Chapter - II

REVIEWS OF THE RELATED LITERATURE

Researcher has studied many literatures for the assistance and guideline of related topics few of them are as below:

**K.V. Naveen**: Abstract: This study was designed (i) to compare autonomic parameters in two categories of subjects (age range 12 to 17 years), viz. community home girls (CH, n=20) who were admitted due to problems in adjusting in society, and congenitally blind subjects (CB, n=28) with appropriate age-matched, control groups i.e. children staying at home and those with normal vision, respectively, (ii) to compare the effect of yoga with games (n= 14 each) in the CH group and the effects of yoga with gardening (n==12 each) in the CB group. Poly graphic recordings were made of respiration, EKG, and skin resistance. The community home group were randomly assigned to yoga and games groups and followed up after six months, while for the congenitally blind group subjects were randomly assigned to yoga and physical activity group with a follow up after three weeks. In the first comparison community home girls had significantly faster, irregular breathing (indicative of anxiety) and lower skill resistance, while blind children had faster, irregular breathing and higher heart rates and diastolic blood pressure values. In the second comparison the yoga groups of both categories of subjects showed a decrease in breath rate, which became more rhythmic. Hence a yoga program including relaxation and awareness is useful in the rehabilitation of these subjects.

**METHODS**: Subjects and design of the study-In part 1 there were 20 community home girls with ages ranging from 12 to 17 years. They all had a history of difficulty in adjusting at home or in society. A comparison was made with 20 age-matched girls (± 6.0 months) who were attending a regular school and staying at home. Also

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1 K.V. Naveen; “Yoga for the rehabilitation of socially disadvantaged and visually impaired subjects” Psycho-physiology of Yoga and Rehabilitation; Vol. 2, Vivekananda Yoga Research Foundation, Karnataka, p. 37.
twenty eight congenitally blind children of the same age-range were compared with all equal number of age and sex matched subjects with normal vision. In part 228 community home girls were divided into pairs matched for age and duration of stay in the community home. Subjects of a pair were randomly assigned to yoga and games. The follow up was carried out after 6 months. Also, 24 blind children were divided into pairs matched for age, sex, and degree of blindness. Subjects of a pair were randomly assigned to yoga and games groups. The follow up was carried out after 21 days. Measurements: Measurements for part 1 were made under identical conditions. A moderately lit, sound attenuated cabin was used for recording. After 15 minutes of rest assessments were made for 10 minutes while subjects were seated at ease. A 10-channel polygraph (Polyrite Recorders and Medicare, Chandigarh, India) was used to record the electrocardiogram (EKG), respiration, and the skin resistance. The EKG was recorded using standard limb lead 1 configuration. Skin resistance was recorded using silver chloride disc electrodes filled with electrode paste, and placed in contact with the volar surfaces of the distal phalanges of the index and middle fingers of the left hand. A constant current of 10 microamperes was passed between the electrodes. Respiration was recorded using a volumetric pressure transducer. Subjects were asked to stand erect and transducer was fixed around the trunk, approximately 5 cm below the lower costal margin. The blood pressure was recorded with a sphygmomanometer.

**J. P. Sharma & D.C. Sharma**2: - Attitude of an individual is the way of thinking and perception about around us. It is resultant of our belief, knowledge, daily practice and social environment. An individual’s attitude keeps us very happy in any situation. This study examined the effect of yogic training on the attitude of school going students. 30 Male subjects age ranging between 10 to 16 years was selected by stratified random sampling technique form Ramjas Sec. School NO. 5, Karol Bagh, New Delhi, section of samples has been delimited to the age group 14 to 16 yrs. Boys studying in Ramjas Sr. Sec. School O. 5, Karol Bagh, New Delhi A

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Psychological test namely (Sodhi’s Attitude Scales) has been applied to measure the attitude of the students. The test includes (i) Attitude towards teachers and parents (ii) Attitude towards discipline, (iii) Attitude towards life and humanity, (iv) Attitude towards country. (v) Attitude towards religion. 63e test has 10 to 20 items, which has been responded by the students as Yes, ? or No, by making a circle on it. By the help of the scoring key the scores of the subjects has been recorded.

First of all pre test has been taken and after going through the pre-test investigators gave a Yogic training to the subjects for the period of 4 weeks, 40 minutes daily, 6 days in a week, Yogic training includes sukshma Vyayam – (Buddhi Tatha Dhruti Shakti Vikasaka, Smarana Shakti Vikasaka, Medhasakti Vikasaka, Netra Shakti Vikasaka), Asans – (Surya Namaskar, Padmasana, Vajarasana, Sarvangasana, Shavasana), Nadi Shodhan Pranyam, Tratak, Meditation and lecture on moral education).

Main Findings: Tables shows that most of the subject (80% subject) improved their Attitude towards teachers and parents. Table 2 shows that most of the subject (70% subject) improved their Attitude towards Discipline. Table 3 Shows that most of the subject (90% subject) improved their Attitude towards Life & Humanity. Table 4 Shows that most of the subject (80% subject) improved their Attitude towards Country. Table 5 Shows that most of the subject (90% subject) improved their Attitude towards Religion.

Dr. Parag Joshi3: The sample of this study consisted of 90 prisoners under Indian Penal Code 302 of Amravati District Central Jail, Amravati. Which were all males are selected in random manner. The criteria of selection of the subjects were minimum 3 years of imprisonment. The mean age of the participants was 36.86 years (SD = 3.88 years) with the range from 25 to 54 years. For the purpose of the study, two matched groups of 45 of participants were selected to from experimental and control group.

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Criterion measures and tools used: Aggression was assessed using a Likert type 5 point scale adapted from Dr. Guru Pyari Mathur and Dr. Raj Kumari Bhatnagar (2004) Aggression Scale (AS). It consisted of 55 statements. Each statement described form of individual's aggression in different situation. In this scale items were in two form i.e. positive and negative. Participant responded to the items using a five point agreement scale (1 = strongly agree to 5 = strongly disagree). Anxiety was measured by a 90 - items Sinha's Comprehensive Anxiety Test (SCAT). The items of the test were largely constructed on the basis of the symptoms of anxiety. The participants were required to respond to each item in terms of 'Yes' and 'No. 5. Impulsivity: Impulsivity was assessed using Dr. Anjali Shrivastva and Prof. R.K. Naidu's (1987) Impulse Control Scale (I-C Scale). It contained Likert type 5 point scale consisting of 65 statements which involved control of negative and positive affect states, voluntary delie of the gratification of physiological and psychological needs, persistence and pain endurance. Participants responded to the items using a five point agreement scale (1 = Never to 5 = usually)

Experimental Treatment

9 Months yoga training programme comprised of:

<table>
<thead>
<tr>
<th>Yogic practices</th>
<th>Duration of per day</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Prayer &amp; chanting of Omkara</td>
<td>10 min</td>
</tr>
<tr>
<td>2. Cleasing process (Kapalbharti &amp; Tratak)</td>
<td>5 min</td>
</tr>
<tr>
<td>3. Sukshama Exercise</td>
<td>5 min</td>
</tr>
<tr>
<td>4. Asanas</td>
<td>15 min</td>
</tr>
<tr>
<td>5. Pranayama &amp; Meditation</td>
<td>15 min</td>
</tr>
<tr>
<td>6. YogNidra</td>
<td>10 min</td>
</tr>
</tbody>
</table>

Total Duration of Yogic Exercise 60 min.

