

Effect of Hatha Yoga Sadhana on selected Psychological Variables among Bharathanatyam Adolescent with Nomophobia

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Abstract

This research examined the impact of Hatha Yoga Sadhana on specific psychological factors in teenage Bharatanatyam dancers suffering from nomophobia (anxiety related to being without a mobile phone). Bharatanatyam, a traditional dance form from India, requires substantial cognitive and emotional stability. However, in today's digital era, adolescents increasingly experience psychological disturbances due to excessive reliance on mobile phones, resulting in problems such as anxiety, stress, and decreased attention span. Hatha Yoga Sadhana, a conventional yogic practice that includes asanas (poses), pranayama (breathing exercises), and dhyana (meditation), is widely acknowledged for its positive effects on mental health. A purposive sampling method was employed to select Bharatanatyam adolescent practitioners (aged 13–19 years) exhibiting symptoms of nomophobia. For the study's objectives, 30 adolescent females with anorexia syndrome were selected at random from Chennai city and split into two equal groups of 15: an experimental group and a control group. The experimental group participated in a structured Hatha Yoga Sadhana program for six weeks, with daily one-hour sessions held each morning. Meanwhile, the control group maintained their usual daily routines without any specific intervention. Participants underwent a structured Hatha Yoga program for a predetermined period, and their psychological parameters were assessed before and after the intervention using validated psychological instruments. The results demonstrated a notable decrease in stress and anxiety levels, as well as a significant enhancement in attention span and emotional stability among the participants. These outcomes suggest that Hatha Yoga Sadhana is an effective non-pharmacological approach to alleviate the negative psychological effects of nomophobia, while concurrently boosting cognitive and emotional resilience in adolescent Bharatanatyam dancers.

Keywords: Hatha Yoga Sadhana, Bharatanatyam, Nomophobia, Psychological Variables, Adolescents, Emotional Stability.

Introduction

In today's rapidly evolving digital era, mobile phones have become an integral part of daily life, especially for adolescents. However, the widespread dependency on mobile devices has given rise to a new psychological condition known as Nomophobia (No Mobile Phone Phobia), characterized by the fear of being without one's phone or unable to

communicate through it. Studies show that adolescents are particularly vulnerable to Nomophobia due to their increased reliance on smartphones for social interaction, entertainment, and information. This dependency has been linked to increased levels of anxiety, stress, and cognitive disturbances (Yildirim & Correia, 2015). Nomophobia is also associated with other psychological

challenges, including difficulty in focusing on tasks, heightened irritability, and disrupted emotional balance (King et al., 2013).

Bharathanatyam, a classical Indian dance form, is rooted in physical, emotional, and mental discipline. It requires dancers to maintain high levels of focus, emotional regulation, and physical endurance. For adolescent Bharathanatyam dancers, psychological well-being is particularly crucial, as emotional and cognitive clarity are necessary for mastering complex dance techniques and expressing the emotional nuances of this art form. However, the rising trend of Nomophobia among adolescents can disrupt their mental balance, reducing their ability to concentrate and perform effectively (Gezgin et al., 2018). The psychological disturbances caused by smartphone addiction may thus negatively impact not only their dance performance but also their overall mental health.

Hatha Sadhana, a traditional form of yoga, offers a promising intervention to counteract the adverse psychological effects of Nomophobia. Hatha yoga consists of Asanas (postures), pranayama (breathing exercises), and meditation, all of which are known to enhance psychological well-being by reducing stress, anxiety, and mental distractions (Khalsa et al., 2012). Studies have shown that yoga-based interventions can significantly improve cognitive function, emotional regulation, and mental focus while reducing symptoms of anxiety and depression (Gupta et al., 2016). Specifically, yoga can serve as a therapeutic tool to help adolescent dancers restore mental clarity and emotional stability, which are essential for optimal performance in Bharathanatyam.

Given the lack of research addressing the intersection of Nomophobia, adolescent mental health, and Bharathanatyam, this study aims to explore the effect of Hatha

Sadhana on selected psychological variables, such as anxiety, stress, and focus, among Bharathanatyam adolescent dancers with Nomophobia. By integrating yoga practices into the daily routine of these dancers, the study seeks to determine whether Hatha Sadhana can alleviate the psychological impacts of excessive smartphone use and promote a healthier mental state. The findings will contribute to the understanding of how traditional holistic practices can be effectively utilized to combat the modern challenges associated with smartphone addiction in adolescents.

