

MENTAL TOUGHNESS AND ATHLETIC PERFORMANCE: A GENDER ANALYSIS OF CORPORATE CRICKET PLAYERS IN PAKISTAN

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Abstract

*The present study aimed to explore the relationship of Mental Toughness and Athletic Performance of corporate cricket players of Pakistan on gender bases. Stratified random sampling method (Proportional) was used and 176 corporate cricket players were recruited, including males N^1 (123) and females N^2 (53) (Age 14-43, $M= 26.65$, $SD=5.031$). Sample comprised 38.63 % Batsmen, 25% Fast Bowlers, 2.84% Spin bowlers, 27.84% All-rounders and 5.68% Wicket keepers /batsmen. Survey was held and Mental Toughness Inventory (MTI) (Task familiarity, self-efficacy, Future potential, Mental self-Concept and Coach Athlete Rating of Athletic Performance (Level of Aggressiveness, fitness, Concentration, Strength, Motivation, Quickness, Team Cohesion) was used to collect the data. Data was analyzed through SPSS 2.0. Findings of the study suggested a positive correlation (.359**) between Mental Toughness and Athletic Performance. However, male cricket players were found significantly higher than female cricket players in mental toughness and athletic performance while playing at the national level. On the basis of the result study concluded that Mental Toughness is directly proportional to Athlete Performance in corporate cricket players of Pakistan and male cricket players were found significantly higher in mental toughness attributes such as task familiarity, self-efficacy, Future potential, Mental self-Concept.*

Key Words: Mental Toughness, Athletic Performance, Corporate Cricket Players, Gender.

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Introduction

“Every practice and competition begins with the way you think. The quality of your thoughts is critical; think in ways that promotes the outcomes that you desire” StephanyCoakley.

The present study was conducted to measure the impact of gender differences in mental toughness and athletic abilities of corporate cricket players of Pakistan. Bhardwaj & Singh (2014) suggested that achievement level has significant impact on mental toughness as international wrestlers found to possess higher level of mental toughness than national level wrestlers and female wrestlers found to possess significantly higher level of concentration abilities than male counter parts. There were number of questions raised from these findings. Firstly, if achievement level has significant impact on mental toughness and concertation abilities then it should have equal impact on both male and female athletes. Secondly, is this difference is sport specific (individual vs team sports).Bhardwaj & Singh (2014) were based on individual sport. Does these findings has same implications in team sports (Cricket) andthirdly,if the difference prevailsthen what are the causing factors of these differences while playing at same level.

The present study has multiple objectives first, to investigate the effect of achievement level on mental toughness attributes of national level athletes on gender bases. Second, to investigate the sports specific differences in mental toughness attributes such asTask familiarity, Self-efficacy, Future potential, Mental self-Concept. Third, to investigate the relationship of mental toughness and athletic abilities of corporate cricket players on gender bases .There is wide array of psychological characteristics that determine the sport success. Jones (2005) stated mental toughness was rated as one of the most influential of all by researchers. Sport coaches consider mental toughness as one of the key factor in sports success. (Gould, et al., 1993) Mental toughness is a “psychological quality that helps in coping with sport pressures and allows athletes to be consistently resolute in demonstrating psychological skills (Henton, et al., 2003) Mental toughness is a strong sense of assurance against adversity(Middleton, et al., 2004). Mental toughness is one of the characteristics of sports champions (Gucciardi, el al., 2009, 2012).

Jones (2005) argued that fifty percent of success in competitions could be attributed to mental toughness of athletes. On the other hand Jones & Howe (2005) defined “Athletic performance as a delicate mixture of natural, moral, technical, aesthetic, psychological and physical capacities... a collection of contextually grounded intentional and unintentional actions or excellences that we praise and celebrate”.

