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Effect of Yogic Practices on Body Mass Index and Anxiety Among Smart Phone Addicted Adolescent Boys

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Abstract: The purpose of this study was to determine if yoga practices could aid adolescent males in overcoming their dependence on smart phones. Boys between the ages of 17 and 21 in Salem who were addicted to their smartphones were divided into two groups of 15 each. It was hypothesized that adolescent boys who rely on their smart phones would differ considerably from one another. Before commencing the training program, a preliminary questionnaire was administered to assess anxiety. Group I participants engaged in 60 min Yogic practices six times per week for twelve weeks. The second group (controls) was also physically active, but proceeded with their normal daily activities. The same dependent variable (Body Mass Index) was retested on both groups immediately following the experimental period. We utilized ANCOVA to determine whether or not the experimental and control groups exhibited statistically significant differences. The significance threshold for the result was set at 0.05. The significant differences between the Experimental Group and the Control Group were attributed to Yogic practices among adolescents who were dependent on their smart phones. At a level of confidence of 5%, the hypothesis was confirmed. Teenage boys who rely excessively on their smartphones may benefit from engaging in Yogic practices in order to maintain a healthy lifestyle and improve their quality of life.

Keywords: Yogic practices, Body Mass Index, Anxiety, Smart phone addicted adolescent boys

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Introduction

Human race is striving hard to get three important derivatives. These are wealth, glory and health. In order to lead a life of minimum comfort wealth is necessary. Each and every

individual is trying hard for recognition for their activities by the society and finally health. Health is of paramount importance, but people are giving little importance to it as compared to acquisition

of wealth (Swami Karmananda, 1983).

Adolescence is the time when a person is changing from a kid to an adult. There are major physical and mental changes that occur at this time in a young person's life. Children and their families may have mixed feelings as they anticipate and adapt to the myriad physical, sexual, cognitive, social, and emotional changes that occur throughout this period (Chung *et al.*, 2012). Teenage years are a time of tremendous cognitive development for children. These alterations have an effect on their way of thinking and acting. Adolescence is the stage of rapid development and the onset of puberty (sexual maturation). A teen's growth rate might fluctuate widely, from several inches in a few months to almost any change at all. Keep in mind that each adolescent will experience these shifts in their own unique way. These indicators of maturity may appear earlier or later in certain adolescents. The onset of puberty varies from kid to child. When it comes to secondary sex traits, both boys and girls go through similar developmental phases. These are the differences between sexes that do not have a role in reproduction. Alterations in the voice, body type, pubic hair pattern, and facial hair are all examples. Many changes occur throughout adolescence. These shifts include not only the body, but the mind and the community as well. Teens develop their capacity for abstract thought throughout this time. They will eventually be able to plan and establish long-term objectives. It's possible that each kid develops at their own pace and has their own unique outlook on life. Parents, it seems, have good cause to be concerned. Fifty per cent of teenagers questioned in a 2016 Common Sense Media report said they "feel addicted" to mobile devices, and almost six in ten parents agreed. A poll conducted in January 2018 among 1,024 parents with children under the age of 18 found that 47% of respondents believed their kid to be "addicted" to their mobile device. Surprisingly, 32% of those parents identified in the same way. Both men and women may benefit from practicing yoga. Teenage boys and girls, by virtue

of the higher obligations forced upon them by nature, are in more need of yoga than adult men and women.

This study's primary goal was to determine whether or not teenage males who are chronically glued to their smartphones exhibit distinctive patterns across a range of physiological (BMI) and psychological (anxiety) factors. It was hypothesized that there would be significant differences due to yogic practices on selected physiological (BMI), and psychological (Anxiety) variables among smart phone addicted adolescent boys than the control group.

The significance of the study is to improve health and diet consciousness and to use mobile phones minimally for a harmonious and stress free life and to handle any challenges among smart phone addicted adolescent boys.

The study is also useful for smart phone addicted adolescent boys to overcome the symptoms and the importance of yogic practices in the overall development of teen aged boys (Büssing *et al.*, 2012).

