood flow, enhancement of arousal level, changing hormone secretions, and enhanced nutrient intake. The increase in cerebral blood flow, benefit cognitive functioning due to the increased nutrient and oxygen supply to the brain.

In this world, and individual's life is a continuous flow of activity. Every moment he or she is doing something. His every activity is the result of the joint effort of his body and mind. The activity may be throwing, kicking, running, jumping etc. Mechanism of combined working of mind and body is known as neuro-muscular system, which conducts and controls all human behaviour. It is the base and the function of the whole body is dependent on it. As activity originates in the mind and is done and expressed by some bodily organs. In other words, mental processes like thinking, feeling, expression etc, start with bodily activity¹.

According to R. B. Cattell as referred by Gupta (1989)², intelligence is hereditary in nature. We are finding that both intelligence and movement are hereditary qualities of human being, so there is a relation between them.

In a broad and general sense, it can be expressed that physical fitness deals with the physical side of the body and intelligence deals with mental side of the body. We know that the human organism is a complete entity, the total whole.

We do not think with the brain alone. A person thinks with the function of gland, the tone of muscles, and the digestive process in addition to the brain. So, mental activity is a manifestation of whole organism, e.g. pain in stomach (organ of the body) shows feelings of uneasiness that leads to the mental disturbance.

Accordingly body and mind are intimately related i.e., there may exist a relation between motor fitness and intelligence.

Now-a-days, physical education has the aim to develop physical fitness, motor fitness as well as mental, intellectual, social and emotional development. In the field of sports, the performance of a particular motor task requires a top level of intelligence depending upon the complexity of the skill or task. This type of performance is the result of intelligence on the part of the athlete concerned.

With this back drop, the investigator tries to investigate the intelligence of the athletes and has taken up this study for investigation to find out the relationship between athletic performance in terms of motor fitness and intelligence.

¹ Tomporowski, P.D., Davis, C.L., Miller, P.H., & Naglieri, J.A. (2008) exercise and children’s intelligence, cognition, and academic achievement. *Educational Psychology Review*, 20, 111-131.

² S.C. Gupta "Psychology Applied to General Education and Physical Education.", Pragati Prakashan, Meerut, 1989, pp 25-27

II. MATERIALS AND METHODS:

Subjects:

Total Two hundred (200) school level players consists of One hundred (100) kabaddi and rest of them kho-kho players were taken as subjects for this study. The subjects were taken from Burdwan District, West Bengal.

Psychological State:

Psychological states of the subjects were measured by Dr. G. C. Ahuja's "Group Test of Intelligence" questionnaire. The questions are as follows:

Sl. No.	Sub-Test	Number Items	Time Limit
1	Following Directions	9	4 Minutes
2	Classification	20	"
3	Analogy	20	"
4	Arithmetic Reasoning	6	"
5	Vocabulary	40	"
6	Comprehension	8	"
7	Series	12	"
8	Best Answers	20	"
TOTAL		135	32 Minutes

1 mark was given for each question. Motor fitness was measured by "AAHPER YOUTH FITNESS TEST'. There have six test items i) Pull up for boys and flexed arm hang for girls, ii) Bent knee sit up, iii) 4'10 yard shuttle run, iv) Standing board jump, v) 50 yard dash, vi) 1½ mile run.

Data Analysis:

The collected data were analyzed by using SPSS version. The Pearson’s Correlation method was used to calculate the relationship between intelligence and motor fitness.

RESULTS AND DISCUSSIONS:

Table -1 showed the results of the correlation between intelligence and total motor fitness scores of Kabaddi group were presented in a tabular form.

Table-1: Results of correlation between Intelligence and motor fitness of kabaddi players.

		Total Fitness (Kabaddi)	Total Intelligence (Kabaddi)
Total Fitness (Kabaddi)	Pearson correlations	1.000	0.89*
	Sig. (2 tailed)	-	0.000
	N	100	100
Total Intelligence (Kabaddi)	Pearson correlations	0.89*	1.000
	Sig. (2 tailed)	0.000	-
	N	100	100

** Correlation is significant at the 0.01 level (2 tailed)

Table-1 showed that there was a positive correlation between intelligence and motor fitness of kabaddi players.

Table -2 showed the results of the correlation between intelligence and total motor fitness scores of kho-kho group were presented in a tabular form.

Table 2: Results of correlation between intelligence and motor fitness of kho-kho players

		Total Fitness (Kho-kho)	Total Intelligence (Kho-kho)
Total Fitness (Kho-kho)	Pearson correlations	1.000	0.98 *
	Sig. (2 tailed)	-	0.000
	N	100	100
Total Intelligence (Kho-kho)	Pearson correlations	0.98 *	1.000
	Sig. (2 tailed)	0.000	-
	N	100	100

** Correlation is significant at the 0.01 level (2 tailed)

Table- 2 showed that there was also a positive correlation between intelligence and motor fitness of kho-kho players.

It may be concluded that both the groups (kabaddi and kho-kho) selected for this study kho-kho group was better in level of intelligence in relation to total motor fitness scores.

The investigator also tried to focus some light on the motor fitness components of both the groups and estimate the difference, if any, for better understanding about their fitness status. In this connection, the investigator represented the results in tabular form as in Table-3.

Table- 3: Comparison of Mean in motor fitness components between the two groups.

