



## Regulating Trait Anxiety among Men Badminton Players with Treatment of Yoga and Plyometrics

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### Abstract

The purpose of the present study was to analyze the training impacts of Plyometrics and Suryanamaskar combined with yogic practices on trait anxiety among men badminton players. To achieve the purpose of this study 60 college level men badminton players from Anjalai Ammal Mahalingam college of Engineering, Thanjavur, Tamilnadu State, India were randomly selected as subjects. Their age ranged between 17 and 21 years. The selected subjects were randomly divided into 3 equal groups namely, Plyometrics training group (Group-I), Suryanamaskar combined with Yogic training group (Group-II), and Control group (Group-III). The psychological variable namely trait anxiety was chosen as variable for this study. Group-I underwent the Plyometrics practice, subject in the Group-II underwent suryanamaskar combined with yogic practices group and subjects in the Group-III did not go through any specific training. During the training period, training was given for both experimental groups for twelve weeks, six days per week for forty five minutes each in the morning session and evening session under the supervision of the investigator. The psychological factor was assessed by standardized inventory developed namely state and trait anxiety inventory developed by Spielberger and his associate (1970). The data was collected before and after the experimental treatment. Analysis of covariance (ANCOVA) was used to analyze the collected data. Scheffe's test was followed as a post hoc test to determine the level of significant difference between the paired means. All of the statistical analyses were computed at 0.05 level of significance. The result of the Scheffe's post – hoc test proves that the mean trait anxiety of the Suryanamaskar combined with yoga group (Group – II) was significantly lower than those of the other two groups (Group-I and Group-III) which reveals the fact that the above training has a better significance on state anxiety.

**Keywords:** Yoga, Suryanamaskar, Plyometrics, Trait Anxiety.

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### Introduction

The science of yoga works on physical, mental, emotional, psychic and spiritual aspects of a person. When imbalance is experienced at this level, the organs, muscles and nerves no longer functions in harmony, rather they be in opposition to each other. Therefore yoga aims at bringing the different functions into perfect co-ordination, so that they work for the good of the whole body. Plyometrics is defined as exercise that enables a muscle to reach maximum strength in short time as possible. The speed-strength ability is known as power. For an exercise to be truly Plyometric, it must be a movement preceded by an eccentric contraction. This results not only stimulating the proprioceptors sensitive to rapid stretch, but also in loading the serial elastic components (the tendons and cross-bridges between muscle fibers) with a tension force from which they can rebound. A reasonable amount of flexibility is important when beginning the Plyometric training programme.

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### Methodology

The purpose of the present study was to analyze the training impacts of Plyometrics and Suryanamaskar combined with yogic practices on trait anxiety among men badminton players. To achieve the purpose of this study 60 college level men badminton players from Anjalai Ammal Mahalingam college of Engineering, Thanjavur, Tamilnadu State, India were randomly selected as subjects. Their age ranged between 17 and 21 years. The selected subjects were randomly divided into 3 equal groups namely, Plyometrics training group (Group-I), Suryanamaskar combined with Yogic training group (Group-II), and Control group (Group-III). The psychological variable namely trait anxiety was chosen as variable for this study. Group-I underwent the Plyometrics practice, subject in the Group-II underwent suryanamaskar combined with yogic practices group and subjects in the Group-III did not go through any specific training. During the training period, training was given for both experimental groups for twelve weeks, six days per week for forty five minutes each in the morning session and evening session under the supervision of the investigator. The psychological factor was assessed by standardized inventory developed namely state and trait

anxiety inventory developed by Spielberger and his associate (1970). The data was collected before and after the experimental treatment. Analysis of covariance (ANCOVA) was used to analyze the collected data. Scheffe's test was followed as a post hoc test to determine the level of significant difference between the paired means. All of the statistical analyses were computed at 0.05 level of significance.

### Analysis and Findings

The data of trait anxiety was assessed through Spielberger inventory before and after twelve weeks of training for the control group (Group-III) and the two experimental groups (Group-I and Group-II). The data were analyzed and the results are presented in Table-1 and for comparison of pre and post test means, post-hoc test was used respectively.

**Table I.** Analysis of Co-variance of Trait Anxiety (in scores)

Test	Group Means			Source of variance	SS	df	Mean Square	F-ratio
	Gr-III	Gr-II	Gr-I					
Pre test	45.70	45.10	44.65	B.G.	11.10	2	5.55	0.184
				W.G.	1720.55	57	30.18	
Post test	46.05	39.50	43.20	B.G.	431.43	2	215.71	8.62*
				W.G.	1425.15	57	25.00	
Adjusted Post test	46.05	39.50	43.20	B.S.	431.43	2	215.71	10.36*
				W.S.	1165.20	56	20.80	

\*Significant at 0.05 level of confidence.

With the application of analysis of variance (ANOVA) the above table showed that the pre-test mean trait anxiety of the three groups namely control group (Group-III), Suryanamaskar combined with yoga group (Group – II) and Plyometrics group (Group – I) did not differ significantly ( $P > 0.05$ ). The post-test mean trait anxiety of the three groups differs significantly ( $P < 0.05$ ). The adjusted post-test for mean trait anxiety of the groups done by analysis of co-variance (ANCOVA) showed that the mean trait anxiety differs significantly among the three groups ( $P < 0.05$ ).

**Table II.** Scheffe's post-hoc test of Trait Anxiety (in scores)

Group	N	Subset for Alpha = 0.05	
		1	2
Group-III	20		46.05
Group-I	20		43.20
Group-II	20	39.50	
<b>Significance</b>		<b>1.00</b>	<b>.147</b>

### Conclusion

The result of the Scheffe's post – hoc test proves that the mean trait anxiety of the Suryanamaskar combined with yoga group (Group – II) was significantly lower than those of the other two groups (Group-I and Group-III) which reveals the fact that the above training has a better significance on state anxiety.

### Reference

- Clarke, David and Harrison H. Clarke (1972), *Research Process in Physical Education*, Recreation and Health, Englewood Cliffs, Prentice Hall Inc., New Jersey.
- Iyengar B.K.S. (2001). *Yoga- The Path to Holistic Health*, Dorling Kindersley Limited, Great Britain.
- Swami Satyananda Saraswathi (1993). *Asana, Pranayama, Mudra, Banda*, Bihar School of Yoga, Muger, Bihar, India, 8<sup>th</sup> Ed.
- D.A. Chu (1996). *Jumping into plyometric*, Champaign, IL (1996) Human Kinetics.
- V. Gambetta (1986). *Principles of plyometric training Track Technique*. Fall: 30993104.