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**Keerthiga V**  
M.Sc (Child Health Nursing),  
Kasturba Gandhi Nursing  
College, Pillaiyarkuppam,  
Puducherry, India

**Rajeswari S**  
Dept. Of Child Health Nursing,  
Kasturba Gandhi Nursing  
College, Pillaiyarkuppam,  
Puducherry, India

**Dr. Renuka K**  
Principal, Kasturba Gandhi  
Nursing College,  
Pillaiyarkuppam, Puducherry,  
India

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### **Effectiveness of Thoppukaranam on academic performance of school going children in selected schools at Puducherry**

**Keerthiga V, Rajeswari S and Dr. Renuka K**

#### **Abstract**

**Introduction:** Children are the wealth of tomorrow. Children are the most important age group in all societies. Health status and health behaviour of life are laid down at this stage. The segment of the life span that extends from age 6 to approximately age 12 has a variety of labels, each of which describes an important characteristic of the period. These middle years are most often referred to as **School-age** or the School years. This period begins with entrance into the school environment, which has a significant Impact on development and relationships.

Thoppukaranam is the practice of ear piercing too has its real reasons being the stimulation of the pituitary and pineal glands, due to the effect of the pressure in the ear lobes. The main benefit of Thoppukaranam is a simple, fast and effective technique used to fuel and sustain the healthy brain- By this techniques, the students can easily energizes and activates the brain by synchronizing alpha brain waves, reduces psychological stress and improves psychological stability, promotes proper functioning of the brain, greater intelligence and creativity.

Denise Peak, noticed that high-school students with learning disabilities, along autism and Aspergers Syndrome, had an astonishing results and "Thoppukaranam served to be a key to relieve the symptoms of these children

**Aim:** This study was aimed to assess the effectiveness of Thoppukaranam on academic performance of school going children in selected schools at Puducherry.

**Methodology:** True Experimental Pre-test, Post-test design and 120 school going children were selected using simple sampling technique (lottery method) was adopted for this study.

**Results:** The study results show that Thoppukaranam was effective in improving the academic performance of school going children. The obtained test value was significant at  $p<0.001$  level. This study reveals that Thoppukaranam showed a significant improvement in academic performance and promoting a better quality of life among children.

**Keywords:** Effectiveness, Thoppukaranam. Academic performance, school going children

#### **Introduction**

According to **Piaget**, in cognitive development; when children enter the school years, they begin to acquire the ability to relate a series of events to mental representations that can be expressed both verbally and symbolically. This is the stage Piaget describes as Concrete operations, when children are able to use thought processes to experience events and actions. The rigid, egocentric view of preschool years is replaced by mental processes that allow children to see things from another's point of view.

During this stage, children develop an understanding of relationships between things and ideas. They progress from making judgements based on what they see (perceptual thinking) to making judgement based on what they reason (conceptual thinking). They are able to master symbols and to use their memories of past experiences to evaluate and interpret the present.

Quest for knowledge is an innate quality of human beings which makes them distinct from all other creations by god. This everlasting affinity towards knowledge fuelled all interventions ranging from fire in pre-historic period to the cloning in the modern times. Ancient man recognizes the need of organizing the knowledge for utilizing it to the maximum extent possible. This attempt to recognize knowledge has lead to the development of education system. Home is the primary place for education and parents are the first teacher in everyone's life.

**Correspondence**  
**Rajeswari S**  
Dept. Of Child Health Nursing,  
Kasturba Gandhi Nursing  
College, Pillaiyarkuppam,  
Puducherry, India

In childhood, children's get first impression of education from their home especially from their mother. As a parent, they should be aware that children's education is more important for their future life. When kids become three or four years old, they sent to the school for the proper, regular and sequential study.

Better education is very necessary for all to go ahead in the life and get success. It develops confidence and help building personality of a person. School education plays a great role in everyone's life. The whole education has been divided into three divisions such as the primary education, secondary education and higher secondary education. All the divisions of education have their own importance and benefits. Primary education prepares the base which helps throughout the life, secondary education prepares the path for further study and higher secondary education prepares the ultimate path of the future and whole life.

As time passed, there occurred a tremendous increase in the human needs, many of them aroused from the man's desire to nature for better life. In ancient period, for better knowledge they practice "Thoppukaranam" as brain storming exercise for stimulates the brain, as the years past. Now-a-days, it is practiced as the form of punishment in our country. But in other country, it should be followed as super brain yoga therapy to nourish their knowledge well.

