# To study the effect of Yoga Asanas program on school going obese children of DAV class X standard.

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## ABSTRACT

**N**umber of children suffering from stress and anxiety in Punjab is on the rise. Evidence shows that mind-body therapies such as mindfulness therapy, meditation and yoga have been practiced in many other countries to reduce and/or manage the psychological effects of stress and anxiety. This research article looks at the intervention of yoga as a meditative movement practice in helping school children manage stress and anxiety. Articles were retrieved using a combination of databases including PubMed/MEDLINE, and PsycINFO. Not only peer-reviewed articles, but also those written in English language were included in this review. All studies reviewed had incorporated some form of meditative movement exercise. The intervention encompassed asanas (postures), pranayama (expansion of life force), dharana (concentration) and dhyana (meditation), which are the different paths in yoga.

**Keywords:** DAV Schools, Anthropometric Measurements, Punjab.

Childhood obesity affects both developed and developing countries of all socio-economic groups, irrespective of age, sex or ethnicity(Ojo & Adetola, 2017). It has been estimated that worldwide over 22 million children under the age of 5 are obese, and one in 10 children is overweight(Ricardo, Gil, & Araújo, 2002). In developed countries, children of low socio-economic status are more affected than their affluent counterparts. The opposite is observed in developing countries: children of the upper socio-economic strata are more likely than poor children to be obese(Gawinski, 2012). Indian data regarding current trends in childhood obesity are emerging. Socio-economic trends in childhood obesity in India are also emerging(Gezondheidsbevordering, 2014). A study from

northern India reported a childhood obesity prevalence of 5.59 per cent in the higher socio-economic strata when compared to 0.42 percent in the lower socio-economic strata.

## RESEARCH METHODOLOGY

The study consisted of two parts: 1) Cross-sectional survey of children in grade tenth DAV schools randomly selected from the state of Punjab. Data were checked for completeness and accuracy. Coded data were computerized and analysed by using IBM SPSS Statistics Version 25. The descriptive statistics were presented in frequency tables, range, minimum and maximum descriptive, mean, standard deviation and variance for boys and girls separately(Ricardo et al., 2002).

The school teachers from department of physical education personally took different anthropometric (height, weight, triceps, biceps, abdomen, suprailiac, calf and fat percentage) measurements at the examination room after instructing the students to took off heavy clothes. The sample size (N) of students is 150. One suitable weight balance measuring to nearest 0.5 kg was used(Division & Report, 2017). Students were weighed while wearing light school uniform. Suitable metallic meter scale measuring to the nearest 0.5 cm, fixed on the scale was used. Body Mass Index was calculated by dividing weight in kg by square height in meters(Chou & Huang, 2017).

## FINDINGS

**Analysis and Interpretation of Research Hypothesis $H5a_o$ by using IBM SPSS Statistics Version 25:**

| Table No. 1: Paired Samples Statistics | | | | | |
|---|---|---|---|---|---|
| **Yoga asanas Program** | | **Mean** | **N** | **Std. Deviation** | **Std. Error Mean** |
| **Boys** | Pre.Weight | 76.960 | 50 | 8.1189 | 1.1482 |
| | Post.Weight | 74.400 | 50 | 7.6505 | 1.0819 |

The result of paired sample t – test statistics is presented in table no. 1. The mean for pre weight measurement is 76.960 and the mean reading for post weight measurement is 74.400. The standard deviation for the pre weight measurement is 8.1189 and for post weight measurement is 7.6505. The number of boy's students (N) in each measurement is 50. The standard error of the mean for pre weight measurement is 1.1482 and for post weight measurement is 1.0819. The smaller the standard error, the more accurately the given sample represents the population.

