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# Impact of Covid 19 Pandemic on Mental Stress of Sports Coaches Fraternity of India

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## Abstract

There are some research studies, which exist and have been completed, which portray the impact of COVID 19 pandemic on physical, psychological and physiological variables. But the impact of COVID 19 pandemic on mental stress of sports coaches is yet not made. The present study clarifies and reveals the entire gap in the knowledge. Therefore, the objectives of the study were : 1. To see the impact of COVID 19 pandemic on mental of individual sports coaches of India. 2. To see the impact of COVID 19 pandemic on mental stress of team sports coaches of India. 3. To see the impact of COVID 19 pandemic on mental stress of coaches fraternity of India. Total 220 sports coaches of different sports (team sports & individual sports) male and female of India, aged ranged between 25 to above 60 were selected as the participants of the study. The variable selected in the study was mental stress which was measured through Perceived stress scale Questionnaire, which comprises of 10-items all items are answered using a 5-point likert scale format ranging from 0-never to 4-very often use to measure stress of an individual. All the participants were asked to give voluntary written informed consent, prior to participation. The participants were informed about the purpose of the study. Further, they were also informed that the data will remain confidential and will not be used beyond any academic purpose. The finding shows that the average stress in the case of coaches of team game is on the higher side than of the individual game. It can be also concluded from the t value (-3.473) is significant as the p value is <0.05 level of significance. Thus the null hypothesis of equality of population means of the two groups is rejected, and it may be concluded that the out of the two types of coaches the coaches of team game suffers from more stress than the individual game.

**Keywords:** Covid-19, Mental Stress, Sports Coaching Fraternity

## Introduction

**T**oday sports have become inseparable phenomenon of our social life. It has made its own place at the apex of human civilization because of its popularity and competitive nature at Olympic podium, it also become

The acquisition of new knowledge for betterment of performance of human organism in relation to physical, mental and physiological qualities is in process of saturation. To strive for still better is a million dollar question to the experts of sports. In the process they also explore the field of psychology and enlisted certain psychological parameter which influences sports performance of athlete and competitive psychology of sports coaches.

Psychology as a behavioral science has made its contributions for improving sports performance. It has helped coaches to coach more effectively and athletes to perform more proficiently. This psychological aspect of sports is gaining much attention among sports administrators. A rapidly growing area of interest in sports psychology is very much concern the use of mental stress management by coaches and their athlete. (Harold, 1997)

In the present scenario the whole world stuck in to the corona virus epidemic which came to existence on December 31, 2019 when China officially informed the World Health Organization of a group of cases of pneumonia of a mysterious cause in Wuhan city in China. Later the disease spread to more in numbers by human to human transmission throughout China, and all over world. On March 11, 2020, WHO has declared it a pandemic and virus of this disease has been named as SARS-CoV-2 and the disease is at present known as COVID-19. On July 4, 2020 worldwide, 10,710,005 confirmed cases of corona virus disease was reported including confirmed 517,877 worldwide deaths in approximately 216 countries. (Reported by WHO)

Corona virus COVID 19 which has major impact on sports globally, all the sports events at different level even mega sports activity were cancel. People were lacking in physical activity during the lockdown and stuck inside the room during lockdown period in order to keep them self isolated. All the school, colleges, sports clubs, sports academics and the entire advance sports training center were closed which cause sports professionals physically, mentally as well as economically weaker. (Hammami, 2020)

After reviewing available literature, discussion with expert and researcher's own understanding, it can be concluded that COVID 19 has impact on psychological stress among people of all over world. The gap in knowledge has been identified that there is no enough literature to prove that "Is corona virus COVID 19 equally impact on mental stress of Indian sports coaches". Therefore, this study was conduct to know the impact of COVID 19 on mental stress of Coaches fraternity of India.

### **Objectives of the Study**

- ❖ To see the impact of COVID 19 pandemic on mental stress of individual sports coaches fraternity of India.
- ❖ To see the impact of COVID 19 pandemic on mental stress of team sports

coaches fraternity of India.

- ❖ To see the impact of COVID 19 pandemic on mental stress of coaches fraternity of India.

## **Methodology**

### **Study Design and Participants**

The study was a cross sectional survey that used convenience sampling. The data was collected through electronic means, the link of the survey was circulated through major sources media platform such as e-mail and instant messaging application. Data collection was conducted from June 30, 2020 to July 10, 2020 in both language Hindi and English in order to better understanding of questionnaire. All the participants were sports coaches of different team sports and individual sports and over 18 years male and female from different part of the India. The ethical procedure was taken care during this study, the inform consent was obtain prior to the start of survey, and no identifying information was asked from any of the participant. They were also informed to withdraw from the study anytime if they do not wish to participate and at the end of the survey participant were provided national and regional help line numbers of mental health professional and counselor. All the participants were informed about the purpose of the study, out of 224 participants 220 participants were agree to participate in this study.

### **Variables**

On the basis of review of literature, expert's opinion, facilities and own understandings of the problem following variable were selected:

- ❖ Mental Stress

### **Criterion Measures**

- ❖ Mental Stress – Through Questionnaire, Perceived Stress Scale.

### **Description of the Perceived Stress Scale Questionnaire**

Perceived Stress Scale Questionnaire is a classic stress assessment instrument. The questions in this scale ask about the feelings and thoughts during the last month. In each case, you will be asked to indicate how often you felt or thought a certain way. A 10-items scale that measures global self-worth by measuring both positive and negative feelings about themselves during last month. The scale is believed to be unidimensional. All items are answered using a 5-point Likert scale format ranging from 0-never to 4-very often (appendix A).

### **Perceived Stress Scale Scoring**

PSS score by following these directions:

First, reverse your scores for questions 4, 5, 7, and 8. On these 4 questions, change the scores like this: 0 = 4, 1 = 3, 2 = 2, 3 = 1, 4 = 0.

Now add up your scores for each item to get a total.

My total score is \_\_\_\_\_.

Individual scores on the PSS can range from 0 to 40 with higher scores indicating higher perceived stress

- ❖ Scores ranging from 0-13 would be considered low stress.
- ❖ Scores ranging from 14-26 would be considered moderate stress.
- ❖ Scores ranging from 27-40 would be considered high perceived stress.

