



ISSN: 2456-4419

Impact Factor: (RJIF): 5.18

Yoga 2022; 7(2): 223-227

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www.theyogicjournal.com

Received: 08-11-2022

Accepted: 15-12-2022

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Impacts of yogic practices on mental health of college boys in West Bengal

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DOI: <https://www.doi.org/10.22271/yogic.2022.v7.i2c.1813>

Abstract

Mental health is an important aspect of overall well-being because late-adolescent male students at rural colleges face serious psychological, social, and environmental issues. Yoga has become known as a holistic intervention that can enhance mental health by reducing stress and enhancing emotional regulation and self-awareness. This study looked into the effects of a structured 12-week yoga programme on various facets of the mental health of rural college Male in West Bengal. Method: A total of 80 male college students were randomly selected from Purba Medinipur District. They were divided into two groups: the Experimental Group (Gr. EG; n = 40), who practiced yoga and the Control Group (Gr. CG; n = 40), who maintained their usual lifestyle without yoga intervention. The Experimental Group participated in yoga sessions for twelve weeks maintaining yoga schedule. The age of the subjects was 18-22 years. Participants practiced a combination of suryanamaskar, yogasanas, pranayama, and dhyana for 1 hour 15 minutes, three days a week. Mental health was assessed using the Singh and Gupta Mental Health Battery (MHB), which measures six dimensions of mental well-being. The mean, standard deviation and paired t-tests were used to analyze the collected data at the 0.05 level of significance. Results: There was a significant improvement noticed in self-concept ($t = 2.63$), overall adjustment ($t = 2.55$) and emotional stability ($t = 3.91$) after the intervention of yoga training in Group EG. Autonomy increase marginally better in post test, but intelligence, security-insecurity, and autonomy did not cross the significant level. No significant improvements were noticed in Group CG in respect of any dimension of mental health. These results suggest that yoga intervention may be a supportive technique to develop traits that are subject to change, but further wide-ranging or long-lasting interventions may be necessary for more stable traits like security, intelligence and autonomy. Conclusion: a 12-week planned yoga programme can be an available and appropriate way to develop psychological well-being for rural male students, mostly in terms of enhancing self-concept, emotional stability and overall adjustment while the control group showed no meaningful change. Still a longer intervention may be necessary to manipulate more stable features of mental health.

Keywords: Yoga, Mental Health, Emotional Stability, Self-Concept, Intelligence

Introduction

Mental health symbolizes a pivotal factor of overall well-being, predominantly throughout late adolescence and early adulthood—a stage in which young boys in rural colleges experience major psychological, emotional, and social changes. College boys in rural areas of West Bengal feature distinctive problems: inadequate access to mental health resources, economic limitations, community expectations, gender specific stress, and sometimes segregation from urban oriented support system. Latest studies have noted that rural youths in India face a high frequency of psychological distress, underscoring the immediate need for context-specific approaches to deal with their mental health apprehension (Das & Deb, 2021) ^[2]. Yoga has progressively more been studied as a important intervention to get better in mental health. Yogic practices such as *suryanamaskar* (sun salutations), *yogasanas*, *pranayama*, and *dhyana* have exposed a promising enhancement of emotional parameters, dropping stress and anxiety, and improving psychological well-being (Ghuman, Bhadana, & Pinkesh, 2020) ^[3]. The study of Gopal, A., & Tiwari, A. (2017) ^[14] on college students found that regular pranayama practice considerably lowered the levels of anxiety and psychological stress. Furthermore, a

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comparative study indicated that *suryanamaskar* was more helpful than usual aerobic exercises in improving overall well-being and self-regulation (Singh & Srivastava, 2021) [4]. Data indicates that planned yoga interventions can considerably lower stress and improve mood among college students (Chakraborty & Mallick, 2021) [5]. To assess mental health, this study applied the Mental Health Battery (MHB) developed by Sinha and Gupta (2000) [1], which measures six major dimensions: emotional stability, overall adjustment, autonomy, security-insecurity, self-concept, and intelligence. In this study, all the six components were measure to examine the effects of regular yogic practices—such as *suryanamaskar*, *yogasanas*, *pranayama*, and *dhyana*—on mental health of human being. Emotional stability indicates the capability to handle stress; overall adjustment points out to adaptableness in varied environments; autonomy says about self-direction and independent performance; security-insecurity indicates feelings of safety and confidence; self-concept symbolizes the perception and understanding of oneself; and intelligence represents cognitive functioning and problem-solving capabilities. All these dimensions offer a complete evaluation of the psychological benefits of yogic practice. By applying a structured yogic intervention among rural college boys of West Bengal; this study intends to examine how these intervention impacts on mental health components. The results are expected to add practical evidence on whether yoga can serve as an available and appropriate plan to improve mental health among rural male students, potentially guiding strategy and programme design in educational surroundings.

