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## DEVELOPING A YOGA KIT AND ASSESSING ITS EFFECTS ON PRE-SCHOOLERS

DR. REETA SONAWAT\*  
CHERRY DHAWAN\*\*

### ABSTRACT

Yoga has been proven to be beneficial for the body and mind. This study aims to develop a yoga kit and assess the kit's effects on pre-schoolers. The yoga activities were measured on accuracy, speed, attempt, and interest. This study showed an impact on the use of the yoga kit on student's yoga performance. The yoga activities performed by Junior and Senior K.G. students were compared with the measures. Comparison between genders while performing the yoga activities in relation to the measures. Purposive sampling technique was used to select 68 students from junior (35) and senior (33) class from the Western and Central Suburbs Mumbai, Maharashtra. The yoga activities were practiced for 15 sessions, two sessions per week for eight weeks. Each session lasted for 10-15minutes. Students were shown the yoga cards from the kit and demonstrated step by step. The yoga activities were observed by two assessors and scoring was done. The data collected was analysed quantitatively. Mean scores, ANOVA, and Correlation were obtained. The results indicated that, Mean scores of students were high in interest level while performing the yoga activities mentioned in the yoga kit. Mean scores of the students in accuracy level was low. ANOVA was applied and found statistical significant difference among Junior and Senior K.G. students; Senior K.G. performed better. Among the genders there was not much of a difference found. Between all the yoga activities positive and significant relationship was obtained. Relationship between the two assessors was positive and significant by using the same yoga kit and assessing tool. On the bases of the finding it can be concluded that the yoga kit has positive effects on the students. This may be because the yoga cards from the kit had images of children performing that exercise, which increased the student's curiosity and interest in yoga. Also, pre-schoolers can perform yoga activities and it should be practiced in preschools using this kit.

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*Director, Ampersand Group, Malad, Mumbai\**  
*Group leader at Nahar International School, Mumbai\*\**

## **INTRODUCTION**

Pre-schoolers are vulnerable and each preschool class has children with individual variations. Every child grows and develops at an individual pace; some children while growing have issues concerning social development, language development, cognitive development, and physical development, personal and emotional development. Preschoolers live in a fast pace world with busy parents, competition, school pressure, upgrading technologies, go to malls, low consumption of healthy food, and less involvement in sport events or physical activities. These events are not seen as stressful for preschoolers but they are. The quick and hurried pace of pre-schoolers lives can have an intense effect on their innate joy and not for their betterment. It is found that yoga can help counter these pressures. When children learn techniques for self-health, relaxation, and inner achievement, they can direct life's challenges with a little more comfort. Yoga at an early age encourages self-esteem and body awareness with a physical activity that's non-competitive. It helps children learn about themselves, stay fit and healthy and exercise mindfulness. Yoga is also important as it impacts well-being and behaviour. Health problems, such as headaches, stomach aches, constipation, back pain, and colds or sinus problems, and developmental delays are in fact improved with yoga practice; also there is a reduced need for prescription for children with attention deficit disorder (ADD)(White, 2009).

## **METHODOLOGY**

### **OBJECTIVES**

1. To study the accuracy level, speed level, attempts level and interest level in performing yoga activities
  - a. Breathing
  - b. Postures
  - c. Concentration
  - d. Meditation
2. To assess yoga activities between standards
3. To study the effects of yoga activities between genders
4. To compare the yoga activities performed by students
5. To find out correlation between the yoga activities performed by students

## **SAMPLE SELECTION**

Purposive sampling technique is used. The sample size for the study is 60 pre-schoolers, 30 from junior kg class- 15 boys and 15 girls and 30 from senior kg class- 15 boys and 15 girls.

## RESULTS AND DISCUSSIONS

The results have been categorized into the following sections to facilitate a better understanding of the data:

### QUANTITATIVE ANALYSIS:

#### • MEAN SCORE OF ACTIVITIES AND LEVELS

|                       | <b>Breathing</b> | <b>Concentration</b> | <b>Posture</b> | <b>Meditation</b> |
|-----------------------|------------------|----------------------|----------------|-------------------|
| <b>Accuracy level</b> | 2.30             | 2.34                 | 2.54           | 2.30              |
| <b>Speed level</b>    | 2.83             | 2.86                 | 3.00           | 2.80              |
| <b>Attempts level</b> | 2.95             | 2.98                 | 3.16           | 2.96              |
| <b>Interest level</b> | 3.01             | 3.09                 | 3.26           | 3.03              |

The above table indicates that the mean score of interest level is high in all the activities and the mean score of accuracy level is low in all the activities.

