



Linkage Of Selected Motor Fitness Components With Explosive Power Of Fast Bowlers

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Abstract: The article attempts to examine the relationship among selected motor ability components and the bowling ability of cricketers. The study focuses on selected motor fitness components to ensure the bowling ability among university level Cricket players. Motor fitness is a present aptitude for physical skills, includes speed, agility and explosive power enriches today's Manpower in players performance. Bowling Fast bowling, sometimes known as pace bowling, is one of the two approaches to bowling in the sports of cricket. The other is spinning bowling. Practitioners are usually known as fast bowlers or pace bowlers although sometimes the label used refers to the specific fast bowling technique the bowler prefers, such as swing bowler or seam bowler. In today's ever advancing and professionally competitiveness best performance in sports can be made only through a systematic, planned and controlled training system, based on scientific system of sports training system, based on scientific system of sports training. Sports in today's life play very important role in bringing about physical, mental and social growth of nations. The main objective of the Study was to find out the effect of selected exercises on Explosive Strength, Speed, Endurance and Agility of Medium Fast Bowler in Cricket. Findings of the study are equally important for practitioners as well sports related academic courses.

Key Words: Fast Bowlers, Cricket, Motor Fitness, Physical Fitness, Sports.

INTRODUCTION

Worldwide 1960s to now the explosion of fitness awareness throughout the world ushers in the burgeoning fitness industry, with an onslaught of fitness information, scientific studies, celebrity exercise systems, products and services on a scale never seen before, giving the impression that modern civilized humans are committed to healthy bodies. Physical fitness is a general state of health and well-being and, more specifically, the ability to perform aspects of sports or occupations. Physical fitness is generally achieved through correct nutrition, exercise, hygiene and rest (Bhatia, 2012). It is a set of attributes or characteristics seen in people and which relate to the ability to perform a given set of physical activities.

Schools, College that provide physical education from an early age have understood the importance of all round growth. Physical education helps in development of muscles and bones and children kept fit from an early age. Obesity is a problem among many children and this can be partly solved by stressing on physical education (Bhowmik, 2005). Obesity can lead to many problems such as diabetes, heart problems and imbalances in hormones in children. Encouraging physical education in schools will help to contain the problem of obesity to an extent. Children who are enrolled in some form of sport or the other reap the benefits in the long run.

Sports by their very nature are challenging, enjoyable, all absorbing and require certain amount of skill and physical conditioning. Primitive man received most of the exercise through the ordinary daily pursuit that were necessary for him to earn a livelihood. They engaged in activities of a war like nature, and in time of peace practiced, these skills as a recreational past time. He has to excel to make himself eligible for a higher level of competition. Circumstances and chances play a major role in the present-day system for an athlete to come up to the highest level of competition (Gangey & Karketta, 2016). More over due to a sheer chance an individual has participated in an event and has won the competition he or she is likely to specialize in that event without any further guidance or instruction. This may be applicable to most of sports events. Motor fitness is gauged by performance and this performance is based on a composite of many factors. The most commonly mentioned fitness factors are strength, endurance, power, speed, co-ordinative ability, balance, flexibility. Some of these factors evidently are more dominant than others and thus have a higher relationship with motor fitness.

Cricket is a recreation wherein fitness is historically now not concept of as very critical. The importance of fitness in any recreation can't be underlined. The fitter you are the better you may play. But Cricket is one such game which tests your game competencies, intellectual power, stamina and physical endurance as well. The different test gambling countries have rightfully placed more emphasis on health recently and are reaping the benefits (Gaur et al., 2011). With the introduction of new concept of 20- 20 cricket and One Day Cricket, the sport has undergone significant modifications, and the physical demands placed on a cricketer's body have also significantly improved.

Bowling is one of the most exciting aspects in the game of cricket. The mark of a successful bowler is their ability to bowl precisely for sustained periods, bowl consistently accurate, and deceive the batsman

in order to achieve their wicket. The concept of performance may be deemed as the modification of performance factors. Accordingly, cricket performance is not limited to technical and tactical aspects but it is also with other aspects of the game. Sports performance is the sum of numerous factors which can vary from individual to individual and in spite of variations the players may give similar results in competitions (Parkash, 2018). The fast bowling is to deliver the ball with a straight arm **in cricket** so that it reaches the batter at high speed after having first bounced once off the ground. The greater the ball speed, the less time the batter has to respond. However, fast bowlers require high run-up speeds, generate large ground reaction forces, and produce high joint torques.

