

Study of effect of yoga and exercise on certain psychological variables among individuals

¹ Dr. Amiy Kumar, ² Dr. Ravish Kumar Sinha, ³ Dr. Rajiva Kumar Singh

¹ Tutor, Department of Physiology, Patna Medical College and Hospital, Patna

² Tutor, Department of Physiology, Nalanda Medical College and Hospital, Patna

³ Professor, Department of Physiology, Patna Medical College and Hospital, Patna

Corresponding author: Dr. Ravish Kumar Sinha

Abstract: The study was conducted to examine the effects of yoga and physical exercise on self concept. One hundred twenty subjects in four groups viz. light exercise group, heavy exercise group, yoga performers group and control group were administered as a measure of self-concept. All the subjects are male in the age range of 18 to 25 years. Data were analyzed by simple ANOVA suitable for multi-group design. Results revealed that the control group had significantly self-concept than the exercise and yoga performing group.

Keywords: Yoga, mental health, exercise, stress, self concept

Date of Submission: 07-01-2020

Date of Acceptance: 23-01-2020

I. Introduction

The conceptual background of yoga has its origins in ancient Indian philosophy. There are numerous modern schools or types of yoga (i.e., Iyengar, Viniyoga, Sivananda, etc.), each having its own distinct emphasis regarding the relative content of physical postures and exercises (asanas), breathing techniques (pranayama), deep relaxation, and meditation practices that cultivate awareness and ultimately more profound states of consciousness. The application of yoga as a therapeutic intervention, which began early in the twentieth century, takes advantage of the various psychophysiological benefits of the component practices. The physical exercises (asanas) may increase patient's physical flexibility, coordination, and strength, while the breathing practices and meditation may calm and focus the mind to develop greater awareness and diminish anxiety, and thus result in higher quality of life. Other beneficial effects might involve a reduction of distress, blood pressure, and improvements in resilience, mood, and metabolic regulation.

It has the special features that individuals who have high self-respect and high self-esteem also can perceive and find out affections, emotions and answer to the other person's emotions with high self-confidence. Some studies proved that the mental and physical diseases can be prevented and cured through program and regular exercise practices^[2]

It seems useful in the regular practice of yoga. In fact, the practice of yoga and exercise has a combined effort to reverse the stressful mental effects including stress reduction and improving self-confidence and it is a way from psychophysical disease psycho-physical relaxation. Many extensive researches about yoga and its effects on human's physical and mental health in scientific centers were proved.

Despite conceptual claims supporting the distinction between self-concept and self-esteem, construct validity research has not supported the discriminability of these constructs (Shepard, 1979). Some researchers have attributed this lack of distinction to the use of self-report scales comprised of items eliciting both descriptive and evaluative components (Watkins & Dhawan, 1989). In spite of the use of open-ended questions, Greenwald et al. (1988) found that self-esteem was an important aspect of self-concept scores, even when the measure of self-concept had no superficial evaluative content. Similarly, Watkins and Dhawan (1989) found that making distinction between self-concept and self-esteem is more apparent in non-Western than in Western samples (For a more thorough review of these issues, readers are referred to Byrne, 1996). Recognizing that the theoretical distinction between self-concept and self-esteem has not yet been empirically substantiated and consistent with the literature wherein the two terms are typically used interchangeably, the terms self-concept and self-esteem will be considered here as synonymous construct.

The origins of self-concept theory, and consequent research, are reputed to have been formalized by James in 1890 (Bracken, 1996; Hattie, 2000). James is noted in history for his development of the idea or philosophy of the 'self' and the development of the 'self' into a cohesive theory (Bracken, 1996). James theorized that there is a hierarchical order to the 'self' starting at the lowest tier with the 'material self', followed by the 'social self' with the 'spiritual self' being the last tier (Bracken, 1996). Current research testing James' theorized hierarchical ordering of the dimensions for self-concept has not necessarily borne out these claims

(Shavelson, Hubner, & Stanton, 1976). Of probably more important, especially in current research, is James' idea that self-concept is multidimensional, meaning that multiple domains form the self-concept. Hattie, (2000) reminds us that much of James' theorizing on self-concept has been selectively ignored during the past 100 years. This is especially evident during the behaviorist's era of the 1950s to 1970s when James' key point of multidimensionality was ignored in favor of an all-encompassing global assessment of self-concept (Hattie, 2000; Marsh, 1990). Hence, despite James' historical notion that our self-concept is dynamic, multidimensional and possibly hierarchically differentiated, this area of investigation attracted few researchers while the attempt to measure self-concept as a single global entity gained favor. DeSteno and Salovey (1997), claim that during this period investigators such as Burns (1979) struggled to apply their models that were based within the framework of unidimensionality and global self-concept. Hattie (as cited in Marsh & Craven, 1997, p. 133) aptly refers to this period of self-concept research as the "dustbowl of empiricism". The hallmarks of the period of self-concept research prior to the mid 1970s were a lack of theoretical bases, poorly designed measurements, small sample sizes and incongruous results (Marsh & Craven, 1997). In spite of these methodological weaknesses, researchers relied heavily on unidimensional measures consequently producing paradoxical results.

Human is trying to live a successful life as per the expectation and norms of the society and is continually challenged with rapidly accumulating stresses. In this fast moving social set up, with high standard of living and innumerable changes the individual have no time to look back and think about what is happening to his body and mind. This accumulated stress for prolonged period leads him to the so called stress induced disorders including heart attacks, high blood pressure, diabetes, asthma, back pain and other psychological problems^[5].