Thoppukaranam is the practice of ear piercing, increases the pressure in the ear lobes that stimulates the pituitary and pineal glands. The main benefits of Thoppukaranam is a simple, fast and effective technique used to fuel and sustain the healthy brain- By this techniques, the students can activates and energizes the brain by synchronizing alpha brain waves, reduces psychological stress and improves psychological stability, proper functioning of the brain, intelligence and creativity.

Each and every steps of Thoppukaranam has a scientific reason. Thoppukaranam activates the acupuncture points at right and left ears by activating the right and left brains. Fifteen minutes of -Thoppukaranam improves the brain power.

The right ear lobe corresponds to the left brain and vice versa. When the right ear lobe is gently squeezed with the left thumb and left index finger with the thumb outside, it produces the necessary energy connection. This connection causes the left brain and pituitary gland to become energized and activated. Similarly, when the left ear lobe is gently squeezed with the right thumb and right index finger with the thumb outside, it produces the necessary energy connection, which causes the right brain and pineal gland to become energized and activated. For energizing and activating the Left Brain and the Right Brain, the left arm must be inside, while the right arm must be outside.

The function of pituitary gland is stimulate the growth hormone, control the secretion of adenocorticotropic hormone, controls the rate of thyroid stimulating hormone, and helps in controlling reproductive activity. And the function of pineal gland is controls reproductive functions, helps in maintain sleep-wakefulness cycle.

Thoppukaranam assists in balancing the energies of the throat, heart, ajna, (center of the brain-eyebrow center) forehead and crown energy centres.(The Crown energy center (also known as spiritual heart) located on the top of the head is the entry point to higher spiritual consciousness.)

Synchronizes the right and left side of the brain improves the brain function and promote calmness, energizing of cells and nervous system, sharper mind, focus, additional energy. This amazing yoga which can be done at anywhere, anytime, any age.

Two important components of Thoppukaranam that can be readily assessed are attention control and working memory. They form a part of the central executive functions, along with planning, abstract thinking, and taskcoordination.

**Dr. Eric Robins**, a medical doctor in Los Angeles, supported Thoppukaranam as "a fast, simple, drug-free method of increasing mental energy" and prescribed it for children. He noticed a student had raised from grade C's to A's.

### Statement of the problem

A study to assess the effectiveness of Thoppukaranam on academic performance of school going children in selected schools at Puducherry.

### Objectives

- To assess the Academic Performance of school going children in experimental group and control group.
- To evaluate the Effectiveness of Thoppukaranam on Academic Performance of school going children in experimental group.
- To associate the Academic Performance of school going children with selected demographic variables.

### Research hypotheses

**H1:** Academic Performance of school going children differs before and after Thoppukaranam

**H2:** Association exists academic Performance with selected demographic variables among school going children.

### Methodology

The research design for this study was True Experimental Pre-test, Post-test design. Totally 120 school going children(11-12 years) whose academic performance was C, D, and E in first mid-term exam in selected schools at Puducherry, were selected by using simple random sampling technique (lottery method).

### Criteria for sample selection

#### Inclusion Criteria

- Children in the age group of 11 & 12 years.
- Children who are scoring grade of C (41-60%), D (35-40%), and E (Below 35%) in first mid-term exam.
- Children who can understand and speak Tamil, English.
- Children who are able to do exercise.
- Children who are willing to participate.

#### Exclusion Criteria

- Children who are very sick
- Children with physical disabilities such as special children, joint pain.

### Development and description of tool

The tool was developed based on review of literature, opinion from experts in the field of Child Health Nursing. The following steps were undertaken to prepare the final tool

## The tool consists of two sections

### Part-A

Part A consists of demographic data it deals with Age, Sex, Education, Occupation, Residence, Religion, Performance at school, Monthly income, Type of family, attending any other classes, Hobbies during leisure time, Socio economic status, and duration of study time in a day.

### Part-B

- First mid-term exam grading.
- Second mid-term exam grading.

### Subject wise grading (In both tests)

Subject 1-Tamil  
Subject 2-English  
Subject 3- Mathematics  
Subject 4-Science  
Subject 5- Social science  
Total grading

### Grading

- ABOVE 80% - 'A' grade
- 61-80 % – 'B' grade
- 41-60% -'C' grade
- 35-40% -'D'grade
- BELOW 35% -'E' grade

### Ethical Consideration

Ethical considerations are vital to any research study because of the influence on the researcher's ability to acquire and retain participants.

