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Effect of Gayatre Mantra Based on Lifestyle on Cognitive Task

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Abstract

Present study was to compare the attention task performance in between Gayatre mantra recitation and simply sitting in college students. Healthy college students who were motivated to chant; those who wanted to take participate in the study or willing to participate in the research in the age range of 18 to 32 years. Subjects excluded from the study, they do not will to participate. All subjects gave written informed consent before participating in the present study. The present study was approved by the ethical committee of S-VYASA University, Bangalore. This was a self-as control study. Experimental group (GM recitation) and control group (Simply sitting). Out of 30 students each and every student was assessed in two sessions: 1. Gayatre mantra recitation session (10 min) and 2. Simply sitting (10 min). The two recordings for each subject were collected on two days in sequence. Each group took both gäyatré mantra and simply sitting session in a two consecutive days. The present self as control study found recitation of gayatre mantra showed improvement on attention task (STROOP) in college student in the age group of 18 to 32 years.

Keywords: Gayatre Mantra, Cognitive Task, Stroop Task.

Introduction

Gayatre Mantra

Gayatre mantra is highly potential *mantra* which is mentioned in *ag veda*. *Gayatré* is the meter in which the *mantra* composed by *brahmarni vicvamitra*. It is also called *savitra mantra* because it consist the deity sun or *Savita*. *Gayatre mantra* can be interpreted to invoke the Savita deity so it is called as *savitra mantra* (Harshananda, 2010). *Gayatre mantra* consist twenty four letters. Every letters of this mantra provide subtle conscious energy field and magnetic field around our body. *Gayatre* is *kamadhenu* that means which gives nectar like milk to everyone so it is called as *kalpa-taru* which fulfils the desire of devotee (Acharya, 1991).

Earlier Study and Literature Review

Scientific study also found that *yoga mantra* and religious chanting gives positive influence, vibration on physiological and psychological functions of the body. For instance, *gayatre mantra* chanting resulted in significant improvement on performance or attention in school children, the whole population was divided into two groups one is experimental group and second is control group. Subject consisted of 60 school students included boys 30 and girls 30 in the age range of 12-14 years, where they trained for *Gayatre mantra* chanting for five days. They were assessed on DLST immediately before and after two sessions GM chanting (10 min) and poem line chanting (10 min) with equal duration. Fifty percent of participants performed GM chanting and remaining of the PL recitation on day 6 (Pradhan & Derle, 2012). *Gayatre mantra* chanting invokes the capacity to influence thinking compare to random thinking (Brondino et al., 2013). Previous studies reported that practice of Om chanting is effective in improving pulmonary function and vital capacity in healthy individual; 82 subjects were participated in this study divided into two study group (SG) consisting 41 participants and control group (CG) consisting 41 participants; SG practiced Om chanting per day for the period of 6 days for two weeks and CG did not asked to practice. The result showed there is significant improvement in peak expiratory flow, forced expiratory flow, significant improvement in slow vital capacity (Pradhan & Nagendra, 2010). A period of mental chanting ‘OM’ shows that there is significant reduction in heart rate and subtle changes in mental state indicated by reduction in skin resistance; Autonomic changes during ‘OM’ chanting, the autonomic and respiratory variable were studied in experienced meditators (experience ranging from five to twenty years). Each subject was studied in two types of session’s meditation; one is experimental session with a period of mental chanting of ‘OM’ and control with a period of non-targeted thinking. The meditators showed significant reduction in heart rate during meditation (Telles, & Nagarathna, 1994). The different types of Japanese

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prayer and Buddhist sutra showed different brain regional activation. The recitation of Nenbutsu prayer activates the prefrontal cortex and recitation of Buddhist sutra activates the left dorsolateral prefrontal cortex, right parietal cortex (Balasubramaniam, Telles, & Doraiswamy, 2013).

Control study the Vedic hymns chanting showed there is improvement in memory and sustained attention in teen ager school students. 60 students participated in this study in the age group of 13-15 years, the whole population divided into two group chanting experience group and non-chanting experience group. The sustained attention assessed by SLCT and memory was assessed by using delayed recall test (Ghaligi, & Nagendra, 2006). Effect of *hare-kricna mahamantra* on some mental health indicators of participants. Five subjects were assessed during one week baseline and four week intervention chanting phase. The result showed that there is significant reduction in stress, depression and verbal aggressiveness (Wolf, 1999).

Aim

Present study was to compare the attention task performance in between *Gayatre mantra* recitation and simply sitting in college students.

Objective

To study the immediate effect of *Gayatre mantra* recitation.

Research Question

Does *Gayatre mantra* recitation enhance the attention in college students?

