

Comparative Study of Mood States Between National and International Indian Male Archers during Senior National Archery Championship

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Abstract

The purpose of the study was to find out whether there existed mood states difference between National and International Indian male archers during senior national archery championship 2013, which was held at Ranchi, Jharkhand 2013. So total 20 archers out of which 10 belonging to National level and 10 belonging to International level were randomly selected as subjects. The age of the subjects ranged from 20 to 28 years. Brunel mood scale, (BRUMS) Peter C. Terry, 2003 was used as criterion measure for Mood States. Descriptive statistics (Mean & Standard Deviation) and MANOVA was used as statistical tools. MANOVA showed that no mood states difference existed between National and International Indian male Archers during senior national archery championship 2013.

KEYWORDS: Mood States, Comparative Study, Archers

INTRODUCTION

Mood is a state or quality of feeling at a particular time and mood changes from time to time and place to place. Many studies have shown that mood affects the performance and poor performance is due to failure to get into right mood. Study of relationships between mood and performance has been a major focus of research in sport psychology (LeUnes & Burger, 1998; LeUnes, 2000). Morgan (1980) popularized mood research in sport with findings showing successful performance was associated with above average in vigour and below average in anger, confusion, depression, fatigue, and tension, further when it was plotted in the graph it resembled an iceberg. Several studies have provided different views on the predictive effectiveness of mood (Beedie, Terry, & Lane, 2000; Renger, 1993; Terry, 1995) despite the vast amount of research, findings are unclear. Beedie et al. 2000 and Terry, 1995, suggested that mood is an effective predictor of performance when certain conditions are met. Importantly, researchers should be aware that mood states could predict performance only in some extent but not always. Archery is a type of sports where one needs lots of concentration, focus and hand steadiness. If one's mood is not good then one will not be able to give his best performance. For instance if one is too angry, confused, depressed, fatigued, and tense then one doesn't think one will be able to focus and concentrate on his playing thus, it will lead to poor performance. The present study tried to find out whether there existed any mood states difference between National and International Male archers during the same level of competition. So far very little studies have been conducted on mood states comparison between different levels of players and we have also not found any studies related to mood states comparison between National and International players of archers. Considering this it has motivated us to find the mood states difference between National and

International male archers during national senior archery championship 2013 which was held at Ranchi, Jharkan.

MATERIALS AND METHODS

For the purpose of the study total 20 Indian male Archers, where 10 archers belonged to National level and remaining 10 archers belonged to International level were randomly selected during senior National Archery Championship 2013, which was held in Ranchi Jharkand. The age of the subject ranged from 20 to 28 years. Brunel mood scale, (BRUMS) Peter C. Terry, 2003 was used as criterion measure for Mood States. BRUMS contains 24 items and it has 6 mood components such as Anger, Confusions, Depression, Fatigue, Tension and Vigour. Descriptive statistics and MANOVA (multivariate analysis) was used after the full filing of all the assumptions required for MANOVA.

RESULTS

The obtained data were computed with the help of IBM Statistics SPSS-22. The findings of the study are presented from the table No. 1 to 7. Table No.

**Table No. 1
Descriptive Statistics**

	Level	Mean	Std. Deviation	N
Anger	National	4.30	2.263	10
	International	3.00	2.867	10
	Total	3.65	2.601	20
Confusion	National	6.00	2.667	10
	International	3.60	2.119	10
	Total	4.80	2.648	20
Depression	National	6.70	3.498	10
	International	3.00	3.367	10
	Total	4.85	3.843	20
Fatigue	National	6.40	2.119	10
	International	3.00	2.582	10
	Total	4.70	2.886	20
Tension	National	6.80	3.120	10
	International	5.30	1.767	10
	Total	6.05	2.585	20
Vigour	National	7.60	2.319	10
	International	10.10	3.281	10
	Total	8.85	3.048	20

In the above Table No. 1 according to descriptive statistics National level Archers have higher mean scores in Anger, Confusion, Depression, Fatigue, and Tension than the International level Archers, whereas International archers have

higher mean scores in vigor than National level archers. Though mean differences were found in all the six mood components between National and International Archers and we do not know whether it is the matter of chance or difference is real? Therefore further statistical analysis is required to find out the real differences.