Need and Significance of the study

In recent years, the rise of smartphone usage among adolescents has led to the emergence of Nomophobia (No Mobile Phone Phobia), a condition that results from excessive dependency on mobile devices. This condition has been linked to several psychological issues such as anxiety, stress, reduced concentration, and social withdrawal (King et al., 2013). Given the ubiquity of smartphones, Nomophobia has become a critical mental health concern, especially among adolescents who are more vulnerable to digital addiction. Bharathanatyam dancers, like many other adolescents, are not immune to this condition. Bharathanatyam, a classical Indian dance form, demands high levels of mental concentration, emotional regulation, and physical discipline. However, the distraction and stress caused by smartphone addiction could interfere with the dancers' psychological well-being, potentially impairing their dance performance and creative expression.

Nomophobia is associated with significant psychological disturbances, including increased stress, anxiety, and difficulty focusing on tasks (Gezgin et al., 2018). These psychological factors are particularly detrimental for Bharathanatyam dancers, whose ability to

maintain mental clarity and emotional balance is essential for mastering complex choreography and expressing nuanced emotions through dance. Despite the growing prevalence of Nomophobia, there is a lack of effective interventions aimed at reducing its psychological impact among adolescents engaged in physically and mentally demanding art forms like Bharathanatyam.

This study aims to fill that gap by investigating the potential of Hatha Sadhana a traditional yoga practice that emphasizes physical postures (asanas), breath control (pranayama), and meditation as an intervention to improve psychological well-being. Research has shown that yoga is effective in reducing stress, anxiety, and enhancing cognitive function, emotional regulation, and overall mental health (Khalsa et al., 2012). Hatha yoga, in particular, is known to increase mindfulness, promote relaxation, and improve mental focus, making it an ideal practice for countering the negative psychological effects of Nomophobia (Gupta et al., 2016).

The significance of this study lies in its exploration of a holistic approach to addressing modern psychological challenges faced by adolescent dancers. While Bharathanatyam requires both physical and emotional strength, the mental distractions and anxieties induced by smartphone overuse may diminish the dancers' performance quality and creative output. Integrating Hatha Sadhana into their routine could offer not only psychological benefits but also enhance their artistic capabilities, enabling them to maintain focus, reduce anxiety, and perform with greater emotional depth.

Furthermore, this research has broader implications for the mental health of adolescents in general, as it highlights the potential of yoga as a natural, non-pharmacological intervention for managing the psychological effects of

digital addiction. In a world where technology plays an increasingly central role in daily life, understanding how traditional practices like yoga can mitigate the negative consequences of excessive smartphone use is essential. The findings of this study could provide valuable insights for educators, parents, and mental health professionals, promoting the use of yoga as a tool for fostering mental resilience and well-being among adolescents.

HYPOTESIS

- There will be no significant improvement in the selected psychological variables (anxiety, stress, concentration) among Bharathanatyam adolescent dancers with Nomophobia following the Hatha Sadhana intervention.

MATERIALS AND METHODS

Participants

The study will involve 30 adolescent Bharathanatyam dancers, aged between 13 and 18 years, who are identified as having Nomophobia based on the Nomophobia Questionnaire (NMP-Q). Participants will be recruited from dance schools and academies. They will be divided into two groups:

- Experimental Group (n = 15): This group will undergo a structured Hatha Sadhana program.
- Control Group (n = 15): This group will not receive the Hatha Sadhana intervention but will continue with their regular Bharathanatyam training.

Inclusion Criteria

- Bharathanatyam dancers with at least 2 years of dance training.
- Adolescents aged between 13 and 18 years.

- Diagnosed with moderate to severe Nomophobia using the NMP-Q.
- Medically cleared for physical activities and yoga.

Exclusion Criteria

- Adolescents who practice yoga or similar physical practices regularly.
- Individuals with any psychological or medical conditions preventing participation in yoga or physical activity.

RESEARCH DESIGN

- The study will use a pre-test, post-test control group design. The experimental group will receive an 8-week Hatha Sadhana intervention, while the control group will continue their regular dance training without yoga. Pre-test and post-test measures of selected psychological variables will be conducted for both groups.

