



ORIGINAL RESEARCH PAPER

Physical Education

EFFECT OF SELECTED YOGIC EXERCICES ON GENERAL MOTOR ABILITY OF COLLEGE LEVEL CRICKET PLAYERS

KEY WORDS: Yogic Exercises, Pranayama and Asanas and General Motor Ability.

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ABSTRACT The purpose of this study was to know the effect of regular participation in yoga programme on General Motor Ability of college level cricket players. Total of 60 (sixty) college level male cricket players were taken as subjects within the age group of 20 to 25 years. It was found that Yogic exercises as a combination of pranayama and asanas for a period of twelve weeks duration was effective in developing General Motor Ability of subjects.

Introduction:

The general motor abilities indicate the abilities work together to the level of motor skill development in a person. Yoga includes physical components that, according to research, have many positive effects. Yoga has many physiological benefits. Numerous studies have asserted that yoga practice improves flexibility and strength (Cowen and Adams, 2005; Schure, Christopher and Christopher, 2008). In addition, they found that yoga lowers blood pressure and it may have a positive effect on immunity, also reported improvements in balance and aerobic capacity. The literature suggests that physical activity will have a positive effect on health related fitness and attention and therefore, aerobic exercise and the physical component of yoga should also produce increases in both.

The purpose of this study was to know the effect of regular participation in yoga programme on General Motor Ability of college level cricket players.

Methodology:

A total of 60 (sixty) college level male cricket players were taken as subjects for the study. All the subjects were the students of Baliapal College of Physical Education, Baliapal, Balasore, Odisha and their age ranged from 20 to 25 years. The average age of the subjects was 22.3 year. Random group design was adopted for the study and equal numbers of subjects were assigned at random for two groups of thirty subjects each. The experimental treatments were given to one group (A) where another group (B) was served as the control. Groups A, and B underwent the pre-test on all the parameters, pertinent to the study. Then groups A underwent the scheduled yoga programme with differential asanas for a period of 12 weeks, as designed in consultation with experts in the field and under careful supervision of the investigators. The group B served as control and was not allowed to undergo the yoga programme at all. After the end of six weeks of conducting yoga programme, the two groups underwent post-test on all the variables on which pre-test was made.

To obtain the data pertinent to the purpose of study, the following dependant and independent variables were selected in consultation with the guide and eminent personalities in the field of yoga and physical education. Those are as follows:

Dependant Variables: The test-items included to measure general motor ability of school boys were: 50 yds dash, Standing Broad Jump, Running High Jump and Putting the Shot.

Independent Variables: Training stimuli (a set of selected Yoga practices), adopted for a 12 weeks period for Experimental Group, was considered here as independent variables.

General Motor Ability Measurement: General Motor ability of the subjects (Cricket Players) was measured in administering four test items and details of each event are stated below.

Test-items	Criterion Measures (nearest to)	Measures
50 yds dash	0.01 sec.	Speed
Standing Broad Jump	0.05 cm.	Explosive leg strength
Running High Jump	0.05 cm.	Explosive power of leg
Shot put	0.05 cm.	Arm and Shoulder strength

Measurements of the above variables were taken during pre and post test and standard methods were followed to procure the data.

Training Schedules: Yoga group (Experimental group) was administered with the scheduled selected yoga programme with three pranayamas combined with prone and supine asanas for duration of 12 weeks under direct supervision of the researchers. The scheduled yoga programme was fixed for five days in a week from Monday to Friday in the morning from 6 am to 7 am, which was repeated along 12 weeks period. The details of pranayamas are: Bhastrika, Kapalabhati, Anuloma-Viloma and Asanas: (Prone) Ardha-shalbhāsana, Shavasana, Dhanurasana, Bhujangāsana; (Supine) Ardha-halāsana, Halāsana, Naukasana and Sarvangāsana.