### **Procedure of Ttesting and Ccollection of Ddata**

The data was collected through Google form via electronic means, the link of the survey was circulated through major sources media platform such as e-mail and instant messaging application by briefing them the purpose and significance of the study thoroughly.

### **Statistical Technique**

In order to achieve the objectives of the study the data was analyzed by using SPSS 20. The data were put to statistical computation for analysis with the help of independent t- test was employed as a measure for the present data the descriptive statistics such as percentage, mean deviation, stander deviation, t test and frequency distribution was used as a statistical technique because data was in nominal form.

### **Analysis of Data and Result of the Study**

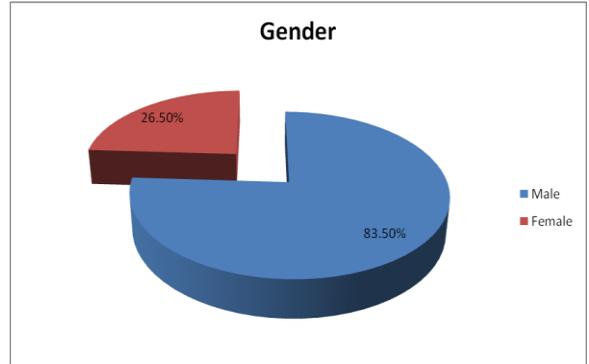
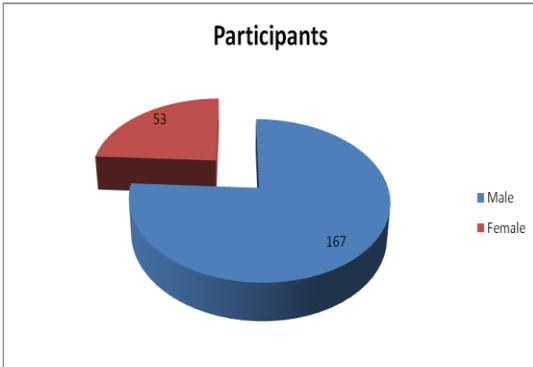
The findings and the discussion thereof in achieving the objectives of the research study. The main objective of the study was to see the impact of COVID 19 pandemic on mental stress of sports coaches fraternity of India. The Further the sub objective is to compare the mental stress level of team sports coaches and individual sports coaches of India. In order to achieve the above mentioned objectives, total 220 male and female Indian sports coaches were selected as the participants of the study. The data was collected through electronic means and the link of the survey was circulated through major sources media platform such as e-mail and instant messaging application. The whole analysis has been split into two sections. Section 'A' includes normality test of mental stress between individual and team sports coaches and descriptive analysis of the data in which it compares mean deviation and stander deviation of individual and team sports coaches. Section 'B' includes comparative statistics of mental stress between individual sports and team sports coaches.

### **Demography of Data**

Total Number of Subjects = 220

Male = 167

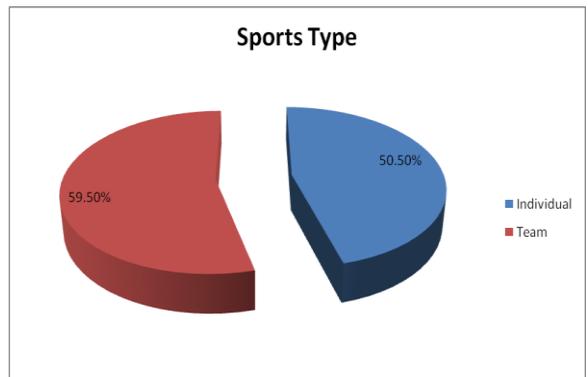
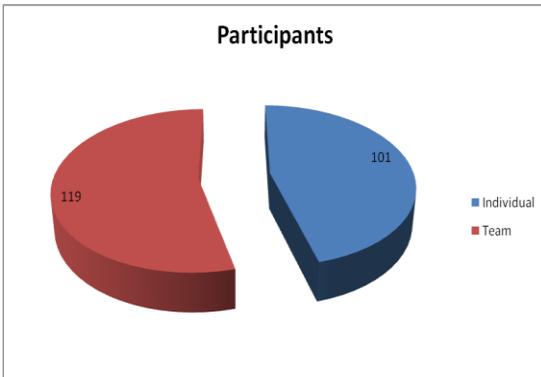
Female = 53



