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Achievement motivation and stress on performance of archers in Kerala

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Abstract

Archery is a sport which requires great amount of concentration, focus and self determination. Without mental skills none of the archers can reach high level performance. The purpose of the study was to find out the relationship of achievement motivation and stress on the performance of archers. To attain the purpose, 24 state/university level archers were selected from Kerala state. The age group ranges from 17 to 25. The variables selected for the study was, achievement motivation, stress and shooting performance. For measuring the achievement motivation, achievement motivation questionnaire by M L Kamalesh were selected. Perceived stress scale was selected to assess the stress. 50mtr shooting performance was selected to measuring the shooting performance. The result of the study reveals that, achievement motivation and performance was shown significant positive correlation ($r = .712$), where as stress and performance shown significant negative correlation ($r = -.602$). Achievement motivation and stress are negatively correlated to each other ($r = -.459$).

Keywords: Achievement motivation, stress, archers, FITA scoring

1. Introduction

In sports and games, psychological and physiological parameters play a significant role in determining the performance (Grange & Kerr, 2010; Schilling & Hyashi, 2001; Zamirulla K *et al.* 2011) [3,5]. Numerous studies have determined the impact of psychological factors on sports performance (Crespo, 2002) [1]. Optimum level of these factors, affect the performance level of the athletes. Too much or too less will definitely deteriorate the performance.

According to Taylor (1994) [7] motivation is the base of a pyramid towards success in competitions. Whereas, stress is any uncomfortable emotional experience accompanied by predictable biochemical, physiological and behavioral changes (American psychological association, 2015). Achievement motivation can be defined as the need for success or the attainment of excellence. Motivation is the basic drive for all our actions where as stress is a stimulus which put pressure in our mind. Stress can affect the performance of players in two ways; positive and negative. Positive aspect of stress makes the players more alert, motivated, focused and also helps to prepare for competition. On the other side, too much stress results performance anxiety, arousal and will not allow to play relaxed. It negatively affects the confidence level of the archers.

Many studies were conducted to find out the effect of achievement motivation on performance. The results of those studies reveal that achievement motivation is a significant predictor of performance and it will affect other factors which influences the performance. On the other side, the relation between stress and performance has been the subject for many researchers (Craft, *et al.* 2003; Parfitt & Pates, 1999) [2, 6]. They found that because of stress put on the mind the athletes can't perform at their best like they usually do.

Archery is a sport which requires great amount of concentration, focus and self determination. Without these factors he can't perform well in competitions. A slight change in the mind may completely destroy the shooting accuracy of the archers. Here this study examines the relationship of achievement motivation and stress on performance of archers. It also tests the relationship between stress and achievement motivation.

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2. Methodology

2.1 Selection of subjects

To achieve the purpose of the study, 24, state/university level archers were selected. The age of the subjects was ranges from 17 to 25. All the subjects have minimum 2 year experience in the field of archery. Both male and female archers were considered as the subjects for the study. They were oriented about the purpose and procedure of the study.

2.2 Selection of variables

Keeping the theoretical knowledge in mind, achievement motivation and stress were selected as the independent variable and shooting performance as the dependant variable.

2.3 Tools used for the study

For measuring the achievement motivation of the subjects, achievement motivation questionnaire by M L Kamalesh was administered. For assessing the stress level, perceived stress scale was used. Score obtained in 50 mtr competitive shooting

was selected as the performance in archery.

2.4 Data collection procedure

The questionnaires were completed by the subjects prior to the competition. Shooting performance was administered in the competition. The total score obtained in 50 meter shooting was considered as the performance score. The scoring was administered by the FITA scoring system.

2.5 Statistical techniques used

Descriptive statistics like mean, SD, minimum score and maximum score were calculated to understand the nature of spread of data. Pearson product moment correlation was computed to find out the relationship between the variables. Level of significance was set on 0.05. Statistical package for social sciences 16.0 version was used for computation.

3. Results and discussion

Table 1: Mean, Standard Deviation, Minimum and Maximum Scores for the Selected Variables

Variable	Mean	SD	Minimum	Maximum
performance	276.88	32.261	219	313
Achievement motivation	28.083	5.42	18	38
Perceived stress	27.333	8.39	10	40

Table 1 describes mean, SD, minimum and maximum scores of each variables studied. The maximum score that can be scored on achievement motivation being 40, the subjects scored 28, which indicated archers have moderate level of achievement motivation. Whereas the highest score on stress is 40 that can be achieved by the subjects; the mean score of

the subjects on stress was 27.33. This show the subjects have high perceived stress. In the case of performance, the maximum score that an archer can score is 360. The subjects of this study achieved 276.88, which reveal that they have average level of performance in their field.