FINDINGS:
TABLE - 1: Significance of Difference between Pre-Test and Post-Test Means of the Experimental Group and the Control Group in 50Yd Dash

Groups	Pre-test mean±SE	Post-test mean±SE	Difference between means	SE	't' ratio

Experimental group	6.895±0.049	6.650±0.044	0.245	0.013	19.002*
Control group	6.897±0.047	6.900±0.046	0.003	0.011	0.314

* Significant at 0.05 level of confidence, 't' 0.05 (59) = 2.045

Table 1 revealed that the experimental group improved significantly yielding 't' value of 19.002, where as the control group did not show any significant improvement in 50 yd dash performance of subjects indicating 't' value of 0.314.

TABLE - 2: Analysis of Variance and Covariance of the Means Of Experimental Group and the Control Group in 50Yd Dash

	Exp. Group	Cont. Group	Sum of Square	df	Mean Square	F ratio
Pre-test Means	6.895±0.049	6.897±0.047	B 0.001 W 16.168	1 118	0.001 0.137	0.001
Pot-test means	6.650±0.044	6.900±0.046	B 1.875 W 14.590	1 118	1.875 0.124	15.164*
Adjusted Pot-test means	6.651±0.011	6.899±0.011	B 1.852 W 0.886	1 117	1.852 0.008	244.557*

* Significant at 0.05 level of confidence, N = 120, B = Between group variance, W = Within group variance

The analysis of variance for 50 yd dash showed that the resultant 'F' ratio of 0.001 was not significant in case of pre test means. However, the post test means yielded 'F' ratio of 15.164, which was found to be significant. Therefore, the post test means were put to analysis of covariance with pre test scores as covariates to find out the adjusted post test means. The adjusted final means yielded the 'F' ratio of 244.557 and was found to be significant with respect to 50 yd dash. The 'F' ratio, needed for significance at 0.05 level of confidence (df 1, 118) was 3.92.

TABLE - 3: Significance of Difference between Pre-Test and Post-Test Means of the Experimental Group and the Control Group in Standing Broad Jump

Groups	Pre-test mean±SE	Post-test mean±SE	Difference between means	SE	't' ratio
Experimental group	1.022±0.016	1.241±0.009	0.219	0.010	22.296*
Control group	1.020±0.019	1.030±0.019	0.010	0.009	1.156

* Significant at 0.05 level of confidence, 't' 0.05 (59) = 2.045

Results shown in Table 3 clearly reveals that, the experimental group improved significantly yielding 't' value of 22.296, where as the control group did not show any significant improvement in standing broad jump performance of subjects indicating 't' values of 1.156.

TABLE - 4: Analysis of Variance and Covariance of the Means of Experimental Group and the Control Group in Standing Broad Jump

	Exp. Group	Cont. Group	Sum of Square	df	Mean Square	F ratio
Pre-test Means	1.022±0.016	1.020±0.019	B 0.001 W 2.173	1 118	0.001 0.018	0.012
Pot-test means	1.241±0.009	1.030±0.019	B 1.329 W 1.583	1 118	1.329 0.013	99.099*
Adjusted Pot-test means	1.240±0.008	1.031±0.008	B 1.305 W 157.658	1 117	1.305 0.004	327.051*

* Significant at 0.05 level of confidence, N = 120, B = Between group variance, W = Within group variance

The analysis of variance for standing broad jump showed that the resultant 'F' ratio of 0.012 was not significant in case of pre test means. However, the post test means yielded 'F' ratio of 99.099, which was found to be significant. Therefore, the post test means were put to analysis of covariance with pre test scores as covariates to find out the adjusted post test means. The adjusted final means yielded the 'F' ratio of 327.051 and was found to be significant with respect to standing broad jump. The 'F' ratio, needed for significance at 0.05 level of confidence (df 1, 118) was 3.92.

TABLE - 5: Significance of Difference between Pre-Test and Post-Test Means of the Experimental Group and the Control Group in Running High Jump

Groups	Pre-test mean±SE	Post-test mean±SE	Difference between means	SE	't' ratio
Experimental group	1.234±0.004	1.329±0.003	0.095	0.002	48.647*
Control group	1.227±0.003	1.228±0.004	0.002	0.001	1.426

* Significant at 0.05 level of confidence, 't' 0.05 (59) = 2.045

It is evident from Table 5 that, the experimental group improved significantly yielding 't' value of 48.647, where as the control group did not show any significant improvement in running high jump performance of subjects indicating 't' values of 1.426.