Statement of the problem

The aim of this study was to measure the impacts of yogic practices on Mental Health of rural college boys in west Bengal.

Limitation of the study

The subjects varied in terms of cultural background, economic status, educational level, family environment, dietary habits, and overall mental development. Consequently, any potential influence of these factors on the participants' performance lies beyond the control of the investigator.

Methodology

Selection of subjects

A total of 80 male college students were randomly selected from Purba Medinipur District. They were divided into two

groups: the Experimental Group (Gr. EG; n = 40), who practiced yoga and the Control Group (Gr. CG; n = 40), who maintained their usual lifestyle without yoga intervention. The Experimental Group participated in yoga sessions for twelve weeks maintaining yoga schedule. The age of the subjects was 18-22 years. Participants practiced a combination of *suryanamaskar*, *yogasanas*, *pranayama*, and *dhyana* for 1 hour 15 minutes, three days a week.

Tools for the study

Mental Health Battery (MHB) developed and validated by Arun Kumar Singh and Alpna Sen Gupta (2000) [1] was used in the study. Students were given the original English version questionnaire along with the translated Bengali version as all the students were from the Bengali medium colleges and they were very comfortable to give answer in their mother language. The scoring of MHB comprises of two sections-Section-A and Section B. In section -A, preliminary information should be given weight to determine socio-economic status (SES) of the examinee. In the Section B, there are 130 items divided into six categories: emotional stability (ES), overall adjustment (OA), autonomy (AY), security-insecurity (SI), self-concept (SC), and intelligence (I) (IG). Each item was given one mark for right answer and zero for wrong answer. The scores of each dimension were added separately to have the dimensional scores. The reliability of the MHB ranged from 0.72 to 0.87. Moreover, it has strong contemporaneous and construct validity.

Criterion measures

All the six categories of mental health dimensions were measured before the yogic practices applied on the subject of experimental group and after completion the 12 week yogic intervention. In case of control group, data was also collected before and after 12 week period but they did not receive any intervention.

Statistical analysis

Mean and standard deviation were used to analyse the data. To identify the significance of statistical difference between the two groups, t-test was used. Level of significance was set at 0.05 level of confidence.

Yoga exercise programme

The selected students were given different types of yogic practices like *suryanamaskar*, *yogasanas*, *pranayama*, and *dhyana* for twelve weeks following 1 hour 15 minutes schedule.

Table 1: Yoga schedule

Name of the practices	Description	Time
Opening prayer	Om chanting& Mantra chanting	5 mins
Sushma byama	For relaxing muscle and joints	5 mins
Surya namaskar	Continuous 12 yoga posture	10 mins
	asanas	
Standing posture	Ardhachandrasana Ardhachackrasana Padahastasana Brikshasana Natarajasana	10 mins
Sitting posture	Paschimothasana, Gomukhasana Padmasana, Supta Bajrasana, Vakrasana	10 mins
Supine posture	Halasana, Matsyasana, Setubandhasana Naukasana Karnopithasana	10 mins
Prone posture	Bhujangasana, Salvasana, Dhanurasana	6 mins
Inverted posture	Sarbangasana, Bhagrasana	4 mins
Pranayama	Anulom- vilim, Bhamari, Bhastrika	5 mins
kriya	Kapalbhati	2 mins
	Dhyana	4 mins
Closing prayer	Om chanting& Mantra chanting	4 mins
	Total time	1.15h

Degree of the difficulties was increased gradually step by step.

Table 2: Programme schedule

Frequency	3 days (Monday, Wednesday and Friday) in a week for 12 weeks
duration	1 hour 15 minutes
time	8.00 am to 9.15am
Place	Indoor of Bajkul Milani Mahavidyalaya, Bajkul, Purba Medinipur

Results of the study

Table 3: Mean, S.D. and t-ratio showing difference in pre and post test yoga intervention on Experimental Group (Group. EG) of rural college Boys

Variables of Mental health battery	Test	Mean	SD	T value
Emotional stability(ES)	Pre test	11.1	1.6140	3.91*
	Post Test	12.15	1.2100	
Overall adjustment(OA)	Pre test	28.05	3.3737	2.55*
	Post Test	29.2	3.3451	
Autonomy(AY)	Pre test	10.92	1.2483	1.18
	Post Test	11.92	1.3471	
Security - insecurity(SI)	Pre test	8.57	1.8100	0.0004
	Post Test	9.17	1.7229	
Self concept(SC)	Pre test	8.62	1.7641	2.63*
	Post Test	9.42	1.9465	
Intelligence(IG)	Pre test	19.85	2.3484	0.0028
	Post Test	20.50	2.3539	

