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Study on psychological characteristics of inter- university handball players on game performance

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Abstract

Introduction: Psychology being the science of activities of an individual in relation to his environment and playing is avital role in the environment of sports. It is helping a bit into the systematic study of behaviour and verification through experimentation of sportspersons.

The sports psychologist uses psychological assessment techniques and intervention strategies in an effort to help individuals to achieve their optimal performance. While sports psychology is concerned with analyzing human behaviour in various types of sports setting; it focuses on the mental aspects of performance. Psychologists believe that winning and losing should not be considered a subjective experience of the athlete alone. It has been found deeply related to performance in the subsequent competition. Losing threatens sports whereas winning strengthens it. This fact has been substantiated by Dr. Pani (1980) who found that the decrease in the intelligibility of kinaesthetic sensations was more pertinent after defeat than the post-victory stage (Gurbaksh S. Sandhu, 1992).

Purpose of the Study: The main Purpose of this study was is to identify the significant and influencing number of Psychological Characteristics Inter-University Handball players in Relation to game performance

Methodology: The aim of the present study was to identify the significant and influencing number of Psychological Characteristics Inter-University Handball players in Relation to game performance

Subjects: Total 100 subjects were selected for fulfil the aim of the study. The age group of the above players was between 19 to 24 years and players were selected from different University from Dharwad, Belgaum, Ballari & Chitradugra district of Karnataka state.

The Variables: In order to assess Psychological characteristics selected Psychological questionnaire of Aggression, Sports Achievement Motivation & Sports Competitive Anxiety were administered.

Conclusion: The beta values for Sports Competitive anxiety (-0.088), Aggression (-0.290) and Sports achievement motivation (-0.329) were found to be significant. This confirms that the there were to be best the predictor of post coaching game performance during Invitational competition in the inter-university handball players. The remaining predictor was found no significant post coaching game performance during Invitational competition of the inter-university handball players.

Keywords: Psychology, aggression, achievement motivation and anxiety

Introduction

Psychology being the science of activities of an individual in relation to his environment and playing is avital role in the environment of sports. It is helping a bit into the systematic study of behaviour and other verification through experimentation of sportspersons.

Sports psychology applies the psychological principles in a sports situation. It aims at understanding an athlete and helps to enhance his learning potentials and tackles the competition situation effectively. Sports psychology is mainly concerned with the psycho regulative analysis of sports ability and performance. Proper study and application of psychological principles in different sports and physical exercise and understanding psychological effect of subjective and objective environment help in improving sports ability.

The sports psychologist uses psychological assessment techniques and intervention strategies in an effort to help individuals to achieve their optimal performance. While sports psychology is concerned with analyzing human behaviour in various types of sports setting; it focuses on the mental aspects of performance. Psychologists believe that winning and losing should not be considered a subjective experience of the athlete alone. It has been found deeply related to performance in the subsequent competition.

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Losing threatens sports whereas winning strengthens it. This fact has been substantiated by Dr. Pani (1980) who found that the decrease in the intelligibility of kinaesthetic sensations was more pertinent after defeat than the post-victory stage (Gurbaksh S. Sandhu, 1992) [5].

Strong links in the academic domain have been established between peer relationships and social competence, friendliness, cooperativeness, altruism, perspective-taking, and self-esteem. Peers play an important role within the sports context as well. Positive team interactions, friendship, and social support from peers are strong sources of sports enjoyment, motivation, the expectation of success, and future participation intentions. In the case of psychological skills the main aim is to maximize the probabilities of success. Sport psychology lectures are known to be both very entertaining and informative. Coaches and players are realizing that to get ahead they need an added resource and that resource is a trained mind.

Most athletes fatigue mentally before they fatigue physically, due to the fact that their mind is not in a good shape as their bodies. The mind-body connection is a very powerful one. For everything you think in your mind, your body has a reaction, regardless of whether it is real or imagined (Karlene Sugarman, M.A., 1998) [3].