Results: The data were analyzed by using SPSS software. It was necessary to verify hypothesis with the help of proper statically treatment. One way ANOVA (Analysis of Variance) treatment was given to verify the differential hypothesis. Data showed
the differences on aggression dimension in experimental group, control and post control group of prisoners on post hoc comparison (LSD test) i.e. least significant difference was found between per and post experimental and post experimental with post-control group of prisoners. It shows that there is a significant decrease on aggressive level. The findings are confirmed by applying’ test on all groups. The result presented in table 2 reveal that there is significant difference in pre and post experimental groups, 't' value of 5.68 confirms that the difference is statically significant at .01 level. No significant difference was found between per and post control groups. Anxiety of the prisoners was tested by one way ANOVA (Analysis of variance) method to judge the difference ratio of 17.56 are the indicator that the significant difference exist between different groups. It can be observed from data the difference in anxiety scores between the pre and post experimental group was statistically significant (t = 6.81) due to yogic intervention. There is no significance found in pre and post control group. Data showed the differences on impulse control dimension in experimental group, control and control group of prisoners on post hoc comparison (LSD test) i.e. least significant difference. The F ratio (12.40) indicates that the significant difference was found between pre and post experimental and post experimental with post-control group of prisoners. It shows that there is significant increase on impulse control level. It may be observed from data the difference in impulse control scores between the pre and post experimental group was statistically significant (t = 5.30) due to yogic intervention. No significant difference was found between pre and post control group. **Discussion:** The present study shows significant difference (t ^ 5.68 p<01) on aggression between pre test of experimental group. The mean score of aggression (x = 192.37). This finding of study is similarly too supported by the studies of Schwartz and Ted Gurr. It is also observed in the current study that convicts prisoners facing inability to resist impulse in common difficulty. This feeling may increase from the time inmates are deprived of their autonomy or free will and confined in the prisoners. Likewise in the prison system the impulsiveness of convict prisoners may have increase in the urges to satisfy or irresistibility of the urge to act. The sudden and unplanned aspects of the behaviour
may be present in the impulsive behaviour. The current study shows significant difference ($t = 5.30$ $p<01$) on impulse control between pre and post test of experimental group. The mean score of impulse control ($x = 201.20$) in pre test is higher than mean score for post ($x = 225.73$). The prisoners no longer felt extreme emotions and were able to maintain a sense of control over their feeling. **Limitation and future direction:** There are four limitations concerning to our study sample. First, the sample contains a self selection bias. Specifically, it is possible that the other convicts (IPC 147, 307, 376, 395) were more likely to participate in the study. Therefore their result need to be considered in the light of the possible bias. Secondly, the current sample was collected only in Amravati District central Jail, Amravati. Thirdly, no socio-economic, facilities of convicts were beyond the control of researcher. Although it is assumed that these results generalize to other culture, future research will need to confirm this assumption. Despite these limitations, this study has demonstrated the potential validity of yoga psychology as an important factor in the reduction of anxiety, aggression and increase in impulse control behaviour. This finding suggests that yoga psychology may be emerging a key variable of further research.

**M. Javanbakth, R. Hejazi and M. Ghasemi**: This study sought to evaluate the influence of yoga in relieving symptoms of depression and anxiety in women, who were referred to yoga clinic. **Method:** The study involved a convenience sample of women who were referred to yoga clinic from July 2006 to July 2007. All new cases were evaluated on admission using a personnel information questionnaire as Beck and Spiel Berger tests. Participants were randomly assigned into the experimental and a control group. The experimental group (N=34) participated in twice weekly yoga classes of 90 minute duration for two months. The control group (N=31) was assigned to a waiting list and did not receive yoga. Both groups were evaluated again after the two month study period.

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4M. Javanbakth, R. Hejazi and M. Ghasemi “Effect of yoga on depression and anxiety of women”; Psychiatry Department of Islamic Azad University, Iran, March 2009
Result: The average prevalence of depression in the experimental group pre and post yoga intervention was 12.82+7.9 and 10.79+6.04 respectively, a statistically insignificant decrease (P=0.13). However when the experimental group was compared the control group, women were participated in yoga classes showed a significant decrease in state anxiety (P=0.03) and trait anxiety (P<0.001).

Conclusion: Participation in two month yoga class can lead to significant reduction in perceived level of anxiety in women who suffer from anxiety disorders. This study suggests that yoga can be considered as a complementary therapy or an alternative method for medical therapy in the treatment of anxiety disorders.

Arun Kumar & M.K. Muchhal5: This study explored the effect of yogic practices on academic stress of secondary school students and on the components of academic stress viz. Academic frustration, academic conflict, academic pressure and academic anxiety of secondary school students. Design of the Study: It was an experimental study based on randomized matching. A pre- test, post – text, control group design with one Experimental group was employed to conduct the present experimental study. Treatment was the independent variable and dependent variable in academic stress. Training in Yoga exercises Stakriyas (Kapalbhati and Trataka), Pranayamas (Anuloma – Viloma, Sitali Sitkari and Bhraman) and Meditation was given to the Experimental group for 30days one hour in the morning regularly. Results: There is no significant difference in academic stress scores of students of Experimental and Control groups at pre-test and post-test levels was rejected in favour of the finding that yogic practices helped in reduction of academic stress from pre-test to post-test level among students of the Experimental group as compared to the Control group ratio for the mean reduced scores between the Experimental and Control Group. Entries made in Table 2-t-ration for the mean reduced scores between the Experimental and Control groups on academic stress was found to be significant at 0.01 level of confidence (t=9.905). Thus, H2 was rejected as the Experimental group students, who were exposed to yogic practices, exhibited reduction in academic

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stress as compared to their counterparts of the Control group. For each of the four components of academic stress, the t-ratios between the mean reduced scores of the Experimental and Control groups was found to be significant at 0.01 level of confidence. The t-ratio between mean reduced scores of the two groups for academic frustration was 12.260, for academic conflict was 4.963, for academic pressure was 8.944 and for academic anxiety was 4.223. All these t-values were significant at 0.01 level of confidence. Thus, H3, H4, H6 were rejected as yogic practices did help in the reduction of academic frustration, academic conflict, academic pressure, academic anxiety among students of experimental group as compared to the control group students, who were not exposed to yogic practices.

**Conclusion:** it is concluded that the study has revealed the efficacy of a carefully designed yoga module in reducing / coping the stress responses of adolescents of 10\(^{th}\) standard in Moga district.

David Hartman\(^6\) used basketball coaches to determine whether coaching experience influenced personality traits. He administered the catell’s 16 P.F questionnaire to fifty-seven coaches. The coaches were divided into various groups according to years of experience as head coaches; less than one-year experience; one to three year’s experience; or five or more year’s experience. The analysis of variance showed that the only significant difference among the group was on factor M (practical) of the 16 P.F. A follow up test demonstrated that those with one to three years experience and those with more than five years experience were likely to suffer from inner anxiety and to disregard practical matters than where those with less than one year experience.

When compared to the chattel’s 16 P.F. Norms, the coaches who had coached for five years or more were significantly higher in intelligence, persistence, conscientiousness, conservatism, control, will power, tenseness and excitability. The same group was lower than the norm in sophistication and polish.

Jane identified selected observable non-verbal behaviour of collegiate female varsity Volleyball and Basketball coaches in practice and game situations as recalled by athletes and coaches. 23 coaches and 118 athletes representing 27 team from 25 of 44 randomly selected colleges and universities coaches and athletes compiled the nonverbal behaviour description questionnaire. He concluded that the nonverbal behaviour on the NBDQ could be recalled described by female Volleyball and Basketball coaches and athletes in game and practice situations. In addition there is a tendency for athletes and coaches to describe behaviour that may be instructional or personal differently. Finally, coaches may recall their behaviour differently than the players recall them.

Poterson determined if there were distinguished personality traits between the women competing in team sports and the women competing in individual sports. Form A to 16 P.F. questionnaire was administrated to the subject’s t test was employed to compute the difference between the groups. It was concluded that the women participating in indo- sports related higher on the personality factors of dominance, adventures, extroversion, radicalism and self sufficiency and the lower on the of sociability, intelligence, stability assurgency conscious, suspecting high self commitment or high agric tension.

Gooch conducted study to investigate personality traits of highly skilled Basketball players and Softball Plieers. A secondary purpose was to investigate the women athletes cally’s 16 P.F. test and a personal data questionnaire was administrated to 103 highly skilled women athletes subjects were tested prior to participation in a state regional or national level tournament. Data was treated using discriminate function analysis and ANOVA. Evidence indicated that there was a relationship between personality and physical performance. No set of personality factors differences was Basketball and Softball plieers. Variations in personality were

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between successful and non-successful women athletes’ intercollegiate women athletes.

Gupta\textsuperscript{10} selected 36 hockey champions from all over the country and 36 non-athletes from the state college of education patiala. The result of the investigation indicated that hockey champions were highest on Ma scale while lowest on pt scale and low on all the scales of inventory as compared with the non-athletic groups. It indicated that playing hockey might be one of the causes of these differences and the individual who passes these personality traits might become hockey champion. Hockey champions had greater ability to concentrate, self confident, extraversion and was psychologically mature tendency to worry less and less Intelligent as compared with the non athletes.

Meircer\textsuperscript{11} administrated the cattell’s 16 P.F. questionnaire to 110 varsity athletes participating in seven different sports. Results of this study indicate that reserves athletes were more out going and warm hearted the string athletes. Specific differences were reported for athletes in Swimming, Volleyball, Water polo, Wrestling and Field events.

Clie\textsuperscript{12} attempted to compare the personality traits of female inter collegiate athletes and inter collegiate coaches by administering cattell’s 16 P.F. questionnaire and found that female coaches, as a group were more intelligent and suspicious than the female athletes, where as the female athletes, as a group, well more assertive than female coaches.