In order to apply MANOVA certain assumptions are required to be tested which includes

- a). Test of Normality
- b). Checking of outliers
- c). Correlations
- d). Equality of variance
- e). Equality of covariance

These assumptions are presented from the Table No. 2 to Table No. 6

Table No. 2
Tests of Normality

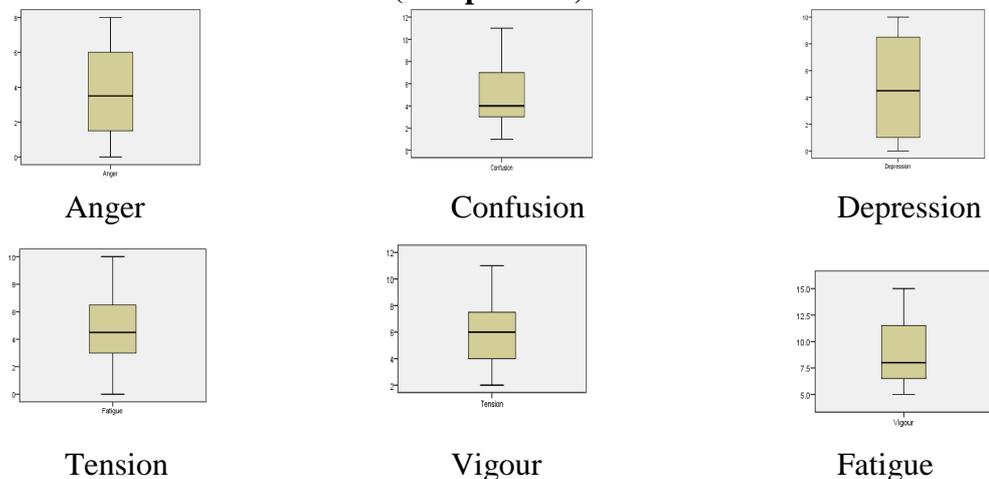
	Shapiro-Wilk		
	Statistic	df	Sig.
Anger	.928	20	.143
Confusion	.942	20	.259
Depression	.886	20	.023
Fatigue	.952	20	.395
Tension	.949	20	.348
Vigour	.935	20	.191

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

In the above Table no. 2 the Shapiro-Wilk test for Anger, Confusion, Fatigue, Tension and Vigour is insignificant and that means the data are normal for these factors where as the Shapiro-Wilk test for Depression is significant that means the data is not normal for Depression. Since five factors of Mood states components normal only one factor is not normal so, it is assumed that this will not affect the findings of MANOVA to a large extent and thus it clears the first assumption.

Table No. 3
Outliers (Box plot test)



In the above Table No. 3 Box Plot test was conducted to see if there existed any outliers in all the six Mood states components and no outliers were found in any of the components. Thus it also qualifies the second assumption for MANOVA.

Table No. 4
Correlations of Mood States components

		Anger	Confusion	Depression	Fatigue	Tension	Vigour
Anger	Pearson Correlation	1	.455*	.863**	.357	.613**	-.611**
	Sig. (2-tailed)		.044	.000	.122	.004	.004
	N	20	20	20	20	20	20
Confusion	Pearson Correlation	.455*	1	.706**	.550*	.532*	-.376
	Sig. (2-tailed)	.044		.001	.012	.016	.103
	N	20	20	20	20	20	20
Depression	Pearson Correlation	.863**	.706**	1	.622**	.663**	-.667**
	Sig. (2-tailed)	.000	.001		.003	.001	.001
	N	20	20	20	20	20	20
Fatigue	Pearson Correlation	.357	.550*	.622**	1	.263	-.526*
	Sig. (2-tailed)	.122	.012	.003		.262	.017
	N	20	20	20	20	20	20
Tension	Pearson Correlation	.613**	.532*	.663**	.263	1	-.340
	Sig. (2-tailed)	.004	.016	.001	.262		.143
	N	20	20	20	20	20	20
Vigour	Pearson Correlation	-.611**	-.376	-.667**	-.526*	-.340	1
	Sig. (2-tailed)	.004	.103	.001	.017	.143	
	N	20	20	20	20	20	20