Considering Bhardwaj & Singh (2014) study findings mental toughness varies with reference to achievement level .The study was conducted to analyze the cultural trends of mental toughness and athletic abilities of Pakistan corporate cricket players while playing at same level. Sample (n=176) corporate cricket players were recruited including male ($N^1=123$) and female ($N^2=53$).The research stemmed from social cognitive theory of Bandura which stated that human learnings are based on the social environment in which he operates or performs his tasks. The study used multiple approach first, the study was conducted on team sports as compare to individual sports, second, the mental toughness of male and female corporate cricket players was measured while playing at same level and third, the impact of mental toughness on athletic abilities of male and female cricket players was subjected to analysis.

The study will provide the data base of mental toughness status of national corporate players and also the difference in the mental toughness on gender basis. The study will also provide the solid grounds for coaches, athletic trainers and sports federation to see the mental toughness trends of male and female cricket players and will provide solid base to emphasize more on mental toughness development programs in order to enhance the athletic abilities of female corporate cricket players.

Material and methods

The study was correlational in nature and survey methods was adapted to collect the data from the subjects. Questionnaire of mental toughness inventory (Task familiarity, self-efficacy, Future potential, Mental self-Concept) (Middleton et al., 2005) and Coach

Athlete Rating of athletic Performance (Level of Aggressiveness, Fitness, Concentration, Strength, Motivation, Quickness, Team Cohesion)(Moore, 2009) were used to collect the data from the subjects. Stratified sampling method was used and two strata were formed on the basis of gender and their respective proportion in the population. There were twelve male and four female corporate teams participating in the national tournament in 2016-17. Sample size was calculated as $(n = N / (1 + Ne^2))$ (Yamane, 1967). The sample size was $n = nN^1 + N^2 = 176$ including N^1 (123 male) and N^2 (53 female) who were playing at the national level. SPSS 20.0 was used to analyze the data. Pearson correlation was applied to measure the nature of existing relationship between mental toughness and athletic abilities and independent sample t test was applied to compare the difference in mental toughness and athletic abilities.

Procedure

Permission was obtained from the department's management in order to include coaches and players in the study. After taking the permission, players were selected who fulfilled the criterion of inclusion. A short player demographic information collection tool captured the details on a player's, age, years of professional experience, and primary role played in cricket. Questionnaires of Mental toughness Inventory (MTI) (Middleton, et al., 2005) and Coach Athlete Rating Scale of Athletic Performance (Coach Athlete Rating Scale of athletic performance) (Moore, 2009) were used to collect the data from the respondents. Questionnaires were based on Likert scale by giving number from 1 to 5 numerically.

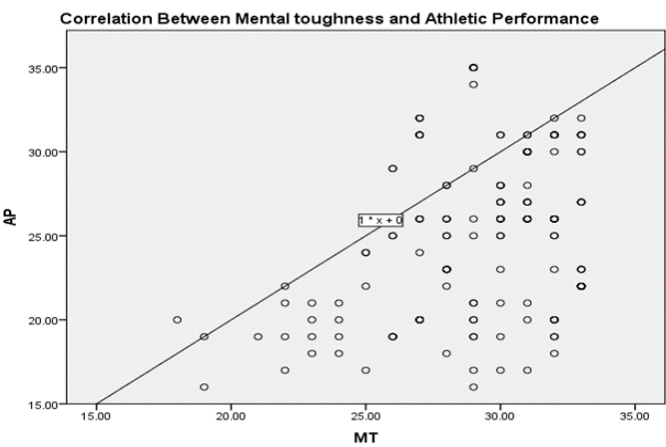
The data was collected from the training grounds where their matches and practice sessions were scheduled. Questionnaire of mental toughness inventory (MTI) was filled by the players and Coach Athlete Rating Scale of Athletic Performance (CARSAP) was filled by the coaches of the teams by keeping in view of players athletic performance on sub scales (Level of Aggressiveness, fitness, concentration, strength, motivation, quickness, team Cohesion). Written and verbal instructions of each scale were given to the subjects in order to fill the questionnaires. Respondent were requested to respond each item with honesty and accurately and give their point of view according to their personal experiences. The

respondents were also guaranteed that the material provided will only be used for research objectives and remained strictly confidential.