Note: For tables 4.2, 4.3, 4.4, and 4.5:

**NULL HYPOTHESIS:** There is no significant difference in mean scores of levels of Jr kg and sr kg students.

**ALTERNATE HYPOTHESIS:** There is significant difference in mean scores of levels of Jr kg and sr kg students.

#### 1. MEAN SCORE AND ANOVA FOR BREATHING IN JUNIOR AND SENIOR KG STANDARD

| <b>ANOVA FOR STANDARD</b> |         |        |    |       |             |                        |
|---------------------------|---------|--------|----|-------|-------------|------------------------|
|                           |         | Mean   | df | F     | p-value     | Result                 |
| Accuracy                  | Jr. KG. | 2.2644 | 1  | 1.599 | <b>.211</b> | <b>Non-significant</b> |
|                           | Sr. KG  | 2.3311 | 58 |       |             |                        |
|                           |         |        | 59 |       |             |                        |
| Speed                     | Jr. KG. | 2.8111 | 1  | .529  | <b>.470</b> | <b>Non-significant</b> |
|                           | Sr. KG  | 2.8444 | 58 |       |             |                        |
|                           |         |        | 59 |       |             |                        |
| Attempts                  | Jr. KG. | 2.8978 | 1  | 2.676 | <b>.107</b> | <b>Non-significant</b> |
|                           | Sr. KG  | 2.9956 | 58 |       |             |                        |
|                           |         |        | 59 |       |             |                        |
| Interest                  | Jr. KG. | 2.9511 | 1  | 4.209 | <b>.045</b> | <b>Significant</b>     |
|                           | Sr. KG  | 3.0711 | 58 |       |             |                        |
|                           |         |        | 59 |       |             |                        |

The above table indicate that:

- A. For breathing activity-accuracy level p-value is 0.211. It is greater than standard p-value 0.05. **Therefore F-test is accepted. Hence null hypothesis is failed to be accepted.** Conclusion is there is no significant difference in mean scores of accuracy elements of breathing activity of Jr kg and sr kg students.
- B. For breathing activity-speed level p-value is 0.470. It is greater than standard p-value 0.05. **Therefore F-test is accepted. Hence null hypothesis is failed to be accepted.** Conclusion is there is no significant difference in mean scores of speed elements of breathing activity of Jr kg and sr kg students.
- C. For breathing activity-attempt level p-value is 0.107. It is greater than standard p-value 0.05. **Therefore F-test is accepted. Hence null hypothesis is failed to be accepted.** Conclusion is there is no significant difference in mean scores of attempt elements of breathing activity of Jr kg and sr kg students.
- D. For breathing activity-interest level p-value is 0.045. It is less than standard p-value 0.05. **Therefore F-test is rejected. Hence null hypothesis is rejected and alternate hypothesis is accepted.** Conclusion is there is significant difference in mean scores of interest elements of breathing activity of Jr kg and sr kg students. Sr. kg students had high interest level

## **2. MEAN SCORE AND ANOVA FOR CONCENTRATION IN JUNIOR AND SENIOR KG STANDARD**

The findings for concentration activity- accuracy, speed, attempts and interest level p-values are 0.000, 0.001, 0.008, and 0.003. All are less than standard p-value 0.05. **Therefore F-test is rejected. Hence null hypothesis is rejected and alternate hypothesis is accepted.** Conclusion is there is significant difference in mean scores of - accuracy, speed, attempts and interest level of concentration activity of Jr kg and sr kg students. Sr. kg students performed the concentration activities better than the Jr. kg students.

## **3. MEAN SCORE AND ANOVA FOR POSTURE IN JUNIOR AND SENIOR KG STANDARD**

The findings indicate that for posture activity- accuracy, speed, attempts and interest level p-values are 0.025, 0.006, 0.001, and 0.005. All are less than standard p-value 0.05. **Therefore F-test is rejected. Hence null hypothesis is rejected and alternate hypothesis is accepted.** Conclusion is there is significant difference in mean scores of - accuracy, speed, attempts and interest level of

posture activity of Jr kg and sr kg students. Sr. kg students performed the posture activities better than the Jr. kg students.