Patrow\textsuperscript{13} determined if significant relationship existed between selected psychological characteristics of coaches and coaching success. The purpose was to

\textsuperscript{10}V.P.Gupta, “Personality Characteristics of Hockey Champions”, Journal of Indian Association of Teachers of Health Education, 6 (January 1989) : 15.

\textsuperscript{11}John Meicer, “Relationship between sixteen personality factor of University first string and reserved varsity athletes”, Completed Research in Recreation and Physical Education, 1973 : 49-52.

\textsuperscript{12}John Clie, “Personality Traits of female Inter Collegiate Athletic Coaches”, Dissertation Abstracts International, Feb 1975 : 5090A.

compare the measured personality dimension of dogmatism, acceptance of self, and acceptance of others of selected Baseball and Tracks coaches with their coaching success. A further problem was to compare the coaches studied with either established norms or with other selected populations, and finally, to compare Baseball coaches with track coaches on the basis of others. He concluded that there were no significant differences between the two groups of coaches studied [Baseball and Track coaches] on the basis of dogmatism, acceptance of self and acceptances of others. The greater of dogmatism and acceptance of self within the group of baseball coaches, the less they experienced coaching success. Track coaches showed a positive relationship between acceptance of others and coaching success.

Ayer\textsuperscript{14} administrated the cattle’s 16 PF questionnaire to 72 winning females, 68 losing females, 23 winning males and 12 losing males to evaluate the personality traits of winning and losing Volleyball coaches. The aim was to measure personality traits of male and female winning and losing high school Volleyball coaches and to determine the ability to win. The result indicated that; Selected personality traits do discriminate between winning and losing female high school Volleyball coaches. Male and female winning coaches differ significantly in selected personality traits. Male and female losing coaches differ significantly in selected personality traits. Selected personality traits of male and female winning and losing coaches are significantly different from the norms of population.

Hendry\textsuperscript{15} conducted two personality studies dealing with swimmers and swimming coaches. In one study, he administrated the 16 P.F. questionnaires to 126 swimmers and 56 coaches. The coaches were divided into two groups, those under 40 years of age and those over 40 year of age. The swimmers and coaches rated each other on personality traits; the coaches also rated themselves. Analysis of result showed that the coaches over forty years of age were insecure, tense, emotionally unstable, and more anxious than the younger coaches. Coaches who have been involved in

\textsuperscript{14}Salley Lov Ayer, “Personality traits of winning and losing Volleyball coaches”, \textit{Dissertation Abstracts International}, May 1981 : 4647-A.

\textsuperscript{15}L.B. Hendry, “Assessment of personality traits in coach swimmer relationship and a preliminary examination of the father figure stereotype”, \textit{Research Quarterly}, 1968 : 548
athletics for a number of years can probably understand the traits demonstrated by the coaches over age forty. As a coach experience the consequences of success and failure over several years, he or she may develop certain characteristics, attitudes younger coaches have not been in the profession long enough to demonstrate the apparent paranoia of older coaches. The younger coaches are confident, self-assured and highly anxious.

Smith\textsuperscript{16} administrated the 16 P.F. questionnaires to 38 football, 19 Basketball plieer, 12 Trackmen and one coach from each sports. His purpose was to determine the ability of the CSC Football, Baseball and Track coaches to correctly identity the personality characteristics of their athletes. Analysis of the data showed that the track coaches and the football coaches correctly identified the personality of their respective plieers while the baseball coach failed to identify the personality of plieers.

Henry\textsuperscript{17} Compare the College women varsity letter winner (N-71) was classified according to their participation in only individual sports (Swimming, Fencing, Gymnastics, Golf, Tennis) and any team sports (Hockey, Basketball, Softball). An empirical comparison between of each of the experimental groups and the Edwards normative group was made for each variable. There seemed to be no significant differences between the two groups on the 15-personality variable of the EPPS with the expectation of the personality variable of heterosexuality, in which the individual sports group mean was significantly higher.

Gopa Chakraborty\textsuperscript{18}:- Life Style combined with les consciousness on physical activity leads to the state of clinical problems as a result of this there Are so may health problems may come such as abnormal resting heart rate, high or low Blood

\textsuperscript{16}R. Smith, “A comparison of coaches, subjective evaluation of personality traits of Athletes to actual personality traits scores and measured by the 16 P.F. Questionnaire”, \textit{Completed Research}, 1978 : 102.

\textsuperscript{17}T. Henry, “Comparison of selected personality variables between women’s athletes in individual sports and women athlete in team sports”, \textit{Completed Research in Health and Physical Education}, 1969.

pressure, etc. which may be controlled or checked by the proper application of yogic practices like Pranayama. Pranayama is one of the ancient proven techniques to control the physiological parameters like resting heart rate and blood pressure. This experiment was conducted on 20 college going girls in Kolkata. Resting heart rate and blood pressure reading of the subjects were recorded before and after the eight weeks experimental period. At the end of the study the result was analyzed using t-test. It was observed that though resting heart rate, systolic blood pressure and diastolic blood pressure improved but found insignificant. **METHODOLOGY:** The experiment was conducted on the 20 college going girls. Their ages ranged form 18 year to 23 years. The experimental group was administered by selected clinical tests, such as resting heart rate, systolic blood pressure and diastolic blood pressure. Appropriate forms of pranyama on a regular basis will be helpful in controlling the physiological parameters (Resting heart rate, Systolic blood pressure and Diastolic blood pressure). Realizing the importance following two types of pranayams were selected in the experimental programs. Nadisodhana, Bhastrika – 1 Each Pranyama has been performed by the subjects almost on an empty stomach twice a day experimental programme was carried out 5 days in week, for 8 weeks. Results: Significance of the mean gains of the subjects in the criterion measures:

<table>
<thead>
<tr>
<th>Criterion Measures</th>
<th>Unit of Measurement</th>
<th>Initial Mean (M1)</th>
<th>Final Mean (M2)</th>
<th>Mean Difference</th>
<th>t’ ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resting heart rate</td>
<td>Beats/Minute</td>
<td>82.75</td>
<td>81.55</td>
<td>1.20</td>
<td>1.783</td>
</tr>
<tr>
<td>Systolic blood pressure</td>
<td>mm of Hg</td>
<td>109.6</td>
<td>11.1</td>
<td>1.50</td>
<td>0.4168</td>
</tr>
<tr>
<td>Diastolic blood pressure</td>
<td>mm of Hg</td>
<td>70.45</td>
<td>72.10</td>
<td>1.65</td>
<td>0.4747</td>
</tr>
</tbody>
</table>

Significant at 0.05 level

The mean gains of resting heart rate, systolic blood pressure and diastolic blood pressure were found insignificant at 0.05 level of confidence as the
calculated value of ‘t’ ratio in each case is less than 2.093, which is the value of ‘t’ ratio for significant at 0.05 level for 19 degrees of freedom. CONCLUSION: Finding of this research is though physiological parameters improved but found insignificant under t-test. Yogic practices (Pranayama) have beneficial effects for improving resting heart rate, systolic blood pressure and diastolic blood pressure, which is found after eight weeks of treatment programmed. Gradually students felt general well being of the body. For significant improvement these Pranayama may need to be practiced on the regular basis for longer time. But for better result diet can be combined with yogic practices. More physiologic parameters may be added for better evaluation of the status. Future research may be directed in this direction.

**Pilkingon K., Krickwood G., Rampes H., and Richardson J.**

Yoga base intervention may prove to be an attractive option for the treatment of depression. The aim of this is to systematically review the research evidence on the effectiveness of yoga for this indication. Method: Searches of a major biomedical data leases including MIDLINE, EMBASE, CINAHL psycho INFO and the Cochrane library were conducted. Specialist complementary and alternative medicine (CAM) and the Ind MED databases were also searched and effects made to identified unpublished and on going research. Relevant research was categorized by study type and appraised. Clinical commentaries were obtained for studies reporting Clinical outcomes. Results: Five randomized control trail were located, each of which utilized different forms of yoga intervention and in which the severity of the condition ranged from mild to severe, all trails reported positive findings but methodological details such as method of randomization compliance and attrition rates were missing. No adverse effects were reported with the expectation of fatigue and breathlessness in participants in one study.

