

A STUDY ON EFFECT OF YOGA AND CYCLIC MEDITATION ON SELECTED PSYCHOLOGICAL VARIABLES AMONG SPORTS PERSONS

Dr. Biju Lona K., Associate Professor, P.M. Govt. College Chalakudy, Kerala

The world of sports has always been the world of competition too and the beauty of sports lies in its competitions. But as the days go by, the intensity of competition is getting more and tougher and the sports arena has become a battlefield for the sports persons. Hence, no competition leaves the sports persons without creating mental turmoil in their minds, as a matter of fact steadiness and the presence of mind are two essential prerequisites for excellence in performance in sports and games. Hence the present study was intended to find out how the application of the ancient wisdom of *Vedas* and Yoga could be helpful to the sports persons. In the pursuit of excellence in sports, the great hurdle that a sports person should overcome is his or her own functions of the mind. This investigation focuses on the effect training of the ancient wisdom of Yoga based Cyclic Meditation on sports persons for better performances in sports competitions. Sports persons should learn how to relax and harmonize their body and mind to be successful in the field of competition. It is not possible to relax completely through ordinary sleep or relaxation but it is possible through the methods such as Cyclic meditation.

Cyclic Meditation

Cyclic Meditation is a meditative programme based of *Taittiriya* and *Mandukya Upanishads* and consisting of a combination of successive stimulation and relaxation techniques in order to solve the complex problems of the mind (Nagendra 2003). It consists of combination of successive stimulations and relaxation techniques . Seven *asanas* such as Tadasana, Ardhakati Chakrasana, Pada Hastasana, Ardha Chakrasana, Vajrasana, Sasankasana and Ustrasana are used for stimulation and three relaxation programme such as Instant Relaxation Technique (IRT), Quick Relaxation Technique (QRT), Deep Relaxation Technique (DRT) are used for relaxation.

Selection of variables and tools

The following psychological variables were selected for the study and standard questionnaire were used for collecting the data. Competition State Anxiety Inventory (CSAI-2) developed by Martens et al and Inventory for Sports Aggression (ISA) developed by Jayan and Santosh were used to measure the psychological variables and standard medical procedures were used to measure the physiological variables. The selected variables and their respective tests and instruments used are presented in table 1.

Table-1
LIST OF VARIABLES AND THEIR RESPECTIVE TESTS AND TOOLS

| Sl. No. | Variable | Test and Instruments Used |
|--------------------------------|-------------------------|---------------------------|
| Psychological Variables | | |
| 1 | Cognitive Anxiety | CSAI-2 Questionnaire |
| 2 | Somatic Anxiety | CSAI-2 Questionnaire |
| 3 | Self Confidence | CSAI-2 Questionnaire |
| 4 | Instrumental Aggression | ISA Questionnaire |
| 5 | Hostile Aggression | ISA Questionnaire |

Hypothesis

On the basis of review of the related literature, expert opinion and the scholar's own understanding of the problem, the following hypotheses were formulated for the present study.

- 1) There will not be any significant difference between pre and post-test means of the four experimental groups namely Football, Volleyball, Basketball and Athletics on the selected psychological variables of Cognitive Anxiety, Somatic Anxiety, Self Confidence, Instrumental Aggression and Hostile Aggression.
- 2) There will not be any significant difference among the four experimental groups namely Football, Volleyball, Basketball and Athletics on any of the selected psychological variables of Cognitive Anxiety, Somatic Anxiety, Self Confidence, Instrumental Aggression and Hostile Aggression.

Methodology

The purpose of the study was to find out the effect of cyclic meditation techniques on selected psychological variables among sports persons. Fifteen University level sports persons each from four major games namely football, volleyball, basketball and athletics under Calicut University were selected as subjects for the study. They were given training on Cyclic meditation. The age of the subjects ranged between 17 to 25 years. The variables selected for the study were cognitive anxiety, somatic anxiety, self-confidence, instrumental aggression and hostile aggression.

Training Schedule and Collection of Data

The four experimental groups were given training on cyclic meditation for duration of twelve weeks with three sessions in a week. 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 Data and Results of the study

The pre and post test means of the selected psychological variables on cognitive anxiety, somatic anxiety, self-confidence, instrumental aggression and hostile aggression were statistically analyzed by Analysis of Covariance. To compare the mean differences on the selected physiological variable among the four groups, ANCOVA was employed. The

LSD post hoc test was used, wherever the F-ratio was found to be significant. The level of confidence chosen was 0.05.

