Shambhavi Mudra Improves Selective Attention in Young Adults

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Abstract

Introduction: Shambhavi Mudra (SM), often known as Bhrumadya Drishti or eyebrow center gazing, is one of the various yoga practices. The right frontoparietal cortex controls an important function called selective attention (SA). The cancellation task demands both visual selection and repetitive and coordinated motor responses. The six-letter cancellation task (SLCT) is useful for testing functions like SA, visual scanning, inhibition and activation of quick reactions, and focused attention. Assessing SA in young adults is quite beneficial in evaluating their academic performance and achievement.

Objective: To assess the immediate and later effects of SM on SA in young adults using SLCT.

Subjects and Methods: Thirty young adults of both sexes with an average age of 18.9 ± 1 years volunteered for the study. The SLCT data were taken before (pre), immediately after the first intervention session (1st post), and after the third day intervention (2nd post) of SM.

Results: The Student's t-test, performed with STATA 12.0 (College Station, Texas, USA), revealed a substantial rise in SA scores following the SM practice. P < 0.001 indicated that the pre and immediate post-values within the group were statistically significant. The group's pre and post (follow-up outcome) values are also statistically significant at P < 0.001. The magnitude of change, however, was greater in the later post-assessment than in the pre-assessment and immediate post-assessment. It is found that SM practice can raise SA and thus improve academic performance and achievement.

Conclusion: The current study reveals that SM practice may improve SA in young adults and consequently benefit their academic performance. A well-designed study is required before a firm judgment on the efficacy of SM for improving SA.

Key Words: Shambhavi Mudra, Bhrumadya Dhristi, Eyebrow Centre Gazing, Academic Performance, Selective Attention, Six Letter Cancellation.

Introduction

An essential component of cognition, attention can be described as a capacity or a skill for allocating resources. The ability of a person to focus on a task for a predetermined amount of time is known as selective attention. It is the constant focus necessary for a challenging task to be completed. Comparatively speaking, simple tasks require less selective attention than complex ones do. (Rangan et al., 2009; Bainbridge et al., 1983) It is accomplished by the combined efforts of motor skill and psychology; hence it is listed under the psychomotor function.

The ability to study a subject or pay attention to a lecture for an extended period is one of the best instances of selective attention. Depending on the specific attention-seeking behavior, different brain regions mediate attention. (Rueckert et al., 1996) The right frontoparietal regions of the brain mediate selective attention. A right prefrontal brain injury will result in poor selective attention. (Pardo et al., 1991) According to studies. vigilance activities imaging necessitate focused attention and engage a variety of neural processes in the right frontal and parietal cortices.

(Saltz. E, 1970) Selective attention lowers and enhances anxiety a person's performance on the tasks requiring selective attention, according to previous study observations and studies. (Wallace et al., 1971) Yoga is essential for selective attention, which helps to lessen worry and its negative effects. (Telles et al., 1993; Sarang et al., 2007; Telles et al., 2007) Studies on the impact of various yogic practices, including asanas (postures), pranayama (voluntary breathing management), and meditation on selective attention have been undertaken and published. Children who attend school benefit from special yoga techniques like Trataka (visual concentrating practice) and eye exercises to increase their attention span.

(Saraswati SS, 2002) However, Shambhavi Mudra (SM), also known as Bhrumadya Drishti in traditional yoga, is called eyebrow center gazing (in Sanskrit, "Bhru" means eyebrow, "Madya" means center, and "Drishti" means sight or gazing"), has not yet been shown to be effective in young adults.

Objective

The present study is designed to assess the immediate and later effects of SM on SA in young adults using the six-letter cancellation task (SLCT).

Materials and Methods Participants

The study included thirty young adults of both sexes with a mean age of 18.9 ± 1 years. Subjects with visual impairments, physical disabilities, on medicine for any sickness, or following any other wellness regimen are excluded from the study. Students from the Government Yoga and Naturopathy Medical College and Hospital, Chennai took part in the study. All study participants provided written informed consent. The Government Yoga and Naturopathy Medical College and institutional ethical Hospital's board authorized the study.