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**Dr. Sudhir Kumar Sharma**

- The purpose of this study was to measure the hip and back flexion as well as extension of the hamstring muscles of the legs yoga innervations. Experiment Used: Sit and reach box with measuring scale. **Procedure:**

  The subject sat on the mat; both legs were extended forward and touch the box. The measuring scale was placed in between both the legs. The zero end of the measuring scale was placed as proximal end. The subject bent forward and extended both hands forward. The zero point of the measuring scale was placed to the tip of the box. The subject slowly stretch forward, the hip, back and arm. The maximum distance reached was recorded with the help of measuring scale in Centimeter. **Scoring**

  The best of three trials was recorded as final score in centimeter. **Findings**

  Within the limitations of the study the following conclusion were drawn. From the above findings, it is concluded that the level of Flexibility is increased significantly due to six week training of yogic practices, physical exercises and combination of both (yogic practices and physical exercises). It is concluded form the results that the level of Flexibility is increased by yogic practices and physical exercises both. There is no significant difference in yogic practices and physical exercises. It is concluded form the results that the level of flexibility is increased by combined activities is greater than the yogic practices. It is concluded form the results that the level of flexibility is increased by combined activities is greater than the physical exercises. This study reveled that all types of training groups increase Flexibility.

**Shalabg Avalle, A. and Vallumurgan, V**

- The purpose of the study was known the Effects of selected yogic exercise and psychological skill training on selected psycho physiological and psychomotor variables of high- level participants. To achieve the purpose of he present study, forty five intercollegiate level plieers form Maruthi College of Physical Education, Coimbatore were selected as subjects at

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**Dr. Sudhir Kumar Sharma**


**Shalabg Avalle, A. and Vallumurgan, V**

“Effect of selected yogic exercise and psychological skill training on selected psycho physiological and psychomotor variables of high-level participants”, *Yoga Mimansa*, Vol. XLI, No. 1.
random and their ages ranged from 18 to 24 years. The subjects were divided into three equal groups. The variables selected were cognitive anxiety, Self confidence, Heart rate, Systolic blood pressure, Diastolic blood pressure and Body temperature as psycho-physiological variables and Reaction time, and Hand eye Co-ordination as psychomotor variables.

The study was formulated as a true random group design, consisting of a pre – test and post test. The subject (n=45) were randomly assigned to three equal groups of fifteen men students each. The groups were assigned as psychological skills training (PST), yogic exercises (YE) and control group (CG) in an equivalent manner. The psychological skills training group and yogic exercises group participated for a period of twelve weeks and the post tests were conducted. The training programme was scheduled at (6:30 to 7:30 am for alternate three days in a week for both psychological skills training group and yogic exercises group.

**Statistical Techniques:** Analysis of covariance statistical technique was used to test the adjusted mean difference among the three group. When the adjusted post – test was significant, the Scheffe post hoc test was use to find out the paired mean differences. **Results:** By analysis of covariance the cognitive anxiety was significant at 0.05 levels with an F ratio of 9.66 as the table F ratio was 3.23 for adjusted means. By analysis of covariance the self confidence was significant at 0.05 level with a ratio of 29.78 as the table F ratio was 3.23 for adjusted means. By analysis of covariance the heart rate was significant at 0.05 level with an F ration of 1.85 as the table F ratio ws 3.23 for adjusted means. By analysis of covariance the systolic blood pressure was insignificant at 0.05 level with an F ratio of 0.96 as the table F ratio was 3.23 for adjusted mean. By analysis of covariance the hand eye co-ordination was significant at 0.05 levels with an F ratio of 1032.81 as the table F ratio was 3.23 for adjusted means. By analysis of covariance the reaction time was significant at 0.05 levels with an F of 13.76 as the table F ratio 3.23 for adjusted means by analysis of covariance the body temperature was insignificant at 0.05 levels with an F ratio of 1.28 an the table F ratio was 3.23 for adjusted means.
Discussion on Findings: The result of the study showed that experimental groups had significantly reduced in cognitive anxiety due to yogic exercises and psychological skills training when compared to the control group. The selected yogic exercises also helped to decrease the level of anxiety and nervousness. The result of the study showed that experimental groups had significant effect on somatic anxiety due to yogic exercises and psychological skills training when compared to the control group. The result of the study showed that experimental groups had significant effect on self confidence due to yogic exercises and psychological skills training when compared to the control group. Yogic exercises as a group plie a significant role in training the autonomic nervous system. The result of the study showed that experimental groups had significant effect on heart rate due to yogic exercises and psychological skills training when compared to the control group. Heart rate of the sports person will be less when compared to the normal peoples. But during the psychosomatic problems the heart rate increases and results in deterioration performance. Yogic exercise and relaxation training were one of the best methods to control it. The result of the study showed that experimental groups had insignificant effect on diastolic blood pressure due to yogic exercises and psychological skills training. In this study, the experimental groups had insignificant effect on diastolic blood pressure. This may due to number of training sessions, regular practice of the athletes and the limitations of this study. The result of the study showed that experimental groups had significant effect on hand eye coordination due to yogic exercises and psychological skills training when compared to the control group. Conclusion: the findings of the study showed that there was significant differences in the cognitive anxiety, somatic anxiety, self confidence, and heart rate due to influence of yogic exercises and psychological skills training. In case of diastolic blood pressure, systolic blood pressure and body temperature there was insignificant differences due to yogic exercises and psychological skills training. The findings of the study showed that there was significant differences in the hand eye co – ordination and reaction time due to influence of yogic exercises and psychological skills training. The findings of the study showed that there was
significant difference in the self confidence and hand eye co-ordination between the yogic exercises and psychological skills training group.

**S. K. Ghosh**\(^{22}\): Sixty subjects, age ranged from 13-15 years, were randomly divided into four groups of equal number: physical exercise group, yogic practice group, combined group and a control group. The experimental groups underwent twelve weeks treatment programme. Both pre-test and post-test were made for the collection of data. The data collection was made on the selected physiological variables, namely, pulse rate, respiratory rate, breath-holding time and mean arterial pressure. The results of Analysis of Covariance (ANCOVA) followed by the Scheffe's test showed significant decrease in all the groups except control group. Between combined group and yoga group, physical exercise group and yoga group—a significant difference in paired adjusted final mean is seen. But there was no significant difference in pulse rate in combined group when compared with the physical exercise group. Physical exercises and yogic practices are essential in promoting a balanced physical and mental state in human being. This is because of the various physiological systems in our body such as nervous system, circulatory system; glandular system, muscular system etc. become slowly conditioned to maintain harmony with each other by these practices which ultimately lead to the stability of the body and mind. An attempt is made in this study to have a searching inquiry by way of comparing the effects of physical exercise, yogic practice independently and also combined on selected physiological variables in case of high school boys. Further, it was aimed to find out which of the experimental factors was comparatively more effective. In this regard Dhanaraj (1974) studied the effects of yoga and a fitness plan on selected physiological parameters. The result, after practice of yoga and a fitness plan on selected physiological parameters. The result, after practice of yoga, indicated an increase in vital capacity, chest expansion, breath holding time and body flexibility; but there was a decrease of the heart rate.

Chinnaswamy (1992) observed that hemoglobin content and blood sugar level were improved significantly with the effect of asana and physical exercises, whereas the pulse rate and diastolic pressure had been lowered in resting condition. However, there was no significant change in systolic pressure. Chlocking (1963) found that pulse rate and respiratory rate were decreased significantly after the training period regardless of the training programmes prescribed. Udupa et al (1971) selected twelve subjects and imparted yoga practices for a period of three months, and found that the pulse rate decreased significantly. Krishnan (1971) observed that due to selected Bharathiyan exercises and yogic practices pulse rate was decreased significantly and breath holding time, cardiovascular efficiency and vital capacity improved significantly. **Methodology:** The study was conducted on a total of sixty randomly selected boys of Utkal University High School, Vanivihar, Bhubaneswar. They were divided into four groups of equal number at random. Their age was ranging from 13 to 15 years. The deign of the groups was Group -A : Combined group i.e. boys practising both exercises and yoga Group - B : Physical exercise group i.e. boys practising physical exercise alone. Group - C: Yogic practice group i.e. boys only practising yoga. Group-D: Control group i.e. boys who have not undergone any of the above treatmetns. The physiological variables were Pulse rate, Respiratory rate, Breath holding time, and mean arterial pressure. **Treatment:** The experimental group A, B and C were given treatment 45 minutes daily for five days in a weak for a period of twelve weeks, and group D was not exposed to any treatment. **Physical exercises:** They consisted of 12 selected free hand exercises. **Yogic practices:** Padmasana, yogamudra, paschimottanasana, ardhamatsyendrasana, bhujangasana, halasana, shalabhasana, dhanurasana, viparitakarani, matsyasana, halasana, shalabhasana, dhanurasana, viparitakarani, matsyasana, chakrasana (side), shavasana, kapalabhati kriya, nadi sodhana pranayana and meditation. Data have been analyzed by using ANCOVA which was followed by Scheff's post- hoc test.
**Result and Discussion:** The four groups were compared for the difference in the measure of selected physiological variables namely- pulse rate, respiratory rate, breath holding time and mean arterial pressure in relation to pre-test and post-test scores.