The proposed study was conducted after approval of Institutional Human Ethical Committee & Institutional Review Board of Kasturba Gandhi Nursing College. Permission was obtained from the concerned authorities. Informed consent from the parents. Subjects had given the right to withdraw during the study period and assurance was given to the study subjects that the privacy and anonymity of the individual would be maintained confidentially.

### Data collection procedure

Formal approval was obtained from the Institutional Human Ethical Committee, Joint Director of Educational Department from Puducherry and Principals of two schools (Government Higher Secondary School) at Puducherry. The purpose of the study was explained to parents, selected children and informed consent was obtained from them.

- **Step- 1:** Pre-test- Estimation of academic performance for school going children in the age group 11 & 12 years. On the basis of results, the children were identified for experimental and control groups.
- **Step- 2:** Categorize the academic performance using first mid-term exam grading among school going children in experimental and control groups.
- **Step- 3:** Followed by regular education basis to the school going children Practicing Thoppukaranam (10 times per day in morning) for two months in experimental group. No intervention was given to control group.
- **Step-4:** Post-test: Estimation of academic performance for school going children using second mid-term exam grading in both experimental and control group.

### Plan for data analysis

The researcher used Descriptive statistics which include frequency, percentage, mean, median and standard deviation to assess the demographic variables for school going children. Inferential statistics such as paired 't' test was used to compare the effectiveness of pre and post-test assessment. Kruskal Wallis and Mann Whitney value test was used to find out the association between the academic performance and demographic variables.

### Study results

#### Section A: Socio demographic data:

- The distribution of school going children according to age shows the highest number of sample 23 (38.3%) belonged to the age group of 11 years, 37 (61.7%) belonged to the age of 12 years in experimental group and 54 (90.0%) belonged to the age group of 11 years, 06 (10%) belonged to the age of 12 years in the control group respectively.
- Distribution of children according to gender state that the majority of the children 32 (53.3%) were female and 28 (46.7%) were male in experimental group and 30 (50%) were female and 30 (50%) were male in control group respectively.
- Scattering of children according to their religion majority of the children 59 (98.3%) were Hindu, 0 (0%) were Muslim and 1 (1.7%) were Christian in experimental group and 55 (91.7%) were Hindu, 04 (6.7%) were Muslim and 01 (1.7%) were Christian in control group respectively.
- Distribution of children according to their residential area states that the majority of the children 56 (93.3%) in experimental group, 59 (98.3%) in control group belongs to rural area. 04 (6.7%) in experimental group, 01 (1.7%) in control group belongs to urban area. Though, both the schools were based in urban area, most of students studying in Government Higher Secondary School were from rural area and utilizing the educational service provided by the Government of India.
- Distribution of children according to their educational status of the children's mother in experimental group 10(16.7%) were illiterate, 26(43.3%) were studied upto primary education, 22(36.7%) were studied upto high school and 2(3.3%) were studied upto higher secondary and no graduates. In control group, 13(21.7%) were illiterate, 08(13.3%) were studied upto primary education, 37(61.7%) were studied upto high school and 1(1.7%) were studied upto higher secondary and 1 (1.7%) were studied upto graduates.
- Distribution of children according to their educational status of the children's father in experimental group 05(8.3%) were illiterate, 26(43.3%) were studied upto primary education, 21(35%) were studied upto high school and 7(11.7%) were studied upto higher secondary and 1(1.7%) were studied graduates. In control group, 09(15%) were illiterate, 08(13.3%) were studied upto primary education, 37(61.7%) were studied upto high school and 3(5%) were studied upto higher secondary and 3 (5%) were studied upto graduates.
- Allocation of children according to their occupation status of the children's mother in experimental group 06(10%) were house wives, 37(61.7%) were coolie,

16(26.7%) were private employed, 1(1.7%) were Govt. employed. In control group, 22(36.7%) were house wife, 15 (25%) were coolie, 21(35%) were private employees and 02 (3.3%) were Govt.employed.

