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Effect of yoga training on selected psychological and psychomotor abilities of high school students

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Abstract

The purpose of the study was to find out the effect of “Yoga training on selected psychological and psychomotor ability of high school students”. For the study the subject were selected from the Gov Model Residential School Pattuvam. Forty (40) boys and girls were selected. The simple random sampling method was adopted to select subject. The study was formulated a true random group design, consisting of a pre-test and post-test. The students were randomly assigned in to two equal group of twenty high school student each namely yoga group (YG) and control group (CG). The yoga group were undergo sukshmayayams (loosing exercise), Asans, Pramayams and Yoga nidra and the control group were not undergo any yoga training. The yoga group were participating the training for a period of six week, 45 minute a day for 3 days alternatively per a week. Competition anxiety, concentration, eye hand co-ordination and dynamic balance were tested using dependent T test. After the analysis of result the yoga group have improved their psychological and psychomotor ability.

Keywords: psychological and psychomotor ability, high school students

Introduction

Yoga

The word “Yoga” is derived from the Sanskrit root “Yuj”. The literal meaning of This word is “Union”. It signifies the union of human being with the God, body with Mind, the individual soul with the universal spirit, mortal with eternal, mind with the Innermost center conscious mind with the unconscious mind, resulting into Integration of different dimensions of the personality. It is generally related with Metaphysics as well as physiology.

Psychology

Psychology is the scientific study of the mind and behavior. Psychology is a multifaceted discipline and includes many sub-fields of study such areas as human development, sports, health, clinical, social behavior and cognitive processes.

Psychology is really a very new science, with most advances happening over the past 150 years or so. However, its origins can be traced back to ancient Greece, 400-500 years BC. The emphasis was a philosophical one, with great thinkers such as Socrates influencing Plato, who in turn influenced Aristotle.

Psychomotor

Psychomotor learning is demonstrated by physical skills such as movement, coordination, manipulation, dexterity, grace, strength, speed-actions which demonstrate the fine motor skills, such as use of precision instruments or tools.

Methodology

Source of data the data pertaining to the study was collected from the Gov Model Residential School Pattuvam

Selection of subject 40 boys and girls were selected from the Gov Model Residential School Pattuvam. Their age range of (13-15).

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Selection of variable

- SCAT
- Concentration
- Eye Hand Co-ordination
- Dynamic balance

Collection of data

Data needed for the purpose of study were collected before and after the 6

Weeks of training program by administering the appropriate test procedure.

Experimental design

The study was formulated as a true random group design, consisting of a pre-test and post-test. The subjects (N=40) were randomly assigned to two equal groups of twenty high school students each namely Yoga Group (YG) Control Group (CG). The Yoga Group were undergo Yogic Sukshma Vyayamas (loosening exercises), Asana, Pranayama and Yoga Nidra and the control groupware not undergo any Yoga training. The Yoga Group were participating the Yoga training for a period of six weeks, 45 minute a day for 3 days alternatively per week on Monday, Wednesday and Friday

Level of significance

To test the hypothesis, the level of significance was set at 0.05 level.

Discussion of findings

All the subjects of the experimental groups underwent 6

weeks of yoga training for forty five minutes for a day. The result of the study indicates that the selected yoga program had brought significant improvement on selected psychological and psycho motor abilities of high school students. However control group did not show any improvement on selected variables as they were not involved in any type of training program except their daily routine. The result of the study in a nutshell shows significant change in Eye Hand coordination, Dynamic Balance, Concentration Grid and Sports competition anxiety test of the high school students the synchronized movement with breath in asanas and pranayamas possibly made the smooth function of central nervous system and helped to improve the muscle tone thereby improving the neuromuscular coordination, which resulted in improving the eye hand coordination, Dynamic Balance, Concentration Grid and Sports competition anxiety. The results of the study are in conformity with the findings of Telles (2006), Sunita & Jay (2014), Sunita & Jay (2014), Madanmohan (1992) and Bhavanani (2003) who concluded that Yoga training had positively influenced the scores of eye hand coordination. The balancing asanas especially Gaurdasana possibly influenced the vestibular system which is responsible to keep physical balance and might have increased the sense of both static and dynamic balance. The result of the study support the studies conducted by Ali *et al.* (2014), Hart (2008) who concluded that daily Yoga is effective in improving balance in those who practices yoga regularly.

Table 1: Eye Hand Coordination

| | Pre Test | | | Post Test | | | t-ratio |
|--------------------|----------|-------|------|-----------|-------|------|---------|
| | N | Mean | SD | N | Mean | SD | |
| Control factors | | | | | | | |
| Experimental | 20 | 15.30 | 4.12 | 20 | 17.25 | 3.68 | 5.94 |
| Control | 20 | 17.35 | 4.20 | 20 | 17.15 | 3.80 | .847 |
| t 0.05(1,19)=2.093 | | | | | | | |

Significant at t.05 level

Table 1 above indicates that, there was significant difference between the pre and post test scores on experimental group's eye hand coordination. The calculated 't' value 5.94 is greater

than tabulated 't' value 2.09 at 0.05 level of significance with 19 degrees of freedom. In the case of control group there was no significant difference in eye hand coordination was found.