The analysis of pulse rate data reveals that the combined group, physical exercise group, and yogic practice group had caused significant decrease in the pulse rate as compared with the control group. The analysis of pulse rate was due to the fact that physical exercises, yogic practices and the combined practices increases the stroke volume and the cardiac output, hence causing greater efficiency in cardiac muscles, with less stress on the heart. The reduction of pulse rate was more in yoga group due to the fact that all the above phenomena have occurred due to yogic practices alone. In addition to them the metabolic process was reduced here as a result of passive stretching and practice. Moreover, the expenditure of energy is less, which demands less oxygen and causes heart to have a less of strain. This might have also been the cause of lower pulse rate in comparison to other groups, because heart rate is directly proportional to the metabolic rate. So lower metabolism means, lower rate which also indicates the lower pulse rate. The analysis of respiratory rate data reveals that the practice done by combined group, physical exercise group and yogic practice group had caused significant decrease in the respiratory rate when compared with the control group. The results also indicate that the difference between the paired adjusted final mean of combined group and yogic practice group, and physical exercise group and Yogic practice group were significant and there was no significant difference between combined group and physical exercise group. The reduction of respiratory rate was due to the fact that combined practices, physical exercises and yogic practices had caused an increase in the size of lungs, stretch of the alveoli and improvement upon the efficiency in intercostals muscles. Hence an increased efficiency in lungs, which now bear less strain, might have been the causal factor in lowering the respiratory rate. It was previously been noticed in the process
of investigation that lower heart rate occurs due to the physical exercises and yogic practices. The lower heart rate too might have contributed to lower respiratory rate.

The results also indicate that the reduction of respiratory rate was more in yoga group. It is due to the fact that all the above kinds of efficiency were increased by yogic practices alone. In addition, the total metabolic process gets reduced due to the yogic practices and their effects would continue indicating less demands of oxygen. It is because the burning process in mitochondria in body cells of the participants becomes lower which might have been the result of the lower respiratory rate in comparison to other groups. The analysis of data regarding breath holding time reveals that the combined group, physical exercise group and yogic practice had resulted in significantly increasing the breath holding time when compared with the control group. The result also indicate that difference between the paired adjusted final mean of combined group and physical exercise group combined group and yogic practice group, physical exercise group and yogic practice group were significant. The improvement of breath holding time was due to the fact that combined practices, physical exercises and yogic practices might have caused the increase in the size and tolerance capacity of the lungs and also might have been instrument in stretching the alveoli. The result reveals that the participants of combined group and yoga group had considerably improved in their breath holding time as compared to physical exercise group. It is due to the fact that yogic practices specially the Kapalabhati and pranayama, in combined group, might and yoga group, might have resulted in stretching the lungs muscles and alveoli in greater degree which, in turn, might have increased the size and capacity of lungs, as well. Besides, in combined group and yoga group, the metabolic rate is proved to be lower and its effects are lasting ones because of the yogic practices and this also has indicated that oxygen consumption in body cells is in lower degree and which, in consequences, might have improved the breath holding time.

The result also indicates that there was improvement in breath-holding time, in greater degree, in the yoga group as compared to combined group. It
is due to the fact that, in combined group the duration of the yoga practice is only half of the time of the practices done in yogic practice group. In other words the yogic group had to practice yoga for 12 weeks for 45 minutes in every practice day whereas the combined group was made to practice yoga only half of the time for those 12 weeks. This might have been the cause of the greater improvement in size and capacity of lungs in yogic group than the combined group. Besides, due to the speciality of practices in yoga group, the metabolic rate was lowered in comparison to the combined group because of longer duration, in yoga group, in which was lasting one. As the metabolic process is lowered in yoga group compared to that of the combined group, the energy expenditure is also less demanding with less consumption of oxygen. Hence the breath holding time was increased more in yoga group. The result indicates that the combined group, physical exercise group, and yogic practice group had no significant difference in mean arterial pressure, when compared with the control group in relation to pre-test and post-test scores. In this study, the mean arterial pressure is not found to have undergone any change in these twelve weeks by the performance of physical exercises, yogic practices, and the combination of both. The result of the study appears to have been influenced by the duration, frequency and intensity of exercise or practice. The duration and frequency of exercise or practice is of primary importance for the change of mean arterial pressure. Finally, the period under experiment was only twelve weeks in length and this might have been insufficient for bringing out significant effect on mean arterial pressure.

**Conclusion:** Within the limitation imposed by the experimental conditions, the following conclusions were drawn. By administering the physical exercises, yogic practices and the combination of physical exercises and yogic practices, reduction in the pulse rate, and respiratory rate were noticed and breath holding time was found increased. Physical exercises and yogic practices and the combination of physical exercises and yogic practices did not bring about any change in mean arterial pressure. The yogic practice group had undergone reduction in pulse rate and
respiratory rate in more degree than that of physical exercise group and combined group. The breath holding time in yogic practice group increased more than that of physical exercise group and combined group. The breath holding time in combined group increased more than that of physical exercise group and combined group. The breath holding time in combined group increased more than that of physical exercise group.

**T L Chen, H C Mao, C H Lai, C Y Lai & C H Kuo** has conducted a study on the title of “Effect of yoga exercise innervations on health related physical fitness in the school age asthmatic children’s”. The purpose of the study was to investigate the effect of yoga exercise on the health related physical fitness of school age children’s with asthma. The study implied a quasi Experimental research design in which 31 voluntary children (Exercise Group -16, Control Group -15) aged to 7 to 12 years were purposively sampled from one public elementary school in Taipei country. The yoga exercise programme was practiced by the exercise group three times per week for a constructive 7 week period.

Each 60 min yoga session include 10 min of warm up and breathing exercises, 40 min of yoga posture and 10 min of cool down exercises. A total of 30 subjects (exercise-16, control group) completed the follow up. Result included. 1. Compared with children’s with general population, the study subjects (N=30) all fell below 50th percentile in all five physical fitness items of interest. There was no significance difference in scores between two groups at baseline (i.e. pre exercise) for all five fitness items. 2. Research found a positive between exercise habits after school. Muscular strength and endurance among asthmatic children. 3. Compared to the control group the exercise group showed favourable outcomes in terms of flexibility and muscular endurance. Such favourable outcomes remained evident even after adjusting for age, duration of the diseases and steroid use, value for which were unequally distributed between the two groups at baseline. 4. There was a

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tendency for all items specific fitness, scores to increase overtime in the exercise group. The GEE analysis showed that yoga exercise indeed improved BMI, flexibility & muscular endurance. After two week of self practice at home, yoga exercise continued to improve BMI, flexibility, muscular strength, and cardiopulmonary fitness.

K. M. Chen, M. H. Chen, S M Hong, H E Chao, H S Lin and C H Li: The aim and objective of the study was to promote physical fitness of the young older adults is essential in reducing health care expenditure which occurs in the future for those with chronic health problems. The silver yoga exercise programme was developed to accommodate the reduced body flexibility experienced by many older adults and was critically revised by experts and pilot tested with community dwelling older adults. The study aimed to test older adult’s physical fitness after 24 week silver yoga exercise programme and to examine weather the programme could be further shortened to fit senior activity centers programme designs. Designs: A quasi-experimental, pre post tests designs was used: base line, 12 week and at 24 week periods. Methods: Convenience sample of 204 subjects were recruited from eight activity center and 176 subjects completed the study. Subjects were randomly assigned in to three groups based on the centers: Experimental I: Complete silver yoga with stretching and meditation. Experimental II: Shorten silver yoga without guided imagery meditation and (3) wait list control. The innervations were conducted three times week for 24 weeks. Physical fitness indicators included body composition, cardiovascular, respiratory function, physical functions and the range of motion.

Results: At the end of 24 week the physical fitness of the subjects in experiments I &II had significantly improved weather a not guided imagery meditation was used and all had better physical fitness than subjects in control group. (All P<0.05)

24 K M Chen and others; "The effect of silver yoga exercise on the physical fitness of the young older adults"; School of nursing, Fooyin University, Taiwan. ref.www.pubmed.com
**Conclusion:** The physical fitness in older adults in both the 70 minute complete silver yoga group had significantly improved after the innervations. It was recommended that the silver yoga programme be shortened by eliminating the guided imagery meditation.