REVIEW OF LITERATURE

The game of cricket has changed significantly since the introduction of one-day cricket, and more recently, twenty 20, as have the physical demands placed on a cricketer's body (Jyoti, 2018). The human body and the effectiveness with which it functions was probably the most proficient machine ever seen in the history of mankind. Human body was intended for physical performance (Miller & Allen, 1982).

Early men were physical educators. They developed their bodies and could run, jump, climb and throw efficiently. At that time, physical fitness included the same elements as it does today (Nixon & Cozens, 1966).

In other studies of Surya namaskar, Bhavanani et al., (2011) stated that the effects of fast Surya namaskar are alike to aerobic exercises with muscular endurance and power, Sinha and colleagues had also stated that Surya namaskar also a form of aerobic exercise with having dynamic stretching as well as muscular movements involving all major joints.

Petersen et al., (2009) found that, Fast bowlers had a higher workload at higher intensities and need 13 seconds less rest between high intensity attempts than fielders. To account for this, it would be optimal for fast bowlers to seek fielding placements where they can enhance recovery between high intensity efforts, and limit the potential of fielding tasks, which impact on their bowling performance (Petersen et al., 2009). Petersen et al (2009) found that fast bowlers spent most of their time walking and their least amount of time running in the T20 format.

The most recent version of the game is (T20) cricket (Perera and Swartz, 2012) , and only one publication has quantified the positional movements in a study, which was delimited to state level players, and was done over 10 years ago. One of the more modern T20 competitions is The Big Bash League (BBL), which was established in 2011 by Cricket Australia, and which is the focus of this research.

OBJECTIVES OF THE STUDY

- To explore Different exercises mostly did.
- To identify the Classification of fast bowlers.
- To assess the motor fitness variables and sports performance among high performer Cricketers.

METHODOLOGY

The study is exploratory in nature. The data used for preparing this paper are secondary in nature which is collected from the various published resources. The data derived for preparing this research paper has been extracted from various elite journals and relevant websites.

RESULTS AND DISCUSSION

Relationship between selected motor fitness variables and sports performance among high performer cricketers has been presented in table-1: -

Table-1

Relationship Between Selected Motor Fitness Variables and Sports Performance Among High Performer Cricketers

S. No.	Variables	Correlation (r)	P-value (sig.)
1.	Pull-Ups	.041	.746
2.	Sit-Ups	.384	.002*
3.	Shuttle Run	.465	.000*
4.	Standing Broad Jump	.500	.000*
5.	50 Yard Dash	.571	.000*
6.	600 Yard Run/Walk	.363	.003*

Table-1 indicates the results with regard to the relationship between motor fitness and sports performance among high level cricket performers. The significant relationship ($p < 0.05$) between motor fitness and high-level cricket performance was observed. It offers insight that motor components directly influence the on ground and career level performance in sportsmen in the game of cricket.