Nirmaljit Kaur, *et al.* (2011) [4] was focused to examine the levels of achievement motivation, emotional and social adjustment among International and National players of basketball, hockey, and handball games. Subjects (N = 240) were administered Achievement Motivation Test and Adjustment Inventory Analysis of variance (2 * 2 factorial design) was applied to find out the significance of differences and interaction of gender and performance. Descriptive values were worked to find out the direction of differences and t-test was used to find out the significance of inter sports differences. Results: International players had higher levels of achievement motivation (M = 27.42, SD = 4.16) as compared to the National level players (M = 24.84, SD = 3.98), F = 27.33 ($p < 0.01$). No significant gender differences were noticed on this construct. On emotional adjustment, the International players were emotionally better adjusted as compared to the National level players (M = 12.25 and 13.46 respectively, F = 8.39, $p < 0.01$: low scores indicated a better level of adjustment). International players were better adjusted socially (M = 7.19) than national players (M = 7.80), F = 6.30, $p < 0.01$. Male players were better adjusted both emotionally and socially as compared to female players. Male basketball and hockey players were emotionally and socially better adjusted than handball players. Among female players, handball group was better than basketball group on achievement motivation; basketball and handball groups were better.

Golby, J., & Wood, P. (2016) [1]. The study examined the effects of a psychological skills intervention (PST) designed to enhance the mental toughness and psychological well-being of student-athlete rowers (N = 16). Within this context, PWB was conceptualized by an amalgamation of the following psychological constructs; self-esteem, perceived self-efficacy, positive affect, and dispositional optimism. Progress was examined at three times evenly dispersed over the course of the six-month intervention, pre-, mid and post-intervention. The intervention was solution-focused and informed by Dweck's (2009) [8] theory of a growth mindset and Goldberg's (1998) [9] psychological strategies to develop mental toughness. The study design was a 2 (group) × 3 (time) two-way MANOVA with repeated measures on one factor (time). Various measures of mental toughness and

positive psychological constructs were utilized. Over the course of the intervention, MT significantly improved, in addition to perceived self-efficacy, self-esteem, and positive effect. Positive significant relationships were observed between components of MT and each of the positive measures; which lends support to the conceptualization of MT as a positive psychological construct which fosters positive psychological states (Clough & Strycharczyk, 2012) [7]. Further research is warranted to examine the development of MT on negative psychological constructs.

Kamuran Yerlikaya Balyan *et al.*, (2016) [2] examined the association between personality, competitive anxiety, somatic anxiety and physiological arousal in athletes with high and low anxiety levels. Anxiety was manipulated by means of an incentive. Fifty male participants, first, completed the Five Factor Personality Inventory and their resting electrodermal activity (EDA) was recorded. In the second stage, participants were randomly assigned to high or low anxiety groups. Individual EDAs were recorded again to determine precompetition physiological arousal. Participants also completed the Competitive State Anxiety Inventory-2 (CSAI-2) and played a computer-simulated soccer match. Results showed that neuroticism was related to both CSAI-2 components and physiological arousal only in the group receiving the incentive. Winners had higher levels of cognitive anxiety and lower levels of physiological arousal than losers. On the basis of these findings, we concluded that an athlete's neurotic personality may influence his cognitive and physiological responses in a competition.

Wasim Khan *et al.* (2016) [6] Sports and training are interrelated with each other. The role of training in sports is always considered as pivoting tool to enhance sports performance of athletes. In past, there was no proper concept of training in sports. In the recent technological era of sports and physical education, the training has gained significant importance. Sports training are a systematic process which prepares athletes physically, mentally and tactically for sports events. It is also a fact that different factors affect the process of sports training. Examining the available literature, this study was designed to assess separately the effects of psychological factors on sports training of male athletes in, Khyber Pakhtunkhwa (KP), Pakistan. This study is mainly focused to examine the effects of various psychological factors like training style, lack of motivation, fear of sports injuries and punishment. A sample of 106 athletes from different sports clubs was taken as a representative sample for the study. A structured questionnaire was used to collect required information from the respondents.

Purpose of the Study

The main Purpose of this study was to investigate, selected Psychological Characteristics Inter-University Handball players”

Methodology

The aim of the present study is to identify the significant and influencing number of Psychological Characteristics Inter-University Handball players”

Subjects

Total 100 subjects were selected for fulfil the aim of the study. The age group of the above players was between 19 to 24 years and players were selected from different University from Dharwad, Koppal, Ballari & Chitradurga district of Karnataka state.

