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Influence of psychological variables on hockey balancing ability

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Abstract
Sport is one of the greatest expressions of the aspirations to excel and to gain recognition and pleasure through skilful performance. Sport Psychology addresses the interactions between psychology and sport performance, including the psychological aspects of optimal athletic performance, the psychological care and well-being of athletes, coaches, and sport organizations, and the connection between physical and psychological functioning.
The Purpose of the study was to find out the relationship between Psychological variables such as Sports competition anxiety and Self-concept and hockey playing ability (Especially Balancing ability) of Kuvempu university inter-collegiate men hockey players, by using standardizing questionnaires designed by Rainer and Martens (SCAT) questionnaire and Muktha Rani Rastogi, the subjects were ranging from up to 28 years, the data collected was treated with the statistical technique "r" test and there is no significance difference between hockey playing ability.

Keywords: Anxiety, self-concept, balancing ability

Introduction
Physical education is the process of education that concerns activities which develop and maintain the human body. Physical education is an educational process that has as its aim the improvement of human performance and enhancement of human development through the medium of physical activities selected to realize this outcome.
Sport is one of the greatest expressions of the aspirations to excel and to gain recognition and pleasure through Skillful performance. Sport is a human activity that involves specific administrative organization and a historical background of rules which define the objective and limit the pattern of human behaviour. It involves competitions and in change and a definite outcome primarily determined by physical skill. Sport is not only for sale of sports but for strengthening the power, directed to achieve the high results in selected sports activities. In modern sports the medal tally is the ultimate good stick to protect the image of a country and sports men and women are trained and turned to sweat and slog for more, more and still more medals.
Hockey is one of the most thrilling games. It has taken roots in more than 110 countries in the world. India reigned supreme in the field of hockey from 1928 to 1956. India emerged successful at all occasions because of its superior skills and patterns of play India dictated the terms completely, in the field of hockey with artistic skills and wizardry of fine ball control in ancient times.
The origin of this artistic game is a mystery and many theories are advanced in this connection. According to evidence the stick game was being played in some crude or by the ancient Persians.

2. Review of Literature
Playing ability served as discriminate function analysis. According to Sprogens study, evaluation of general ability, and the evidence failed to support the concept that the basic skills course in a specific sports facility, subsequent performance. In another study Bandyopadhyay found out the relationship of selected anthropometrics measurements, physical fitness and motor ability to soccer skill performance.

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Study result was concluded high correlation between physical fitness and soccer skill performance.

McDavid conducted a study on predicting athletic potential in football players. The substantial correlations were obtained between most test items and the test criterion the sum of 'T' scores size as predicted by Mc clog's non-significant correlation with the criterion.

3. Methodology of the study

The purpose of study was to know relationship of psychological variables on hockey Balancing ability.The present study has used Descriptive statistics i.e. Mean, Std. Deviation, Variance and Karl person's correlation method was used to investigate the association between the psychological variables on hockey Balancing ability of sample correlation coefficient and statistically significance is zero in this research. Study samples (n=60) were the bivariate normal distribution of description, nature of correlated variables i.e.psychological variables and Balancing ability of inter collegiate hockey players of the Kuvempu University.

The study sample $(n = 60)$ points $(x_i\ y_i)$ describe the correlation coefficient r from the following formula

$$r = \frac{\sum (x_i - \bar{x})\,(y_i - \bar{y})}{[\sum (x_i - \bar{x})^2 \sum y_i - \bar{y})^2]^{\frac{1}{2}}}$$

The formula results establish the correlation coefficient r value. Correlational Variables values laid range from -1.00 to + 1.00. The positive and negative signs show the direction of the value. If values close to 0.0 indicate variables are not related to one another, but values move away from 0.0, their predictability and association strength increase. Thus, r estimates the parameters ρ, theselected motor fitness variables needs a test to decide value of r to test $H_0 : \rho = 0$ against $H_1 : \rho \neq 0$, if $-t_{(n-2),(\alpha/2)} \leq \Delta_r \leq -t_{(n-2),(\alpha/2)}$, then accept H_0 and reject H_1. Otherwise, reject H_0 and accept H_1.That the observed value of r is zero, to prove the study hypothesis the test of Student's t-distribution with $n-2$ degrees of freedom. $t = \frac{r}{\sqrt{1-r^2}} * \sqrt{n-2}$. The two-tailed test is executed to analyze the research hypothesis.

Selection of subjects

Sixty hockey men players who belong to various colleges were selected as subjects for this study. The subjects were in the age of up to 28 years and who had represented their respective colleges in Kuvempu University inter-collegiate Hockey tournaments and were of different socio-economic status. The level of significance was set at 0.05 level.

Selection of variables

1. Balancing Ability

Psychological variables

1. Sports completion (SCAT) Anxiety – Rainer and Martens scat questionnaire
2. Self-concept- Muktha Rani Rastogi

4. Results and Discussion

The statistical analysis of data collected on hockey playing ability, psychological variables such as sports completion anxiety and self-concept from sixty Kuvempu University Inter Collegiate Hockey Men players was presented in this chapter.

Table 1: Descriptive Statistics of psychological variables and balancing ability

Descriptive Statistics	1.Balancing Ability	2.Anxiety	3.Self-concept
Sample (n)	60	60	60
Mean ($\bar{x}$)	1.792	19.78	61.67
Std. Deviation (σ)	0.8813	2.946	6.133
Variance (σ^2)	0.7768	8.681	37.62

Source: Primary Data

Table 1 Results indicated 60 sample description of hockey players balancing ability M = 1.792, S.D = 0.88, Variance = 0.77, Anxiety M = 19.78, S.D = 2.946, Variance = 8.681, and Self-concept M = 61.67, S.D = 6.133, Variance = 37.62.