II. Materials and Methods

The study was conducted on 120 students of Patna Medical College, Patna in the age range of 18 to 25 years selected on the basis of purposive sampling. There were thirty people in each of the three groups viz., light exercise group (those who were doing light exercises like brisk walking, and moderate jogging), heavy exercise group (those who were doing competitive sports as athletics, kabaddi, handball etc.); yoga performers (those who were doing yogic exercises as pranayam, kapalbhati, brahmri). Participants in all the three groups were doing these regularly for the last one-year. The fourth group was that of control group of comparable age and these were not doing any exercise or yoga. There were thirty participants in this group. The participants included in each group were physically and mentally sound.

III. Results

The objective of the study was to assess self concept among those doing regular exercise (light and heavy) and performing yogic exercise and control group. The data were analyzed by applying simple analysis of variance followed by post-hoc Duncans test and the result are given in Table 1 and Table 2 below:

Table 1. Means and S.D.'s of the four groups of self concept

	Light Exercise (G1) (n=30)	Heavy exercise (G2) (n=30)	Yoga (G3) (N=30)	Control group (G4) (n=30)
Self-concept	X = 13.69 ^a α= 4.72	X= 15.03 ^a α= 3.3	X = 13.03 ^a α= 2.69	X= 9.85 ^b α= 4.72

NB: Table subscripts show significant Duncan's post-hoc comparisons similar letters indicate non-significant difference whereas different letters indicate significant difference.

Table 2. Summary Table of ANOVA

	Sources of Variance	Sum of Squares	Degree of Freedom	Mean Square	F
Self concept	SSB	523.513	3	174.504	10.561**
	SB	2329.314	96	16.520	

The results (Table 2) revealed that the self concept score of the four groups differed significantly (F = 10.561, p<.01). Post-hoc mean comparison by Duncan's test (Table 1) revealed that the control group participants (mean = 9.85) had significantly low self concept than the light exercise (mean = 13.63), heavy exercise (mean 15.03) and yoga (mean = 13.03) performers. The light and heavy exercise groups and the yoga performers however did not differ among themselves (Table 1). Thus, the control group participants were having lower self concept than the exercise (light and high) and yoga performers. Exercise/activity helps one to maintain physical fitness as they are conscious about their self concept. Their exercise/activity seems to help them in coping with everyday problems as well as with negative feelings of despondence and sadness resulting in lowered psychological distress. Breathing exercises, kapal bhati and brahmri (yogic exercises) have also been

reported to be helpful in fighting illnesses e.g., hypertension, cardiovascular disease, anxiety, depression (Kochar, 1972, Udupa, 1985, Michalsen et al. 2005, Verma, 2007) and reducing distress and results of the present study provide support to these studies.

The findings of the study can also be explained in terms of health, locus of control. It has been reported that those who have internal locus of control have sense of control over their health in that they maintain that they can maintain good health by exercise, yoga etc., whereas those who have external health locus of control may not involve themselves in such behaviors. Further studies taking health locus of control as variable and randomly assigning subjects in different groups and pre and post measurement of self concept may be more revealing.

IV. Discussion

It is concluded that who are regularly doing exercises either light or heavy or performing yogic exercises have better self-concept. However, the findings of the study need to be verified on a large sample, before being generalized. Yoga reduces perceived stress and improves adaptive autonomic response to stress in healthy pregnant women. Relaxation training, of which yoga is one type, has been reported in the medical literature to have wide clinical application. It should be considered as a no pharmacological therapy adjunct or alternative for medical disorders among personnel in occupations (e.g., aviation) where the side effects from medications are of great concern and could be disqualifying from those duties.

References

- [1]. Catherine W. exploring the therapeutic effects and yoga and its ability to increase quality of life. *International Journal of Yoga*. 2011; 4:49-54.
- [2]. Chen KM, Lin M, Fan M. Effects of yoga on sleep quality and depression in elders in assisted living facilities. *Nursing*, 2010; 18:53-61.
- [3]. Hamid D, Maryam A, Mahvash N. The effect of yoga training on stress and self-esteem and its relation to emotional intelligence. *Journal of Research in Applied Sciences*. 2014; 1:109-112.
- [4]. Javnbakht M, Hejazi KR, Ghasemi M. Effects of yoga on depression and anxiety of women. *Complement and Therapeutic Clinical Practice*, 2009; 15:102-105.
- [5]. Nityananthan V, Kalpana B. Impact of yoga on stress and self-confidence among the middle aged men. *Management Health*, 2014; 18:36039.
- [6]. Pilkington K, Kirkwood G, Rampes H, Richardson J. Yoga for depression: the research evidence. *Journal of Affect Disorders*. 2005; 89:13-24.
- [7]. Manivannan L, Prabhusaran N, Elangovan R. Effect of yogic practices and brisk walking on anxiety among hypertensive men. *International Journal of Medical and Health Research*. 2015; 1:10-13.
- [8]. Manivannan L, Prabhusaran N, Elangovan R. Effectiveness of yoga and brisk walking on blood sugar among hypertensive men. *International Journal of Innovative Science and Engineering Technology*. 2015; 1:10-13.
- [9]. Singh T, Kaur P. Effect of meditation on self-confidence of student-teachers in relation to gender and religion. *Journal of Exercise Science and Physiotherapy*. 2008; 4:35-43.
- [10]. Levy JK. Standard and alternative adjunctive treatments in cardiac rehabilitation. *Texast Heart Institute Journal*. 1993; 20:198-212.
- [11]. Gangavalli TS, Gangavalli TS, Natarajan S, Moorthi C. Brisk walking and yoga as adjuvant therapy in management of type 2 diabetes mellitus. *International Journal of Students' Research*. 2012; 2:43-46.

Dr. Ravish Kumar Sinha, et.al. "Study of effect of yoga and exercise on certain psychological variables among individuals". *IOSR Journal of Dental and Medical Sciences (IOSR-JDMS)*, 19(1), 2020, pp.3 3-35.