



Research article

CONTRIBUTION OF ASHTANGA YOGA IN ENHANCING  
THE PHYSICAL FITNESS YOUNG ADULTS

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**Abstract**

*The purpose of the research was to evaluate the Physical fitness effects of four months of daily practice (except Sunday and gazzeted holidays) of ashtanga yoga training .The hypothesis was that four months of ashtanga yoga practice would have positive effects on Physical fitness components Functional capacity and Cardio – respiratory endurance, Body composition, Abdominal strength, Endurance and Speed, Flexibility of the lower back and hamstrings muscles as supported by previous research. The participants included 80 adults (male and female) both from Govt. P.G College, Bilaspur Rampur (U.P). The subjects were ranging from 18-21 years of age. The subjects were divided into two equal groups consisting of forty subjects each belonging to one experimental and one control group. Participant in the group engaged in 1 hour of ashtang yoga, daily practice (except Sunday and gazzeted holidays) over a four month of period, while the Control group was not exposed to any kind of activity. An analysis of variance (ANOVA) found a statistically significant improvement between pre and post tests core on all the variables. This study concludes that four month ashtanga yoga practice provide a sufficient stimulus to improve all three variables in untrained college adults.*

**Key words:** *Ashtanga yoga, Physical fitness, young adults*

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**INTRODUCTION**

All the orthodox systems of Indian Philosophy have one goal in view, the liberation of the soul through perfection. The method is by Yoga. Yoga is an

ancient discipline designed to bring balance and health to the physical, mental, emotional, and spiritual dimensions of the individual. It is long popular practice in

India that has become increasingly more common in Western society. “Yoga” means union of our individual consciousness with the Universal Divine Consciousness in a super-conscious state known as Samadhi. Yoga (*asthanga*) is often depicted metaphorically as a tree and comprises eight aspects, or “limbs” [Patanjali codified the ancient marvel of yoga as *asthanga* which is one of the six schools of Indian philosophy and is known as *Yoga Darshan-yama* (universal ethics), *niyama* (individual ethics), *asana* (physical postures), *pranayama* (breath control), *pratyahara* (control of the senses), *dharana* (concentration), *dyana* (meditation), and *Samadhi* (bliss). Each limb is connected with the whole, in the same way that bodily limbs are all connected. If someone pulls the body by the leg, the rest of the body will automatically follow. In the same way, when one pulls one of the eight limbs of yoga, the others will naturally come. They are not stages to be achieved in succession.

Yoga as described in the Yoga Sutras of Patanjali refers to Ashtanga Yoga. The Yoga Sutras of Patanjali is considered as a central text of the Yoga school of Hindu philosophy, It is often called "Raja yoga", "yoga of the kings," a term which originally referred to the ultimate, royal goal of yoga, which is usually Samadhi, but was popularized by Vivekananda as the common name for Ashtanga Yoga. Ashtanga Yoga incorporates epistemology, metaphysics, ethical practices, systematic exercises and self-development techniques for body, mind and spirit. According to Satchidananda (1990) yoga is the total transformation of

a seemingly limited physical, mental and emotional person into a fully illumined, thoroughly harmonized and perfected being –from an individual with likes and dislikes, pains and pleasure, successes and failure, to a sage of permanent peace, joy and selfless dedication to the entire creation (p.xiii). Thus, yoga is much more than asana. Yoga helps a person to gain “understanding and complete mastery over the mind” (Satchidananda, 1990, p.xi). It provides a system to achieve Moksha, or “liberation of the cycle of rebirth (Chaline, 2001, p.44). The four yogic paths include (1) “Jnana yoga, the yoga of wisdom ; (2) Raja or Ashtanga yoga ,the yoga of meditation ;(3)Hatha yoga, the yoga of physical posture;(4)Karma yoga, the yoga of actions; and bhakti yoga, the yoga of religious devotion (p.44). However, these paths simplify the rather complex goal of self-realization through yoga. Ashtanga is based upon the principles of The yoga sutras of Patanjali (Satchidananda,1990 p.48). This practice was developed by Pattabhi Jois, of Mysore India, and teaches the sun salutation (surya namaskar) followed by sequence of postures. However, despite the different names, these styles all define the same concept :focusing the attention inward, guided by the breath in attempts to be absolutely present in the moment (Cohen et al,2003). This thesis focusing on the style of Ashtanga yoga. The yoga sutras of Patanjali, one of the definitive texts in yoga, serves as a document for analysis and as a method to triangular sour (Satchidananda,1990). Sutra means ‘thread ‘and each Sutra, originally written

in Sanskrit reads like a proverb and serve as a guide to living the yogic lifestyle.

The paper is highlighting the yogic benefits for reaching optimum level of physical fitness of an individual. The human body needs sound relation to nature and its natural remedies which are available in the surroundings. I tried to highlight the need of yoga and its benefits for human being to be in physically fit.