Intervention

The individuals were instructed to execute SM, which involves looking at the center of the eyebrow for one minute and then resting for 30 seconds. This was repeated 5 times. During the rest period in between each repetition, the subjects were instructed to do palming, which consisted of rubbing the hands until warm and placing them on the eyes without applying any pressure to the eyes. The practice was repeated for 3 days consecutively.

Assessment

The data for the SLCT were obtained before (pre), immediately after the first session of the intervention (1st post), and after the third day of intervention (2nd post) of SM. The SLCT consisted of a "test worksheet" with six letters that has to be cancelled at the top of the sheet and a "working section" with alphabet letters arranged randomly in 14 rows and 22 columns.

The subjects were instructed to cancel as many as six target letters as possible in 90

seconds. The subjects were directed to cancel the letters in their own method, for example horizontally, vertically, or randomly. They were also told to use any method they wanted, such as canceling all six letters at once or canceling any one target letter out of the six.

Data Collection

The total number of letter cancellations and incorrect cancellations were scored, and the net score was derived by subtracting the incorrect cancellation from the total number of attempted cancellations. Because this test was given frequently in a short period of time, the worksheets were created by randomly shifting the sequence of the letters in the working part.

(Sarang et al., 2007; Telles et al., 2007; Saraswati SS, 2002;Arun et al., 2014) The SLCT was employed in a comparable study design among the Indian population, showing the tool's validity

Data Scoring

(Kelland et al., 1996) The scoring was completed by a person who was unaware of the intervention, who received the score sheets when the assessment was performed, and whether the evaluation was pre- or post-interventional.

Statistical Analysis

The statistical tool STATA 12.0 (College Station, Texas, USA) is used for the analysis. The improvement was significant (p < 0.001) which was attained using the Student's t-test comparing pre-post values within the group. Both the immediate and three-day follow-up tests showed statistically significant results. Table-1 shows the mean and standard deviation for the group.

Variable	Mean <u>+</u> SD	T Score
Pre	41.97 <u>+</u> 11.18	- 3.73
Immediate Post	52.70 <u>+</u> 11.09	
Pre	41.97 <u>+</u> 11.18	- 6.54
Later Post	60.86 <u>+</u> 11.20	

 Table 1: Data Analysis

SD: Standard Deviation

Results

(Lezak MD, 1995) The cancellation task demands both visual selection and repetitive and coordinated motor responses. They involve not only SA but also visual scanning, activation, and inhibition of fast responses. The current study discovered a significant rise in SA scores following the SM practice.

P < 0.001 indicated that the pre and immediate post-values within the group were statistically significant. The group's pre and post (follow-up outcome) values were also statistically significant at P < 0.001.

Discussion

Yoga has its roots in India and spread throughout the world as a result of its effectiveness. (Dhananjay V. A, & Madankumar. S, 2013) According to Patanjali, it entails the practices of yama, niyama, breathing techniques (pranayama), adopting, and maintaining particular postures (asana), concentration (dharana), and meditation (dhyana). The SLCT performance improved in both the immediate post-assessment and the later (follow-up) post-assessment. The magnitude of change, however, was greater in the later post-assessment than in the pre-assessment and immediate postassessment. (Devi et al., 2015) The improvement in the SLCT in the current study had a similar inclination as described in several yoga-based studies to improve the SA through performance task.

When compared to the control group, focusing on the sign OM enhanced SA, concentration, visual scanning ability, and repeated motor response in an early study. (Kumar S & Telles S, 2009) The difference in change observed can be attributed to the fact that the individuals in the study were senior-level meditators, whereas the subjects in the current study had only 3 days of practice.

Recent studies on the association between personality traits and academic success have yielded promising results. Another study found that yoga increases academic achievement. As a result, the SM technique shows significant promise for improving SA in healthy adults. Sharp memory and SA are critical qualities for academic success. Practices to boost academic performance are not taught in the workplace or at the educational level. (Pradhan B & Nagendra HR, 2009) Anything that can systematically increase these skills is highly valued in the educational field and in the job.

The current study and its research findings indicate that SM practice may result in superior academic performance in young people by improving SA as measured by SLCT.

Conclusion

The current study reveals that practicing SM can improve SA in young people, paving the path to better academic success. Although this early investigation seems encouraging, more well-designed studies with a large sample size is required before making a firm conclusion.

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Conflict of Interest

There are no conflicts of interest.

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