The Variables

In order to assess Psychological characteristics selected Psychological questionnaire of Aggression, Sports Achievement Motivation & Sports Competitive Anxiety were administered.

Data Analysis

Values are presented as mean values and SD. Pearson Correlation, Analysis of variance, were used to test if population means estimated by two independent samples differed significantly. Level of significance was set at the 0.05. Data was analysed using SPSS Version 16.0 (Statistical Package for the Social Sciences, version 16.0, SSPS Inc, Chicago, IL, USA).

Table 1: Psychological variables for inter-university handball players in relationship to post coaching game performance during Invitational competition.

Si No	Variables	Pearson Correlation
1	Aggression	-0.401 +
2	Sports achievement motivation	-0.240 *
3	Sports competitive anxiety	-0.334*

+ Correlation is significant at the 0.05 level.

* Significant at 0.05 level (0.128) n=28, df=30

The above table shows that persons coefficient of correlation values between post coaching game performance during Invitational competition and psychological variables such as sports achievement motivation (-.240*) and Sports competitive anxiety (-0.334*) in the inter-university Handball players were greater than the table 'r' value (0.128) at 0.05 level of confidence and they were significantly correlated with the post-coaching game performance during Invitational competition at 0.05 level of significance in the inter university Handball players. Therefore, it was concluded that there was a significant relationship between post coaching game performance during Invitational competition and psychological variables such as aggression and sports achievement motivation in the inter-university handball players.

Aggression (0.401+) is significantly positively correlated with the post-coaching game performance during Invitational competition at 0.05 level of significance, in the inter-university Handball players. Therefore, it was concluded that there was a significant relationship between post coaching game performance during Invitational competition and above psychological variables in the inter-university Handball players.

Table 2: The regression analysis of morphological and post coaching game performance during Invitational competition of inter-university handball players

Regression analysis		Analysis of Variance				
r	0.700	Sources	df	Sum of Squares	Mean Squares	F value
r ²	0.490	Regression	1	406.088	406.088	26.873 *
Adj r ²	0.472	Residual	28	423.112	15.111	
Std Error	3.887	Total	29	829.200		
Regression analysis		Analysis of Variance				
r	0.777 *	Sources	df	Sum of Squares	Mean Squares	F value
r ²	0.604	Regression	1	500.687	250.344	20.575 *
Adj r ²	0.574	Residual	28	328.513	12.167	
Std. Error.	3.488	Total	29	829.200		

* Predictors: arm and mesomorphy

Table 2 shows the values of parameters of the regression analysis between the predictor variables (morphological) and post coaching game performance during Invitational competition of inter-university handball players. The result of the regression analysis showed that morphological variable like leg length (the predictor variable) was taken against the criterion variables yielded coefficient of multiple corrections (r) of 0.700 and adjusted multiple correlation square (r²) of 0.490. The r² value translated into 49.00 percent of the observed variance in the post-coaching game performance during Invitational competition score. The analysis also gave

a standard error of 3.887 and F-value of 26.873 which was significant at an alpha level of 0.05.

In the mesomorphy (predictor variable) was taken against the criterion variables yielded a coefficient of multiple corrections (r) of 0.777 and adjusted multiple correlation square (r²) of 0.604. The r² value translated into 60.40 percent of the observed variance in the post-coaching game performance during Invitational competition. The analysis also gave a standard error of 3.488 and F-value of 20.575 which was significant at an alpha level of 0.05.

Table 3: Summary of regression Analysis between predictor variables (psychological) and post coaching game performance during Invitational competition of inter-university handball players

Regression analysis		Analysis of Variance				
r	0.507 *	Sources	df	Sum of Squares	Mean Squares	F value
r ²	0.257	Regression	3	213.490	71.163	3.005*
Adj r ²	0.172	Residual	26	615.710	23.681	
Std. Error.	4.266	Total	29	829.200		

* Predictors: Sports Competitive anxiety, Sports achievement motivation, and Aggression