*Gender %*

*Individual Sports = 101*

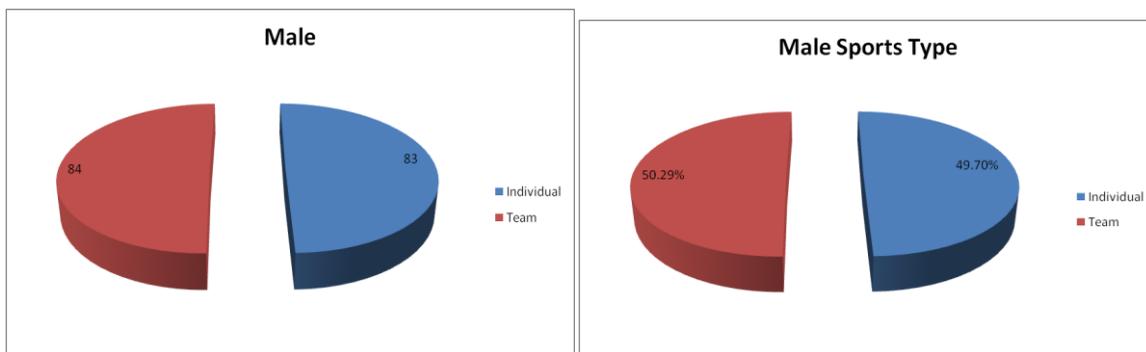
*Team Sports = 119*



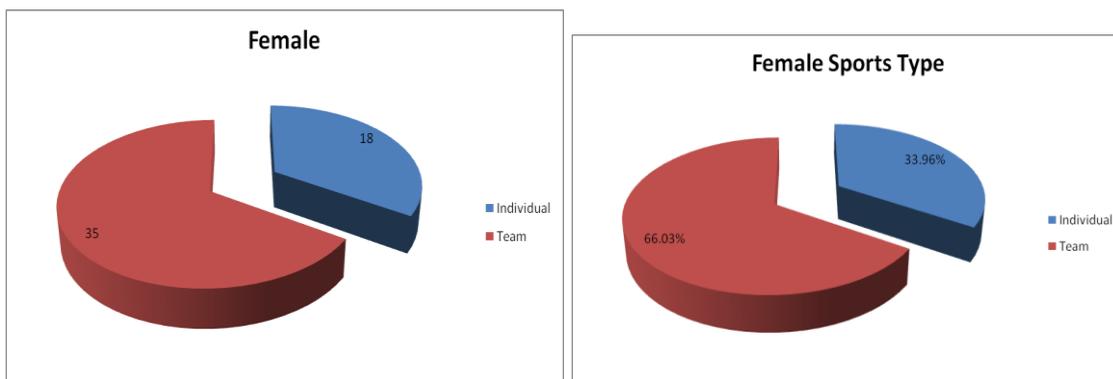
*Male Participants*

*Individual Sports = 83*

*Team Sports = 84*



**Female Participants**  
*Individual Sports = 18*  
*Team Sports = 35*



**Analysis of Data**

The data thus collected were put to statistical computation for analysis, which have been present in this chapter. Analysis with the help of independent t- test was employed as a measure for the present data (SPSS 20 was used). The level of significance was set at 0.05.

The variable that was taken into consideration in the present study was.

**Mental Stress**

To start with, the discussion findings of the total sample that was opted for the study, the normality, descriptive and independent t test statistics of selected variables have been presented in tables.

The discussion with regard to mental stress has been presented below.

**Section 'A'**

Normality test of mental stress between individual and team sports coaches

and descriptive analysis of the data in which it compares mean deviation and stander deviation of individual and team sports coaches.

**Table 1:**

***Normality Test of Mental Stress between Individual and Team sports Coaches***

| Tests of Normality                    |            |              |     |      |
|---------------------------------------|------------|--------------|-----|------|
|                                       |            | Shapiro-Wilk |     |      |
|                                       |            | Statistic    | df  | Sig. |
| Total                                 | Individual | .981         | 101 | .146 |
|                                       | Team       | .981         | 119 | .094 |
| a. Lilliefors Significance Correction |            |              |     |      |

The Shapiro-Wilk normality test data of individual and team game coaches are given in Table 1. The statistic of individual and team game coaches is .981, with degree of freedom 101 for individual game coaches and 119 for team game coaches, and significance value of individual game coaches is .146 whereas team game coaches is .094 respectively.

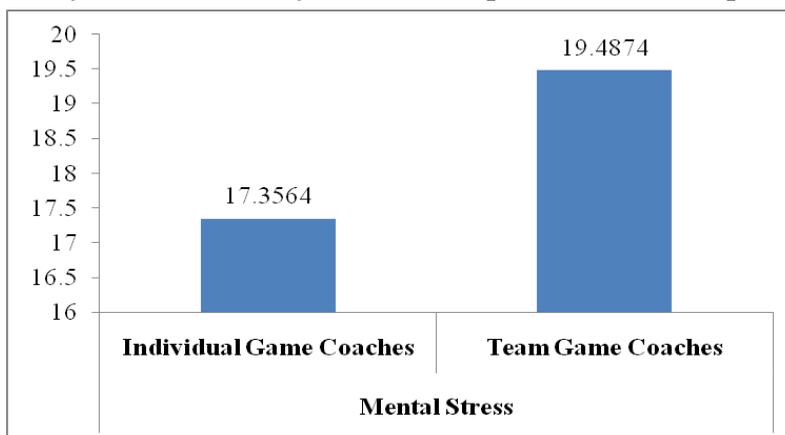
**Table 2:**

***Descriptive Statistics of Mental stress between Individual and Team Sports Coaches***

| Group Statistics |     |         |                |
|------------------|-----|---------|----------------|
|                  | N   | Mean    | Std. Deviation |
| Individual       | 101 | 17.3564 | 4.47121        |
| Team             | 119 | 19.4874 | 4.58972        |

The mean and standard deviation of the individual and team game coaches on mental stress during COVID- 19 pandemic are given in Table 2. The mean and standard deviation of individual game coaches are  $17.3564 \pm 4.47121$  and team game coaches are  $19.4874 \pm 4.58972$  respectively. The mean score is illustrated graphically in Figure 1

**Figure 1:**  
**Mean Score of Mental Stress of Individual Sports and Team Sports Coaches**



**Section ‘B’**

This section includes comparative statistics of mental stress between individual sports and team sports coaches.

**Table 3:**  
**Comparative Statistics of Mental Stress between Individual Sports and Team Game Coaches**

| Independent Samples Test    |                              |         |                 |                 |
|-----------------------------|------------------------------|---------|-----------------|-----------------|
|                             | t-test for Equality of Means |         |                 |                 |
|                             | T                            | df      | Sig. (2-tailed) | Mean Difference |
| Equal variances assumed     | -3.473                       | 218     | .001            | -2.13096        |
| Equal variances not assumed | -3.480                       | 213.878 | .001            | -2.13096        |

Table 3 shows the significance value for comparing the mean of individual and team game coaches. Since  $p = .001$  is less than our chosen significance level  $\alpha = 0.05$ , we can say significance difference is observed between both groups.

**Discussion of Findings**

The null- hypothesis stated that there would be no significant difference between mental stress of individual and team sports coaches is hereby rejected. In mental stress of both individual and team game coaches, significant difference was observed.

The descriptive statistics shows that the average stress in the case of coaches of team game is on the higher side than of the individual game. It can be also

concluded from the table no 3 that the t value (-3.473) is significant as the p value is <0.05 level of significance. Thus the null hypothesis of equality of population means of the two groups is rejected, and it may be concluded that the out of the two types of coaches the coaches of team game suffers from more stress than the individual game.

