Effect Of Yogic Practices On Multifactorial Memory In School Going Students – A Pre-Post Study

Mamta

Under Supervision of :- Ajay Pal and Naveen
Department of Yoga, Central University of Haryana, Jant Pali, Haryana, 123031.

Abstract

Objective: To See the impact of Yogic Practices on Multifactorial Memory in School going students. Many studies have reported that the practice of Yoga improves Memory power, especially through pranayama and relaxation techniques, which influence Memory

Study Design: The current research employs prospective intervention.

Method: In this research, 40 school-going students belonging to the age group of 15–18 participated in the study. The study participants were given 40 days.

Yoga Intervention: The study participants were instructed to practices Yoga for 60 minutes six days in a week for 40 days. The MMQ-Satisfaction scale score, MMQ-Ability score, and MMQ-Strategy score of participants were monitored before and after the intervention.

Result: The study showed a significant improvement in the Multifactorial Memory power of affected individuals. The MMQ-Satisfaction scale score, MMQ-Ability score, and MMQ-Strategy score of the study participants were significantly improved by the practices of Yoga six days a week for 40 days.

Conclusion: The practice of Yoga facilitates improving Multifactorial Memory in students who have weak Multifactorial Memory power.

Keywords: Multifactorial Memory Power, MMQ Score, Yoga, Students, Academic stress, Memory Power,

Introduction

The word "yoga" itself means union, symbolizing the connection between the mind, body, and spirit. The practice of yoga involves a combination of physical postures (asana), breathing techniques (pranayama), and meditation. It is often practiced for its numerous health benefits, including improved flexibility, strength, balance, and posture. Yoga also promotes stress reduction, relaxation, and mental clarity. One of the core principles of yoga is the belief that the body and mind are interconnected. Through the practice of asana and pranayama, individuals can cultivate mindfulness and develop a greater awareness of their bodies. This increased awareness allows practitioners to tap into their inner selves and attain a sense of peace and tranquillity. Beyond the physical benefits, yoga is often embraced as a holistic approach to life. It encourages self-reflection, personal growth, and the development of positive qualities such as compassion, gratitude, and mindfulness. Many people find that regular yoga practice enhances their overall quality of life and helps them find balance amidst the demands of modern-day living. Hillman et al. (2008), states that physical activity and exercise can improve psychological health and cognition. According to several researches, children's focus, attention, and memory skills are positively correlated with fitness level (Hillman, 2008). According to Budde et al. (2010), Yoga practices affected young children's ability to focus their attention. Numerous studies found that Yoga activities enhanced memory and significantly impacted focus (Manjunath, 2000).

Multifactorial memory plays a crucial role in student life as it encompasses various factors, such as attention, concentration, encoding, storage, and retrieval, which are essential for learning, academic performance, and overall cognitive development. Poor memory and academic stress are interconnected issues commonly experienced by students. Academic stress refers to the pressure and anxiety students face due to academic demands, such as exams, assignments, and high expectations. Poor memory, on the other hand, refers to difficulties in retaining and recalling information effectively. These are some factors explaining the relationship between poor memory and academic stress: Cognitive overload, Lack of attention, Sleep disturbances, Negative emotions, Lack of effective study strategies, Pressure to perform. Yoga can play a role in multifactorial memory by enhancing cognitive function, reducing stress, improving focus and attention, and promoting overall brain health. Yoga has a multifaceted impact on memory, encompassing various factors. Firstly, it improves cognitive function by increasing blood flow and oxygen supply to the brain. Additionally, yoga reduces stress and anxiety, which are known to impair memory. The practice also enhances focus and attention through mindfulness techniques and concentration exercises (Nataraj, 2000).
Furthermore, yoga promotes overall brain health by stimulating neuroplasticity and neurogenesis. By integrating these elements, yoga positively influences multifactorial memory processes, leading to improved cognitive performance and retention. Despite the fact that Yoga is becoming more prevalent in recreational and educational programs, there is still a dearth of research on the effects of Yoga on teenagers, much of which is constrained by subpar methodological standards (Birdie et al., 2009, Banda and Kercood, 2012). Yoga has been shown to preserve cognitive control, particularly in the areas of attention and memory, in addition to improving physical health (Heriza, 2004, Oken et al., 2006). Studies have been done to examine how Yoga practices affect focus, memory, and attention (Anantharaman and Kabir, 1984). Yoga has been proven to improve physical fitness, mental health and wellbeing, attention-concentration, and memory. According to Galantino et al. (2008), Yoga can help students enhance their memory, concentration, and attention. Students' health and wellbeing depend on include physical exercise in their everyday life (Williams and Ellis, 2013). Yoga is one physical education programme that schools provide. It boosts mental stimulation and academic achievement (Harr et al., 2012). According to research by Banda and Kercood (2012) and Oken, (2006) Yoga exercises improve focus, attention span, quality of life, all-around wellbeing, and vitality in children aged 10 to 12 years old. The results of several studies have shown that Yoga exercises help schoolchildren's attention and memory (Kocher, 1974; Palsane, 1973).