The above Table shows the values of parameters of the regression analysis between the predictor variables (psychological) and post coaching game performance during Invitational competition of inter-university handball players. The result of the regression analysis showed that psychological variable like Sports Competitive anxiety, Sports achievement motivation and Aggression (predictor variables) were taken against the criterion variables yielded a

coefficient of multiple corrections (r) of 0.507 and adjusted multiple correlation square (r²) of 0.257. The r² value translated into 25.70 per cent of the observed variance in the post-coaching game performance during Invitational competition. The analysis also gave a standard error of 4.266 and F-value of 3.005 which was significant at an alpha level of 0.05

Table 4: The betas of the predicting morphological variables on post coaching game performance during Invitational competition of inter-university handball players

Model	Unstandardized coefficients		Standardized co-efficient	t	Sig
	Beta	Std. Error.			
Constant	105.461	1.502	Beta	70.227	0.0001
Arm	-0.403	0.078	-0.700	-5.184	0.0001
Constant	116.656	4.235		27.544	0.0001
Arm	-0.292	0.080	-0.506	-3.627	0.0001
mesomohpy	-1.439	0.516	-0.389	-2.788	0.010

The above Table gives the predictor variables in the regression for Beta values and significant 't' corresponding to the variables regressed against the depended variables. The beta values for Arm (-0.403) and mesomorphy (-1.439) were found to be significant. This confirms that the Arm and mesomorphy are the best predictors of post coaching game

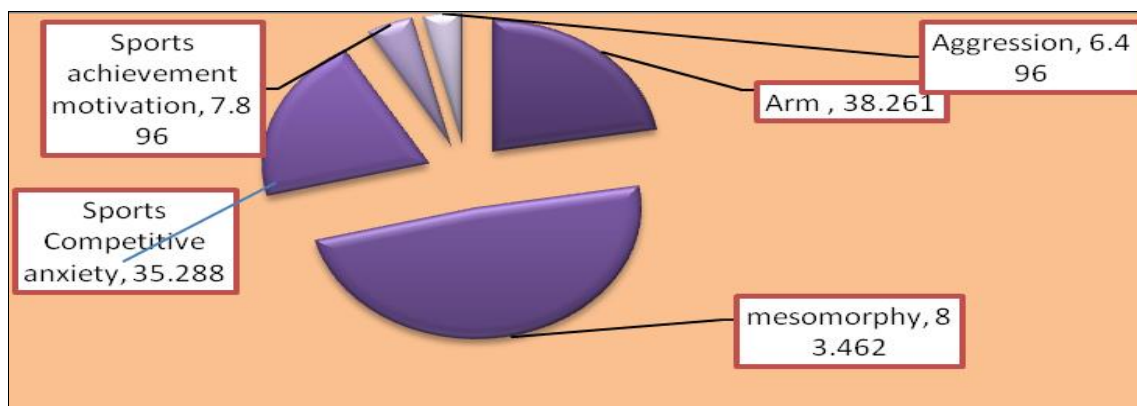
performance during Invitational competition in the inter-university handball players. The remaining predictor was no significant when compared to leg length in the post-coaching game performance during Invitational competition of inter-university handball players.

Table 5: The beta of the predicting psychological variables on post coaching game performance during Invitational competition of inter-university handball players

Model	Unstandardized coefficients		Standardized co-efficient	t	Sig
	Beta	Std. Error.			
Constant	120.929	8.672	Beta	13.944	.0001
Sports Competitive anxiety	-0.088	0.060	-0.280	-1.459	0.157
Sports achievement motivation	-0.329	0.213	-0.266	-1.549	0.134
Aggression	-0.290	0.232	-0.243	-1.253	0.221

The above Table shows the prediction of psychological variables in the regression for Beta values and significant 't' corresponding to the variables regressed against the depended variables. The beta values for Sports Competitive anxiety (-0.088), Aggression (-0.290) and Sports achievement motivation (-0.329) were found to be significant. This

confirms that the there were to be best the predictor of post coaching game performance during Invitational competition in the inter-university handball players. The remaining predictor was found no significant post coaching game performance during Invitational competition of the inter-university handball players.

**Fig 1:** The pie diagram showing contribution of the predicting morphological and psychological variables on post coaching game performance during Invitational competition of inter-university handball players

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