## Conclusion

The main findings from the study show that the mental stress among sports coaches during the lockdown were prevalent along with the other majors to contain the spread of COVID 19 pandemic, mental health of sports coaches need attention of the Indian government and mental health experts further large scale study need to be conducted on different sports coaches in large quantity and in corporate other mental health indicators such as depression, anxiety, self esteem, job satisfaction, determination etc. hence, it can be concluded with our finding that the coaches of team game goes through great and larger amount of stress than the coaches of individual game, as it is very obvious that in an individual game or sport a coach is only concerned about a single individual because his performance will only take things over line, but the scenario of team sport is different , it doesn't depend upon a single individual, it requires the whole team cohesion, collectively each and every one has to click together than only a team can win.

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# Impact of Selected Pranayama Practice on Aggression of College Going Female Students

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## Abstract

The purpose of the study was to determine the Impact of selected pranayama Practice (Anuloma Vilom pranayama, Bhastrika pranayama) on Aggression of College Going female Students of subjects with the age range 19 to 22 years. For this 30 college going female subjects were drawn from Ramananda college, Bishnupur, Dist: Bankura (W.B) in January 2017, by using Simple Random Sampling. Pre post data were collected before and after intervention of selected Pranayama for 45 days by using Questionnaire for aggression developed by Anand Kumar and Prem Shanker Shukla. As calculated value of  $t$  ( $=9.19$ ) is greater than tabulated  $t_{0.05}$  ( $29$ ) ( $=2.045$ ). It is concluded Pranayama decrease the aggression level of college going female.

**Keywords** - Pranayama, and aggression.

## Introduction

Yoga, an ancient culture of Indian heritage, regular practice leads to ideal physical, mental, intellectual, and spiritual health. These have a number of beneficial psychological effects in our body. The present work was taken up as data reported on Impact of selected pranayama Practice on Aggression of College Going female Students. The Aim of the study to know whether there is any change in aggression in the subjects practicing pranayama and with that of subjects not practicing any type of pranayama.

## Objectives

The purpose of the study was to investigate the impact of selected pranayama practices on aggression.

## Hypotheses

On the basis of evidence indicating positive effect of pranayama on physical and psychological well-being of an individual the following hypotheses are formulated.

H1 yogic practices contributes to lowering of aggression.

## Methodology

### Sampling

This study was conducted in 30 samples from Ramanandacollege, Bishnupur, Dist: Bankura (W.B).Samples were selected by applying the simple random sampling using lottery method. 30 were females of age range 19-22yrs.

Research design: pre-post single group

Symbolically, A Q1 X Q2

Where;

A= single group

Q1 = pre- test

X= AnulomaVilom pranayama, Bhastrika pranayama(60 min. per day)

Q2= Post-test

### Experimental Protocol

A period of 45 days in the month of January to February 2017, the climate condition was cold and atmospheric temperature was varying from 10 ° to 18° C. Experimental population of 30 subjects were assembled in field at Ramananda college, Bishnupur, Dist: Bankura (W.B), India. Experimental training was executed from 7:00 AM onwards for 60 minutes, for six days a week and Sunday has been observed as weekly off. Each subjects of the experimental group was ready to learn pranayama. The selected pranayama practice were AnulomaVilom pranayama, Bhastrika pranayama.

### Yogic Practices

The Experimental groups participated in the following scheduled of training. It comprised 60 minutes of training followed by discussion and informative lectures.

Initial warm up activity with relaxed breathing techniques and stretching.

| selected pranayama            | 5 days  | 10 days   | 15 days  | 15 days  |      |
|-------------------------------|---|---|--|--|------|
| AnulomVilom pranayama (3 set) | 10 times (without kumbhak) 3 Repetition (rest every Repetition) (1:1) | 15 times (without kumbhak) Repetition 3 (rest every Repetition) (1:1) | 15 times (with kumbhak) Repetition 3 (rest every Repetition) (1:1:1) | 20 times (with kumbhak) Repetition 3 (rest every Repetition) (1:1:2) | 1set |
| Shavasan                      | Shavasan  | Shavasan  | Shavasan   | Shavasan   |      |

|                                      |   |   |  |  |         |
|--------------------------------------|---|---|--|--|---------|
| Bhastrika pranayama 5 round (10 set) | 10 stroke of Kapalbhati with one Surya Bhedhana pranayama (without kumbhak) (1:1) | 15 stroke of Kapalbhati with one Surya Bhedhana pranayama (without kumbhak) (1:1) | 20 stroke of Kapalbhati with one Surya Bhedhana pranayama (with kumbhak) (1:1:1) | 20 stroke of Kapalbhati with one Surya Bhedhana pranayama (with kumbhak) (1:1:2) | 1 round |
| Shavasan                             | Shavasan  | Shavasan  | Shavasan   | Shavasan   |         |

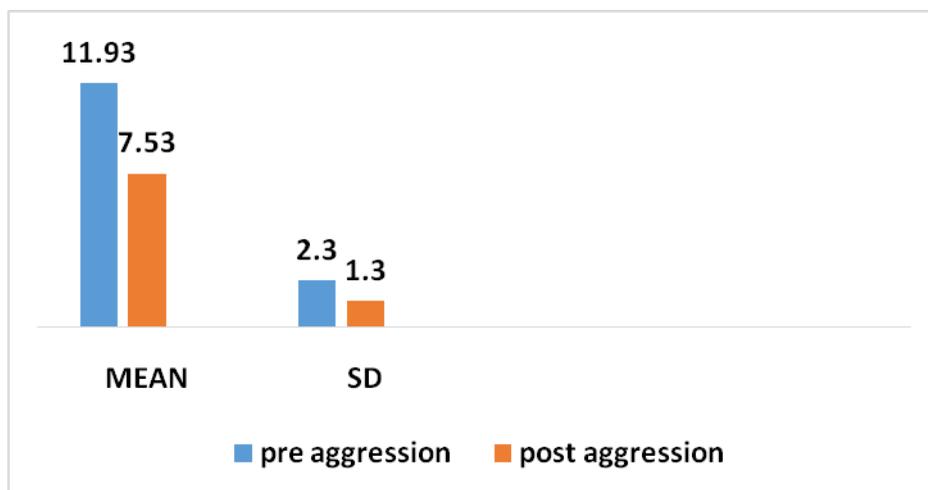
**Tools Used**

Questionnaire for aggression developed by Anand Kumar and PremShanker Shukla.