Results

The association of the relationship between mental toughness and athletic performance was assessed through Pearson correlation analysis. Data was analyzed through SPSS 20.0 and findings ($r = .359^{**}$, $p \leq 0.05$) suggested positive correlation between mental toughness and athletic performance. It means with increase in mental toughness the athletic performance also increases. Scatter plot (Figure 1) below showed the graphical representation of the relationship between mental toughness and athletic performance.

Figure 1:Correlation between Mental toughness and Athletic Performance



MT: Mental Toughness AP: Athletic Performance

Independent sample t test was conducted to determine the difference between the means mental toughness test scores of male and female corporate cricket players. The homogeneity of variance was not satisfied via Levene’s test $F (67.107) = 29.145$, $P=.000$. There was statistical significant difference between the mean mental toughness

test scores of males (n=123 .M =30.3089, SD 2.22920) and females (n=53.M 26.9434, SD, 3.89978) $t = (67.107) = 5.882$, $p = 0.00$. Similarly mental toughness attributes were analyzed on gender basis (see table 2) indicated males were found significantly higher on self-efficacy(male M =4.20,female M= 3.47), future potential (male M= 4.57, female M= 4.19)mental self-concept (male M= 13.04,Female M =11.68) and task familiarity(male M =8.50, female M= 7.60) than female cricket players. The assumption of homogeneity of variance of athletic performance was tested and found unsatisfied via Levene’s test $F (171.992) = 36.694$, $P = .000$ the independent sample t test has statistical significant effect .t (171.992) =20.752, $p = .000$ thus the male and female have different means of athletic performance.

Table 1: Comparison of Mental toughness and Athletic Performance on GenderBasis

N	M	SD	tdf
(MT) Male	123	30.30	2.229 5.882 67.107
Female	53	26.94	3.89 5.882 67.107
(AP)Male	123	27.43	3.409 1.319 174
Female	53	19.52	1.636 20.75 171.9

Value of significance $p < 0.05$, MT: Mental toughness, Ap: Athletic performance; Sample Size, M: Mean, SD: Standard Deviation, t: t test Value, df: degree of freedom.

Table 2: Gender-wise Comparison of self-efficacy, future potential, mental self-concept, task Familiarity

		N	M	SD
t	df			
Self-efficacy				
4.597	68.44	Male 123	4.20	0.636
		Female 53	3.47	1.067
4.597	68.44			
Future potential				
3.087	76.605	Male 123	4.57	0.588
		Female 53	4.19	0.810
3.087	76.605			
Mental self-concept				
5.082	71.490	Male 123	13.04	1.162
		Female 53	11.68	1.795
5.082	71.490			
Task Familiarity				
5.138	77.154	Male 123	8.50	0.843
		Female 53	7.60	1.149
5.138	77.154			

Value of significance $p < 0.05$, N; Sample Size, M: Mean, SD: standard Deviation, t: t test Value, df: degree of freedom

Discussion

The study examined the relationship of mental toughness and athletic performance. The results revealed that mental toughness and athletic performance are positively correlated, this means, with increase in mental toughness, athletic performance also increases ($r = .359, p \leq 0.05$) (Table1). Findings also manifested the difference in mental toughness and athletic abilities. While, comparing the mental toughness and athletic performance on gender basis, the results of independent t test revealed that there is statistical significant difference between the mean mental toughness test scores of males (see table 1) ($n=123, M\ 30.3089, SD, 2.22920$), females ($n=53, M 26.9434, SD, 3.89978$) $t=(67.107)=5.88\ 2, p=0.00$ which clearly indicated that males are more mentally tough

as compare to female cricket players. Similarly mental toughness attributes were analyzed on gender basis (see table 2) indicated males were found significantly higher on self-efficacy ,mental self-concept, future potential and task familiarity than female cricket players.