Figure 1

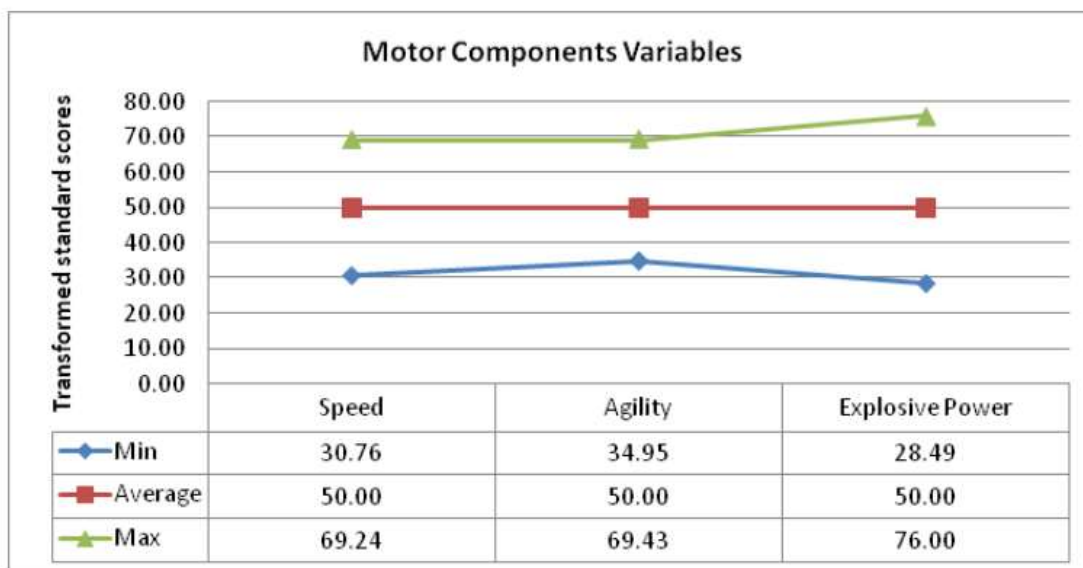


Figure 1 Graphical Representation of Descriptive Profile of Identified Motor Components Variables

Here by looking at the identified motor components variables of bowlers in cricket. we could say that for being a bowler in the game of cricket one must fall within the above range of motor components parameters (i.e., speed, agility and explosive power) shown in Figure 1. It helps to know the minimum and the maximum scores within which the player must fall.

It is possible for a bowler to concentrate solely on speed, especially when young, but as fast bowlers' nature they pick up new skills and tend to rely more on swing bowling or seam bowling techniques.

Table- 2

Classification of fast bowlers

Type	Mph	Km/h
Fast	90+	145+
Fast- Medium	80-89	129-145
Medium-Fast	70-79	113-129
Medium	60-69	97-113
Medium-Slow	50-59	80-97
Slow- Medium	40-49	64-80
Slow	Below 40	Below 64

Most fast bowlers will specialize in one of these two areas and will sometimes be categorized as strike, swing or seam bowler. Classification of fast bowlers is as shown in table -2.

Figure 2, shows the 26 exercises and percentage of each of those exercises which were commonly used. Out of those 26, Front Squat and Hip Thrust accounted for 50% usage.

Figure 2

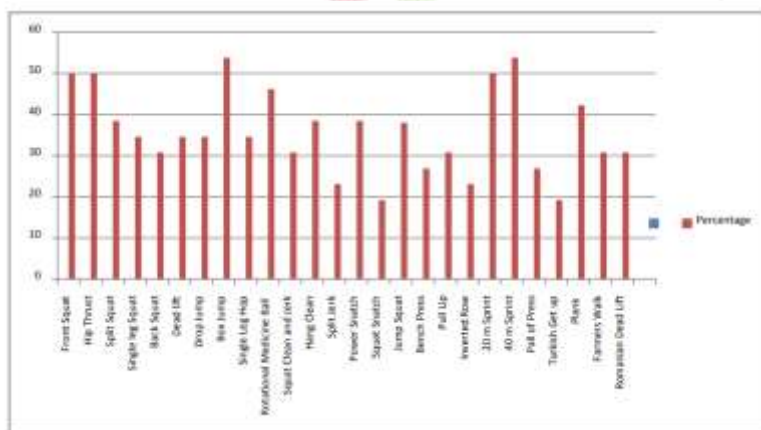


Figure 2 Different Exercises

Box Jump was used by >50% of the bowlers, Rotational Medicine Ball Throw was used by >40%, 40 m Sprint and Plank accounted for >50% and >40% respectively (Fig 2).

CONCLUSION

It is concluded that better motor fitness is associated with better sports performance among cricketers. The motor fitness components are detrimental factors contribute towards better performance in cricket. Therefore, it is recommended that coaches, sports trainers and players involved in the process of sports training should take utmost care of motor fitness improvement of their sports persons. While computing the correlation coefficient between Explosive power and Agility the present study concluded that explosive power is negatively correlated with agility i.e., with peak score of jump height there is decrease in time taken to complete 3 runs by the players which stated that good anaerobic power contributes in improving the agility performance necessary for the cricket players. There is further scope of research on psychological perspectives of players in response to fitness in game and related components of motor fitness. The present study provides a meaningful and systematic analysis to understand and utilize the variables contributing to sports performance under motor components of the physical fitness.

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