**Results**

**TABLE -1**  
**Paired Samples Statistics**

|            | Mean  | N  | Std. Deviation | Std. Error Mean |
|------------|-------|----|----------------|-----------------|
| Pair 1 pre | 11.93 | 30 | 2.30           | 0.42            |
| post       | 7.53  | 30 | 1.30           | 0.23            |



**Fig. No. 1**

**TABLE -2**  
**Paired t-test table**

|        |                                | Paired Differences |                |                 |   |       | t    | df | Sig.<br>(2-tailed) |
|--------|--------------------------------|--------------------|----------------|-----------------|---|-------|------|----|--------------------|
|        |                                | Mean               | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference |       |      |    |                    |
|        |                                |                    |                |                 | Lower                                     | Upper |      |    |                    |
| Pair 1 | Pre aggression post aggression | 4.40               | 2.62           | 0.47            | 3.42                                      | 5.37  | 9.19 | 29 | 0.00               |

### Interpretation of Findings

The following interpretation can be made on the basis of the results shown in the above output.

- ❖ The values of the mean, standard deviation and standard error of the mean for the data on aggression in the pre and post testing are shown in the Table-1. These values can be used for further analysis.
- ❖ It can be seen from Table-2 that the value of t statistic is 9.19. This t value is significant as the p value is 0.00 which is less than 0.05. For one - tail test, the value of tabulated t at 0.05 level of significance and 29 (N -1 = 29) df which is 2.045. Since calculated value of t (=9.19) is greater than tabulated t<sub>0.05</sub> (29) (=2.045), Hypothesis may be accepted and it may be concluded that Practice of selected Pranayama causes significant decrease in aggression of the all subjects.

### Discussion

Table 2 was referred back into the result section. It could be seen from the table that there was a significant difference in case of aggression administrating the pranayama training programme. The effectiveness of Pranayama programme may be due to the reason that Pranayama programme decrease the level of aggression of individuals. Therefore, proposed hypothesis has been accepted in case of aggression.

### Conclusions

Pranayama decrease the aggression level of college going female.

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# Effect of Asanas and Pranayama on Height of Males School Going Children

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## Abstract

Yoga, an ancient culture of Indian heritage, regular practice leads to ideal physical, mental, intellectual, and spiritual health. Asana and Pranayama are the yogic practices. These have a number of beneficial physiological effects on various systems in our body. The present work was taken up as data reported on the effect of Asanas and Pranayama on height of males school going children.

To know whether there is any change in height in the subjects practicing Asanas, Pranayama & combination of Asana Pranayama and with that of subjects not practicing any type of yoga.

120 male student volunteers from Muni International School, A-2/16-18, Mohan Garden, Uttam Nagar New Delhi-110059, India, of age between 8 to 10 years were selected. Subjects were equally assigned to the four groups by using random sampling procedure i.e. three experimental groups and one control group. The experimental Group A was administered Asanas (30 subjects), Group B was administered Pranayama(30 subjects) and Group C was administered combination of Asana Pranayama(30 subjects), and Group D control group(30 subjects) was given no training of an experimental period of twelve weeks. They practiced Asanas and pranayama for 45 minutes, six days a week and Sunday has been observed as weekly off. The control group consisted of age and sex matched 30 students. Pick flow rate was recorded to litter per minute with the help of peak flow meter.

Results: Significant improvement was not found in Height as a result of the experimental treatment in all the three experimental groups.

Increase heights of children are a natural process and depending on heredity and some of other factor. May be due to this reason, there is no Significant improvement was not found in height.

**Key words:** Asana, Pranayama, and Heights.

## Introduction

*“Yoga is not an ancient myth buried in oblivion. It is the most valuable inheritance of the present. It is the essential need of today and the culture tomorrow.”*

**Swami Satyananda Saraswati**

The world yoga means ‘unity’ or ‘oneness’ and is derived from the Sanskrit word Yuj which means ‘to join’. This unity or joining is described in spiritual terms as the union of the individual consciousness with the universal consciousness. On a more practical level, yoga is a means of balancing and harmonizing the body, mind and emotions. This is done through the practice of Asana, Pranayama, Mudra, Bandha, Shatkarma and Meditation, and must be achieved before union can take place with the higher reality (Swami Satyananda Saraswati, 2004). The restraint of the mind-stuff from taking various forms is yoga (Swami Vivekananda’s translation) or Yoga is the control of thought-waves in the mind (as translated by Swami Prabhavananda of Sri Ramkrasana Math). The Maharsi further observes: -“thereafter the soul abides in it’s real self”. In other words, yoga lies in being one’s real self.

Yogic practices, an ancient culture of Indian heritage, have led to ideal physical, mental, intellectual, and spiritual health. Yoga has a number of beneficial physiological effects on various systems in our body. Regular yogic practices have been shown to cause profound improvement (Subbalakshmi NK, Saxena SK, Urmimala, D’Souza UJA, 2005) in cardiorespiratory, thermoregulatory (Madanmohan, Sivasubramaniyan KM, Balakrishnan S, Gopalakrishnan M, Prakash ES, 2008) and psychologic functions in healthy individuals (Ray US, Mukhopadhyaya S, Purkayastha SS, Asnani V, Tomer OS, Prashad R, 2001). Yogic practices have been also found to be most useful in alleviating hypertension (Murugesan R, Govindarajulu N, Bera TK, 2000), bronchial asthma (Sathyaprabha TN, Murthy H, Murthy BT, 2001), diabetes mellitus (Telles S, Naveen KV, 1997) and coronary artery disease (Manchanda SC, Narang R, Reddy KS, Sachdeva U, Prabhakaran D, Dharmanand S, 2000). A previous study has shown that there is significant increase in PEFr in pranayama practicing school children (Sivapriya DV, Subamalani S, Shyamala T., 2010). Combination of various type of Asanas, pranayama has also led to significant increase in hand grip strength, hand grip endurance, maximum expiratory pressure, maximum inspiratory pressure, forced expiratory volume, forced expiratory volume in first second and peak flow rate (Madanmohan, Lakshmi J, Kaviraja U, Ananda BB, 2003). Fifteen days regular practice of different types of pranayama (Ankad RB, Balachandra AS, Herur A, Patil S, Chinagudi S, Shashikala GV, 2011) and practice of asanas, pranayamas & suryanamaskara (Makwana K, Khirwadkar N, Gupta HC, 1988) has led to increase in the mean breath holding time significantly along with other parameters. There is a need to know the effect

of Asanas and Pranayama training alone on height, so that benefits, if any, could be obtained by its practice.