Significance level of confidence at 0.05 level. $t_{0.05}(39) = 2.02$

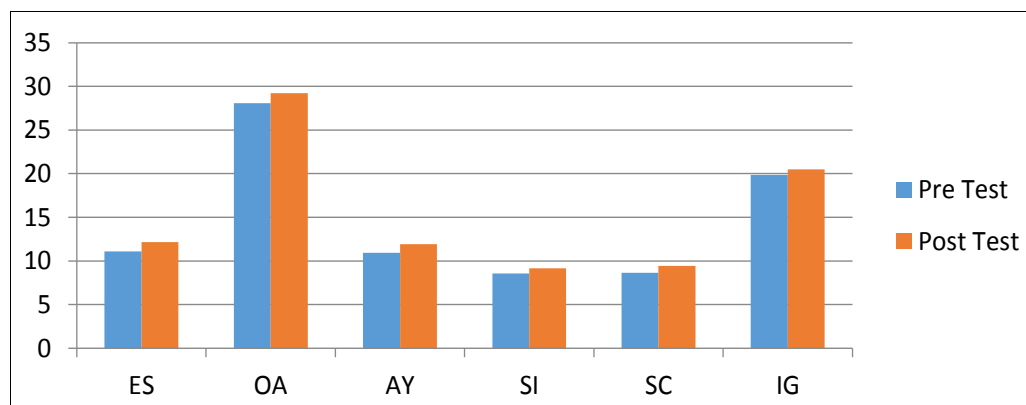
**Fig 1:** Graphical presentation of pre and post test mean

Table 3 and Figure 1 reveal that the calculated t-ratios for key three dimensions of mental health—emotional stability ($t = 3.91$), overall adjustment ($t = 2.55$) and self-concept ($t = 2.63$) surpass the critical value ($t = 2.02$). The improvements of all these three groups due to the intervention of yoga practices

are significant. However, the data also show that for the Autonomy ($t = 1.18$), security-insecurity ($t = 0.0004$) and intelligence ($t = 0.0028$) fall below the required significance value of 2.02 at the 0.05 level. Though the mean difference of autonomy is notable, it did not cross the critical value level.

Table 4: Mean, S.D. and t-ratio showing difference in pre and post test after 12 weeks on Control Group (Group. CG) of rural college Boys

Variables of Mental health battery	Test	Mean	SD	T value
Emotional stability(ES)	Pre test	10.82	1.1067	0.066
	Post Test	11.22	1.0497	
Overall adjustment(OA)	Pre test	27.275	2.7826	0.0011
	Post Test	28.3	2.6717	
Autonomy(AY)	Pre test	10.5	1.1982	1.23
	Post Test	11.40	1.1723	
Security - insecurity(SI)	Pre test	8.9	1.7216	0.3908
	Post Test	8.82	1.4302	
Self concept(SC)	Pre test	9.05	1.6786	0.0681
	Post Test	9.45	1.9473	
Intelligence(IG)	Pre test	21	2.1243	0.0681
	Post Test	20.45	2.2977	

Significance level of confidence at 0.05 level. $t_{0.05}(39) = 2.02$

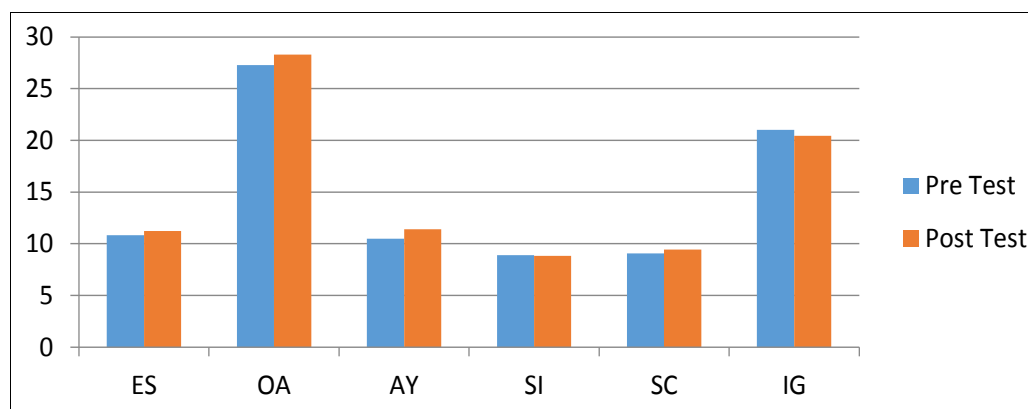


Fig 2: Graphical presentation of pre and post test mean

Table -4 and figure-2 showed that the control group exhibit small, non-significant changes. These outcomes align with prior reports that yoga can increase the various dimensions of mental health ability of a college student.