Hypothesis

The *Gayatre mantra* recitation will enhances the attention.

Null Hypothesis

The *Gayatre mantra* recitation would not enhance attention in college students.

Alternative Hypothesis

Gayatre mantra recitation would enhance attention in college students.

Participants

Subjects

The study was performed on 30 college students in the age group of 18 to 32 years (Under Graduate and post Graduate).

Source

S-VYASA, Prashanti Kutiram, a well-known yoga university, Bangalore.

Inclusion Criteria

Healthy college students who were motivated to chant; those who wanted to take participate in the study or willing to participate in the research in the age range of 18 to 32 years.

Exclusion Criteria

Subjects excluded from the study, they do not will to participate.

Institutional Ethical Committee

All subjects gave written informed consent before participating in the present study. The present study was approved by the ethical committee of S-VYASA University, Bangalore.

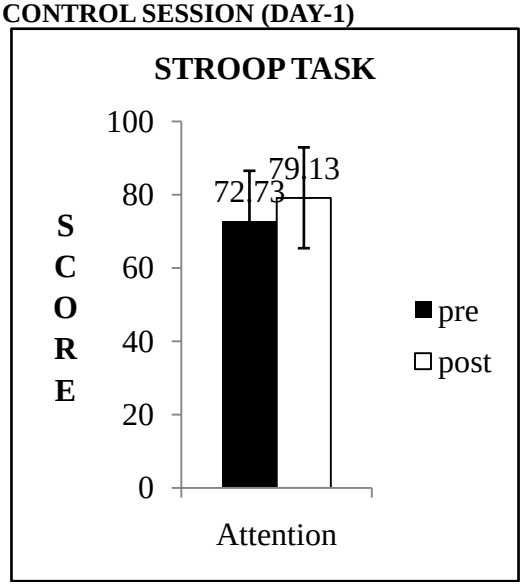
Design of the Study

This was a self-as control study. Experimental group (GM recitation) and control group (Simply sitting). Out of 30 students each and every student was assessed in two sessions: 1. *Gayatre mantra* recitation session (10 min) and 2. Simply sitting (10 min). The two recordings for each subject were collected on two days in sequence. Each group took both *gäyatré mantra* and simply sitting session in a two consecutive days.

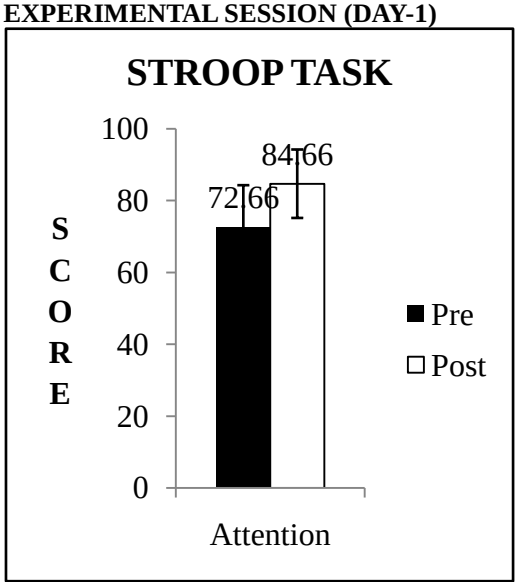
Table I. Stroop Task Score Pre and Post (Day-1 and Day-2)

Stroop Task	Variable	Pre score	Post score	t-value	P-value	% change	Between group Pre(t), p-value	Post(t),p-value
Day-1	Simply sitting	72.73 ±14.38	79.13± 13.76	-11.78	<0.006	8.79%	-2.02 <0.06	-0.56 <0.05
	GM recitation	72.66 ±11.59	84.66 ±9.53	-10.96	<0.05	16.51%		
Day-2	Simply sitting	74.06 ±12.71	81.26 ±12.33	-12.03	0.023>	9.72%	-0.03 <0.97	2.18 <0.04
	GM recitation	69.26 ±11.08	80.02 ±10.76	-16.48	<0.003	15.78%		

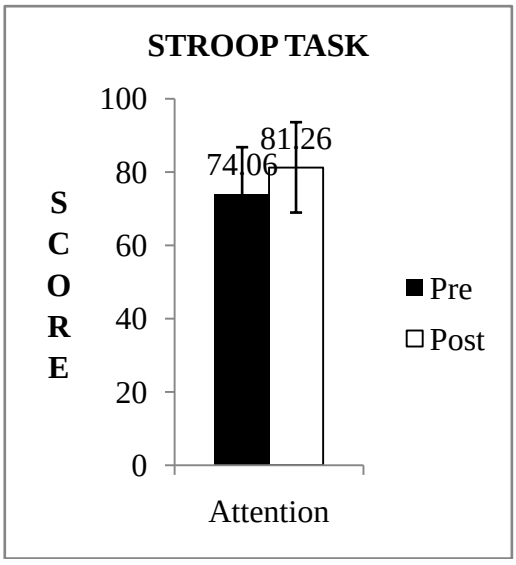
CONTROL SESSION (DAY-1)



