ISBN: 978-81-973427-3-8

8. Assessment of Yogic Practices Induced Adaptation on Selected Psychomotor Profiles of Basketball Players

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Abstract:

The purpose of this study was to examine the effect of eight weeks of yogic practices on selected psychomotor profiles such as auditory reaction time and visual reaction time of basketball players.

For these purposes, 30 basketball players aged 18 to 22 years from the Department of Physical Education and Sports Sciences, Annamalai University, took part in the study.

Selected subjects were randomly assigned to either yogic practices (n=15) or control (n=15) group. The training regimen lasted for eight weeks.

Before and after eight weeks of yogic practices the subjects were tested on selected criterion variables using standard tests and procedures. Analysis of covariance was used to determine the significant difference existing between pretest and posttest on selected criterion variables.

The analysis of data revealed that eight weeks of yogic practices had a significant impact on selected psychomotor profiles such as auditory reaction time and visual reaction time of basketball players.

Keywords:

Yogic practices, Psychomotor profiles.

8.1 Introduction:

In every society, there is now an increasing concern about the maintenance of the physical and mental health of the youth as well as of adults. Apart from physical exercise emotional training and harnessing of the willpower growth of the right side of the brain (institutional) are necessary. This is where 'yoga' helps, yoga far from being a mere physical or breathing exercise or demonstration of some mystical or other supernatural power is a science of the future, with a holistic vision relevant to the progressive society.

The improvement of simple reaction ability is mostly aimed at reducing the reaction time. A lot of work and time is needed to reduce the reaction time by a few hundredths of a second. For beginners, games like basketball, volleyball, handball, etc. are very good for improving their reaction ability. This is the most common method used for improving the reaction ability. The sportsman reacts as fast as possible on a signal. This is repeated many times with complete rest between sets, or between series of repetitions. In this method, the movement time and reaction time are improved separately. This method usually gives good results. Though Yogic exercises develop most of the components of fitness, it is expected that they will affect the psychomotor parameters. Some modern texts seem to indicate that yogic exercises will strengthen all organs and all physiological functions of the body. Research work on the development and maintenance of physical fitness, psychomotor abilities, and physiological functions is an important area that requires a lot of investigation. By considering the above literature, in this study, an attempt has been made to find out the effect of yogic practices on selected psychomotor profiles of basketball players.

8.2 Methodology:

8.2.1 Subjects and Variables:

For this study, thirty basketball players in the age group of 18 to 22 years were recruited, with their consent. The selected subjects were randomly assigned to both the yogic practices and control groups of 15 each. The selected criterion variables such as auditory reaction time and visual reaction time were assessed by Chronoscope with reaction timer and ruler drop test respectively before and after the yogic practices.

8.2.2 Training Protocol:

The experimental group underwent the yogic practices five days a week for eight weeks. The yogic exercises included in this training programwere Suryanamaskar, Vrksasana, Trikonasana, Padmasana, Vakrasana, Bhujangasana, Salabhasana, Paschi mottasana, Matiyasana, Halasana. The training program was conducted during the morning sessions between 5.30 and 6.30 am. The subjects performed each asana four to six times and the duration of each repetition is one to three minutes.

8.2.3 Experimental Design and Statistical Procedure:

The experimental design used for the present investigation was a random group design involving thirty subjects. Analysis of covariance (ANCOVA) was used as a statistical technique to determine the significant difference, if any, existing between pretest and posttest data on selected dependent variables. The level of significance was accepted at 0.05 level.

8.3 Results and Discussions:

The Analysis of Covariance on selected psychomotor profiles before and after eight weeks of yogic practices is presented in Table 8.1.

Table 8.1: Analysis of Covariance on Auditory Reaction Time of Experimental and Control Groups

Test		Control Group	Yogic Practice Group	SOV	Sum of squares	df	Mean Squares	'F' Ratio
Pre-test	M	0.23	0. 21	Between	37.58	1	37.58	1.85
	SD	0.05	0.05	Within	569.84	28	20.35	
Post- test	M	0.22	0. 19	Between	142.73	1	142.73	8.48*
	SD	0.05	0.04	Within	471.36	28	16.83	
Adjusted Post Test	M	0.23	0.19	Between	29.52	1	29.52	24.40*
				Within	32.64	27	1.21	

** Significant at .05 level of confidence. (Table value required for significance at 0.05 level of confidence with df at 1 and 28 is 4.20 and df of 1 and 27 is 4.21)*

The adjusted post-test means values of the auditory reaction time of the control and experimental groups are 0.23 and 0.19 respectively. The obtained 'F' ratio value of 24.40 for adjusted post-test means of control and experimental groups is greater than the required table value of 4.21 for significance at a 0.05 level of confidence.

The result of the study reveals that there was a significant difference between the control and experimental groups in auditory reaction time. Hence it is concluded that the auditory reaction time of basketball players can be improved by undergoing eight weeks of yogic practices.

Table 8.2: Analysis of Covariance on Visual Reaction Time of Experimental and Control Groups

Test		Control Group	Yogic Practice Group	SOV	Some of Squares	df	Mean Squares	'F' Ratio
Pre- test	M	0.18	0. 17	Between	0.36	1	0.36	
	SD	0.02	0.03	Within	147.07	28	5.25	0.07
Post- test	M	0.17	0. 15	Between	43.93	1	43.93	
	SD	0.01	0.02	Within	252.14	28	9.01	4.87*
Adjust ed Post Test	M	0.18	0.15	Between	28.25	1	28.25	6.74*
				Within	113.26	27	4.19	

** Significant at .05 level of confidence. (Table value required for significance at 0.05 level of confidence with df at 1 and 28 is 4.20 and df of 1 and 27 is 4.21)*

The adjusted post-test means values of visual reaction time of the control and experimental groups are 0.18 and 0.15 respectively. The obtained 'F' ratio value of 6.74 for adjusted post-test means of control and experimental groups is greater than the required table value of 4.21 for significance at 0.05 level of confidence with df of 1 and 27.

The result of the study reveals that there was a significant difference between the control and experimental groups in visual reaction time.

Hence it is concluded that the visual reaction time of basketball players can be improved by undergoing eight weeks of yogic practices.

8.3.1 Discussion:

Based on statistical analysis of data it was concluded that eight weeks of yogic practices caused significant improvement in auditory reaction time and visual reaction time of basketball players. The results are in agreement with the results of the previous research findings.

Harinathand others (2004) determined the effect of hatha yoga and omkar meditation on cardiorespiratory performance, psychologic profile, and melatonin secretion. Thirty healthy men in the age group of 25-35 years volunteered for the study. These observations suggest that yogic practices can be used as psychophysiological stimuli to increase endogenous secretion of melatonin, which, in turn, might be responsible for an improved sense of well-being. Yogic practices are supposed to improve the functions of all systems of the human organism, especially the central nervous system. The investigation, undertaken by Sahuand Gharote (1985) to study the overall effects of yogic training revealed significant improvement ($P < .01$) in the perception of the third dimension in 20 healthy experimental subjects as compared to 20 control subjects. The rationale behind the improvement in the above parameter has been broadly discussed from the psycho-psychological point of view.

8.4 Conclusions:

The result of this study demonstrated that yogic practices have a significant impact on the auditory reaction time and visual reaction time of basketball players. Hence it is suggested that it is essential to know that the optimum level of psychomotor skills differs widely from game to game. The circumstances may demand either an increase or decrease of psychomotor skills. Depending upon the requirement, physical educationists and coaches should use the most suitable yoga asanas to achieve the goal.

8.5 References:

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