### **Objectives of the Study**

- ❖ To study the effect of Asanas on Height.
- ❖ To study the effect of Pranayama on Height.
- ❖ To study the combination effect of Asana Pranayama on Height
- ❖ To compare the effect of Asanas and Pranayama and their combination on Height.
- ❖ To compare the three treatments and its effect on the Height.

### **Hypotheses**

- ❖ H1 There will be significant effect of Asanas Practice on Height of school going children.
- ❖ H2 There will be significant effect of Pranayama Practice on Height of school going children.
- ❖ H3 There will be significant effect of Asana Pranayama Practice on Height of school going children.
- ❖ H4 There will not be any significant different between three treatment groups.

### **Selection of Subjects**

One hundred twenty (120) school going boys were selected randomly as subjects in the age group of 8-10 years from Muni International School, A-2/16-18, Mohan Garden, Uttam Nagar New Delhi-110059, India. The subjects were divided into three treatment groups and one control group using random method. Group A was allotted Asanas treatment group consisted of 30 subjects, Group B was allotted Pranayama treatment group consisted of 30 subjects, Group C was allotted combination of Asana Pranayama treatment group consisted of 30 subjects and Group D control group consisted of 30 subjects. The study was confined to 12 weeks of training programme.

### **Experimental Protocol**

A period of twelve weeks in the month of August to November 2012, the climate condition was rainy and atmospheric temperature was varying from 25<sup>o</sup> C to 38<sup>o</sup> C. Experimental population of 90 subjects were assembled in Activity Hall at Muni International School, A-2/16-18, Mohan Garden, Uttam Nagar, New Delhi-110059, India. Experimental training was executed from 9:00 AM onwards for 45 minutes, for six days a week and Sunday has been observed as weekly off. Each subjects of the experimental group was ready to learn Asanas and Pranayamas. Group 'A' acts as Asanas Group, 'B' acts as Pranayama group, Group 'C' acts as Combination

of Asana and Pranayama group and Group 'D' acts as control group which did not participate in the training programme. The subjects of experimental group 'A' practiced Asana (Surya Namaskar, Sarvangasana, Matsyasana, Halasana, Bhujangasana, Shalvhasana, Dhanurasana, Chakrasana, Ardha Matsyendrasana, Paschimottanasana, Vajrasana, Yogamudra, Standing kati chakrasana, Tadasana and Shavasana) and group 'B' practiced Pranayama (Anuloma Vilom and Bhastrika) and group 'C' practiced combination of Asana and Pranayama (Surya Namaskar, Sarvangasana, Matsyasana, Halasana, Bhujangasana, Shalvhasana, Dhanurasana, Chakrasana, Ardha Matsyendrasana, Paschimottanasana, Vajrasana, Yogamudra, Standing kati chakrasana, Tadasana ,Shavasana, Anuloma Vilom pranayama and Bhastrika pranayama).

### Preparation of Treatment Programme

For the purpose of the study "Effect of Asanas and Pranayama on Selected Anthropometric and Psycho-Physiological Variables of School Going Children" the training programme consisted of three experimental groups (one control group). Keeping in mind the basic philosophy behind practicing Yoga that is "*Sthira Sukham Asanam*" (Patanjali), the deep rooted meaning that has been taken as a guide line while execution of a training no body has been forced to do on an above his capacity on the contrary it has been observed by research scholar improvement has taken place like students could able to attend better posture and sustain it. Even in case of pranayama the magnitude has been increased like retention and frequency of stroke.

Three experts Yoga trainer were involved to administer the training simultaneously to all three experimental groups. All the training groups were supervised by the scholar.

### Tool Used

Height was recorded on centimeter (Cm) with the help of Gulick Tape.

### Results

Table-1:

#### *Descriptive Statistics of the Data Measured In the Post Testing Height*

| Treatment group       | Mean   | Std. Deviation | N   |
|-----------------------|--------|----------------|-----|
| Asanas group          | 127.19 | 7.16           | 30  |
| Pranayama group       | 125.85 | 8.76           | 30  |
| Asana pranayama group | 124.30 | 6.70           | 30  |
| Control group         | 125.32 | 6.97           | 30  |
| Total                 | 125.66 | 7.42           | 120 |

Table no.1 indicates the values of descriptive statistics of the experimental Groups (Asanas Group, Pranayama Group, Asana Pranayama Group) & Control Group for anthropometric variable of height, which shows that the mean and S.D. values of Asanas Group, Pranayama Group, Asana Pranayama Group and the Control Group were found to be  $127.19 \pm 7.16$ ,  $125.85 \pm 8.76$ ,  $124.30 \pm 6.70$  and  $125.32 \pm 6.97$  respectively. For the total subject the mean and S.D. was  $125.66 \pm 7.42$ .