**K.K. Asai** 25:A study was conducted to verify the effect of yogic practices on the physical fitness of girls. The design of the experiment was a parallel group design. A sample of 40 female subjects was selected from Utkarsha Vidyaliea, Virar, (Thane District) by considering Fishers’ Random Table technique. They were in the age group of 12 to 14 years. All subjects and control groups while the experimental group was practising Yogic exercises, the control group followed their own regular practice. AAHPER Youth Fitness Test was administered as pre – test. A set of 12 asanas were practiced for a total of 6 weeks period as Yoga Intervention, by the experimental group. The Yogic training was given for 5 days per week i.e. Monday to Friday. The duration of class was 45 minutes per day. The Data have been recorded by using standard procedures. After descriptive analysis the data were processed for 2 x 5 Factorial ANOVA. The statistical significance has been determined by computing Newman – Kules Post Hoc Technique. The result summarized that the higher performance abilities in Flexed Arm Hand, bent knee Sit up and 50 yard dash were significantly contributed by the selected Yogic exercises. However, the yogic exercises could not help to improve the performance abilities in Standing broad Jump and Medicine Ball Put.

**D. Sakthignanavel, G. Vasanthi, and C. Suresh** 26:- Hatha yoga was a very close to the fitness of the monks. They have good control over the organs of the body. This study was conducted to investigate the effect of hatha yoga on the physical fitness of men students Pondichery University. Thirty healthy, Untrained male subject were selected from Pondichery University of various Departments and their age ranged

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form 21 to 25 years. The subjects were equally divided into two groups namely control and experimental group. The experimental group underwent hatha yoga practice for forty five minutes duration in selected asans, pranayama and mudras, for ten weeks except Saturday and Sunday. Control group was kept under control without any training. Muscular endurance, flexibility, cardio-respiratory endurance and body mass index were measured through field tests. Prior to and after the end of practice period all the subject were tested on selected physical fitness variables. The results of pre – test and post – test were compared by using Analysis of Co-variance. To find out the impact of hatha yoga practice on the physical fitness variable the ‘F’ ration value was statistically analyzed and tested for significant difference at 0.05 level confidences. Methodology: The purpose of the study is to find out the effect of hatha yoga practice on selected physical fitness variables of men students. To achieve this purpose thirty healthy, untrained volunteers, who’s the age ranged from 21-25 years were selected from Pondichery University of various Departments. The subjects were equally divided into two groups namely control and experimental group. The experimental group underwent hatha yoga practice for ten weeks except Saturday and Sunday. Each yoga session consisted forty five minutes duration in selected asanas 25 minutes (yoga postures), 10 minutes pranayama (Breath – control exercises), 5 minutes mudras and 5 minutes relaxation. Muscular endurance was measured using by bent knee sit ups, cardio respiratory endurance was measured using 12 – minutes run / walk, flexibility was measured with the reliable equipment sit and reach box. The body mass index was calculated by measuring the height and body weight of the subjects. The height was measured in meters by using a stadiometer and weight was measured in kilograms by using a weighing machine. The following equation was used to calculate the body mass index (BMI) i.e. BMI = weight in kg / height in meter square. The results of pre – test and post – test were compared by using Analysis of Covariance (ANCOVA). It was used as statistical technique to determine the significant difference between the two groups on the selected physical fitness variables.
**Results:** The pre test means of control group and experimental group on muscular endurance is 16.53 +1.85 Vs 16.46 + 2.20 and the ‘F’ ratio is 0.008. The post test means of control group and experimental group is 16.46 +2.20 Vs 18.00 + 2.42 and the ‘F’ ratio is 4.57. The adjusted post test means of control group and experimental group is 16.36 Vs 18.03 and the ‘F’ ratio is 33.0. The result of the study indicate that there is a significant difference between the control group and experimental group on muscular endurance. The pre test means of control group and experimental group on cardio – respiratory endurance is 1926.66 + 263.13 Vs 1873.33 + 357.50 and the ‘F’ ratio is 0.22 . The post test means of control group and experimental group is 1866.66 + 212.69 Vs 2100.00 + 364.50 and in the ‘F’ ratio is 4.59 The Adjusted post test means of control group and experimental group is 1842.80 Vs 21424.58 and the ‘F’ ratio is 108.0 The results of the study indicate that there is a significant difference between the control group and experimental group on cardio – respiratory endurance. The pre test means of control group and experimental group on flexibility is 34.73+6.55 Vs35.06 +7.06 and the ‘F’ ratio is 0.26. The post test means of control group and experimental group is 35.13 + 7.03 Vs 40.60 +7.01 and the ‘F’ ratio is 4.60. The adjusted post test means of control group and experimental Group is 32.27 Vs 40.39 \and the ‘F’ ratio is 154.4. The result of the study indicates that there is a significant difference between control group and experimental group on flexibility. The Pre test means of control group and experimental group on body mass index is 21.00 + 2.07 Vs 19.92 + 2.82 and the ‘F’ ratio is 1.42. The post test means of control group and experimental group is 21.29 +2.04 Vs 19.46 +2.75 and ‘F’ ratio is 4.25. The adjust post test means of control group and experimental group is 20.76 Vs 19.99 and the ‘F’ ratio is 101.9. The results of the study indicate that there is a significant difference between control group and experimental group on body mass index.

**Conclusion:** The result of the study indicates that the physical fitness variables improved significant after practising Hatha yoga muscular endurance, cardio – respiratory endurance and flexibility have improved significantly and body mass
index has reduced which reveals that there significant change due to hatha yoga practice on selected physical fitness variables in M students.

Sanjib Bhomik and Gaurav Pant 27: Every student has a right to learn and develop himself as per the need of life, even they may be special students or physically challenged. This study was examined the effect of yogic practices on the psycho-motor variables of physically challenged students. Forty Subjects between the age of 8-15 years were selected from Amar Jyoti School & Rehabilitation Centre, Gwalior (M.P). The training programme was scheduled for five days week for a period of 45 minutes each day for 6 weeks duration and was increased to 60 minutes on weekly basis in a progressive way. Further the group was divided randomly into control & experimental group. Each group had equal sample size of 20 subjects. The selected psychomotor variables were recorded on pre and post completion of 6 week yogic exercises. The data on Psychomotor variables were recorded with the help of the standard procedure such as: Speed of movement test by Nelson & Johnson’s, Hand steadiness by hand steadiness tester & Eye hand coordination by mirror tracking test. In order to study the effect of yogic exercise on selected psychomotor variable, statistically the analysis of covariance technique was employed to analyze the raw data at 0.05 level of significance. It was observed that F-ratio was found to be significant for all the selected psychomotor characteristics i.e. Speed of movement. Hand steadiness & Eye Hand Coordination in comparison to control group at 0.05 level of significance. This study, therefore suggests the utility of selected yoga practices for physically challenged students. Aim and Objective: The aim and objective of the study was to determine the effect of yogic exercises on the selected psychomotor performance that is Speed of Movement, Hand Steadiness and Eye Hand Coordination of Physically challenged students.

**Conclusion:** Selected Yogic Exercises were found effective in bringing about significant improvement in speed of movement, hand steadiness and eye hand coordination of physically challenged students Hence, the study recommends to

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prepare more Yoga Module to such subject to enhance their psychomotor performance.

C.K. Mishra, L.S. Ranawat\textsuperscript{28}: - This study examined the effect of yogic practices on the morpho-physiological variables of adults women’s. Subjects: The present study was conducted on 20 women student, in the age range of 20 to 30 years, having no previous exposure to yoga. They were drawn form the students undergoing the Certificate Course at SAI, NS NIS, Patiala, and undertook a total of 4 hours of yoga exercises, six days a week, for four weeks. Since the group of women students carried out only yoga exercises and nothing else, the requirement of a control group was not felt essential and obligatory.

Method: Women students participating in the study were at first brought to the Exercise Physiology laboratory of SAI NSNIS, Patiala, and were apprised of the aims and objectives of the study. Thereafter, details of their corporal and physical data, comprising decimal age, sex, date of birth, height, weight, body surface area, body fat percentage was calculated from the four skin fold measurements as described by Dumin and Womersey (1974) and Siri (1965). Statistical Analysis: Students ‘t’ test was applied to compare the means of the various physiological transients under study, those obtained following 4 weeks of yoga training. The analysis software of SPSS 6.0 package was used to compute the test result.