#### 4. MEAN SCORE AND ANOVA FOR MEDITATION IN JUNIOR AND SENIOR KG STANDARD

The findings indicate that for meditation activity- accuracy, speed, attempts and interest level p-values are 0.000, 0.000, 0.000, and 0.000. All are less than standard p-value 0.05. **Therefore F-test is rejected. Hence null hypothesis is rejected and alternate hypothesis is accepted.** Conclusion is there is significant difference in mean scores of - accuracy, speed, attempts and interest level of meditation activity of Jr kg and sr kg students. Sr. kg students performed the meditation activities better than the Jr. kg students.

**NULL HYPOTHESIS:** There is no significant difference in mean scores of levels between genders.

**ALTERNATE HYPOTHESIS:** There is significant difference in mean scores of levels between genders.

#### 5. MEAN SCORE AND ANOVA FOR BREATHING IN GENDER

| ANOVA FOR GENDER |      |        |    |         |             |                        |
|------------------|------|--------|----|---------|-------------|------------------------|
|                  |      | Mean   | df | F-value | p-value     | Significance           |
| Accuracy         | Boy  | 2.2378 | 1  | 5.523   | <b>.022</b> | <b>Significant</b>     |
|                  | Girl | 2.3578 | 58 |         |             |                        |
|                  |      |        | 59 |         |             |                        |
| Speed            | Boy  | 2.7711 | 1  | 6.773   | <b>.012</b> | <b>Significant</b>     |
|                  | Girl | 2.8844 | 58 |         |             |                        |
|                  |      |        | 59 |         |             |                        |
| Attempts         | Boy  | 2.8956 | 1  | 2.937   | <b>.092</b> | <b>Non-significant</b> |
|                  | Girl | 2.9978 | 58 |         |             |                        |
|                  |      |        | 59 |         |             |                        |
| Interest         | Boy  | 2.9622 | 1  | 2.728   | <b>.104</b> | <b>Non-significant</b> |
|                  | Girl | 3.0600 | 58 |         |             |                        |
|                  |      |        | 59 |         |             |                        |

The above table indicate that:

- A. For breathing activity-accuracy level p-value is 0.022. It is less than standard p-value 0.05. **Therefore F-test is rejected. Hence null hypothesis is rejected and alternate hypothesis is accepted.** Conclusion is there is significant difference in mean scores of accuracy level of breathing activity between genders. Girls performed better than boys in breathing activities-accuracy level.

- B. For breathing activity-speed level p-value is 0.012. It is less than standard p-value 0.05. **Therefore F-test is rejected. Hence null hypothesis is rejected and alternate hypothesis is accepted.** Conclusion is there is significant difference in mean scores of speed level of breathing activity between genders. Girls performed better than boys in breathing activities-speed level.
- C. For breathing activity-attempt level p-value is 0.092. It is greater than standard p-value 0.05. **Therefore F-test is accepted. Hence null hypothesis is failed to be accepted.** Conclusion is there is no significant difference in mean scores of attempt level of breathing activity between genders.
- D. For breathing activity-interest level p-value is 0.104. It is greater than standard p-value 0.05. **Therefore F-test is accepted. Hence null hypothesis is failed to be accepted.** Conclusion is there is no significant difference in mean scores of interest level of breathing activity between genders.

#### 6. MEAN SCORE AND ANOVA FOR CONCENTRATION IN GENDER

| ANOVA FOR GENDER |      |        |    |         |         |              |
|------------------|------|--------|----|---------|---------|--------------|
|                  |      | Mean   | df | F-value | p-value | Significance |
| Accuracy         | Boy  | 2.2378 | 1  | 14.873  | .000    | Significant  |
|                  | Girl | 2.4356 | 58 |         |         |              |
|                  |      |        | 59 |         |         |              |
| Speed            | Boy  | 2.7889 | 1  | 11.614  | .001    | Significant  |
|                  | Girl | 2.9400 | 58 |         |         |              |
|                  |      |        | 59 |         |         |              |
| Attempts         | Boy  | 2.8911 | 1  | 14.719  | .000    | Significant  |
|                  | Girl | 3.0756 | 58 |         |         |              |
|                  |      |        | 59 |         |         |              |
| Interest         | Boy  | 2.9867 | 1  | 18.337  | .000    | Significant  |
|                  | Girl | 3.1978 | 58 |         |         |              |
|                  |      |        | 59 |         |         |              |

The above table indicates concentration activity- accuracy, speed, attempts and interest level p-values are 0.000, 0.001, 0.000, and 0.000. All are less than standard p-value 0.05. **Therefore F-test is rejected. Hence null hypothesis is rejected and alternate hypothesis is accepted.** Conclusion is there is significant difference in mean scores of - accuracy, speed, attempts and interest level of concentration activity between genders. Girls performed the concentration activities better than boys.

