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EFFECT OF SPECIFIC YOGIC EXERCISES ON PHYSIOLOGICALVARIABLES OF SECONDARY SCHOOL STUDENTS OF HIMACHAL PRADESH STATE

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ABSTRACT

In present study which is "effect of specific yogic exercises on physiological variables of secondary school students", the effect of yogic exercise on students of age group of 14 – 17 year was evaluated. Total 72 students were participated in this study where 36 students were treated as control group those were untreated student and no yogic training was imparted to this group. Remaining 36 students grouped as experimental group those were subjected to training on yogic exercise for variables of physiological variables were targeted for eight weeks duration. The training regime was consisting of combination of asana and pranayama. The physiological variables assigned to improve were Pulse rate, Diastolic Blood pressure, Systolic Blood pressure and Breath Holding Time. The paired samples t-test was applied to assess the significance of difference among the pretest and posttest training results. After analyzing the results of the study, it was concluded that there was significant difference exist on all the physiological variables of student.

Keywords: Specific Yogic Exercise, Physiological variables & Secondary School Students.

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INTRODUCTION

When we study the Indian tradition, we understand the yoga principles had been the foundation for Indian culture. The word 'Yoga' itself comes from a Sanskrit word meaning 'yoke' or 'union'. It conveys the idea of harnessing oneself to a discipline and at the same time of unifying the parts of the self, body, mind and spirit. Yoga has a complete message for humanity. It has a message for the human body. It has a message for the human mind and it has also a message for the human soul. Yoga is a very ancient discipline. It is recognized as one of the most important and valuable gifts of the Indian heritage. Today the world is looking to yoga for solving the various problems men are facing. French scholar, Masson Ural, has described yoga as the permanent basis of Indian culture. Hence it has its varieties and diversions as it has its right and discipline, the different kinds of yoga has played a vital role in forming the spirit of modern India.

The science of posture and training the body by means of the asanas is Hatha yoga. The techniques of meditation of observing and making the mind still became known eventually as Raja Yoga ('Raja' means 'King'). Karma yoga is the yoga of action and can be applied to the way we perform everything in our daily life. Gyana Yoga is the yoga of knowledge and of the intellect. Bhakti yoga is the devotional path to union. The main paths of yoga, its philosophy and its relevance tour everyday life, are described in the Bhagvad-Gita, written in the sixth century B.C. In India, Yogic

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exercises were being practiced since thousands of years. It refers the union of body and mind. **V. Chandramohan et al. (1997),** conducted a study on the effects of yogic exercises of psycho physiological functioning on 30 healthy subjects was grouped into yoga and nonyoga groups was carried out at Institute of Aerospace medicine. After 6 months statistically significant difference in psychological, physiological measures were found in yoga group. **Kant Shiv, Mastram (2015),** carried out a study on 30 subjects were selected randomly from Govt. Sr. Sec. School, Ugalan, Dist. Hisar (Haryana). The studied physiological variables Pulse rate, systolic blood pressure, diastolic blood pressure and Respiratory rate. The mean and t - test were applied for interpretation of data. The level of significance was set at 05. The result revealed that there was significant ($p < .05$) effect of yoga training on physiological variables of school students.

OBJECTIVE OF THE STUDY

The main objective of the study was to effect the specific yogic exercises on physiological variables of secondary school students of Himachal Pradesh State

HYPOTHESIS OF THE STUDY

The present study hypothesized that there would be significant effect of specific yogic exercises on physiological variables of secondary school students of Himachal Pradesh State.

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DESIGN OF THE STUDY

The experimental study was designed to investigate the physiological variables of 36 students belongs to Government Senior Secondary School of Baddi in Solan District of Himachal Pradesh. The simple random sampling method was used to selection of the subjects. 9th to 11th standard students were selected for the present study. They were imparting Yogasanas Om chanting, Surya namaskar and various pranayama exercises in the morning session regularly for eight weeks.

SELECTION OF VARIABLES

The investigator has examined the scientific literature pertaining to physiological variables, from different library. Along with the literatures and experts' opinion, the administrative feasibility, availability of infrastructures, instruments, time factor and cost factor were also given due consideration while selecting the following variables and test items.

