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

Dr. Krishna R Yadav and Sudhir V Bhainaik

Abstract

Introduction: Psychology being the science of activities of an individual in relation to his environment and playing is a vital role in the environment of sports. It is helping a bit into the systematic study of behaviour and other 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) [5].

Purpose of the Study: The main Purpose of this study was is to identify the significant and influencing number of Psychological Characteristics Inter-University Basketball 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 Basketball 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 & Shivamoga district.

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

Conclusion: The different factors loading of variables in Psychological characteristics of Inter-University Basketball players, sports achievement motivation (0.341*), the beta values for leg length (-0.512) in the inter-university basketball players was 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 competitions.

Keywords: psychology, aggression, achievement motivation & anxiety

Introduction

Psychology being the science of activities of an individual in relation to his environment and playing is a vital 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.

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].

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) theory of a growth mindset and Goldberg's (1998) 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 affect. 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). 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.

Leila Gholamhossinzadeheghlidi, *et al.*, (2016) [4] investigated the relationship of psychological skills and performance of skilled male volleyball players in vulnerable situations of Competition. For this purpose, 33 male players were selected by available sampling that was participated in Iran's Premier League and was achieved in the final round. A questionnaire of mental skills of Ottawa 3 (OMSAT) and Data software was used to collect information and to analyze the performance of players in three positions of service, attack, and defense, respectively. Spearman correlation coefficient results showed that there were no significant relationship base psychological skills, psychosomatic and cognitive skills with the success of the players' performance in some skills. According to the calculation of the effect size in the skills of goal setting in the service position ($r = 0.30$), it indicates the average relationship of goal setting in the implementation of service and calculated number on the defensive position $r = -0.25$ which reflects the average and reverse relationship, in the illustration skills in the service position $r = 0.23$ represents the average relationship between illustration in competition designing skills in attack position $r = -0.19$ showed the average and inverse relationship between competition designing and implementing an attack. In general, it seems that some mental skills in the performance of volleyball players play a useful role with average effect size.

Purpose of the study

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

Methodology

The aim of the present study is to identify the significant and influencing number of Psychological Characteristics Inter-University Basketball 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, Belgaum, Ballari & Shivamoga district.

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 basketball players in relationship to post coaching game performance during invitational competitions

| Si No | Variables | Pearson Correlation |
|-------|-------------------------------|---------------------|
| 1 | Aggression | 0.116 |
| 2 | Sports Achievement Motivation | 0.341* |
| 3 | Sports Competitive Anxiety | 0.093 |

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

The above table shows that, Pearson's coefficient of correlation values between post coaching game performance during Invitational competitions and psychological variables such as sports achievement motivation (0.341*) in the inter-university basketball players was 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 competitions at 0.05 level. Therefore, it was concluded that there was a significant relationship between post coaching game performance during

Invitational competitions and psychological variables such as aggression and sports achievement motivation in the inter-university basketball players.

Whereas the aggression and sports competitive anxiety variables were less than the table 'r' value (0.128) at 0.05 level of significance. Therefore it was concluded that there was no significant relationship between post coaching game performance during Invitational competitions and psychological variable such as sports competitive anxiety in the inter-university basketball.

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

| Regression analysis | | Analysis of Variance | | | | |
|---------------------|---------|----------------------|----|----------------|--------------|---------|
| r | 0.512 * | Sources | df | Sum of Squares | Mean Squares | F value |
| r ² | 0.263 | Regression | 1 | 224.425 | 224.425 | 9.970 * |
| Adj r ² | 0.236 | Residual | 28 | 630.275 | 22.510 | |
| Std Error | 4.744 | Total | 29 | 854.700 | | |

* Predictors: Leg length

The above table shows the values of parameters of the regression analysis between the predictor variables (morphological) and post coaching game performance during invitational competitions of inter-university basketball players. the result of the regression analysis showed that morphological variable like leg length (the predictor variable) was taken against the criterion variables yielded a coefficient

of multiple correlations (r) of 0.512 and adjusted multiple correlations squared (r²) of 0.263. The r² value translated into 26.30 percent of the observed variance in the post-coaching game performance during invitational competitions score. The analysis also gave a standard error of 4.744 and f-value of 9.970 which was significant at 0.05 levels.