- Distribution of children according to occupation status of the children's father in experimental group 06(10%) were unemployed, 39(65%) were coolie, 1 (18.3%) were self-employed, 04(6.7%) were private employed and no Govt. employed. In control group, 05(8.6%) were unemployed, 28 (46.7%) were coolie, 16 (26.7%) were self employee, 08(13.3%) were private employees and 03 (5.0%) were Govt.employed.
- Distribution of children according to income of the family in the experimental group 46 (76.7%) had below Rs. <5000, 12 (20%) had it between Rs.5001-Rs. 10,000 and 2 (3.3%) was above Rs.>10,001 and in control group, the income of the family 43 (71.7%) had below Rs. <5000, 16 (26.7%) had it between Rs.5001-Rs. 10,000 and 1 (1.7%) was above Rs.>10,001.
- Dispersion of children according to type of family in the experimental group 41 (68.3%) belongs to nuclear family and 19 (31.7%) belongs to joint family. In the control group 36 (60%) belongs to nuclear family and 24 (40%) belongs to joint family.
- Distribution of children according to attending any other classes for children in the experimental group 27 (45%) studied in private tuition center and 33 (55%) studied in special classes in school, none of them in home. In the control group 15 (25%) studied in private tuition center and 45 (75%) studied in special classes in school, none of them at home.
- Distribution of children according to duration of study in a day for children in the experimental group 30 (50%) studied less than 30 minutes, 26 (43.3%) studied in 30 minutes-1 hour, 04 (6.7%) studied in more than 1 hour. In the control group 17 (28.3%) studied less than 30 minutes, 21 (35%) studied in 30 minutes-1 hour, 22(36.7%) studied in more than 1 hour.
- Distribution of children according to hobbies during leisure time for children in the experimental group 14 (23.3%) habit of indoor play, 28 (46.7%) habit of outdoor play, no habit of reading story book, 07 (11.7%) habit of watching television, 11 (18.3%) habit of playing video games. In the control group 10

(16.7%) habit of indoor play, 23 (38.3%) habit of outdoor play, 05 (8.3%) habit of reading story book, 14 (23.3%) habit of watching television, 08(13.3%) habit of playing video games.

- Distribution of children according to grading in first mid-term exam for children in the experimental group 37 (61.7%) got C grade, 13 (21.7%) got D grade, 10 (16.7%) got E grade and no A grade, B grade. In the control group 27 (45%) got C grade, 03 (05%) got D grade, 30 (50%) got E grade and no A grade, B grade.

#### **Section B:** Assessment of Pre-Test Academic Performance of School Going Children in Experimental Group and Control Group before Thoppukaranam

- Distribution of pre-test academic performance of school going children in Experimental group and control group before Thoppukaranam

(N=120)				
Academic performance	Group			
	Experimental Group(n)	%	Control Group(n)	%
>80%	0	0	0	0
61-80%	0	0	0	0
41-60%	41	68.3	28	46.7
35-40%	09	15.0	09	15.0
<35%	10	16.7	23	38.3

#### **Section C:** Assessment of post-test academic performance of school going children in experimental group and control group after thoppukaranam

- Distribution of post-test academic performance of school going children in experimental group and control group after Thoppukaranam

(N=120)				
academic performance	Group			
	Experimental Group(n)	%	Control Group(n)	%
>80%	0	0	0	0
61-80%	10	16.7	2	3.3
41-60%	41	68.3	27	45.0
35-40%	08	13.3	11	18.3
<35%	01	1.7	20	33.3

#### **Section D: Effectiveness of Thoppukaranam among School Going Children within the Experimental Group**

- Comparison of pre and post test mean in academic performance among school going children within the experimental group

Sl.no	Group	Test	Mean	Standard deviation	Mean difference	Paired t-value	P value
1	Experimental Group	Pre-test	223.43	47.29	26.37	16.400	<0.001*
		Post-test	249.80	43.26			

\*Highly statistically significant at p< 0.001 level

- Comparison of pre and post-test mean in academic performance among school going children within the control group

Sl.no	Group	Test	Mean	Standard deviation	Mean difference	Paired t-value	P value
1	Control group	Pre-test	197.80	67.60	16.38	7.119	<0.001*
		Post-test	214.18	55.77			

\*Highly statistically significant at p< 0.001 level

## Section: E Effectiveness of Thoppukaranam among School Going Children between the Experimental Group and Control Group

- 1) Comparison of post-test mean in academic performance on school going children between the experimental and control group

(N=120)						
SL.NO	Group	Test	Mean	Standard deviation	Unpaired 't' Value	P Value
1	Experimental Group	Post-test	249.8	43.26	16.4 d (f)=26.37	<0.001*
2	Control Group	Post-test	214.18	55.774	7.119 d(f)= 16.38	<0.001*