Yoga is a procedure to control and advance the psyche and figure to increase great health, adjust of psyche and self-acknowledgement.

Fitting comprehension and rehearse one can achieve the ideal level to keep physical fitness. Equalize between activity abstain from food and unwinding will furnish the sound mental and physical capacities.

Quality of life has been increasingly used as a scientific concept in literature embracing a wide range of target groups and populations as a whole. Conceptualizations vary, but there is much common ground concerning the domain content embraced by the term. Commentators are also clear that account needs to be taken of both objective life conditions and subjective personal appraisals, and the fact that what is important to each person varies. A synthesis of these perspectives provides a model of quality of life which integrates objective and subjective indicators and individual values across a broad range of life domains. Life domain issues may be

categorized within six areas: physical, material, social, productive, emotional and civic well-being. Whatever it's precise specification, the model is put forward as a framework for organizing measurement relevant to the quality of life concept rather than as a blueprint for deriving the ultimate single instrument. There is still a need for methodological flexibility. The pre-eminent aim is to relate the fine grain of the experience of individuals with disability to that of the wider world.

#### **METHODS AND MATERIALS**

For the purpose of the study 80 healthy and physically fit young adults (male and female) in the age group of 18-21yrs studying in Govt. P.G. College, Bilaspur Rampur (U.P) was selected randomly as the subjects for the study. Random group design was used for the purpose of the study. First the subjects were divided into two equal groups by drawing a lot. Group A acted as experimental group and Group B acted as control group. Both groups consist of forty subjects each. Prior to the administration of test pre test scores for all the selected variables were collected. After four months of training post test scores were collected on each of the selected variables. Experimental group performed selected ashtanga yogic activities daily for 1 hour. No training was imparted to the control group.

**TABLE – I**  
**AAHPERD Health-Related Physical Fitness Test (College)**

Variable	Components	Facility & Equipment	Purpose
Physical Fitness	Distance Runs	440-yard track , 400 meter track	Measure maximal functional capacity and cardio-respiratory endurance.
	Skin folds	Pair of skin fold calipers	Assess body composition
	Modified sit-ups	Stopwatch, mat, good floor, score sheet.	Measure abdominal strength, endurance and speed.
	Sit and reach	Sit and reach Box, a specially constructed box with a measuring scale with a 23 cm mark in line with the surface for the examinee's feet.	Evaluate flexibility of the lower back and hamstrings muscles

**TABLE – II**  
**Training Programme of selected Ashtanga yoga**

Time: 9:00-10:00 am

Duration of a study: 4 month

Daily schedule except Sunday and gazzeted holidays

Warm up	Asanas (Primary series)	Pranayama	Meditation
Suryanamaskar	<b><i>Standing postures-</i></b>	Anulom-vilom Bhastrika Ujjayi Sitali Sitkari	Tratak
	Padangusthasana		
	Utthita trikonasana		
	Utthita parsvakonasana		
	Utkatsana		
	Virabhadrasana		
	<b><i>Seated postures-</i></b>		
	Paschimottanasana		
	Ardha baddha padma paschimottanasana		
	Marichayasana		
	Baddha konasana		
	Supta padangusthasana		
	<b><i>Finishing sequence</i></b>		
	Salamba sarvangasana		
	Hal asana		
	Yoga mudrasana		
Padmasana			
Savasana			

**RESULTS**

Data was analyzed by using the Analysis of covariance ( $p \leq 0.05$ ). The subjects of both groups were compared on selected physical fitness variables. The result of analysis of variance was presented through table no III to VII.

**TABLE - III**  
**ANALYSIS OF VARIANCE OF THE MEANS OF THE EXPERIMENTAL**  
**GROUP AND CONTROL GROUP FOR FUNCTIONAL CAPACITY**  
**AND CARDIO – RESPIRATORY ENDURANCE**

Test	Groups		Group Type	Df	Sum of Squares	Mean Square	F	Sig. Level
	Experimental group	Control group						
Pre Test Means	1481.3	1431.5	B	1	53302.81	53302.81	0.59	0.445 <sup>#</sup>
			W	78	7048994.38	90371.72		
Post Test Means	1636.38	1308.75	B	1	2146762.81	2146762.81	20.159	0.01*
			W	78	8306436.88	106492.78		

\* - Significant at 0.01 Level; # - Not Significant

Table - III indicates that one way ANOVA further reveals that the obtained F value (0.59) was not found to be significant in case of pre test mean which shows that pre test mean do not differ significantly and the random assignment

of the subjects to the two groups was quite successful. However the post test mean of both the groups were significant as the obtained F value (20.159) is more than the tabulated F value (3.96).