Athletic performance findings of independent sample t test also showed statistical significant effect, male ($M=27.4309$, $SD\ 3.40944$) and female ($M= 19.5383$, $SD= 1.6367$) $t(171.992) =20.752$, $p = .000$ thus the male and female have different mean of athletic performance. Bulls (2005) study supports the findings of this study in which they found that mental toughness of athletes depends on the amount of competitive environment experienced by the athletes and males are often more exposed to competitive environment than females. Existing literature showed that women sensed themselves weak in overall physical abilities as compare to men (Lirgg,1991), it may be due to different socialization processes that asserts physical activeness and competitiveness in males than females. Elite female athletes have high tendency to forecast their performance based on situationally-dependent, peripheral cues, such as their opponent's physiological or psychological contingencies than males. Hays, et al., (2009) found that "elite level female athletes derived their confidence from sensing a competitive advantage, such as seeing their opponent becoming frustrated or fatigued, whereas male athletes derived their confidence from believing that they were just overall better than their competitors" (Hanton,et al., 2003).

Female athletes are more fragile than males while facing physically intimidating opponent. Gender heterogeneity disposition to address sport-related constraints and sentiments while observing mental toughness and confidence. Male's masculine characteristics such as physiological and psychological endurance, and high confidence, may lead towards not conceding weakness and focusing more on strengths to the degree that sentimental and psychological constraints are overlooked (Mesener, 1995). Traditional feminine characteristics found in females mirror sentimental susceptibility and decency, as not considered as unwanted, while addressing their psychological characteristics. By considering these traditional gender characteristics female athletes undervalue their capabilities

and male athletes exaggerate theirs (Williams & Best, 1990). Krane & Williams (1994) endorsed these findings and suggested that female athletes are fair and square than male athletes in their self-reporting of nervousness and self-belief.

Conclusion

The study concluded that achievement level has significant effect on mental toughness and athletic performance but it is also gender specific. Mental toughness and athletic performance are positively correlated which mean higher the mental toughness, higher will be the athletic performance. Study was conducted on cricket which is the most popular and lucrative team sport of south Asian region. Findings suggested that there is a significant difference in mental toughness and athletic performance of male and female cricket players.

Results also showed that males scored higher on self-efficacy, mental self-concept, future potential and task familiarity than their female counterparts while playing at national level. In order to increase athletic abilities it is required to improve the mental toughness of players and especially of female cricket players. Cultural and social norms are the major factors of the difference in mental toughness and athletic abilities. Pakistan's Cultural and religious constraints do not allow the female's involvement without any intensive reason. The sport activities are not included in those intensive reasons. Pakistan is a masculine or male dominant society. Masculinity stands for a society in which men are supposed to be assertive, tough, and focused on material success and Women are supposed to be more modest, tender, and concerned with the quality of life. Women in the society are not allowed to take decision by themselves. Sporting culture is not developed in the country especially for women. They are not allowed to participate in extracurricular activities except a few examples from city areas. It appears that environmental effect involves a complex combination of multiple processes.

In sport, this means that the existence of a caring and supportive network, including family, friends, team-mates, coaches, managers, fitness trainers, and psychologists have strong influence on the talent

development. The deficiency of these factors reflects in the form of limited female participation at national level. There are only four female corporate teams participating at national level as compared to twelve male teams. These numbers justify the female participation as a minority, limited resources, limited pool of players and limited competitive exposure are among other factors which reflect in the form of low mental toughness in female cricket players. Mental toughness of athletes depends on the amount of competitive environment experienced by the athletes. Males are often more exposed to competitive environment than females (Hays et al., 2009).

Coach athlete relationship was another factor which may be causing deficiencies in mental preparation and sense of efficacy in female athletes. Majority of male coaches are involved with female teams. In the cultural context of Pakistani female players feel uncomfortable while expressing their feelings and emotions related to sport and their lifestyle which results in communication gap between coach and player's relationship and ultimately causing low sense of self efficacy and mental toughness. There is a need to increase the competitive exposure of female players to improve the status of their mental toughness. It is also recommended to employ qualified coaches and psychologist to ensure the mental development of male and female cricket players. Sports organizations should initiate psychological development programs at national level and below, in order to develop the mental and physical abilities of cricket players.

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