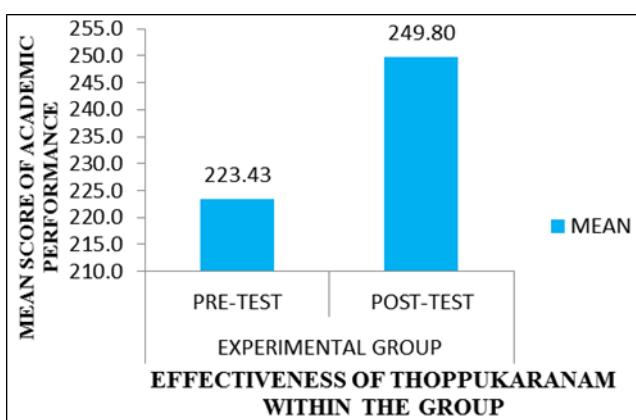
\*Highly statistically significant at  $p<0.001$  value.

- 2) Percentage distribution of Pre-test, Post-test, Academic performance between Experimental group and Control group

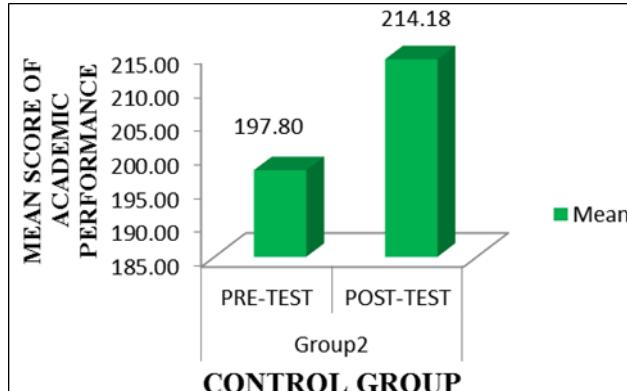
		Experimental Group		Control Group	
Total Score		Pre Test	Post Test	Pre Test	Post Test
50-99	0%	0%	0%	3%	0%
100-149	5%	0%	0%	30%	10%
150-199	27%	15%	20%	42%	42%
200-249	35%	42%	18%	18%	18%
250-299	32%	27%	27%	27%	27%
300-349	2%	17%	2%	3%	3%
	100%	100%	100%	100%	100%

### Section C: Analysis of Effectiveness of Thoppukaranam on academic performance of school going children.

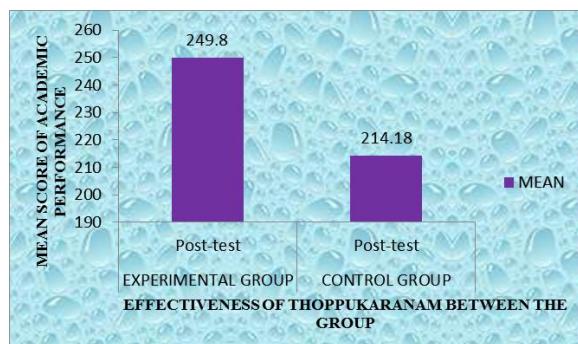
1. Comparison of pre and post test mean in academic performance among school going children within the experimental group. The result shows that, the mean of 223.43 with standard deviation 47.29 in the pre-test was increased to mean of 249.80 with standard deviation 43.26 in the post-test after Thoppukaranam. The difference was found highly statistically significant at  $p<0.001$  level and can be attributed to the effectiveness of Thoppukaranam on School going children.



2. Findings related to the comparison of pre and post test mean in academic performance among school going children within the control group. The mean of 197.80 with standard deviation 67.60 in the pre-test was increased to mean of 214.18 with standard deviation 55.77 in the post-test normal day-to-day activity. The difference was found highly statistically significant at  $p<0.001$  level and can be attributed to the effectiveness of Thoppukaranam on School going children.