Physiological Variables:

- Pulse rate
- Diastolic Blood pressure
- Systolic Blood pressure
- Breath Holding Time

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STATISTICAL ANALYSIS AND INTERPRETATIONS OF THE DATA

Table No: I

Table showing the Mean S.D and 't' value for Pulse Rate of Senior Secondary School Boys of Experimental Group in Pre-Experimental and Post Experimental Stages

Particulars	N	Mean	Standard Deviation	Standard Error mean	Mean Difference (Mean lose)	t
Pre- training	36	74.69	7.540	1.257	3.69	4.764**
Post training	36	71.00	6.949	1.158		

**Significant at 0.01 level.

From the results presented in table no I it has been observed that Senior Secondary School Students of age between 14-17 years the pre-experimental mean score of experimental groups in the Pulse Rate variable is 74.69 and mean score of the post experimental of the same group is 71.00. Standard deviation 7.540 respectively and Mean Difference is 3.69. Calculated t-value is 4.764. The obtained 't' value is statistically significant at 0.01 level of confidence when compared with 't' table. (The table value of't' at 0.01 level for df 35 = 2.72).

This indicates that the average score of Pulse Rate shows significant improvement, which can be attributed to the effect of training with selected yogic exercise. Hence, the formulated hypothesis that "there would be significant effect of

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specific yogic exercises on Pulse Rate of Senior Secondary School Students" has been accepted.

Table No: II

Table showing the Mean S.D and 't' value for Diastolic Blood Pressure of Senior Secondary School Boys of Experimental Group in Pre-experimental and Post Experimental Stages

Particulars	N	Mean	Standard Deviation	Standard Error mean	Mean Difference (Mean Gain)	t
Pre- training	36	76.56	6.407	1.068	2.77	2.695*
Post training	36	79.33	5.777	0.963		

*Significant at 0.05 level.

From the results presented in table no - II it has been observed that Senior Secondary School Students of age between 14-17 years the pre-experimental mean score of experimental groups in the Diastolic Blood Pressure variable is 76.56 and mean score of the post experimental of the same group is 79.33. Standard deviation 6.407 and 5.777 respectively and Mean Difference is 2.77. Calculated t-value is 2.695. The obtained't' value is statistically significant at 0.05 level of confidence when compared with't' table. (The table value of't' at 0.05 level for df 35 = 2.03).

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This indicates that the average score of Diastolic Blood Pressure shows significant improvement, which can be attributed to the effect of training with selected yogic exercise.

Hence, the formulated hypothesis that "there would be significant effect of specific yogic exercises on Diastolic Blood Pressure of Senior Secondary School Students" has been accepted.

Table No: III

Table showing the Mean S.D and 't' value for Systolic Blood Pressure of Senior Secondary School Boys of Experimental Group in Pre-experimental and Post Experimental Stages

Particulars	N	Mean	Standard Deviation	Standard Error mean	Mean Difference (Mean Gain)	t
Pre-training	36	113.03	7.264	1.211	3.86	3.807**
Post training	36	116.89	3.934	0.656		

**Significant at 0.01 level.

From the results presented in table no- III it has been observed that Senior Secondary School Students of age between 14-17 years the pre-experimental mean score of experimental groups in the Systolic Blood Pressure variable is 113.03 and mean score of the

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post experimental of the same group is 116.89. Standard deviation 7.264 and 3.934 respectively and Mean Difference is 3.86. Calculated t-value is 3.807. The obtained 't' value is statically significant at 0.01 level of confidence when compared with 't' table. (The table value of 't' at 0.01 level for df 35 = 2.72). This indicates that the average score of Systolic Blood Pressure shows significant improvement, which can be attributed to the effect of training with selected yogic exercise. Hence, the formulated hypothesis that "there would be significant effect of specific yogic exercises on Systolic Blood Pressure of Senior Secondary School Students" has been accepted.