Table-2
ANCOVA ON COGNITIVE ANXIETY AMONG EXPERIMENTAL GROUPS

| Source of variations | Df | SS _x | SS _y | SS _{xy} | SS _{yx} | MSS _{yx} | F-value |
|-----------------------|----|-----------------|-----------------|------------------|------------------|-------------------|--------------|
| Treatment group means | 3 | 761.25 | 156.32 | 340.08 | 33.68 | 11.23 | 3.16* |
| Error | 56 | 317.60 | 197.87 | 27.07 | 195.56 | 3.56 | |
| Total | 59 | 1078.85 | 354.18 | 367.15 | 229.24 | | |

*Significant at 0.05 level as $F_{0.05}(3, 75) = 2.74$

Table 2 of analysis of covariance done on cognitive anxiety indicates a significant F ratio, as the calculated F value of 3.16 is greater than the tabulated F-value of 2.74, required for significance at 0.05 level. Hence, in order to find out the most effective group, the LSD post hoc test was applied for pair wise comparison analysis on final means of the Post test data.

Table-3
LSD POST HOC TEST FOR DIFFERENCES IN PAIRED FINAL MEANS

| FOOT BALL | VOLLEY BALL | BASKET BALL | ATHLETICS | Mean Difference | CD at 5% level |
|-----------|-------------|-------------|-----------|-----------------|----------------|
| 15.07 | 15.46 | | | 0.35 | 1.35 |
| 15.07 | | 14.73 | | 0.34 | 1.35 |
| 15.07 | | | 12.89 | 2.18* | 1.35 |
| | 15.46 | 14.73 | | 0.74 | 1.35 |
| | 15.46 | | 12.89 | 2.57* | 1.35 |
| | | 14.73 | 12.89 | 1.84* | 1.35 |

*Significant at 0.05 level

Table 3 of LSD Post hoc test on cognitive anxiety indicates significant values of 2.18 between football group and athletics group, 2.57 between volleyball and athletics group, 1.84 between basketball group and athletics group as those values were much higher than 1.35, CD needed to be significant at 0.05 level of confidence.

Table-4
ANCOVA ON SOMATIC ANXIETY AMONG EXPERIMENTAL GROUPS

| Source of variations | Df | SS _x | SS _y | SS _{xy} | SS _{yx} | MSS _{yx} | F-value |
|-----------------------|----|-----------------|-----------------|------------------|------------------|-------------------|---------------|
| Treatment group means | 3 | 0.88 | 767.87 | 1.13 | 768.33 | 256.11 | 48.44* |
| Error | 56 | 121.33 | 295.47 | 23.80 | 290.80 | 5.29 | |
| Total | 59 | 122.18 | 1063.33 | 22.67 | 1059.13 | | |

*Significant at 0.05 level as $F_{0.05}(3, 75) = 2.74$

Table 4 of analysis of covariance done on cognitive anxiety indicates a significant F ratio, as the calculated F value of 48.44 is greater than the tabulated F-value of 2.74, required for significance at 0.05 level. Hence, in order to find out the most effective group, the LSD post hoc test was applied for pair wise comparison analysis on final means of the Post test data.

Table-5
LSD POST HOC TEST FOR DIFFERENCES IN PAIRED FINAL MEANS

| FOOT BALL | VOLLEY BALL | BASKET BALL | ATHLETICS | Mean Difference | CD at 5% level |
|-----------|-------------|-------------|-----------|-----------------|----------------|
| 15.63 | 14.58 | | | 1.05 | 1.35 |
| 15.63 | | 15.45 | | 0.18 | 1.35 |
| 15.63 | | | 21.35 | 5.72* | 1.35 |
| | 14.58 | 15.45 | | 0.87 | 1.35 |
| | 14.58 | | 21.35 | 6.77* | 1.35 |
| | | 15.45 | 21.35 | 5.90* | 1.35 |

*Significant at 0.05 level

Table 5 of LSD Post hoc test on cognitive anxiety indicates significant values of 5.72 between football group and athletics group, 6.77 between volleyball and athletics group, 5.90 between basketball group and athletics group as those values were much higher than 1.35, CD needed to be significant at 0.05 level of confidence.