However, there is a dearth of factual and scientific data to back up the aforementioned arguments. The impact of daily Yoga practices on High School pupils and on different components of memory and focus has not been well studied. The goal of this study is to determine how Yoga exercises and routines affect high school students' (adolescents') memory and ability to concentrate on a variety of tasks. The results clearly show that the pupils who participated in Yoga activities showed enhanced focus and memory. The findings are consistent with a previous discovery that suggested Yoga practices enhances schoolchildren's memory and attention focus (Shashi, 1989). The concentration of attention study's findings complemented other studies (Singh, 1977, Venkatraman, 2008). Yoga has been shown to improve cognition, and this programme may be incorporated into the physical education curriculum of preadolescents and adolescents who attend school (Francis et al., 2019). In comparison to the control group, the rise in test-anxiety score was much lower in the Yoga group. The benefits of practising Yoga for a month are greater for memory improvement anxiousness, awareness, and focus (Jain, 2019).

Thus, the primary goal of my research on the effects of Yoga on memory power in students is to optimise cognitive function, increase concentration, and attention, reduce stress, promote effective learning, and improve memory retention. Students can benefit from enhanced memory, focus, and general academic success by including Yoga in their daily routine.

MATERIALS AND METHODOLOGY

1. Sample
Participants are enrolled students from various communities.
Age range: between 15 and 18.
Yoga experience: None of the participants had any prior Yoga training.
Health Concerns: According to the sample, the most prevalent illnesses are anxiety, obesity, poor memory, and test anxiety.

2. Sample size
A total of 50 participants (N=50) were enrolled for the workshop, but out of them, 6 participants were excluded based on exclusion criteria. At the end of the 40 days session, there were 40 participants in the experimental group (Yoga group n =44), and 4 participants had dropped out from the experiment (dropped n = 4).

3. Source of the Sample- A registration form and a free 40-day programme were offered in a school, and students were asked to sign up. Participants were then selected using surveys and assigned grades.

4. Inclusion criteria-
School-going students ages 15–18 was selected. Based on the criteria of two parameters: the participants’ score for weak memory and exam stress. Scale (MMQ) and the psychological questionnaire If they had a weak memory and low concentration power at a mild or moderate level, they were accepted.

5. Exclusion criteria
Students who have an injury or serious health issue are not able to do Yoga in that situation.

6. Design of the study- Pre-Post experimental design characterizes this experimental investigation. The existence of a single Intervention Group. It evaluates the impact of Yoga on variables Multifactorial Memory capacity, psychological discomfort, anxiety, and self-esteem are some of the factors. Through the completion of three distinct questionnaires, all the factors were assessed before and after the intervention, when the final evaluation is completed, the participants with pre-post values within the same group.

Total N = 50
Experimental Group (Yoga intervention Group) n= 50
Excluded = 6
Dropped Out = 4
7. Assessment Tools
Multifactorial Memory Questionnaire (MMQ): A self-report tool called the Multifactorial Memory Questionnaire (MMQ) was created to evaluate subjective memory abilities that may be used for clinical assessment and intervention. Subjective memory evaluations make information separate from objective memory performance visible and aid therapists in creating effective treatment plans to address patients’ cognitive issues. (Troyer & Rich, 2002) The MMQ provides dependable and accurate metamemory metrics. The MMQ has three scales consisting of 18-20 questions each.