#### 7. MEAN SCORE AND ANOVA FOR POSTURE IN GENDER

| ANOVA FOR GENDER |     |        |    |         |         |              |
|------------------|-----|--------|----|---------|---------|--------------|
|                  |     | Mean   | df | F-value | p-value | Significance |
| Accuracy         | Boy | 2.4444 | 1  | 14.485  | .000    | Significant  |

|          |      |        |    |        |             |                    |
|----------|------|--------|----|--------|-------------|--------------------|
|          | Girl | 2.6333 | 58 |        |             |                    |
|          |      |        | 59 |        |             |                    |
| Speed    | Boy  | 2.9533 | 1  | 4.576  | <b>.037</b> | <b>Significant</b> |
|          | Girl | 3.0467 | 58 |        |             |                    |
|          |      |        | 59 |        |             |                    |
| Attempts | Boy  | 3.0756 | 1  | 10.992 | <b>.002</b> | <b>Significant</b> |
|          | Girl | 3.2511 | 58 |        |             |                    |
|          |      |        | 59 |        |             |                    |
| Interest | Boy  | 3.2022 | 1  | 5.248  | <b>.026</b> | <b>Significant</b> |
|          | Girl | 3.3267 | 58 |        |             |                    |
|          |      |        | 59 |        |             |                    |

The above table indicates that for posture activity- accuracy, speed, attempts and interest level p-values are 0.000, 0.037, 0.002, and 0.026. All are less than standard p-value 0.05. **Therefore F-test is rejected. Hence null hypothesis is rejected and alternate hypothesis is accepted.** Conclusion is there is significant difference in mean scores of - accuracy, speed, attempts and interest level of posture activity between genders. Girls performed the posture activities better than boys.

#### 8. MEAN SCORE AND ANOVA FOR MEDITATION IN GENDER

| ANOVA for GENDER |      |        |    |         |             |                    |
|------------------|------|--------|----|---------|-------------|--------------------|
|                  |      | Mean   | df | F-value | p-value     | Significance       |
| Accuracy         | Boy  | 2.2333 | 1  | 7.149   | <b>.010</b> | <b>Significant</b> |
|                  | Girl | 2.3733 | 58 |         |             |                    |
|                  |      |        | 59 |         |             |                    |
| Speed            | Boy  | 2.7267 | 1  | 11.040  | <b>.002</b> | <b>Significant</b> |
|                  | Girl | 2.8778 | 58 |         |             |                    |
|                  |      |        | 59 |         |             |                    |
| Attempts         | Boy  | 2.8867 | 1  | 6.988   | <b>.011</b> | <b>Significant</b> |
|                  | Girl | 3.0378 | 58 |         |             |                    |
|                  |      |        | 59 |         |             |                    |
| Interest         | Boy  | 2.9711 | 1  | 4.717   | <b>.034</b> | <b>Significant</b> |
|                  | Girl | 3.0956 | 58 |         |             |                    |
|                  |      |        | 59 |         |             |                    |

The above table indicates that for meditation activity- accuracy, speed, attempts and interest level p-values are 0.010, 0.002, 0.011, and 0.034. All are less than standard p-value 0.05. **Therefore F-test is rejected. Hence null hypothesis is rejected and alternate hypothesis is accepted.** Conclusion is there is significant difference in mean scores of - accuracy, speed, attempts and interest level of meditation activity between genders. Girls performed the meditation activities better than boys.