Table 2: Mean Comparison of Experimental and Control group on Dynamic Balance

| | Pre Test | | | Post Test | | | t-ratio |
|--------------------|----------|-------|-------|-----------|-------|-------|---------|
| | N | Mean | SD | N | Mean | SD | |
| Control factors | | | | | | | |
| Experimental | 20 | 60.85 | 18.17 | 20 | 68.15 | 14.30 | 4.438 |
| Control | 20 | 59.25 | 21.27 | 20 | 59.20 | 20.45 | .957 |
| t 0.05(1,19)=2.093 | | | | | | | |

Significant at t.05 level

Table 2 above indicates that, there was significant difference between the pre and post test scores on experimental group's dynamic balance. The calculated 't' value 4.438 was greater

than tabulated 't' value 2.09 at 0.05 level of significance with 19 degrees of freedom. In the case of control group there was no significant difference in dynamic balance.

Table 3: Mean Comparison of Experimental and Control group on Concentration grid

| | Pre Test | | | Post Test | | | t-ratio |
|--------------------|----------|-------|------|-----------|-------|------|---------|
| | N | Mean | SD | N | Mean | SD | |
| Control factors | | | | | | | |
| Experimental | 20 | 11.15 | 4.15 | 20 | 13.80 | 3.47 | 6.869 |
| Control | 20 | 11.10 | 4.25 | 20 | 11.15 | 3.72 | .160 |
| t 0.05(1,19)=2.093 | | | | | | | |

Significant at t.05 level

Table 3 above indicates that, there was significant difference between the pre and post test scores on experimental group's concentration grid. The calculated 't' value 6.869 was greater

than tabulated 't' value 2.09 at 0.05 level of significance with 19 degrees of freedom. In the case of control group there was no significant difference in concentration grid.

Table 4: Mean Comparison of Experimental and Control group on Cognitive State Anxiety.

| Control factors | N | Pre Test | | Post Test | | | t-ratio |
|--------------------|----|----------|------|-----------|-------|------|---------|
| | | Mean | SD | N | Mean | SD | |
| Experimental | 20 | 17.00 | 3.84 | 20 | 16.65 | 3.94 | 2.101 |
| Control | 20 | 16.85 | 3.08 | 20 | 16.20 | 2.65 | 2.459 |
| t 0.05(1,19)=2.093 | | | | | | | |

Significant at t.05 level

Table 4 above indicates that, there was significant difference between the pre-test and post test scores on experimental group's cognitive state anxiety. The calculated 't' value 2.101 was greater than tabulated 't' value 2.09 at 0.05 level of

significance with 19 degrees of freedom. In the case of control group there was a significant difference in cognitive state anxiety

Table 5: Mean Comparison of Experimental and Control group on Somatic State Anxiety.

| Control factors | N | Pre Test | | Post Test | | | t-ratio |
|--------------------|----|----------|------|-----------|-------|------|---------|
| | | Mean | SD | N | Mean | SD | |
| Experimental | 20 | 16.65 | 3.99 | 20 | 14.80 | 3.05 | 3.709 |
| Control | 20 | 16.05 | 2.93 | 20 | 15.70 | 2.92 | 1.437 |
| t 0.05(1,19)=2.093 | | | | | | | |

Significant at t.05 level

Table 5 above indicates that, there was significant difference between the pre and post test scores on experimental group's somatic state anxiety. The calculated 't' value 3.709 was greater than tabulated 't' value 2.09 at 0.05 level of

significance with 19 degrees of freedom. In the case of control group there was a significant difference in somatic state anxiety.

Table 6: Mean Comparison of Experimental and Control group on Self Confidence.

| Control factors | N | Pre Test | | Post Test | | | t-ratio |
|--------------------|----|----------|------|-----------|-------|------|---------|
| | | Mean | SD | N | Mean | SD | |
| Experimental | 20 | 21.60 | 6.32 | 20 | 24.55 | 6.25 | 7.028 |
| Control | 20 | 24.10 | 6.66 | 20 | 24.45 | 6.40 | .979 |
| t 0.05(1,19)=2.093 | | | | | | | |

Significant at t.05 level

Table 6 above indicates that, there was significant difference between the pre and post test scores on experimental group's self-confidence. The calculated 't' value 7.028 was greater than tabulated 't' value 2.09 at 0.05 level of significance with 19 degrees of freedom. In the case of control group there was a significant difference in self-confidence.

recommendations are made

1. Yoga may be included in the school curriculum.
2. Similar study may be undertaken with female high school students.
3. Similar study may conduct taking larger samples than those used in the present study.
4. Similar study may be undertaken with all age groups.

Conclusions

On the basis of the findings and within limitations of the present study the following conclusions were drawn.

1. The Yoga training group was better in improving the psychological and psychomotor abilities namely Eye Hand Coordination, Dynamic Balance
2. Concentration grid and Competition anxiety test as compared to Control Group (CG).
3. The present study revealed that regular practice of Yoga would help the students to improve psychological and psychomotor abilities.
4. An integrated yoga training program may be incorporated as a supplementary exercises with the conventional physical exercises to achieve overall fitness.

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Recommendations

In the light of conclusion drawn, the following