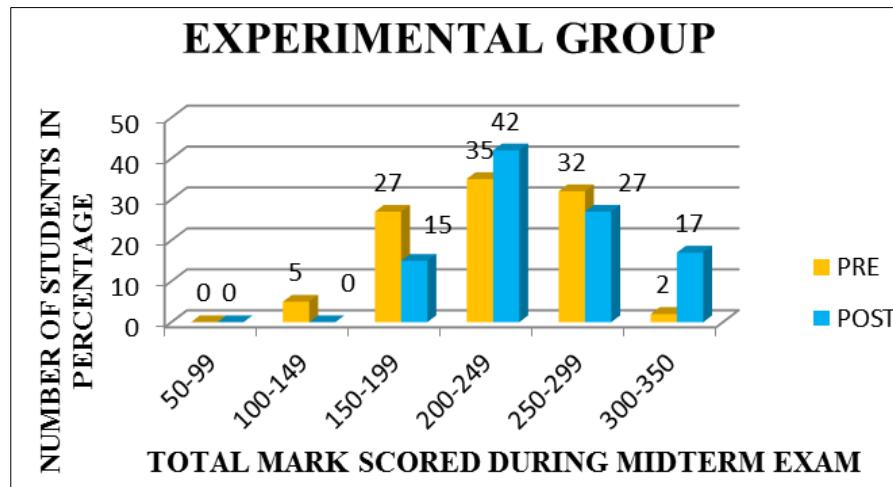
3. Findings related to the comparison of post-test mean in academic performance on school going children between 11 & 12 years in the experimental group and control group. The mean was of 249.8 with standard deviation of 43.26 in the experimental group and in the control group the mean was 214.18 with standard deviation of 55.774 in the post test after Thoppukaranam. The difference was found highly statistically significant at  $p<0.001$  level in both experimental group and control group. Both experimental group and control group are highly statistically significant, so the effectiveness of students academic performance shown by their percentage.



4. Findings related to Percentage distribution of Pre-test, Post-test Academic performance for Experimental group. In pre test, none of them has scored between 50-99 marks, 5% has scored between 100-149 marks, 27% has scored between 150-199 marks, 35% has scored between 200-249 marks, 32% has scored between 250-299 marks, 02% has scored between 300-350 marks. In post test, none of them has scored between 50-99 marks, 0% has scored between 100-149 marks, 15% has scored between 150-199 marks, 42% has scored between 200-249 marks, 27% has scored between 250-299 marks, 17% has scored between 300-350 marks. By this result, it can be attributed to the effectiveness of Thoppukaranam on academic performance of school

going children in the experimental group. Hence the stated Hypothesis H<sub>1</sub> was accepted.

5. **Findings related to Percentage distribution of Pre-test, Post-test, Academic performance for control group.** In pre test, 03% has scored between 50-99 marks, 30% has scored between 100-149 marks, 20% has scored between 150-199 marks, 18% has scored between 200-249 marks, 27% has scored between 250-299 marks, 02% has scored between 300-350 marks. In post test, none of them has scored between 50-99 marks, 10% has scored between 100-149 marks, 42% has scored between 150-199 marks, 18% has scored between 200-249 marks, 27% has scored between 250-299 marks, 03% has scored between 300-350 marks.



**Section D:** findings related to Association of academic performance with the selected demographic characteristics of the school going children in experimental and control group.

- The association between Academic Performance of school going children with their religion during pre-test. Data reveal that the median value for Hindu, Muslim & Christian were 215.46, 153.5& 281 respectively. The obtained t-value was 7.3 and p value 0.026 was significant at  $p<0.05$  and hence there is significant association between religion and level of academic performance. *Hence the stated hypothesis (H2) was accepted.* It concluded that the academic performance is more among the school going children whose religion were Christian.
- The association between academic performance of children with their education status of father during pre test. Data reveal that the median value for Illiterate, Primary education, High school, Higher secondary & Graduate were 230.5, 193.5, 217, 255 & 281 respectively. The obtained t-value was 10.2585 and p value 0.0363 was significant at  $p<0.05$  and hence there is significant association between education status of father and level of academic performance. *Hence the stated hypothesis (H2) was accepted.* It concluded that the academic performance is more among the school going children whose father were Graduate.
- The association between academic performance of children with their hobbies during leisure time during pre-test. Data reveal that the median value for Indoor play, outdoor play, reading story book, watching

television & playing video games were 239.5, 224, 184, 215& 171 respectively. The obtained t-value was 10.7006 and p-value 0.0301 was significant at  $p<0.05$  and hence there is a significant association between hobbies during leisure time and level of academic performance. *Hence the stated hypothesis (H2) was accepted.* It concluded that the academic performance is more among the school going children whose hobbies were indoor play.