Parameters	kabaddi	Kho-kho
Pull-up	72.90	41.10
Sit-up	60.30	30.65
40 yard shuttle run	35.30	69.60
Standing broad jump	54.15	70.90
50 yard dash	36.25	62.10
1.5 mile run	36.30	73.70

Table-3 showed that the kabaddi group was better in Pull-up and Sit-up than Kho-Kho group. Kho-Kho groups was better in 4x10 yard S.R. , Standing Broad jump , 50 yard dash and 1.5 Mile run than the Kabaddi group.

The investigator also tried to enlighten the difference between the two groups in relation to motor fitness components through graphical representation. Figure-1 showed the graphical outcome of the group difference on component specific.

Figure-1: Graphical representation of the fitness components between the two groups.

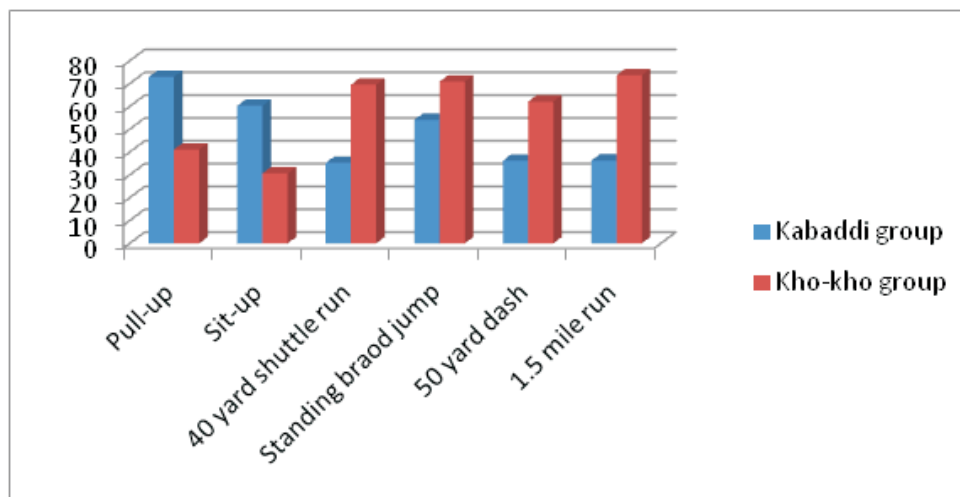


Figure-1 also showed that the kabaddi group was better in Pull-up and Sit-up than Kho-Kho group. Kho-Kho groups was better in 4x10 yard S.R. , Standing Broad jump , 50 yard dash and 1.5 Mile run than the Kabaddi group

The investigator also intended to estimate the difference of total fitness scores between the two groups and also presented in Table-4.

Table 4: Comparison of Mean values of total fitness and total intelligence between two groups.

	kabaddi	Kho-kho
Total fitness	295.20	348.05
Total Intelligence	97.05	104.10

Table-4 showed that the kaho-kho roup was better in both the motor fitness fitness and psychological parameters than the kabaddi group.

This result also represented in graphical form and mentioned in Figure-2.

Figure-2 showed the difference of Mean values in fitness and psychological parameters between two groups.

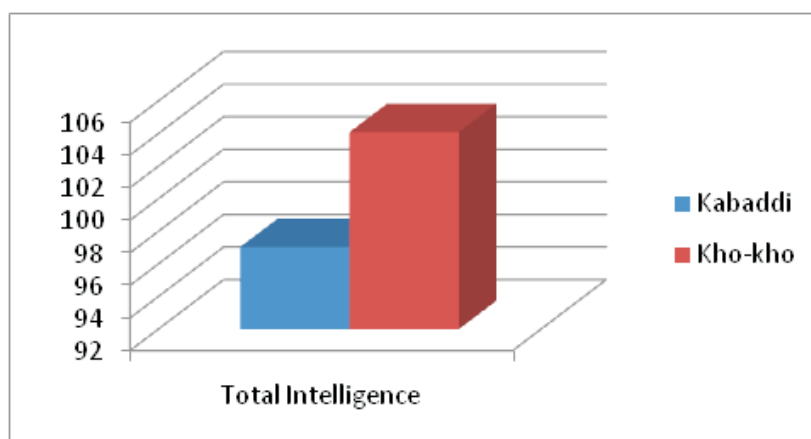
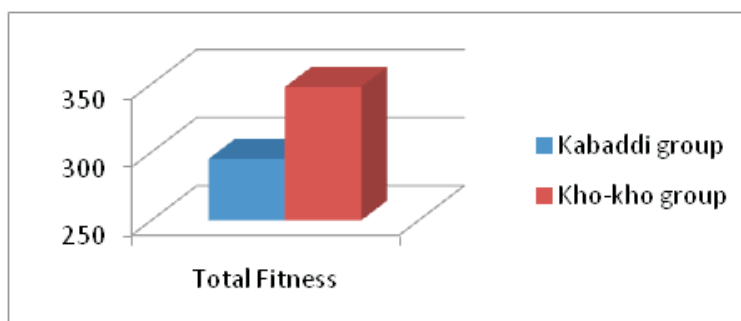


Figure-2 showed that both in total motor fitness scores and in total intelligence scores kho-kho group was better than the kabaddi group.

In the present study, there was a positive relationship between intelligence and motor fitness for both the groups. So, it may be concluded that better the motor fitness better the chance of expressing high level of intelligence or vice-a versa.

CONCLUSION:

In spite of the limitations, on the basis of the findings of this study the following specific conclusion was drawn:-

Performers showed better motor fitness has the fair chance of expressing higher level of intelligence and vice-a versa.

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