Table 2: Pearson Correlations between psychological variables and balancing ability

Correlations between variables			Pearson's r		p	VS-MPR+
Balancing Ability	-	Self-concept	-0.151		0.251	1.061
Balancing Ability	-	Anxiety	-0.073		0.577	1.000
Self-concept	-	Anxiety	0.035		0.789	1.000

*$p<$. 05, ** $p<$. 01, *** $p<$. 001

+ Vovk-Sellke *Maximum ρ*-Ratio: Based on the p -value, the maximum possible odds in favor of H_1 over H_0 equals $1/(-e\ p \log(p))$ for $p \leq .37$ (Sellke, Bayarri, & Berger, 2001).

The above table 2 shows the relationship of selected motor fitness variables and balancing ability of hockey men players Balancingability, Anxiety and Self-concept influence (Psychological Variables) on hockey players while playing. The above Correlation values measure i.e r=-0.151, r= -0.073 and r= 0.035 along respective VS-MPR+ value. Since, $\Delta_r < t_{(n-2),\alpha}$, study then accept H_0 and reject H_1 i.e. there is no significant relationship between motor fitness variables selected for the study and balancing ability.
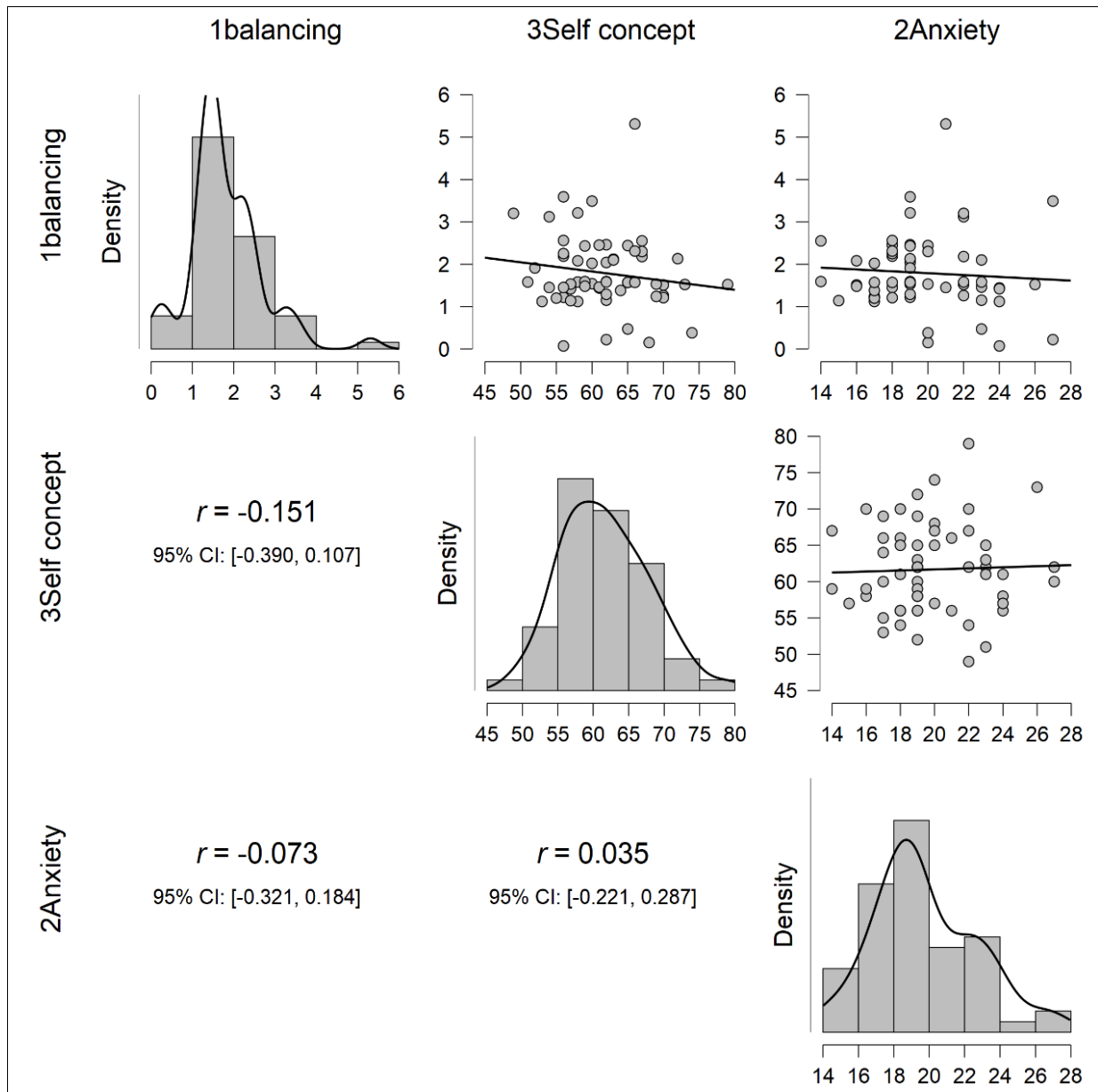
Fig 1: Correlation Plot

The above figure illustrates a scatter plot graph used to represent psychological variables X and Y correlational data. The points in a scatter plot indicate the intersection of each X value with its corresponding Y value. As points become more linear within the graph, the strength of the correlation will increase.

5. Conclusion
There is no significant difference in Balancing ability and Psychological Variables (SCAT) and self-concept because in hockey game speed is at most thing. So, when anxiety occurs, speed of the players is hindered and it obstructs the balance. In self-concept there is no time for adopting new concept to opponents. That might be the reason for this study.

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