Table-6
ANCOVA on Self Confidence among Experimental Groups

| Source of variations | Df | SS _x | SS _y | SS _{xy} | SS _{yx} | MSS _{yx} | F-value |
|-----------------------|----|-----------------|-----------------|------------------|------------------|-------------------|---------|
| Treatment group means | 3 | 16.58 | 88.18 | 24.18 | 116.78 | 38.93 | 12.25* |
| Error | 56 | 239.07 | 252.80 | 136.53 | 174.82 | 3.18 | |
| Total | 59 | 255.65 | 340.98 | 112.36 | 291.61 | | |

*Significant at 0.05 level as $F_{0.05}(3, 75) = 2.74$

Table 6 of analysis of covariance done on cognitive anxiety indicates a significant F ratio, as the calculated F value of 12.25 is greater than the tabulated F-value of 2.74, required for significance at 0.05 level. Hence, in order to find out the most effective group, the LSD post hoc test was applied for pair wise comparison analysis on final means of the Post test data.

Table-7
LSD POST HOC TEST FOR DIFFERENCES IN PAIRED FINAL MEANS

| FOOT BALL | VOLLEY BALL | BASKET BALL | ATHLETICS | Mean Difference | CD at 5% level |
|-----------|-------------|-------------|-----------|-----------------|----------------|
| 21.86 | 22.51 | | | 0.65 | 1.35 |
| 21.86 | | 22.68 | | 0.81 | 1.35 |
| 21.86 | | | 19.99 | 1.87* | 1.35 |
| | 22.51 | 22.68 | | 0.16 | 1.35 |
| | 22.51 | | 19.99 | 2.52* | 1.35 |
| | | 22.68 | 19.99 | 2.69* | 1.35 |

*Significant at 0.05 level

Table 7 of LSD Post hoc test on cognitive anxiety indicates significant values of 1.87 between football group and athletics group, 2.52 between volleyball and athletics group, 2.69 between basketball group and athletics group as those values were much higher than 1.35, CD needed to be significant at 0.05 level of confidence.

Table-8
ANCOVA ON INSTRUMENTAL AGGRESSION AMONG EXPERIMENTAL GROUPS

| Source of variations | Df | SS _x | SS _y | SS _{xy} | SS _{yx} | MSS _{yx} | F-value |
|-----------------------|----|-----------------|-----------------|------------------|------------------|-------------------|-------------|
| Treatment group means | 3 | 36.33 | 8.73 | 9.27 | 21.11 | 7.04 | 2.34 |
| Error | 56 | 251.60 | 386.00 | 235.60 | 165.38 | 3.01 | |
| Total | 59 | 287.93 | 394.73 | 244.87 | 186.49 | | |

Significant at 0.05 level as $F_{0.05}(3, 75) = 2.74$

Table 8 of analysis of covariance done on Instrumental Aggression indicates an insignificant F ratio, as the calculated F value of 2.34 is lesser than the tabulated F-value of 2.74, required for significance at 0.05 level. Hence, it is revealed that there is no significant difference exist among the various control groups.

Table-9
ANCOVA ON HOSTILE AGGRESSION AMONG EXPERIMENTAL GROUPS

| Source of variations | Df | SS _x | SS _y | SS _{xy} | SS _{yx} | MSS _{yx} | F-value |
|-----------------------|----|-----------------|-----------------|------------------|------------------|-------------------|-------------|
| Treatment group means | 3 | 22.32 | 11.65 | 13.18 | 5.60 | 1.87 | 0.49 |
| Error | 56 | 423.87 | 534.93 | 371.73 | 208.92 | 3.80 | |
| Total | 59 | 446.18 | 546.58 | 384.92 | 214.52 | | |

Significant at 0.05 level as $F_{0.05}(3, 75) = 2.74$

Table 9 of analysis of covariance done on Hostile Aggression indicates an insignificant F ratio, as the calculated F value of 0.49 is lesser than the tabulated F-value of 2.74, required for significance at 0.05 level. Hence, it is revealed that there is no significant difference exist among the various control groups.

Result and Conclusions

On the basis of the results of the study the following conclusions were drawn. Training of yoga and cyclic meditation showed significant improvement and change from pre to post test means on psychological variables namely Cognitive anxiety, somatic anxiety, Self-confidence. Whereas yoga and cyclic meditation training were not effective to modify the psychological variables namely instrumental aggression and Hostile aggression on Football, Volleyball, Basketball and Athletic sports persons. It was also found that yoga and cyclic meditation training were less effective in Athletic sports persons while comparing with Football, Volleyball and Basketball players. It might be due to the reason that athletics is an individual sport whereas the other groups namely Football, Volleyball and Basketball are team events. This study was useful to found out the effect of Cyclic meditation for sports persons. Hence it is recommended that Cyclic meditation programme can be incorporated in

the training schedule for reducing the stress and tension of the sports persons so as to improve the performance.

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