Table No: IV

Table showing the Mean, S.D and 't' value for Breath Holding Time of Senior Secondary School Boys of Experimental Group in Pre-Experimental and Post Experimental Stages

Particulars	N	Mean	Standard Deviation	Standard Error mean	Mean Difference (Mean Gain)	t
Pre-training	36	30.00	7.115	1.186	6.92	4.778**
Post training	36	36.92	11.277	1.879		

**Significant at 0.01 level.

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From the resulted presents in table no- IV it has been observed that Senior Secondary School Students of age between 14-17 years the pre-experimental mean score of experimental groups in the Breath Holding Time variable is 30.00 and mean score of the post experimental of the same group is 36.92. Standard deviation 7.115 and 11.277 respectively and Mean Difference is 6.92. Calculated t-value is 4.778. The obtained‘t’ value is statistically significant at 0.01 level of confidence when compared with‘t’ table. (The table value of‘t’ at 0.01 level for df 35 = 2.72).

This indicates that the average score of Breath Holding Time shows significant improvement, which can be attributed to the effect of training with selected yogic exercise.

Hence, the formulated hypothesis that “there would be significant effect of specific yogic exercises on Breath Holding Time of Senior Secondary School Students” has been accepted.

DISCUSSIONS OF FINDINGS

The result presented in table no I reveled that after experiencing 8 weeks specific yogic exercises training program, a significant improvement was observed in Senior Secondary School Students of experimental group in the variable of Pulse Rate. The results may be attributed to the facts that, the yogic exercise training program contribute in the improvement of resting pulse rate of other physiological measures because of

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positive changes occurred with the conditioning of heart and various other cardio respiratory changes. The significant improvement in the Pulse Rate may be due to the fact that the Senior Secondary School Students underwent eight-week specific yogic exercise training in which they practiced Surya namaskar, Tadasana, Pad hast Asana, Paschimotan asana, Bhujang Asana, Shalabahasana and Chakra Asana. That's why Pulse Rate of Senior Secondary School Students may improve significantly.

The result presented in table no II reveled that after experiencing 8 weeks specific yogic exercises training program, a significant improvement was observed in Senior Secondary School Students of experimental group in Diastolic Blood Pressure. The results may be attributed to the facts that, the yogic exercise training program contribute in the improvement in resting pulse rate. Diastolic B.P. and other physiological measurers because of positive changes occurred with the conditioning of heart, abdomen and various other cardio respiratory changes. The significant improvement in the Diastolic Blood Pressure may be due to the fact that the Senior Secondary School Students obtained eight-week specific yogic exercise training in which they practiced Surya Namaskar, Ushtra Asana, Trikona Asana, Tada asanas, Bhujang Asana and Anulom Vilom, Bhramari and Kapalbhati. That's why Diastolic Blood Pressure of Senior Secondary School Students may improve significantly.

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The result presented in table no III reveled that after experiencing 8 weeks specific yogic exercises training program, a significant improvement was observed in Senior Secondary School Students of experimental group in the variable of Systolic Blood Pressure. The results may be attributed to the facts that, the yogic exercise training program contribute in the improvement of cardiac output, resting pulse rate, Diastolic B.P., Systolic B.P. and other physiological measurers because of positive changes occurred with the conditioning of heart, Lung's, abdomen and various other cardio respiratory changes. The significant improvement in the Systolic Blood Pressure may be due to the fact that the Senior Secondary School Students undergo eight-week specific yogic exercise which they practiced Paschimotan asana, Chakra Asana, Anulom vilom, Kpalbhati, Nadishodhan and Bhramari. That's why Systolic Blood Pressure of Senior Secondary School Students may improve significantly.

The result presented in table no IV reveled that after experiencing 8 weeks specific yogic exercises training program, a significant improvement was observed in Senior Secondary School Students of experimental group in the variable of Breath Holding Time, which was measured through stop watch. The results may be attributed to the facts that, the yogic exercise training program contribute in the improvement of various system of the body and physiological measures because of positive changes occurred with the conditioning of different system of body along with other cardio

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respiratory changes. The significant improvement in the Breath Holding Time may be due to the fact that the Senior Secondary School Students obtained eight-week specific yogic exercise training in which they performed training on Surya namaskar, Tadasana, Pad hast Asana, Paschimotan asana, Bhujang Asana and Chakra Asana. That's why Breath Holding Time of Senior Secondary School Students may improve significantly.

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