**Table-2:**

***Descriptive Statistics of the Data Measured In The Post-Testing After Adjustment With The Initial Difference Height***

| Treatment group       | Mean   | Std. Error | 95% Confidence interval |             |
|-----------------------|--------|------------|-------------------------|-------------|
|                       |        |            | Lower bound             | Upper bound |
| Asanas group          | 125.7A | 0.004      | 125.66                  | 125.68      |
| Pranayama group       | 125.7A | 0.004      | 125.65                  | 125.67      |
| Asana pranayama group | 125.7A | 0.004      | 125.65                  | 125.67      |
| Control group         | 125.7A | 0.004      | 125.66                  | 125.67      |

***(a) Covariates appearing in the model are evaluated at the following values: general height scale for children pre test = 125.66.***

The mean and standard error of different post-testing Groups after adjustment have been shown in table 2. Which is for Asanas Group 125.7 & 0.004, Pranayama Group 125.7 & 0.004, Asana Pranayama Group 125.7 & 0.004 and Control Group 125.7 & 0.004.

**Table-3: Ancova Table for The Post-Test Data On Height**

| Source                        | Sum of squares | Df  | Mean square | F       | Sig. (P-value) |
|-------------------------------|----------------|-----|-------------|---------|----------------|
| Pre height scale for children | 6559.22        | 1   | 6559.22     | 1.364E7 | 0.00           |
| Treatment group               | 0.002          | 3   | 0.001       | 1.17    | 0.32           |
| Error                         | 0.05           | 115 | 0.00        |         |                |
| Corrected total               | 6559.28        | 119 |             |         |                |

Table no. 3 indicates the values test of difference between the subject effects, which shows that there was a significant difference in pre test values of anthropometric variable of height for the four selected Groups, as the value was found to be 1.364E7 (E7 means that the numerical error which represent the point after 7digits), which proves to be the base of Analysis of Co-Variance. Also, a significant difference was found between the post test values of the experimental and Control Group as the value was found to be 1.17, which was insignificant at

0.05 level.

**Table-4:**

**Post Hoc Comparison For The Group Means In Post-Measurement adjusted With The Initial Differences Height**

| (I) Treatment Group   | (J) Treatment Group   | Mean Difference (I-J) | Sig.a (P-Value) |
|-----------------------|-----------------------|-----------------------|-----------------|
| Asanas Group          | Pranayama Group       | 0.01                  | 0.07            |
|                       | Asana Pranayama Group | 0.007                 | 0.23            |
|                       | Control Group         | 0.003                 | 0.54            |
| Pranayama Group       | Asana Pranayama Group | -0.003                | 0.57            |
|                       | Control Group         | -0.007                | 0.24            |
| Asana Pranayama Group | Control Group         | -0.003                | 0.54            |

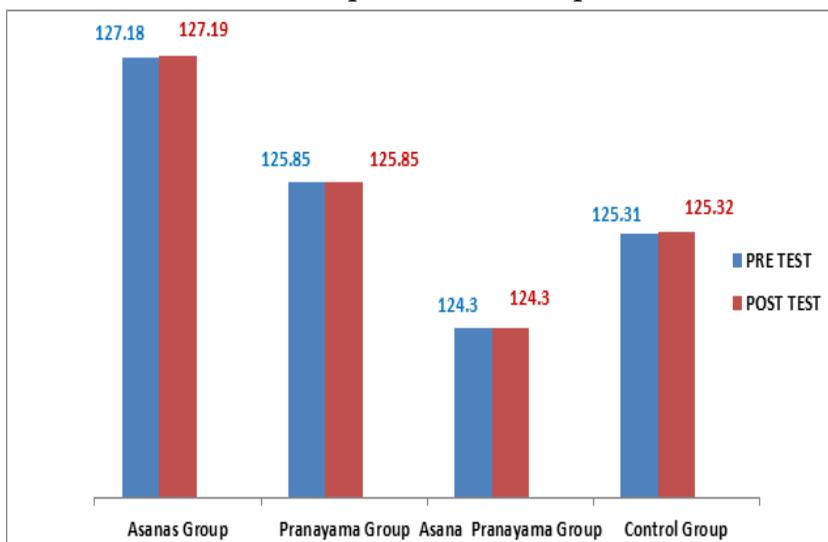
**Based on estimated marginal means**

**Adjustment for multiple comparisons: Least Significant Difference (equivalent to no adjustments).**

**\*The mean difference is significant at the 0.05 level.**

Table no. 4 indicates the values of post hoc test for the selected Groups for anthropometric variable of height, which shows that a significant difference was not found between the post test values of Asanas Group and the Control Group as the value was found to be 0.003 which was not significant at 0.05 level, the post test values of Pranayama Group and the Control Group as the value was found to be 0.007 which was not significant at 0.05 level, Asana Pranayama Group and the Control Group as the value was found to be 0.003 which was not significant at 0.05 level.

**Figure:-1 Comparison of the Means on Height of the Control Group and Three Experimental Groups**



### Interpretation of Findings

The values of the means and standard deviations for the data on height in the different Groups during the post testing is shown in the table 1. Further, adjusted means and standard deviation for the data on height of different Groups during post testing have been shown in table 2. This may be noted that these values are different from that of the unadjusted values shown in table 1. The advantage of using the ANCOVA is that the differences in the post-testing means are compensated for the initial difference in the scores. In other words, it may be said that the effect of covariate is eliminated in comparing the effectiveness of the treatment Groups during post-test. Table 3 shows the F –value for comparing the adjusted means of the four treatment Groups (Asanas Group, Pranayama Group, Asana Parnayama Group and Control Group) during post-testing. Since p-value for the F- statistic is 0.32 which is higher than 0.05, so of it is not significant. Thus, the null hypothesis of no difference among the adjusted post-means for the data on height in four treatment Groups may be accepted at 5%level. Since F-statistic is significant, post hoc comparison has been made for the adjusted means of the four treatment Groups which is shown in table 4. It may be noted here that p-value for the mean difference between Asanas Group and Control Group is 0.54, Pranayama Group and Control Group is 0.24, Asana Pranayama Group and Control Group is 0.54, all these p-values are higher than 0.05 and hence they are not significant at 5% level. Thus, the following conclusions can be drawn:

- ❖ There is no significant difference between the adjusted means of the Asanas

Group and Control Group on the data of anthropometric variable height during post-test.

- ❖ There is no significant difference between the adjusted means of the Pranayama Group and Control Group on the data of anthropometric variable height during post-test.
- ❖ There is no significant difference between the adjusted means of the Asana Pranayama Group and Control Group on the data of anthropometric variable height during post-test.