Table 2: Correlation Matrix for Performance and independent Variables

		Performance	ACM	Stress
Performance	Pearson Correlation	1	.712**	-.602**
	Sig. (two tailed)		.000	.002
ACM	Pearson Correlation		1	-.459*
	Sig. (two tailed)			.024
Stress	Pearson Correlation			1
	Sig. (two tailed)			
	Sig. (two tailed)			

*.Correlation is significant at the 0.05 level (2-tailed).

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

Table 2 elucidates that achievement motivation is positively correlated to performance where as stress is negatively correlated. Both the independent variables show significant

correlation to performance. On the other hand achievement motivation and stress shows negative correlation.

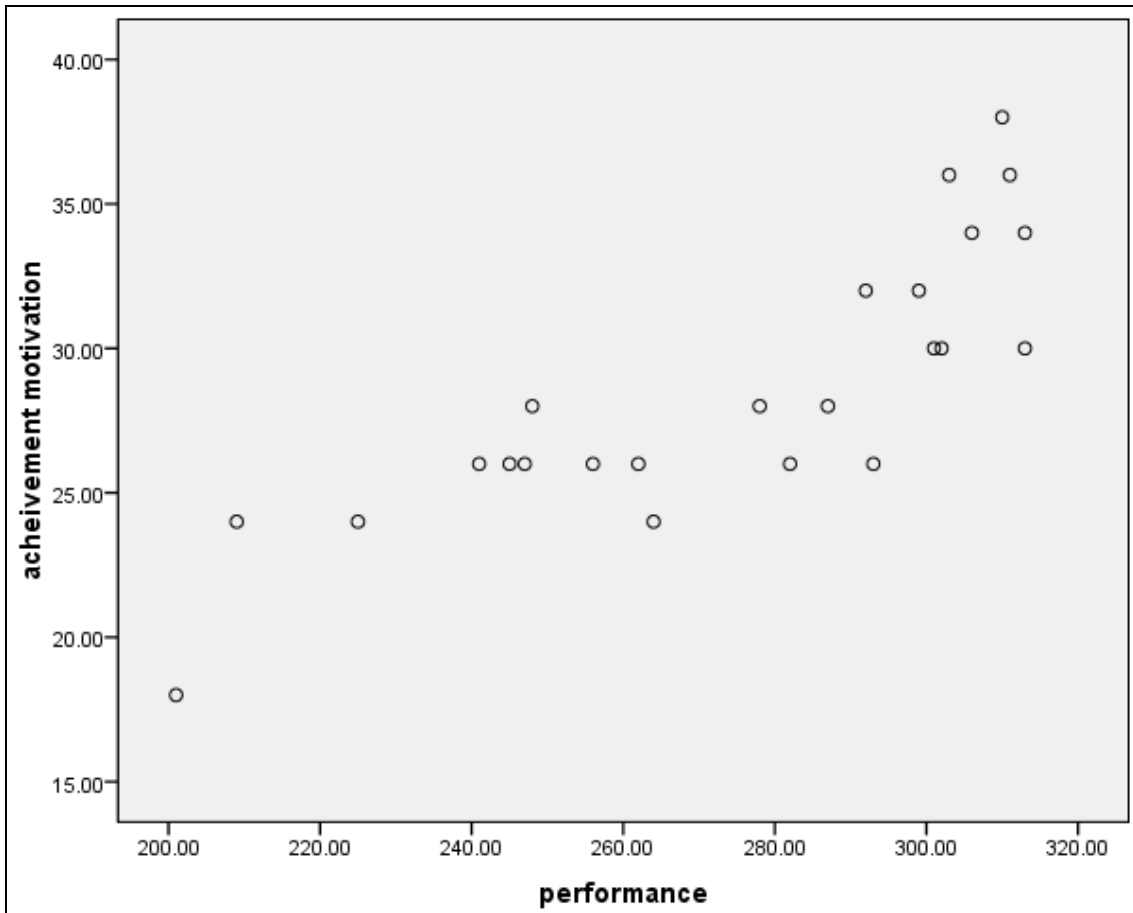


Fig 1: Relationship between performance and achievement motivation.