**Table No. 2: Paired Samples Test**

| Yoga asanas Program Pre.Weight - Post.Weight | Paired Differences | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|
| | Mean | Std. Deviation | Std. Error Mean | | | |
| Boys | 2.5600 | 10.2283 | 1.4465 | 1.770 | 49 | .083 |

**Table no. 2** depicts that the paired variables being tested (pre weight and post weight) and the order subtraction was carried out. The average difference between the two variables is 2.5600. The standard deviation of the difference scores is 10.2283. The standard error (standard deviation divided by the square root of the sample size) used in computing upper and lower bounds of the 95 % confidence interval is 1.4465. The degree of freedom for this test is 49. The $p$-value corresponding to the given test statistic t is 0.83. The p - value is more than 0.05. Hence the null hypothesis **H5a$_o$** there is no significant difference in yoga asanas between pre weight measurements and post weight measurements in boys is accepted. It can be conclude that there is no significant difference in yoga asanas between pre weight measurements and post weight measurements in boys.

**Table No. 3: Paired Samples Statistics**

| Yoga asanas Program | | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Boys | Pre.BMI | 29.286 | 50 | 3.3266 | .4705 |
| | Post.BMI | 28.364 | 50 | 3.1078 | .4395 |

The result of paired sample t – test statistics is presented in table no. 3. The mean for pre BMI measurement is 29.286 and the mean reading for post BMI measurement is 28.364. The standard deviation for the pre BMI measurement is 3.3266 and for post BMI measurement is 3.1078. The number of boy's students (N) in each measurement is 50. The standard error of the mean for pre BMI measurement is 0.4705 and for post BMI measurement is 0.4395. The smaller the standard error, the more accurately the given sample represents the population.

| Table No. 4: Paired Samples Test | | | | | | |
|---|---|---|---|---|---|---|
| **Yoga asanas Program** **Pre.BMI - Post.BMI** | **Paired Differences** | | | **t** | **df** | **Sig.** **(2-tailed)** |
| | **Mean** | **Std. Deviation** | **Std. Error Mean** | | | |
| **Boys** | .9220 | 4.3218 | .6112 | 1.509 | 49 | .138 |

**Table no. 4** depicts that the paired variables being tested (pre BMI and post BMI) and the order subtraction was carried out. The average difference between the two variables is 0.9220. The standard deviation of the difference scores is 4.3218. The standard error (standard deviation divided by the square root of the sample size) used in computing upper and lower bounds of the 95 % confidence interval is 0.6112. The degree of freedom for this test is 49. The *p*-value corresponding to the given test statistic t is 0.00. The p - value is more than 0.05. Hence the null hypothesis **H5b$_0$** there is no significant difference in yoga asanas between pre BMI measurements and post BMI measurements in boys is accepted. It can be conclude that there is no significant difference in yoga asanas between pre BMI measurements and post BMI measurements in boys.

## CONCLUSION

The intervention of yoga, encompassing asanas, pranayama, prathyhara, dharana and dhyana, appears effective in helping children overcome stress and anxiety(Chou & Huang, 2017). The restorative postures, shava-sana (corpse pose), and pranayama (expansion of life force) lull oneinto a state of prathyhara (withdrawal of senses), which

enables downtime for the nervous system(Sarode, Mishra, & Tadas, 2017). The practice of yoga, if doneconsistently, may enable children to connect with their inner world through the coordination of mind, body and breath to achieve greater heights of mindfulness(Bhatnagar, Srivastava, & Vinay, 2015). Higher states of tranquility are achieved, paving the way to a healthier physical, mental and emotional life(Gothe, Pontifex, Hillman, & Mcauley, 2013). This meditative movement practice appears to be a cost-effective way for dealing with stress and anxiety(Therapy, 2016). While more in-depth research into the assessment of psychoso- cial and educational outcomes in response to therapeutic yoga is needed, schools in Punjab should seriously consider opening their classroom doors to this meditative movement regime, as it appears to be a viable practice supporting the psychosocial needs of today's children(Bhardwaj & Bhardwaj, 2015). As a pilot experiment, it is suggested that yoga sessions be implemented either as part of the routine physical education lesson or after school hours as an extra co-curricular activity(Of, Practices, Micronutrient, & In, 2014). If resources are limited, children with psychosocial and emotional issues may be prioritized for access to yoga sessions(Tew, Howsam, Hardy, & Bissell, 2017). Since yoga is secular and can be practiced by anyone, independent of race, gender or creed, schools may either hire or send existing physical education teachers for intensive training so that they can be certified to teach yoga

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