Hence, it may be inferred that Asanas, Pranayama and Asana Pranayama are not effective in increasing the height among the subjects in comparison to that of the Control Group.

## **Discussion**

In the present study (Table 3) no significant difference was found in case of height after administrating the different training programme namely Asanas, Pranayama and combination of Asana Pranayama. The post hoc test (Table 4) revealed that height was not significantly improved in Asanas, Pranayama and combination of Asana Pranayama programme separately. Increase heights of children are a natural process and depending on heredity and some of other factor and all the four Groups (Asanas Group, Pranayama Group, Asana Pranayama Group and Control Group) subjects are increase in height naturally. May be due to this reason, there is no significant difference was found between the adjusted means of the Asanas Group and Control Group, Pranayama Group and Control Group, Asana Pranayama Group and Control Group on the data of anthropometric variable height during post-test. Therefore, proposed hypothesis has been rejected in case of height.

## **Conclusions**

Significant improvement was not found in Height as a result of the experimental treatment in all the three experimental groups.

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# **Topic : Comparison of Selected Personality Trait Among Physically Challenged Sportsmen and Non – Sportsmen**

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## **Introduction**

Everyone is born with innate capacities and capabilities and a sort of genetic blue print. The goal of life is to fulfill this genetic blue print to become whatever we are inherently capable of becoming and thus resulting into “fully functioning person” physically challenged people are deprived from the opportunity of fulfilling their inborn potential. They become constricted, rigid and defensive. They feel themselves threatened, anxious and experience a considerable discomfort and uneasiness. Some people realize that they do not know what they are and what they want but life itself is a continuous process of facing challenges. These challenges are different each time become the situation as well as the individual himself keeps changing well-adjusted people enjoy the difficulties of life. They do not step aside and rather accept the challenge and are willing to experience the pain and confusion.

## **Method**

The subjects of the study were 40 physically challenged male students. 20 physically challenged students who neither have attitude for sports nor participated in sports were selected as non-sportsmen physically challenged subjects. And twenty regular participation of sports were selected as physically challenged sportsmen subjects for this study. Since the study was confined within a limited perimeter. The following variable and test were selected to compare personality among sportsmen and non-sportsmen of physically challenged.

## **Variable Test**

- ❖ Personality traits
- ❖ 16 P.F Questionnaire

- ❖ Developed by Raymond,
- ❖ Cattle and Herber.

Sixteen personality factors questionnaire was selected as criterion measures to compare the personality traits among physically challenged sportsmen and non – sportsmen. It is an objective test, which gives the most extensive coverage of individuals.

A personality characteristic is widely used in games and sports. It is an objectively scored test. This test is highly reliable and valid for testing of this test is 0.05. The following personality traits are measured with the help of this questionnaire.

Factor A (Reserved v/s outgoing)

Factor B (less intelligent v/s more intelligent)

Factor C (Lower ego strength v/s higher ego strength)

Factor E (Submissiveness v/s Dominance)

Factor F (Sober v/s happy – go – lucky)

Factor G (Expedient v/s conscientious)

Factor H (Shy v/s venturesome)

Factor I (Tough minded v/s tender minded)

Factor L (Trusting v/s mistrusting)

Factor M (Practical v/s Imaginative)

Factor N (Forthright v/s shrewd)

Factor O (Placid v/s Apprehensive)

Factor Q1 (Conservative v/s Experimenting)

Factor Q2 (Group dependent v/s self-sufficient)

Factor Q3 (Low integration v/s high self – concept control)

Factor Q4 (Low ergic v/s high ergic tension)

## **Finding**

Finding of the study has thrown light on personality difference or in other word personality profile constituent traits among physically challenged sportsmen and non-sportsmen. It was evident from the study that physically challenged sportsmen were outgoing, warm-hearted, assertive, independence, aggressive, conforming etc. whereas, physically challenged non-sportsmen were found to be self-indulgent, submissive, mild, accommodating, reserved etc. As sportsmen are found commonly out-spoken and has more social interaction than other non-sportsmen. They were contented to live socially and indeed enhance the interpersonal relationship in their organization / environment. Though statistical

findings, doesn't show any significant difference among physically challenged sportsmen, the mean score of the respondents showed that physically challenged sportsmen were found to be jolly and were more emotionally stable. Generally, non-sportsmen are evident to be conservative, sober, self-indulgent. Shy hesitant, realistic, self-satisfied etc. they enjoyed within themselves rather than be with his fellow being. But the individuals associated with sports themselves learn to accepting the challenges and to meet the situation demand. They are organized and equipped to inculcate themselves in developing their personality traits from various situation. Since sportsmen are associated with experience of both shrewd and take initiation and take responsibility, polished mind. This lead to control them socially precise following self-image and thinking critically putting thing into experience and get them educated from one situation to other situation. They are more contended to express themselves and developed a sense of independent feeling to sustain trouble.

Physically challenged sportsmen were found to be aggressive, independence, self-dependent, emotional stable. Research scholar would like to attribute this findings to the fact that this traits were inculcate and developed as a result of sportsmen being exposed to the situation to participation and perform be decisive, self-dependent.

Moreover when physically challenged individual perform movement, skills required in competitions it make one relies his capability to perform difficulty sports movements. Hence it is quite natural physically disabled individual will have greatest impact on their understanding that their not disabled and dependent on other rather they too can perform difficult movements and be self- dependent.

This understanding will obviously developed self-confident leading to development of many other positive traits.

Ultimately it is sports that provide unit situation that facilitate positive development of personality among physically challenged population.

## **Discussion**

On the basis of findings of the study and understanding the varies causes and underline factors of findings, scholar could effectively generalized meaningful conclusion. And on the basis of that the following recommendations were made Specialize adapted physical education programmed should be developed for physically challenged population to derived and give opportunity for personality development While Adapted programmed should be ensure for physically challenged population through sufficient opportunity programmed and Experimentation or research projects should be taken to developed design specialized adapted programmed for disable to find out personality difference among physically challenged population with different degree of disability and types of disability.

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