## 9. MEAN SCORE AND T-TEST OF YOGA ACTIVITIES PERFORMED BY STUDENTS

**NULL HYPOTHESIS:** There is no significant difference between mean scores of activities.

**ALTERNATE HYPOTHESIS:** There is significant difference between mean scores of activities.

| PAIRED SAMPLES TEST |                            |        |                    |        |                 |         |       |         |             |                        |
|---------------------|----------------------------|--------|--------------------|--------|-----------------|---------|-------|---------|-------------|------------------------|
|                     |                            | Mean   | Paired Differences |        |                 | t-value | df    | p-value | Result      |                        |
|                     |                            |        | Mean               | SD     | Std. Error Mean |         |       |         |             |                        |
| <b>Pair 1</b>       | Breathing – Concentration  | 2.75   | -.04883            | .20199 | .02608          | -       | 1.873 | 59      | <b>.066</b> | <b>Non-significant</b> |
|                     |                            | 2.7978 |                    |        |                 |         |       |         |             |                        |
| <b>Pair 2</b>       | Breathing – Posture        | 2.75   | -.22967            | .22239 | .02871          | -       | 7.999 | 59      | <b>.000</b> | <b>Significant</b>     |
|                     |                            | 2.9787 |                    |        |                 |         |       |         |             |                        |
| <b>Pair 3</b>       | Breathing – Meditation     | 2.75   | -.00233            | .20250 | .02614          | -       | .089  | 59      | <b>.929</b> | <b>Non-significant</b> |
|                     |                            | 2.7513 |                    |        |                 |         |       |         |             |                        |
| <b>Pair 4</b>       | Concentration – Posture    | 2.7978 | -.18083            | .18204 | .02350          | -       | 7.694 | 59      | <b>.000</b> | <b>Significant</b>     |
|                     |                            | 2.9787 |                    |        |                 |         |       |         |             |                        |
| <b>Pair 5</b>       | Concentration – Meditation | 2.7978 | .04650             | .15153 | .01956          | -       | 2.377 | 59      | <b>.021</b> | <b>Significant</b>     |
|                     |                            | 2.7513 |                    |        |                 |         |       |         |             |                        |
| <b>Pair 6</b>       | Posture – Meditation       | 2.9787 | .22733             | .19597 | .02530          | -       | 8.986 | 59      | <b>.000</b> | <b>Significant</b>     |
|                     |                            | 2.7513 |                    |        |                 |         |       |         |             |                        |

**Pair 1** – Breathing-Concentration- the p-value is 0.066. It is greater than the standard p-value 0.05. Therefore t-test is accepted. The null hypothesis is failed to be accepted. Conclusion is there is no significant difference between the activities.

**PAIR 2** – Breathing-Posture the p-value is 0.000. It is less than the standard p-value 0.05. Therefore t-test is rejected. The null hypothesis is rejected and alternate hypothesis is accepted. Conclusion is there is significant difference between the activities.

**PAIR 3** – Breathing-Meditation- the p-value is 0.929. It is greater than the standard p-value 0.05. Therefore t-test is accepted. The null hypothesis is failed to be accepted. Conclusion is there is no significant difference between the activities.

**PAIR 4** – Concentration-Posture- the p-value is 0.000. It is less than the standard p-value 0.05. Therefore t-test is rejected. The null hypothesis is rejected and alternate hypothesis is accepted. Conclusion is there is significant difference between the activities.

**PAIR 5** – Concentration-Meditation- the p-value is 0.021. It is less than the standard p-value 0.05. Therefore t-test is rejected. The null hypothesis is rejected and alternate hypothesis is accepted. Conclusion is there is significant difference between the activities.

**PAIR 6** – Posture-Meditation- the p-value is 0.000. It is less than the standard p-value 0.05. Therefore t-test is rejected. The null hypothesis is rejected and alternate hypothesis is accepted. Conclusion is there is significant difference between the activities.

**10. CORRELATION BETWEEN THE YOGA ACTIVITIES PERFORMED BY STUDENTS**

| <b>PAIRED SAMPLES CORRELATIONS</b> |                            |    |             |         |              |
|------------------------------------|----------------------------|----|-------------|---------|--------------|
|                                    |                            | N  | Correlation | p-value | Significance |
| Pair 1                             | Breathing & Concentration  | 60 | .497        | .000    | Significant  |
| Pair 2                             | Breathing & Posture        | 60 | .379        | .003    | Significant  |
| Pair 3                             | Breathing & Meditation     | 60 | .504        | .000    | Significant  |
| Pair 4                             | Concentration & Posture    | 60 | .573        | .000    | Significant  |
| Pair 5                             | Concentration & Meditation | 60 | .715        | .000    | Significant  |
| Pair 6                             | Posture & Meditation       | 60 | .515        | .000    | Significant  |

Above table indicate correlation between two activities. If p-value is less than 0.05 then correlation is significant.

In above table all p-values are less than 0.05. Therefore, the correlation is positive and significant for all the paired activities.

**CONCLUSION**

This study concludes that students had high interest level in performing the yoga activities but the accuracy level was low. Senior kg students’ performed better than junior kg students this can be because they are older and developmentally advance. Also the girls performed yoga activities better than the boys; this can be because of the neurological differences and girls mature early than boys do. It also concluded that the correlation is positive and significant for all the paired activities performed by the students.

Hence, this yoga kit is applicable for preschool and should be a part of preschool curriculum.

