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Effect of Asana, Pranayama and Meditation on Selected Psychological Variables among Sportspersons

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Abstract: Forty male and forty female sports persons from Calicut University were randomly selected as subjects. They were divided into four groups and each group consisted of ten male and ten female sportspersons. Group A underwent Asana training, Group B underwent Pranayama training. Group C underwent Meditation training and Group D acted as a Control group. The variables selected for the study were cognitive anxiety, somatic anxiety, and self-confidence. The experimental groups underwent the training programmes for a period of twelve weeks with three training sessions in a week. Group A was given Asana training, Group B was given Pranayama training, Group C was given Meditation training and Group D served as a Control group and was not given any specific meditation programme. ANCOVA was employed to find out the significant differences in means among the three experimental and control groups. The LSD post hoc test was applied, wherever the F-ratio was found to be significant. The level of significance chosen was 0.05. The results revealed that all three experimental training programmes showed significantly better performance and change as compared to the Control group on all the variables and no significant difference was found between Pre and post-means of the Control group.

Keywords: Asana, Pranayama, Meditation, Psychological variables

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Introduction

Science brings highly sophisticated machines day by day and sports have no exceptions. The standard of competitive sports performance is also increasing. Hence, the mental makeup of a sports person is tough. Humans living in this universe may stand still if the machines stop

working. In the pursuit of excellence in sports, a large number of highly sophisticated machines have been used for training purposes (Barry *et al.*, 2000). Most of these machines have been used for training the body and assessing and interpreting the performance and training. Mind matters a lot

Table 1: Analysis of covariance on Cognitive Anxiety

	Sum of Squares	df	Mean Square	F	Sig.
Contrast	31.526	3	10.509	5.598	0.002
Error	140.781	75	1.877		

*Significant at 0.05 level as $F_{0.05}(3, 75) = 5.598$

in sports. If you can conquer the mind, you can conquer the world. The great hurdle that a sports person face is controlling and mastering his or her own emotions and stress. It is not easy to train the mind as one trains the body (Cohn, 1990). This investigation focuses on how to overcome the emotions and stress accumulated in the human mind to improve sports performance. How the various yoga programmes are helpful to overcome the stress of a sports person. The tension and stress never go hand in hand with elite performances in sports. Hence, this study focuses on how yoga training is helpful to reduce the ever-increasing stress and tension of sports persons (Focht and Hausenblas, 2001).

Materials and Methods

Selection of Subjects, Variables and Test:

After the pre-test data collection forty male and forty female sports persons from the Centre for Physical Education, Calicut University were finally selected as subjects for the study. The psychological variables selected for the study were cognitive Anxiety, somatic Anxiety, and self-confidence (Sharma, 2015).

The three experimental groups were given different meditation programme for a duration of twelve weeks with three sessions in a week and one group served as a control group and was not given any specific meditation programme (Collins *et al.*, 2001). The data on selected variables were collected as a pre-test before the commencement of the experimental training programme and as a post-test after the completion of the training programme.

Analysis of study and results of the data:

The pre- and post-test means of the selected psychological variables such as Cognitive Anxiety, Somatic Anxiety, Self Confidence, were analyzed to compare the mean differences by the analysis of covariance. The LSD post hoc test was used, wherever the F-ratio was found to be significant. The level of confidence chosen was 0.05.

Results and Discussion

Analysis of covariance (Table 1) done on Cognitive Anxiety indicates a significant F ratio and the p-value was found to be less than at the level of significance at 0.05 level. Subsequently, to find out the most effective training programme and also to explore whether any significant differences existed among the final means of experimental and control groups, the LSD post hoc test was applied for pair-wise comparison analysis on the final means of the Post-test data.

LSD Post hoc test on Cognitive anxiety for differences in paired final means among the different experimental and control groups indicates (Table 2) insignificant p values among the Asana, Pranayama and Meditation groups and significant p values between the Asana group and Control group at 0.05 level of confidence.

Analysis of covariance done on Somatic Anxiety indicates (Table 3) a significant F ratio and the p-value was found to be less than at the level of significance at 0.05 level. Subsequently, to find out the most effective training programme and also to explore whether any significant differences existed among the final means of

Table 2: LSD Post-Hoc on cognitive Anxiety

(I) Group	(J) Group	Mean Difference (I-J)	Sig. ^a
Asana Group	Pranayama Group	-0.079	0.856
	Meditation Group	-0.427	0.330
	Control Group	-1.600*	0.001*
Pranayama Group	Meditation Group	-0.348	0.426
	Control Group	-1.521*	0.001*
Meditation Group	Control Group	-1.173*	0.009*

* The mean difference is significant at 0.05 level

Table 3: Analysis of covariance on somatic anxiety

	Sum of Squares	Df	Mean Square	F	Sig.
Contrast	13.637	3	4.546	5.918	0.001*
Error	57.603	75	0.768		

*Significant at 0.05 level as $F_{0.05}(3, 75) = 5.918$

Table 4: LSD Post-Hoc test on somatic anxiety

(I) Group	(J) Group	Mean Difference (I-J)	Sig. ^a
Asana Group	Pranayama Group	-0.378	0.177
	Meditation Group	-0.451	0.108
	Control Group	-1.147*	0.0001*
Pranayama Group	Meditation Group	-0.074	0.790
	Control Group	-0.770*	0.007*
Meditation Group	Control Group	-0.696*	0.015*

*The mean difference is significant at 0.05 level

Table 5: Analysis of covariance on self confidence

	Sum of Squares	Df	Mean Square	F	Sig.
Contrast	20.396	3	6.799	4.232	.008*
Error	120.479	75	1.606		

*Significant at 0.05 level as $F_{0.05}(3, 75) = 4.232$

Table 6: LSD Post-Hoc test on self confidence

(I) Group	(J) Group	Mean Difference (I-J)	Sig. ^a
Asana Group	Pranayama Group	0.317	0.432
	Meditation Group	0.377	0.351
	Control Group	1.350*	0.001*
Pranayama Group	Meditation Group	0.061	0.880
	Control Group	1.033*	0.012*
Meditation Group	Control Group	0.972*	0.018*

*The mean difference is significant at 0.05 level

experimental and control groups, the LSD post hoc test was applied for pair wise comparison analysis on final means of the Post test data.

LSD Post hoc test (Table 6) on Self-confidence for differences in paired final means among the different experimental and control groups indicate insignificant p-values among the Asana, Pranayama and Meditation groups and significant p-values between the Asana group and Control group at 0.05 level of confidence.

All three experimental training groups of Asana, Pranayama and Meditation groups showed significantly better performance and change as compared to the control group on all the variables. No experimental groups showed significantly better results than any other experimental groups in any of the psychological variables. Training and suggestions given for the experimental groups might have influenced the subconscious mind of the sports persons and acted as a causative factor to reduce the accumulation of tension and anxiety and increase the Cognitive anxiety, somatic anxiety and self-

confidence of sports persons. This study has revealed that Asana, pranayama and meditation programmes are useful to sportspersons for reducing their stress. Hence, this study recommends including yoga practices in the sports training programme for better results.

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