VARIABLES

Psychological Variables:

- Anxiety: Measured using the State-Trait Anxiety Inventory (STAI).
- Stress: Assessed using the Perceived Stress Scale (PSS).
- Concentration: Measured using the Cognitive Failures Questionnaire (CFQ) to assess focus and attention.

Hatha Sadhana Intervention

The Hatha Sadhana program will be administered to the experimental group for 8 weeks. Each session will be conducted

for 60 minutes per day, 5 days a week. The program will include:

- Asanas (Postures): A sequence of Hatha yoga postures aimed at promoting physical and mental relaxation (e.g., Tadasana, Balasana, Savasana).
- Pranayama (Breathing Exercises): Techniques such as Anulom Vilom (alternate nostril breathing) and Bhramari to reduce stress and enhance emotional regulation.
- Meditation (Dhyana): 10 minutes of guided mindfulness meditation designed to improve focus and reduce anxiety.

Data Collection

Data will be collected at two points:

- Pre-Test: Baseline measurements of the selected psychological variables will be taken for both groups before the intervention.
- Post-Test: Measurements of the same variables will be taken after the 8-week intervention.

STATISTICAL ANALYSIS

Data analysis will be performed using statistical software. The following statistical methods will be employed:

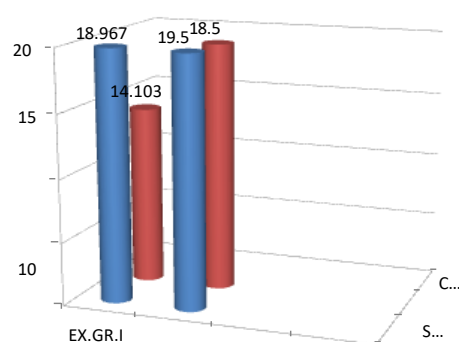
- Paired t-test: To compare pre-test and post-test scores within each group.
- Independent t-test: To compare the differences between the experimental and control groups.
- A significance level of $p < 0.05$ will be considered for statistical significance.

Table-I
Analysis of the co-variance of the means of Experimental Groups and Control Groups on psychological variables

Test	Experimental Group-1	Control Group	Source of Variance	Df	Sum of the Square	Means Square	F-ratio
Pre-Test	18.967	18.560	Between	2	0.044444	0.522222	1.125547
			Within	28	36.53333	0.869841	
Post-Test	14.103	19.500	Between	2	256.53	128.2667	16.478*
			Within	28	46.27	10.101587	
Adjusted Post-test	14.10	19.62	Between	2	258.9609	128.9809	14.48*
			Within	28	21.19173	10.516871	

*significant Table F ratio at 0.05 level of confidence for df 2 and 28 = 4.10, 2 and 27 = 4.11.

FIGURE - 1
BAR DIAGRAM SHOWING ADJUSTED POST-TEST VALUES OF CONTROL GROUP AND EXPERIMENTAL GROUPS ON SELECTED PHYSICAL AND PHYSIOLOGICAL VARIABLES



Analysis of the Co-variance of the means of Control Group and Experimental Groups ON Selected Physical and Physiological Variables

Test	Experimental Group-1	Control Group	Source of Variance	Df	Sum of the Square	Means Square	F-ratio
Pre-Test	57.60	59.33	Between	2	4.03	4.03	0.487
			Within	28	236.933	8.462	
Post-Test	64.87	62.07	Between	2	58.80	58.80	4.991*
			Within	28	336.67	12.024	
Adjusted Post-test	64.62	62.32	Between	2	39.061	39.061	4.664*
			Within	28	227.174	8.414	

*significant Table F ratio at 0.05 level of confidence for df 2 and 28 = 4.10, 2 and 27 = 4.11.

DISCUSSION ON FINDINGS

The results of the study indicated that the experimental group, which practiced Hatha Yoga Sadhana, showed significant improvements in the selected psychological variables. Specifically, the findings revealed a notable decrease in anxiety levels and a significant improvement in self-concept among participants. These changes confirm the positive impact of systematic Hatha Yoga Sadhana on mental well-being. Therefore,

the hypothesis was accepted at the 0.05 level of confidence, demonstrating that Hatha Yoga Sadhana effectively reduces anxiety and enhances self-concept in adolescent girls with anorexia syndrome.

CONCLUSION

During pre and post-tests, the experimental group exhibited a significant change on psychological Variables such as self-concept and anxiety immediately after the practices than the control group among the anorexia syndrome teenage girls.

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