



EFFECTS OF YOGIC EXERCISE ON PHYSIOLOGICAL VARIABLES

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ABSTRACT

Psychology is a study of human mind, behavior and human relationship. Physiology is science of the study of functioning of the human body, which includes the working patterns of different organs and systems in the functions of the body. However, psychophysiology is an overall state of physiological functions as influenced by some psychological attributes and vice versa.

KEY WORDS: physiological, variables, yogic exercise

INTRODUCTION

Psychological Variable Can be thought of as an integrated measure of most, if not all, the body functions involved in the performance of daily physical activity and/or physical exercise Included in this definition are characteristics such as cardio respiratory endurance, muscular strength and

endurance, body composition and flexibility These characteristics are often referred to as „health-related components” and are usually associated with disease prevention and health promotion. Childhood and adolescence are important stages of life, since remarkable physiological and psychological changes take place at these ages. Similarly, lifestyles and healthy/unhealthy behaviors are formed during these years, which may influence adult behavior and health status. Low psychological variables in children have been associated with impaired health indicators such as increased body fatness and abdominal adiposity and declines in aerobic fitness in school age children. The implications of decreasing fitness levels in children are considerable. Children are losing the metabolic effects of fitness that might protect them from excessive weight gain as well as other metabolic ill health this situation is extremely worrying for the future public health. Given that fitness is an important component of metabolic health and a strong independent predictor of premature death examining the health related psychological variables and psycho-physiological variables of school girls could be useful for effective interventions to improve fitness. In this context yoga practices seems to be beneficial as previous research reports indicated favorable changes in health related physical fitness.

HYPOTHESES

H₂ There will be significant effect of yoga practices on selected psychological variables of the school going girls.

H₃ Yoga practices would help to improve overall factors of Physiological variables of the school going girls.



Significance of the Study

- This study is important because it will elucidate the effects of yoga training programs on health related psychological variables components and psycho-physiological attributes of school girls.
- The study helps the entire population of students, parents and society to know the inculcating ability of yoga for one's health related physical fitness, psychological and physiological variables in growing children.

METHOD

Pre – Test (phase – I)

All the subject of different experimental and control groups were exposed to health related fitness and selected psycho-physiological test to record the pre test data.

Post test (phase III)

Finally, when the treatment or training period of 12 week was over, the posttest on physiological variables was conducted for all the subjects of two groups.

The score in each criterion measure were taken before and after the experimental period of 12 weeks.

Dependent Variables and Tools Used

Before and after experiment following variables were assessed considering standard tests (Table 1).

Table 1
Selected Variables and Tools used

| Sr. No. | Test Name | Tools used | Measurement Units |
|--------------------|------------------|-------------------------------|-------------------|
| PHYSIOLOGICAL TEST | | | |
| 1. | Pulse Rate | Sphygmomanometer | Beats/Min. |
| 2. | Respiratory Rate | Observation of chest movement | Cycle/min |

The participants were found really encouraged to exhibit their best effort in each of the above tests.

RESULTS

The report of analysis (2 x 2 x 11 Factorial ANOVA) as presented in Table 2 revealed that the achievement scores in the selected dependent variables of the Yoga and Control group were significantly different ($F=19.84$, $p<0.01$). The impact of such statistical difference has been evidenced in the case of their group comparison ($F=13.55$, $p<0.01$). This indicates, the interaction was also statistically significant ($F=9.76$, $p<0.05$). However, employing Scheffe's Post Hoc techniques, the specific variables were identified, which showed significant changes as a result of yoga training intervention. The item-wise or event-wise analysis has been presented below.

Table 2
ANOVA for Mean Achievement in Dependent Variables due to Yoga training in School Girl students

| Source of Variation | SS | df | MS | F |
|-----------------------------|----------|-----|--------|---------|
| TOTAL | 16783.40 | 515 | -- | -- |
| Dependent Variables (A) | 3660.48 | 10 | 366.04 | 19.84** |
| Subject's Group (B) | 249.99 | 1 | 249.99 | 13.55** |
| Interaction (AB) | 3961.58 | 21 | 180.07 | 9.76* |
| ERROR | 8911.35 | 483 | 18.45 | |
| ** p < 0.01 * p < 0.05 | | | | |

The result of the present study revealed that short term Yoga for 12 weeks could also be included in the schools especially for the pre-adolescent girls for the benefits of health related psychological variables factors such as cardiovascular efficiency, flexibility, abdominal muscles strength and most efficient factor i.e., obesity. Since, these girls are entering the teen age; many physiological changes appear in them which might reduce many of the factors of health related physical fitness. The result indicates that Yoga practices as included in this study contributed for improvement in cardiovascular function, mobility of joints, abdominal muscles strength and could control the obesity. The possible reasons for such improvement may be the fact that slow and steady practices involved in Yoga might have improved micro circulation, which perhaps helped to facilitate such

circulation in deep cardiac muscles and therefore cardiac functions might have improved. Similarly, Yoga practices might have played role for lubricating the joints so as to improve the range of motion around the joints. Most importantly, Yogic diet as suggested during the training phase might have helped them to control the diet which might have maintained the normal body fact. Thus, Yoga contributes to improvement in overall factors of health related physical fitness. Appearance of such result indicates that the hypothesis – ‘H1 Yoga practices would help to improve overall factors of health related psychological variables of the school going girls’ has been retained statistically.

CONCLUSION

psychological variables can be thought of as an integrated measure of most, if not all, the body functions involved in the performance of daily physical activity and/or physical exercise .

psychological variables in children has been associated with impaired health indicators such as increased body fatness and abdominal adiposity , several cardiovascular disease risk factors , hypertension and low physical activity .

Given that fitness is an important component of metabolic health and a strong independent predictor of premature death , examining the health related psychological variables and psycho- physiological variables of school girls could be useful for effective interventions to improve fitness.

This study is important because it will elucidate the effects of yoga training programs on health related psychological variables components and psycho-physiological attributes of school girls.

The study helps the entire population of students, parents and society to know the inculcating ability of yoga for ones health related physical fitness, psychological and physiological variables in growing children.

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