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

| Regression analysis | | Analysis of Variance | | | | |
|---------------------|---------|----------------------|----|----------------|--------------|---------|
| r | 0.345 * | Sources | df | Sum of Squares | Mean Squares | F value |
| r ² | 0.119 | Regression | 3 | 268.256 | 89.419 | 1.174 * |
| Adj r ² | 0.018 | Residual | 26 | 1979.611 | 76.139 | |
| Std. Error. | 8.725 | Total | 29 | 2247.867 | | |

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

Table shows the values of parameters of the regression analysis between the predictor variables (psychological) and post coaching game performance during invitational competitions of inter-university basketball 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 correlations (r) of 0.345 and adjusted multiple correlations squared (r²) of 0.119. the r² value translated into 11.90 percent of the observed variance in the post-coaching game performance during invitational competitions score. The analysis also gave a standard error of 8.725 and F-value of 1.174 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 competitions of inter-university basketball players

| Model | Unstandardized coefficients | | Standardized coefficient | t | Sig |
|------------|-----------------------------|-------------|--------------------------|--------|-------|
| | Beta | Std. Error. | | | |
| Constant | 121.484 | 6.514 | Beta | 18.651 | 0.001 |
| Leg length | -1.484 | 0.470 | -0.512 | -3.158 | 0.004 |

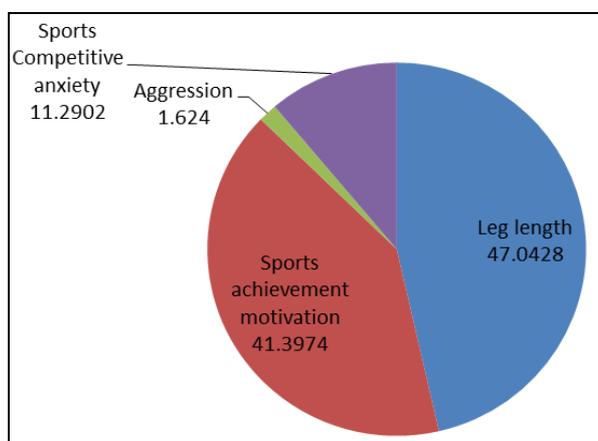
Table gives the predictor variables in the regression for Beta values and significant 't' corresponding to the variables regressed against the depended variables. The beta values for leg length (-0.512) was found to be significant. This confirms that the Leg Length is the best predictor of post coaching

game performance during invitational competitions in the inter-university basketball players. The remaining predictor was no significant when compared to leg length in the inter-university basketball players.

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

| Model | Unstandardized coefficients | | Standardized coefficient | t | Sig |
|-------------------------------|-----------------------------|-------------|--------------------------|--------|--------|
| | Beta | Std. Error. | Beta | | |
| Constant | 110.917 | 25.997 | | 4.266 | 0.0001 |
| Aggression | 0.140 | 0.496 | 0.053 | 0.283 | 0.779 |
| Sports achievement motivation | 1.214 | 0.700 | 0.335 | 1.733 | 0.095 |
| Sports Competitive anxiety | -0.38 | 0.863 | -0.009 | -0.004 | 0.965 |

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 (-0.38), aggression (0.140) and sports achievement motivation (1.214) were found to be significant. This confirms that the there was to be the best predictor of post coaching game performance during invitational competitions in the inter-university basketball players. The remaining predictor was nonsignificant in the inter-university basketball players.

**Diagram 1:** The pie diagram showing the contribution of the predicting morphological and psychological variables on the post-coaching game performance during invitational competitions of inter-university basketball players

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