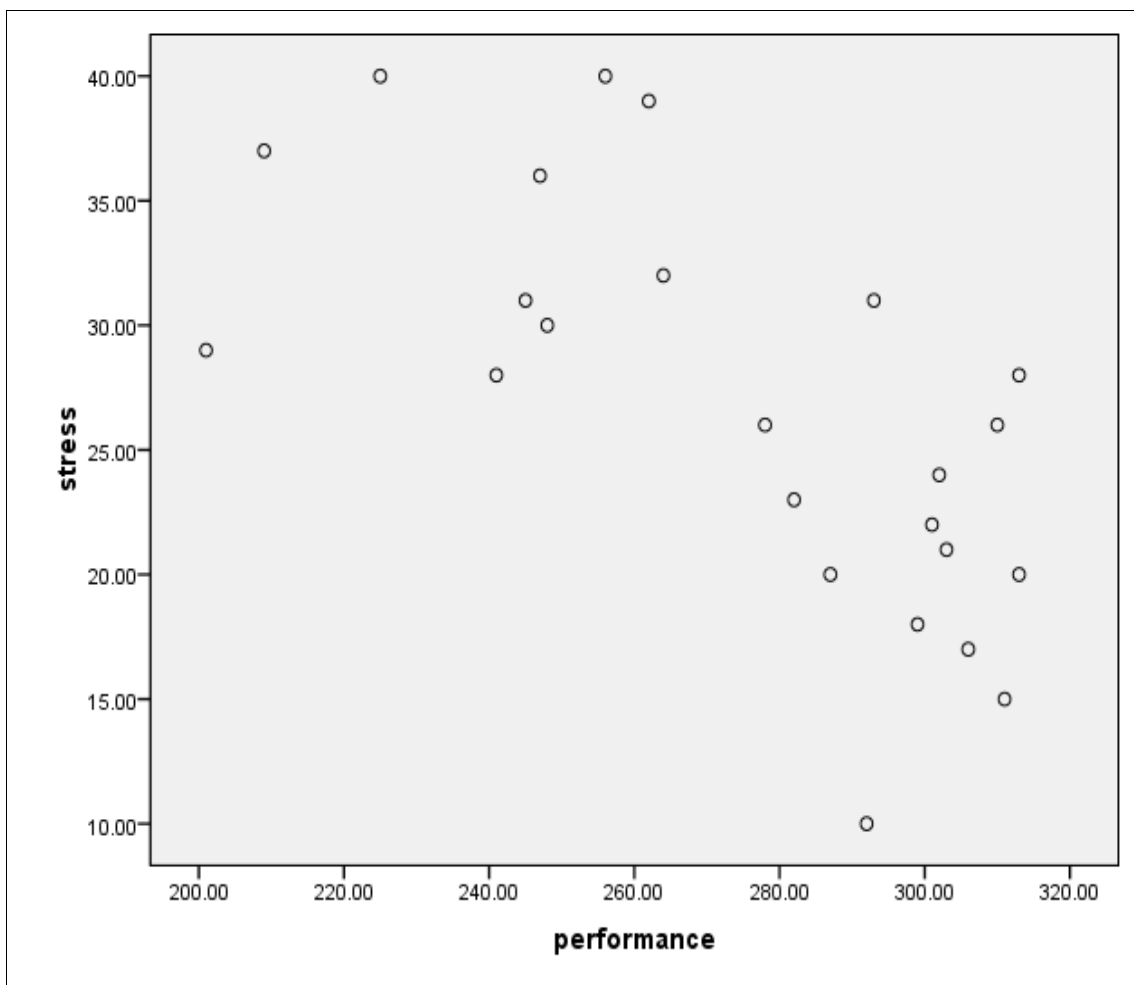


Fig 2: Relationship between performance and stress.

The results of the study find out some interesting facts. Achievement motivation and performance in archery shows positive correlation. Which means when the achievement motivation increases performance will also increase. It is because of motivation is the drive for success (Taylor, 1994)^[7]. Motivation directs a person's activity and makes it more or less dynamic. Without the desire to succeed, one can't reach the success. In the case of stress and performance, result reveals negative correlation. Which means, when the stress increases performance will deteriorate and vice versa. Many of the researchers explained the relationship between stress and performance (Hardy & Fazey, 1987; Martens *et al.* 1990; Gualberto & Wiggins, 2008). If the stress is not handled consciously, the athlete will lose their control and their performance will decrease. Another fact which found out was, achievement motivation and stress were negatively correlated. This indicates that, the person with high level of stress having low level of achievement motivation. Well motivated players are more tough than the poorly motivated. We can also say that, stress is an indicator of low motivation (H. Kumar, 2009).

Conclusions

After analyzing the data and discussion of findings, the following conclusions were drawn;

1. The archers in Kerala having moderate level of achievement motivation and high perceived stress.
2. There was a significant positive relationship between achievement motivation and performance.
3. Negative correlation was seen in the variables of stress and performance.
4. There was a significant negative correlation between achievement motivation and stress.

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