Inclusion criteria for the study were-- (i) The study would be delimited to smart phone addicted adolescent boys in Salem city only; (ii) The age of subjects would be confined within 17 to 21 years only; (iii) The subjects would be smart phone addicted adolescent boys only; (iv) The independent variables would be selected as yogic practices; and (v) The dependent variables would be restricted to physiological (BMI), psychological (Anxiety) variables. Exclusion criteria for the study were-- (i) Adolescent boys already performing yoga or any physical exercise as a part of daily exercise programme; (ii) The subjects under medical treatment will be under control; (iii) The factors like environmental, climatic conditions and social-economic status are not to be taken into consideration; (iv) Certain factors like life style, body structure, personal habits and motivational factors are not to be taken in to consideration for this study; and (v) Adolescent boys diagnosed with serious disease or mental retardation and adolescent

Table 1: Analysis of Covariance of the means of experimental group and the control group on BMI among smart phone addicted adolescent boys

ANCOVA Table							
Test	Group A Yogic Practices	Group B Control	Source of Variation	Degree of Freedom	Sum of Squares	Mean Sum of Squares	F-Ratio
Pre	28.6	28.4	Between	1	28.40	28.40	3.77
			Within	28	211.20	7.54	
Post	26.4	28.53	Between	1	34.13	34.13	7.39
			Within	28	129.33	4.62	
Adjusted Post	26.32	28.61	Between	1	39.07	39.07	113.07
			Within	27	9.33	0.35	

*Significant at 0.05 level of confidence for 1 and 28 (df) =4.2, 1 and 27(df) = 4.21

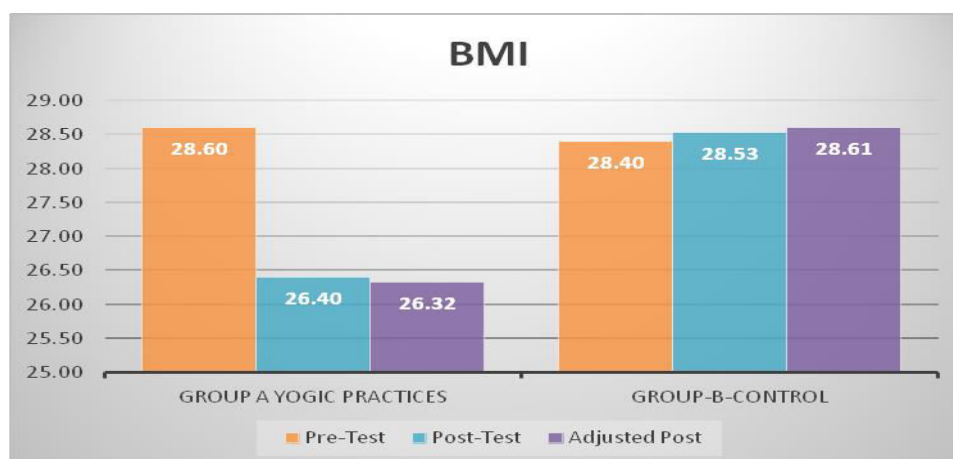


Fig. 1: BMI of Smart Phone Addicted Adolescent Boys. *Significant at 0.05 level of confidence. (Table F ratio at 0.05 level of confidence for 1 and 28 (df) =4.2, 1 and 27(df) = 4.21)

boys not giving consent for the data collection due to own reasons.

Materials and Methods

A total of 30 participants were chosen at random for this experimental investigation utilizing a Random Group Sampling Design. Two groups of fifteen people each were used in this study. The first group participated in 12 weeks of yoga practices whereas the second group did not. Selected measures of body mass index (BMI) and anxiety were measured twice for each group, with the results compared using an analysis of

covariance (ANCOVA). The impact of yoga practices on participants was measured by comparing their pre- and post-practice scores on dependent variables. The following Practices were given to group I subjects: Loosening Exercises, Suryanamaskar, Asanas (Tadasana, Trikonasana, virasana, Supta baddhakonasana, Setubandasana, Uttana padasana), and Pranayama (Kapalbathi, Sheetal, Nadisodhana).