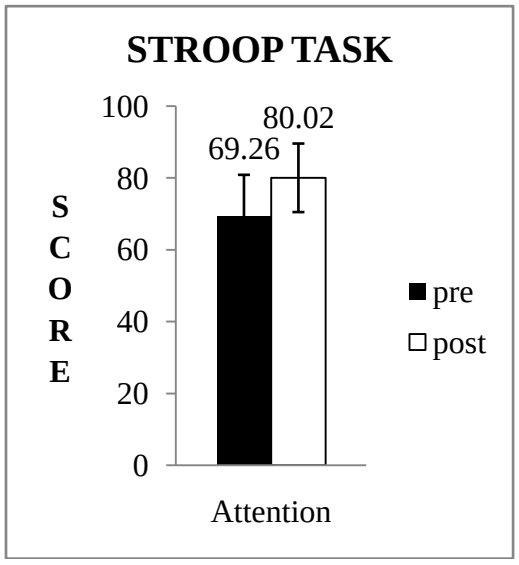
EXPERIMENTAL SESSION (DAY-1)



CONTROL SESSION (DAY-2)



EXPERIMENTAL SESSION (DAY-2)



Discussion

There was a significant improvement in stroop score in both *gayatre mantra* and simply sitting sessions. But further analysis it showed that there was better improvement in *gayatre mantra* significantly compare to simply sitting sessions.

Mantra is meant the frequent repetition which is rhythmic function of a meaningful word, name or expression. The power of such Christian *mantras* for personal transformation is discussed along with present significance of their re- discovery and use (Grassi, 1975). The prayer of *Namo- Ameda-Butsu* (*Nembutsu*) activates the medial frontal gyrus, which is mainly related to mental concentration and visuospatial attention, similar to the areas activated by meditation. The task of reciting the *sutra* of Buddhist scriptures activates the left lateral middle frontal gyrus, the right angular gyrus, and the right marginal gyrus which are related to visuospatial attention (Shimomura, Fujiki, Akiyoshi, Yoshida, Tabata &, 2008).

Mantra is a free and open-source software package for object tracking. It is specifically designed to be used as a tool for response collection in psychological experiments; In Experiments 1 and 2 they validated the spatial and temporal precision of mantra in realistic experimental settings. In Experiments 3 and 4, we validated the spatial precision and accuracy of mantra more rigorously by tracking a computer controlled physical stimulus (Mathot & Theeuwes, 2011).

Autonomic changes during '*Om*' chanting, the

autonomic and respiratory variable were studied in experienced meditators (experience ranging from five to twenty years). Each subject was studied in two types of session's meditation; one is experimental session with a period of mental chanting of '*Om*' and control with a period of non-targeted thinking. The meditators showed significant reduction in heart rate during meditation (Telles & Nagarathna, 1994).

During a selective attention task, decreased activation was found in several areas of the dorsolateral prefrontal cortex (Golaszewski, 2007). Hence, these studies show that recitation of *gayatre mantra* might be contributed for improving the attention task in stroop.

Summary and Conclusion

Summary

The present self as control study found recitation of *gayatre mantra* showed improvement on attention task (STROOP) in college student in the age group of 18 to 32 years.

Conclusion

The recitation of *gäyatré mantra* showed there was a significant improvement in attention compare to simply sitting.

Appraisal

Strength of the Study

So far as our knowledge goes this was the first study on self as control trial on immediate effect of *gayatre mantra* on attention in college students measured by stroop task.

Introduction of *gayatre mantra* may prove to be easy to implement within a school setting which can help to raise the academic ability of the students along with their all round development. Training program was conducted for *gayatre mantra* around three days and the participant participated in this study those who undergone some kind of spiritual and religious pracitice since two years.

Limitation of the Study

The study was on immediate effect. The lasting effect is not calculated. Girls are not taken in the present study. Large group could not be taken to established significance of *gayatremantra* practice.

Future Studies

Future study may include different age group of students for longer duration might be more than 7 days to measure different levels of attention. In future study, the other design can be used to assessed the attention task or self as control can be used for longer effect of *gäyatré mantra* recitation (more than 10 min).

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