TABLE - 6: Analysis of Variance and Covariance of the Means of Experimental Group and the Control Group in Running High Jump

	Exp. Group	Cont. Group	Sum of Square	df	Mean Square	F ratio
Pre-test Means	1.234±0.004	1.227±0.003	B 0.002 W 0.105	1 118	0.002 0.001	1.900
Pot-test means	1.329±0.003	1.228±0.004	B 0.305 W 0.088	1 118	0.305 0.001	407.654*
Adjusted Pot-test means	1.326±0.001	1.231±0.001	B 0.264 W 0.118	1 117	0.264 0.001	264.000*

* Significant at 0.05 level of confidence, N = 120, B = Between group variance, W = Within group variance

The analysis of variance for running high jump showed that the resultant 'F' ratio of 1.900 was not significant in case of pre test means. However, the post test means yielded 'F' ratio of 407.654, which was found to be highly significant. Therefore, the post test means were put to analysis of covariance with pre test scores as covariates to find out adjusted post test mean. The adjusted final means yielded the 'F' ratio of 264.000 and was found to be highly significant with respect to running high jump.

TABLE - 7: Significance of Difference between Pre-Test and Post-Test Means of the Experimental Group and the Control Group in Shot Put

Groups	Pre-test mean±SE	Post-test mean±SE	Difference between means	SE	't' ratio
Experimental group	7.738±0.008	8.865±0.000	1.127	0.082	13.787*
Control group	7.823±0.002	7.770±0.049	0.053	0.029	1.859

*Significant at 0.05 level of confidence, 't' 0.05 (59) = 2.045

It is evident from Table 7 that, the experimental group improved significantly yielding 't' value of 13.787, where as the control group did not show any significant improvement in shot put performance of subjects indicating 't' values of 1.859. The needed 't' value for significance at 0.05 level of confidence with 59 degrees of freedom was 2.045

TABLE – 8: Analysis of Variance and Covariance of the Means of Experimental Group and the Control Group in Shot Put

	Exp. Group	Cont. Group	Sum of Square	df	Mean Square	F ratio
Pre-test Means	7.738±0.108	7.823±0.102	B 0.218 W 78.044	1 118	0.218 0.661	0.329
Pot-test means	8.865±0.100	7.770±0.049	B 35.960 W 72.372	1 118	35.960 0.613	58.63 1*
Adjusted Pot-test means	8.898±0.058	7.736±0.058	B 40.424 W 23.211	1 117	40.424 0.198	203.7 68 *

* Significant at 0.05 level of confidence, N = 120, B = Between group variance, W = Within group variance

The analysis of variance for shot put showed that the resultant 'F' ratio of 0.329 was not significant in case of pre test means. However, the post test means yielded 'F' ratio of 58.631, which was found to be significant. Therefore, the post test means were put to analysis of covariance with pre test scores as covariates to find out adjusted post test mean. The adjusted final means yielded the 'F' ratio of 203.768 and was found to be highly significant with respect to shot put. The 'F' ratio, needed for significance at 0.05 level of confidence (df 1, 118) was 3.92.

DISCUSSION ON FINDINGS: The analysis of data revealed that the experimental group, administered with yogic exercises showed significant gains in general motor ability components after administration of yogic exercise programme for a duration of 12 weeks. The control group did not show any significant increase on the performance of any variable under study.

CONCLUSION: Yogic exercises as a combination of pranayama and asanas for a period of twelve weeks duration was effective in developing General Motor Ability of subjects ranging in age between 20 to 25 years.

References:

1. Cowen, V., and Adams, T. (2005). Physical and perceptual benefits of yoga asana practice: Results of a pilot study. *Journal of Bodywork and Movement Therapies*, 9, 211-219.
2. Schure, M., Christopher, J., and Christopher, S. (2008). Mind-body medicine and the art of self-care: Teaching mindfulness to counseling students through yoga, meditation, and qigong. *Journal of Counseling & Development*, 86, 47-56.