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

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

For MANOVA to be applicable there should be bonding between all the components of Mood States towards certain level i.e. the relationship should not be too high or too low generally the recommended level is 0.3 to 0.9. The above table No. 4 shows that all the correlation values are within the recommended level. Thus this assumption also qualified for MANOVA.

Table No. 5
Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
Anger	.852	1	18	.368
Confusion	1.066	1	18	.316
Depression	.050	1	18	.826
Fatigue	1.024	1	18	.325
Tension	2.362	1	18	.142
Vigour	1.823	1	18	.194

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

In the above Table No. 5 equality of variance was tested with Levene's test and the F value for all the six components of Mood States is insignificance, which implies that there is no significance difference among variances in all the factors.

Table No. 6
Box's M

Box's Test of Equality of Covariance Matrices^a	
Box's M	28.549
F	.855
df1	21
df2	1191.671
Sig.	.651

In the above Table No. 6 since the significance value for "Box's M" is greater than 0.001, there is equality of covariance in the designed. Therefore four assumption is also qualified for MANOVA.

Since all the assumptions are hold through therefore, Multivariate test was tested and it is presented in the Table No. 7

Table No. 7
Multivariate Tests^a

Effect		Value	F	Hypothesis df	Error df	Sig.
Level of Players	Pillai's Trace	.436	1.674 _b	6.000	13.000	.205
	Wilks' Lambda	.564	1.674 _b	6.000	13.000	.205
	Hotelling's Trace	.772	1.674 _b	6.000	13.000	.205
	Roy's Largest Root	.772	1.674 _b	6.000	13.000	.205

The above Table No.7 shows that all the Multivariate test is insignificant at 0.05 level of significance. Thus it implies that there is no significant difference between senior National and International Archers in Mood States components.

DISCUSSION OF FINDINGS

The objective of our study was to see whether there existed mood states difference between National and International Indian archers during senior National archery championship 2013. Finding of our study showed that there was no mood state difference between National and International Indian male archers during senior National archery championship 2013. The reason for not finding significance difference in mood state could be they all are well trained and well prepared for the competition. Another reason for not finding significance difference in mood states could be the size of sample, because the sample size was of only 20, where we could not increase it and lastly age was another important factor where we could not control it. Future research is highly recommended with the similar problem by increasing sample size and also by controlling the age factors.

REFERENCES

- Beedie, C. J., Terry, P. C., & Lane, A. M. (2000). The Profile of Mood States and Athletic Performance: Two meta-analyses. *Journal of Applied Sport Psychology*, 12,49-68.
- LeUnes, A., & Burger, J. (1998). Bibliography on the Profile of Mood States in sport and exercise, 1971-1995. *Journal of Sport Behavior*, 21,53-70.
- LeUnes, A. (2000). Updated bibliography on the Profile of Mood States in sport and exercise psychology research. *Journal of Applied Sport Psychology*, 12,110-113
- Morgan, W. P. (1980). Test of Champions: The iceberg profile. *Psychology Today*, 14,92-108.
- Renger, R. (1993). A review of the Profile of Mood States (POMS) in the prediction of athletic success. *Journal of Applied Sport Psychology*, 5,78-84.
- Terry, P. C. (1995). The efficacy of mood state profiling among elite competitors: a review and synthesis. *The Sport Psychologist*, 9,309-324.