Result & Discussion: - The means of the resting HR (both) sitting significantly. The resting standing systolic blood pressure (BP) was also found to be decreased as a result of 4 weeks of yoga training. The difference in the mean diastolic BP was not found to be statistically significant. The four weeks of yoga training resulted significant loss of body fat. Although there was a slight increase in the weight indicating possible enhancement of muscle mass significant differences were also found to exist in the systolic BP, on application of the cold presser test, although the diastolic BP values were no significantly different. The systolic BP was also found

to decrease in the 0.5" and 2nd min of lieing to standing test. Although the differences were not significant. Significant difference however existed in the lieing to standing test diastolic BP at the 1st and 2nd minute. The VO2 max exhibited significant improvement, after 4 weeks of yoga exercise The result of the lung function test depicted that the peak expiratory flow significantly increased after yoga training h However, the maximum voluntary ventilation and vital capacity, although increased substantially, were not found statistically significant.

Lee N. Burkett, Megan A. Todd and Troy Adams.29: Performers have used many approaches to regulate arousal levels. Yoga claims to regulate arousal; however the claim has not been evaluated. This study investigated non-directive somatic arousal, utilizing heart-rate data, of trained and novice yoga practitioners before, during and following an auditory distraction in savasana. No difference was noted between trained and novice yoga practitioners.

Paul Salmon, Sandra Sephton 30: The practice of mindfulness is increasingly being integrated into contemporary clinical psychology. Based in Buddhist philosophy and subsequently integrated into Western health care in the contexts of psychotherapy and stress management, mindfulness meditation is evolving as a systematic clinical intervention. This article describes stress reduction applications of mindfulness meditation predominantly in medical settings, as originally conceived and developed by Kabat- Zinn and Colleagues. It describes process factors associated with the time-limited, group-based formal favored by this model, and presents in tabular form results of both early and more recent outcome studies.

Galantino ML, Galbavy R, Quinn L. 31: We completed a systematic review of the literature on the effect of yoga on quality of life and physical outcome measures in

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the pediatric population. We explored various databases and included case-control and pilot studies, cohort and randomized controlled trials that examined yoga as an exercise intervention for children. Summary of key points: using the Sackett levels of evidence, this article reviews the literature on yoga as a complementary mind-body movement therapy. We address the research through three practice patterns according to the Guide to Physical Therapist Practice and provide considerations for the inclusion of yoga into clinical practice. Statement of conclusions and recommendations for clinical practice: The evidence shows physiological benefits of yoga for the pediatric population that may benefit children through the rehabilitation process, but larger clinical trials specific measures of quality of life are necessary to provide definitive evidence.

Yoga-based interventions may prove to be an attractive option for the treatment of depression. The aim of this study is to systematically review the research evidence on the effectiveness of yoga for this indication. METHODS: Searches of the major biomedical databases including MEDLINE, EMBASE, CINAHL, PsycINFO and the Cochrane Library were conducted. Specialist complementary and alternative medicine (CAM) and the IndMED databases were also searched and efforts made to identify unpublished and ongoing research. Searches were conducted between January and June 2004, Relevant research was categorised by study type and appraised. Clinical commentaries were obtained for studies reporting clinical outcomes. RESULTS: Five randomised controlled trials were located, each of which utilised different forms of yoga interventions and in which the severity of the condition ranged from mild to severe. All trials reported positive findings but methodological details such as method of randomisation, compliance and attrition rates were missing. No adverse effects were reported with the exception of fatigue and breathlessness in participants in one study. LIMITATIONS: No language restrictions were imposed on the searches conducted but no searches of databases in languages other than English were included. CONCLUSIONS: Overall, the initial
indications are of potentially beneficial effects of yoga interventions on depressive disorders. Variation in interventions, severity and reporting of trial methodology suggests that the findings must be interpreted with caution. Several of the interventions may not be feasible in those with reduced or impaired mobility. Nevertheless, further investigation of yoga as a therapeutic intervention is warranted.

Margaret DiBencedetto, Kirn E. Innes32: Objective of the study was to determine if a tailored yoga program could improve age-related changes in hip extension, stride length, and associated indices of gait function in healthy elders, changes that have been linked to increased risk for falls, dependency, and mortality in geriatric populations. Design: Single group pre-post test exploratory study, A 3-dimensional quantitative gait evaluation, including kinematic and kinetic measurements, was performed pre- and post innervention. Changes over time (baseline to post intervention) in primary and secondary outcome variables were assessed using repeated-measures analysis of variance. Yoga exercises were performed in an academic medical center (group classes) and in the subjects' homes (yoga home-practice assignments). Pre- and post assessments were performed in a gait laboratory. Participants: Twenty-three healthy adults (age range, 62-83 y) who were naive to yoga were recruited; 19 participants completed the program. Intervention: An 8-week Iyengar Hatha yoga program specifically tailored to elderly persons and designed to improve lower-body strength and flexibility. Participants attended two 90-minute yoga/classes per week, and were asked to complete at least 20 minutes of directed home practice on alternate days. Main Outcome Measures: Peak hip extension, average anterior pelvic tilt, and stride length at comfortable walk in speed. Results: Peak hip extension and stride length significantly increased $F_{1,18}=15.44$, $P<001$;
F_{1,18}=5.57, P=.03, respectively). We also observed a trend towards reduced average pelvic tilt (F^{1^4.10}, P=.06); adjusting for the modifying influence of frequency of home yoga practice strengthened the significance of this association (adjusted F_{7}=14.30, P=.001). Both the frequency and duration of yoga home practice showed a strong, linear, dose- response relationship to changes in hip extension and average pelvic tilt.

Conclusions: Findings of this exploratory study suggest that yoga practice may improve hip extension, increase stride length, and decrease anterior pelvic tilt in healthy elders, and that yoga programs tailored to elderly adults may offer a cost-effective means of preventing or reducing age-related changes in these indices of gait function.

Virginia S. Cowen and Troy B. Adams: Summary Twenty-six healthy adults age 20-58 (Mean 31.8) participated in six weeks of either astanga yoga or hatha yoga class. Significant improvements at follow-up were noted for all participants in diastolic blood pressure, upper body and trunk dynamic muscular strength and endurance, flexibility, perceived stress, and health perception. The improvements offered for each group when compared to baseline assessments. The astanga yoga group had decreased diastolic blood pressure and perceived stress, and increased upper body and trunk dynamic muscular strength and endurance, flexibility, and health perception. Improvements for the hatha yoga group were significant only for trunk dynamic muscular strength and endurance, and flexibility. The findings suggest that the fitness benefits of yoga practice differ by style.

Lila Rucker: She has conducted a study on 7 men who had been convicted of violent offences and incarcerated in United State Mid Western Maximum security prison volunteered to embark to a journey towards self mastery by participating in yoga and mediation classes for three months as part of an exploratory research

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project. This paper draws their general entries and interviews. Content analysis revealed a continuum of desires and reported benefits including the immurgence of certain individuals “own truths” and a sense of meaningfulness rooted in the higher purpose” It was in the spacious openness of discipline self awareness wherein some men found “response ability” and thus themselves as well as others.

**John C Kimbrough**\(^{35}\) Published a paper on teaching yoga in Cambodian prison-pain, laughter, awakening, enlighten. We wants them to experience things that will make them laugh as we understand the need to find something humorous or funny in their present experience and situation and that learning and practising yoga doesn’t all have to be somber and consist of a painful study and practice. Laughter can uplift the mind, soul and spirit of a man, just as postures and mediation can, when trying to do a posture that is demanding and painful, such a camel posture can make it practice one that is less dreaded. We also see as all teachers of yoga do, a rapid evolution of mindfulness and energy in the learners, which can make them both appreciative of what yoga is bringing them and determined to carry on with their practice in a diligent manner and learn more about yoga.

**Nicole Tomlinson**\(^{36}\) brought a pilot project into a prison, said he had never thought of using yoga to treat prisoners. Cameron who works out at hospital in Ottawa, said yoga seems like a good week for a provincial correctional center. He has seen literature about it. It is benefiting patients with mood disorder and realized it may have the same effect on the troubled prisoners. After deciding he wanted to bring yoga into the St. Lawrence Valley correctional and treatment center, Cameron contacted the art of living foundation, whose leader Shri Shri Ravi Shankar spoke at the first seminar he attended. The international non governmental organization, which offer yoga programme to eliminate stress for people from all backgrounds, had done similar prison projects in United States, Africa, India and South America. The doctor put his recommendation behind the venture and it was proved by the

\(^{35}\) Jhon C. Kimbrough; Teaching yoga in Cambodian prison –pain laughter, awakening and enlighten; www.yogalink.blogspot.com; 2008

\(^{36}\) Nicole Tomlinson; “Yoga in Ontario prison” St. Lawrence Valley Correctional Center, Brookville ont. Aug., 2007.
province. Cameron has just yet to compile any hard data, but feedback from forms filled by 18 out of prisoners after the course was overwhelmingly positive. Some highlights from the inmates are 15 said they found the course helpful, 17 said they would recommend the course run again, 14 said they have practised the main breathing technique and Sudarshan Kriya on regular basis, 14 said they had been interested in attending yoga sessions in their community after they got out of jail.