- The association between academic performance of children with grading in their first mid-term exam during pre-test .Data reveal that the median value for C grade, D grade, E grade, A grade & B grade were 264, 187.5, 139.5 0 & 0 respectively. The obtained t-value was 92.2433 and p value 0 was significant at  $p<0.05$  and hence there is highly significant association between grading in first mid-term exam and level of academic performance. *Hence the stated hypothesis (H2) was accepted.* It concluded that the academic performance is more among the school going children whose grading in first mid-term exam were C grade.

## Discussion

**The first objective of the present study was to assess the Academic Performance of school going children in experimental group and control group.**

First is the assessment of pre-test academic performance of school going children in 11 & 12 years for experimental and control group before Thoppukaranam and it reveals that out of 60 samples in the experimental group 10 (16.7%) students belong to less than 35% of academic performance,

09 (15%) students belong to 35%-40% of academic performance, 40 (66.7%) students belong to 41%-60% of academic performance, 01(1.7%) student belong to 61%-80% of academic performance. In control group out of 60 samples, 23 (38.3%) students belong to less than 35% of academic performance, 09 (15%) students belong to 35%-40% of academic performance, 27(45%) students belong to 41%-60% of academic performance, 01(1.7%) students belong to 61%-80% of academic performance.

The second is the assessment of post-test academic performance of school going children between 11 & 12 years for experimental and control group after Thoppukaranam and it reveals that out of 60 samples in the experimental group 01 (1.7%) students belong to less than 35% of academic performance, 08 (13.3%) students belong to 35%-40% of academic performance, 41 (68.3%) students belong to 41%-60% of academic performance, 10(16.7%) student belong to 61%-80% of academic performance. In control group out of 60 samples, 20 (33.3%) students belong to less than 35% of academic performance, 11(18.3%) students belong to 35%-40% of academic performance, 27(45%) students belong to 41%-60% of academic performance, 02(3.3%) students belong to 61%-80% of academic performance. So the above finding has proved that the Thoppukaranam will improve the academic performance of school going children. Thus the government should take the necessary steps to implement the Thoppukaranam which easily improve our academic performance.

#### **The second objective was to assess the Effectiveness of Thoppukaranam on Academic Performance of school going children in experimental group.**

The first is the effectiveness of Thoppukaranam among school going children at the age group of 11 years, 12 years within the experiment group and it revealed the mean of 223.43 with standard deviation of 47.29 in the pre-test was increased to 249.80 in the post-test after Thoppukaranam and the 't' value was 16.400 which was highly statistically significant at  $p< 0.001$  level and this can be attributed to the effectiveness of Thoppukaranam on academic performance of school going children.

The second is the assessment of effectiveness of Thoppukaranam on academic performance of school going children of 11 years, 12 years between experimental group and control group and the study revealed that the mean was 249.8 with standard deviation of 43.26 in the experimental group and in the control group the mean was 214.18 with standard deviation of 55.77 and the 't' value was 16.4 in experimental group and 7.119 in control group which was found highly statistically significant at  $p< 0.001$  level.

*Both experimental group and control group are statistically significant, so the effectiveness of students' academic performance shown by percentage.*

*By this result, it can be stated that the effectiveness of Thoppukaranam on academic performance of school going children in the experimental group.*

Since there is an improvement in the academic performance of school going children in experimental group the above stated hypothesis i.e. there will be difference in the Academic Performance of children who are performing Thoppukaranam than who are not. H1 was accepted.

*The third objective was to associate the Academic Performance of school going children with selected demographic variables.*

The study revealed that there was a significant association between the demographic variables of religion of their family, education status of father, hobbies during leisure time, grading in first mid-term exam of school going children. The obtained chi-square value was significant at  $p<0.001$ . Hence the above stated hypothesis H2 i.e. there will be an association between Academic Performance among school going children with the selected demographic variables in experimental group and control group was accepted.

#### **Recommendations**

- The study can be replicated with larger sample for better generalization.
- The study can be done by comparison with other brain stimulating exercises for school going children.
- The study can be done in different groups like pre-scholar, adolescents.

Peck HL, Kehle TJ et al. (2005) conducted a small study on effectiveness of Super Brain Yoga for improving time on task in children with attention problem. The sample size is 20 and study was experimental research design. The study was discussed that students improved the attention by the intervention for 30 minutes. Yoga videotape program twice peer week for 3 weeks. The results shows an improvement in the mean " time on task" was seen both immediately following the intervention (effect size 1.5 to 2.7) and in the follow up period (effect size 0.77 to 1.95) no change was seen in the comparison group [23].

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