❖ Satisfaction: measures worry about memory.
❖ Ability: measures subjective forgetfulness.
❖ Strategy: measures compensatory memory strategies.

8. Intervention
1 hour Yoga class, 6 days in a week, continued for 40 days, 3 rounds of deep breathing and Opening Prayer
Loosening practices

Table 1. showing Yoga techniques and their duration.

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Yoga Techniques</th>
<th>Types</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Aasan</td>
<td>Paschimottanasana, Halaasan, Shashankasna, Sarwangaasan Padahastasana, Shavasna</td>
<td>20 minutes</td>
</tr>
<tr>
<td>2</td>
<td>Pranayam</td>
<td>AnlomWilom,Bhramari ,shitli, ujjai, nadishoan</td>
<td>8 minutes</td>
</tr>
<tr>
<td>3</td>
<td>Surya Namskar</td>
<td>All pose</td>
<td>5 minutes</td>
</tr>
<tr>
<td>4</td>
<td>Om chanting</td>
<td>Sukhasan</td>
<td>5 minutes</td>
</tr>
<tr>
<td>5</td>
<td>Relaxation</td>
<td>Shwasana</td>
<td>5 minutes</td>
</tr>
<tr>
<td>6</td>
<td>Meditation</td>
<td>Dhyana</td>
<td>5 minutes</td>
</tr>
</tbody>
</table>

Result and Conclusion
Test scores calculated from the pre and post memory-based questionnaire form the experimental group of the students were analyzed statistically to know the impact of Yoga practice. Table 1 shows the pre and post comparison of memory for the experimental group of students. In the experimental group the mean pre value was 1.2116 and it significantly increased 1.3962 in the post condition, the mean difference being found to be significant (p<0.0002).
Table 1. Showing one Mean, std. deviation, std. error and t value of experimental group of students.
This study's favorable results are consistent with the few previously published studies of Yoga in school settings (Kauts and Sharma, 2012; Kumar, 2014; Srivastava et al. 2017). As a result, it is advised that Yoga practice become a regular part of the educational curriculum. Yoga provides several advantages to students.

Table 2. shows the pre and post comparison of memory for the experimental girl's student group. In the experimental girl’s student group, the mean pre value was 1.210 and its significantly increased to 1.346 in the post-test condition. The mean difference being found to be significant (p<0.001).

Table 3. shows the pre and post comparison of memory for the experimental boys group. In the experimental boys group the mean pre value was 1.212 and it significantly increased to 1.426 in the post test intervention. The mean difference being found to be significant (p<0.0002).

Table 3. shows the pre and post comparison of memory for the experimental group of among boy students.

The Null hypothesis was rejected because in our experimental study we found that Yoga practices in students improve their Multifactorial Memory levels during the experiment. The conclusion that there is no significant difference in memory scores of students in the experimental group at the pre test and post test level was rejected in favour of the finding that Yoga practice assisted students in the experimental group in increasing their memory level, reduce exam anxiety, reduce stress level from pre test to post test level. Memory levels increased after two months of offering Yogic practices such as Surya namaskar, Pranayam, Omkar jap, and Yoga Nidra to kids at school. The findings show that students who participated in Yoga practice improved their focus and recall events. The findings support prior research showing Yoga practice improves schoolchildren's memory and attention concentration. The study's findings suggest that Yoga practice improved memory and attentiveness while also lowering students' stress levels during testing. According to emerging research, Yoga is a practice that targets a variety of mental, emotional, and physical components of the individual. The activities listed below assist in the modulation of stress processes. These are believed to help with attention control and stress perception.

This study's favorable results are consistent with the few previously published studies of Yoga in school settings (Kauts and Sharma, 2012; Kumar, 2014; Srivastava et al. 2017). As a result, it is advised that Yoga practice become a regular part of the educational curriculum. Yoga provides several advantages to students.

### References