Results and Discussion

The dependent variable's (Body mass index) (Table 1, Fig. 1) pre- and post-training readings

Table 2: Analysis of Covariance of the means of experimental group and the control group on anxiety among smart phone addicted adolescent boys

ANCOVA Table							
Test	Yogic practices	Control group	Source of Variation	Degrees of Freedom	Sum of Squares	Mean Sum of Squares	F-Ratio MSST / MSSE
Pre	30.87	31.20	Between	1	31.20	31.20	0.30
			Within	28	2906.13	103.79	
Post	21.67	30.73	Between	1	616.53	616.53	7.85*
			Within	28	2198.27	78.51	
Adjusted Post	21.81	30.59	Between	1	579.28	579.28	81.10*
			Within	27	192.84	7.14	

* Significant at 0.05 level of confidence. (Table F ratio at 0.05 level of confidence for 1 and 28 (df) =4.2, 1 and 27(df) = 4.21)

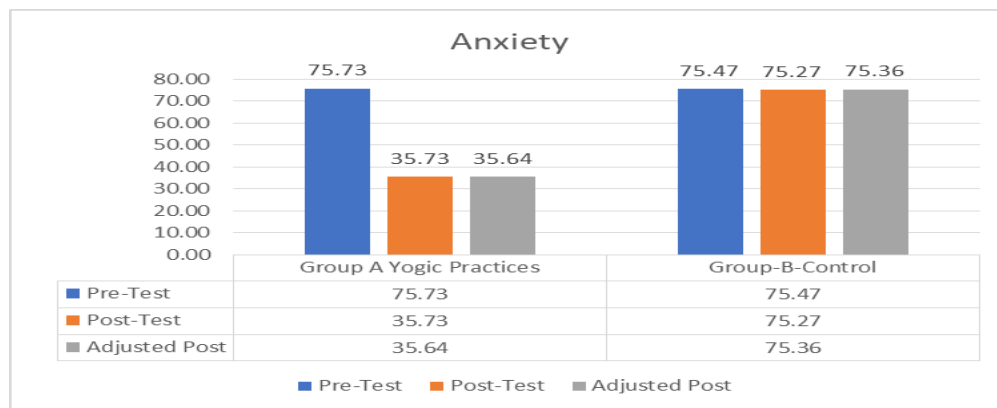


Fig. 2: Anxiety on Smart Phone Addicted Adolescent Boys. * Significant at 0.05 level of confidence. (Table F ratio at 0.05 level of confidence for 1 and 28 (df) =4.2, 1 and 27(df) = 4.21).

for the two groups were statistically compared using Analysis of Co-variance (ANCOVA), and a significance level of 0.05 was applied to test the hypothesis.

The obtained F value of 3.77 for pre-test scores was lower than the required F value of 4.2 to achieve statistical significance at the 0.05 level. As a result, the pre-test randomization was fair and there was no discernible difference between the groups at the pre-test. The examination of post-test scores yielded a F value of 7.39, which was higher than the minimum required F value of 4.20, proving that there was a statistically significant difference between the groups. This proved that there were statistically significant differences in the post-test averages of the subjects. Based on the variations in test results

between the groups before and after treatment, adjusted mean scores were established, and statistical analysis was carried out.

The computed F value of 113.07 was more than the required minimum of 4.21. This showed that there was a significant difference in the means after 12 weeks of yogic practices with regard to body mass index.

The hypothesis was evaluated at the 0.05 level of confidence following statistical analysis of the data gathered on the variable (anxiety) from the two groups before and after the training session using Analysis of Covariance (ANCOVA).

According to the Table 2 and Figure 2, the acquired F value on the pre-test scores indicates 0.30 which is less than the necessary F value

4.20, demonstrating that the subjects' random assignment was effective and that there were no significant differences between them before training. The acquired F value on the post-test mean scores was 7.85, which is higher than the necessary F value of 4.20 and demonstrated that there were substantial variations in the post-test means of the participants among the various groups. Adjusted post-test means were established after taking into account the pre- and post-test means, and Analysis Co-Variance was carried out. The resultant F value of 81.10 was higher than the necessary F value of 4.21, demonstrating that there are substantial differences between the groups in the adjusted post-test averages.

Yogic practices were anticipated to cause substantial variations on selected physiological and psychological variables between the Smart Phone Addicted Adolescent Boys and the Control Group. The findings showed that the Smart Phone-Dependent Adolescent Boys in the Yogic Practices Group had lower body mass indexes and lower levels of anxiety compared to the Control Group. Therefore, at the 5% level of significance, the hypothesis was accepted.

Conclusion

Yogic practices were shown to improve body mass index and anxiety in teenage boys who spent excessive time on their smartphones. Adolescents, in particular, need to limit their time spent on their phones.

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