Discussion of the findings

From Table 3 and Figure 1 it can be stated that the obtained data on the subjects through application of statistical technique revealed that Emotional Stability, overall adjustment and self concept developed well through intervention of yoga. Various limbs of yoga i.e pranayama (breathing), dhyana (meditation) and asanas (physical postures) control the autonomic nervous system and decrease sympathetic arousal. This reduces stress, mood fluctuations and anxiety, thus develops emotional stability. Study of Sharma, R., Gupta, N., & Bijlani, R. L. (2008)^[6], Sengupta, P. (2012)^[7] and Goyal, M., Saini, A., & Kumar, S. (2018)^[15] have supported the result of the present study.

Regular yoga practices develop self-regulation, decreases psychological distress and build up coping ability. This facilitates students to adjust well in academic, social and personal spheres. Group practices to encourage social connectivity and peer adjustment. When students get experience of decreased psychological distress, they then be able to cope up with the trouble of college life. These experiences lead them to improve their overall adjustment. The result of the present study corroborates with the findings of Deshpande, S., Nagendra, H. R., & Raghuram, N. (2009)^[8], Khalsa, S. B. S., Hickey-Schultz, L., Cohen, D., Steiner, N., & Cope, S. (2012)^[9] and Bansal, R., Gupta, R. K., Agarwal, A., & Sharma, R. (2013)^[16].

Yogic practices promote body-mind harmony; self-awareness and mindfulness which decrease negative self-talk and promote positive self-image. Participants increase better confidence and clearness about their identity. These growing confidences improve their self-concept. The study of Telles, S., & Singh, N. (2013)^[10] and Devi, P., & Gupta, R. (2020)^[17] stated that yoga facilitates improved awareness of internal states, adding to a person superior sense of control over stress, emotions and bodily sensations. Feeling more control means more positive self-concept.

When some mental health components show no significant change after the intervention of yoga, it does not mean yoga is useless. Rather, it indicates that some psychological dimensions are less responsive to short-term interference. Autonomy is to decision-making capacity and confrontation to social demands. These qualities develop over years and it was shaped by culture, upbringing and social environment. A short-term yoga programme may have partial influence on

profoundly ingrained aspects of autonomy. Though, the marginal mean difference proposes that yoga may begin to improve self-awareness and internal regulation, forerunner to stronger autonomy. The duration of the intervention was too short to demonstrate statistical significance. Ryff, C. D. (1989)^[11] Notes that autonomy is a firm trait, less amenable to short-term change.

Security or insecurity is strongly linked to early childhood experiences, attachment styles and long-standing social circumstances. Insecurity grows from socioeconomic background, family dynamics and long lasting self-perceptions. All these areas are hard to immediate change through yoga practices for short duration. Maslow, A. H. (1943)^[12] stated that Security is a basic requirement, attached to external life circumstances whereas Sengupta, P. (2012)^[7] gave emphasis on the fact that Yoga lessens stress and anxiety but does not always talk to deep-rooted insecurity.

Intelligence speaks about the cognitive ability, reasoning and problem-solving. Study indicates that yoga may develop attention, memory and concentration. To change or develop intelligence, generally require long-term cognitive training, enriched environments and education. 12 weeks of yoga intervention can enlarge focus in learning, but it is doubtful to alter fundamental intelligence quotient (IQ) or reasoning ability. Yoga improved attention and memory but did not significantly change intelligence scores (Telles, S., Bhardwaj, A. K., Gupta, R. K., & Balkrishna, A.; 2013, and Sethi, J. K., et al. 2013)^[10, 18].

On the other hand, the control group's non-significant result is normal because mental health developments in this age group need deliberate, structured, and multifaceted intervention like yoga, which they did not get. As a result, the control group not have enough exposure to activities that could completely manipulate their mental health dimensions.

Conclusion

The study confirmed that a 12-week planned yoga programme significantly improved emotional stability, overall adjustment and self-concept among rural college boys in West Bengal, highlighting yoga's prospective as an accessible intervention for promoting psychological well-being. Though, mental health components such as autonomy, security-insecurity and intelligence demonstrated no significant change, possibly due to their stable, long-term nature and profound dependence on environmental and developmental features. On the whole, the findings recommend that yoga is effective in improving some modifiable facets of mental health, while longer or further intensive interventions may be necessary to manipulate more stable psychological traits.

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