**TABLE - IV**  
**ANALYSIS OF VARIANCE OF THE MEANS OF THE EXPERIMENTAL**  
**GROUP AND CONTROL GROUP FOR BODY COMPOSITION**

Test	Groups		Group Type	Df	Sum of Squares	Mean Square	F	Sig. Level
	Experimental group	Control group						
Pre Test Means	11.85	14.55	B	1	146.07	146.07	3.379	0.07 <sup>#</sup>
			W	78	3372.32	43.23		
Post Test Means	8.05	15.35	B	1	1065.8	1065.8	27.813	0.01*
			W	78	2989	38.32		

\* Significant at 0.01 Level; # Not Significant

Table - IV indicates that one way ANOVA further reveals that the obtained F value (3.379) was not found to be significant in case of pre test mean which shows that pre test mean do not differ significantly and the random assignment

of the subjects to the two groups was quite successful. However the post test mean of both the groups were significant as the obtained F value (27.813) is more than the tabulated F value (3.96).

**TABLE - V**  
**ANALYSIS OF VARIANCE OF THE MEANS OF THE EXPERIMENTAL GROUP AND CONTROL GROUP FOR BODY COMPOSITION**

Test	Groups		Group Type	df	Sum of Squares	Mean Square	F	Sig. Level
	Experimental group	Control group						
Pre Test Means	10.86	10.48	B	1	2.93	2.93	0.095	0.758 <sup>#</sup>
			W	78	2392.33	30.67		
Post Test Means	7.78	12.7	B	1	485.11	485.11	14.336	0.01*
			W	78	2639.38	33.84		

\* Significant at 0.01 Level; <sup>#</sup> Not Significant

Table - V indicates that one way ANOVA further reveals that the obtained F value (0.095) was not found to be significant in case of pre test mean which shows that pre test mean do not differ significantly and the random assignment of the subjects to the two groups was quite successful. However the post test mean of both the groups were significant as the obtained F value (14.336) is more than the tabulated F value (3.96).

Table – VI indicates that one way ANOVA further reveals that the obtained F value (2.302) was not found to be significant in case of pre test mean which shows that pre test mean do not differ significantly and the random assignment of the subjects to the two groups was quite successful. However the post test mean of both the groups were significant as the obtained F value (33.992) is more than the tabulated F value (3.96).

**TABLE - VI**  
**ANALYSIS OF VARIANCE OF THE MEANS OF THE EXPERIMENTAL GROUP AND CONTROL GROUP FOR ABDOMINAL STRENGTH, ENDURANCE AND SPEED**

Test	Groups		Group Type	Df	Sum of Squares	Mean Square	F	Sig. Level
	Experimental group	Control group						
Pre Test Means	20.73	17.13	B	1	259.2	259.2	2.302	0.133 <sup>#</sup>
			W	78	8782.35	112.59		
Post Test Means	29.4	16.6	B	1	3276.8	3276.8	33.992	0.01*
			W	78	7519.2	96.4		

\* Significant at 0.01 Level; <sup>#</sup> Not Significant

**TABLE - VII**  
**ANALYSIS OF VARIANCE OF THE MEANS OF THE EXPERIMENTAL**  
**GROUP AND CONTROL GROUP FOR FLEXIBILITY OF THE**  
**LOWER BACK AND HAMSTRINGS MUSCLES**

Test	Groups		Group Type	Df	Sum of Squares	Mean Square	F	Sig. Level
	Experimental group	Control group						
Pre Test Mean	21.18	19.5	B	1	56.11	56.11	3.347	0.071 <sup>#</sup>
			W	78	1307.78	16.77		
Post Test Mean	23.48	17.9	B	1	621.61	621.61	35.768	0.01*
			W	78	1355.58	17.38		

\* Significant at 0.01 Level; <sup>#</sup> Not Significant

Table – VII indicates that one way ANOVA further reveals that the obtained F value (3.347) was not found to be significant in case of pre test mean which shows that pre test mean do not differ significantly and the random assignment

of the subjects to the two groups was quite successful. However the post test mean of both the groups were significant as the obtained F value (35.768) is more than the tabulated F value (3.96)

### DISCUSSION ON FINDINGS

The analysis of covariance was used to find out the contribution of Ashtanga yoga in enhancing the quality of life of young adults. It was observed from above findings that four month ashtanga yoga practice was shown to have positive effects on all the variables. Results of the study lead to the acceptance of the hypothesis that there would be significant effect of ashtanga yoga on selected physical fitness components Functional capacity and Cardio – respiratory endurance, Body composition, Abdominal strength, Endurance and

Speed, Flexibility of the lower back and hamstrings muscles.

### CONCLUSION

Results of this study provide evidence supporting the effectiveness of ashtanga yoga training in physical fitness components. The result indicates that four month practice except Sunday and gazzeted holidays, ashtanga yoga provides a sufficient stimulus to improve all variables in untrained college adults.

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