Sandra Benavides & Joshua Caballero\(^{37}\): In the University of Texas, America has studied on astanga yoga for children and adolescent for weight management and psychological well being. Objective: the objective of the pilot study was to determine the effect of yoga on weight in the youth at risk for developing type 2 diabetes. Secondarily the impact of participation in yoga and self concept and psychiatric symptoms was measured. Method:- A 12 week prospective pilot astanga yoga programme 20 children and adolescents. Weight was measured before and after the programme. All participants completed self concept, anxiety and depression inventories at the initiation and completion of the programme.

**Results:** 14 predominately Hispanic children, ages 8-15, completed the programme. The average weight loss was 2 kg., weight decreased from 61.2 +20.2 to 59.2 +19.2kg (P=0.01). Four of five children with low self esteem improved, though two had decreases in self esteem. Anxiety system improved in the study.

S. Telles, R. Nagarathana and others\(^{38}\): A study was conducted on sports teacher to know the physiological changes after three month of yogic innervations. There was a significant increase in PFR (60%) FEV- FVC (18%) (though FEV/FVC % did not change), Breath holding time (40%), and a significant reduction in heart rate; respiratory rate, systolic and diastolic BP readings, body weight, and also in the number of errors made in the steadiness test (Table 1). There was a trend of increase in Galvanic Skin Resistance (GSR) reflecting reduction in sympathetic activity.


\(^{38}\)S Telles, R. Nagarathana and others; “Physiological Changes in Sports teacher following three month training in yoga”. Phycho-physiology of Yoga and Rehabilitation ;Vol. 2, Vivekananda Yoga research Foundation Karnataka : 17-19.
supplying the sweat glands. However this was not significant (paired t-test, two tailed) for the group as a whole. When the GSR data of each subject was analyzed separately (Student’s t-test, two tailed), it was revealed that at the end of 3 months, the subjects fell into 3 groups: (i) 21 subjects had increased GSR, (ii) 9 subjects had decreased GSR, and (iii) 10 subjects showed no change. On examining the GSR data of the subjects belonging to each of the 3 groups separately, it was observed that the subjects who showed increased GSR at the end of 3 months had lower initial values than the others (group average initial value ± S.E was 44.1±2.7 K Ohms) and after 3 months the group average value ± S.E. was 82.0±4.7 KOhms. On the other hand, those who showed a decrease at the end of 3 months had higher initial values than the rest (group average initial value ± S.E. was 116.5±3.8 KOhms). Their final value (group average ± S.E. was 79.1 = 2.4 K Ohms). The subjects who showed no change had initial values in-between those of the other two groups (group average initial value ± S.E. was 82.0 ± 8.4 K Ohms) and this did not alter significantly after 3 months (group average ± S.E. was 74.0 ± 7.0). **Summary:** 1. This report shows that in a group of 40 physical education teachers who already had an average of 8.9 years physical training, 3 months of yogic training produced significant improvement in general health (in terms of body weight and BP reduction and improved lung functions). 2. There was also evidence of decreased autonomic arousal and more of psychophysiological relaxation (heart rate and respiratory rate reduction), and improved somatic steadiness (decreased errors in the steadiness test). 3. The changes at the end of 3 months in volar GSR in different directions (increase /decrease/ no change), depending on the initial values, suggests that practising yoga may help to bring about a balance in different autonomic functions, so that functioning is optimized.

**Scientific Research Department of Kaivalyadhma**\(^{39}\): The department had conducted an experimental study on the suicidal tendency of the students who had committed suicide but not succeeded. In academic arena, tendency to commit

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\(^{39}\)Scientific research department, Kaivalyadhma: "Yoga for prevention and control of suicidal tendency and restoring mental health in Indian adolescent students", Published on www.kavalyadham.com.
suicide is becoming prevalent today due to the. Factors like stiff competition, advanced syllabus, declining socioeconomic status and social and moral values, mixed negative feelings and fear of loosing self esteem and prestige especially among urban middle class section of society. At present the growing suicidal tendency in India is more among the adolescent students from intermediate to higher secondary level including students of IIT and medical sciences. In one study, 35% of students cited problems with career, 22 % with relationships, 16 per cent with family and 12 % with examination stress and 15% remained indifferent. 55 % students took the responsibility upon themselves, 34 % of students blamed the present educational system and others mentioned parents, friends and teachers. Thus, suicidal tendency is somehow becoming prominent among the adolescent students in India. No doubt the counselling centers make them understand, inform, encourage and give emotionally support to the students who visit it. However, in spite of availability of such a care, the suicidal tendency among the adolescents is significantly prevalent.

**Design of the Project:** This study will be conducted in 2 phases. The phase-wise objectives are as follows: **Phase-1: Survey Research:** Survey Research will be conducted on maximum 20,000 adolescent students (age: 15-22 years) throughout the State of Maharashtra to chalk out the 'percentage of students who are prone to suicidal tendency and their mental ill health due to academic stress. The questionnaire on Mental Health (Agashe & "Helade, 1999) and other custom made questionnaires will also be administered for parents' assessment about their child's behaviour including personality.

**Phase-2: Experimental Research**-An experiment will be conducted on minimum ninety subjects of both genders (n=90) i.e., Boys=45 and Girls=45 of same age range, who are prone to suicidal tendency or history of attempted suicide cases, drawn from the above survey "study. The Group-1 will consist of the subjects, who are prone to suicidal tendency / behaviour (n=30) and Group-2 includes subjects with attempted "suicidal cases (n2=30) and a Control group (Group-3) will be a mixed group Tempororizing of subjects prone to suicidal tendency and attempted
suicide cases (n=30). All the experimental subjects (Group 1 & Group 2) will stay inside the campus of Kavyaiyadhama (our Yoga institute), Lonavala, whereas the subjects of the control "group will stay with their family. Pre-post test and minimum three follow-up testing will be carried out on all the subjects with the selected variables. Posttest will be conducted after 6 weeks of Yoga training. It is assumed that the yoga intervention of three months would bring about positive changes in attitude towards life of the adolescence students in reversing stress induced suicidal behaviour by overcoming factors like depression, anxiety etc and restoring mental health.

I.N. Acharya and Samrita Sital: Mediation is a state of relaxed concentration on the relation the present moment thereby making our mind free from all thought and worries. It is way of freeing oneself from one's own bondage of attachment and addiction. In mediation our attention is directed toward particular object which leads to increased level of awareness. Which is one of most important feature consciousness? Meditation can induce an alters state of consciousness which leads to purgation of our subconscious mind from negative thought, feeling and emotions therapy attaining equipoise of mind which is indicator of perfect health. Tremendous changes observed in the human brain and nervous system during meditation. Unprecedented progress and research in neurobiology, investigated neurology, and study of neurotransmitters in the last two decades has given a great fillip to the study of neurophysiology of meditation and yoga.

T. K. Bera and M.V. Rajapurkar: Abstract : Our main purpose in this preliminary study was to analyze some important aspect of padmasna on the basis of bio mechanical principles and to see if the results was done considering the biomechanical dimensions viz. knee flexion time, Inclination of spine, disk pressure on L3 vertebra, moment of force and moment of inertia art knee joint, and the line of gravity, on the basis of anatomical movement in padmasna. Standard procedure and

\[\text{Acharya I.N. and Sital Samrita: Physiology of meditation Souvenir, National yoga week; 12-16 march 2007; Morarji Desai National Institute of Yoga, New Delhi.p.-147}\]
method were used to measure these parameters. The instruction based on biomechanical principles applied to padmasna was found suitable in maintaining a comfortable posture. Therefore like other sports skill a teacher can apply the knowledge of biomechanics for a better teaching method in yoga which may facilitate better performance in comfortable posture. The approach of biomechanics depends upon the scientific facts which may bring uniformity in teaching assessment and practice of padmasna and may lead towards standardization of the technique.

**Dr. U.S. Tripathi & Dr. Rajeev Choudhary**42: A study was conducted on selected physiological variables (Phy. Var) on 60 subjects (fifteen from each group) with the purpose to determine the effect of physical education, yogic and combination of both physical education and yoga programmes on selected physiological variables on mentally retarded students. The variables selected for the study were systolic blood pressure (SBP), diastolic blood pressure (DBP), pulse pressure (PP), resting heart rate (RHR) and maximum breath holding time (MBHT). In order to study the comparative effect of physical education, yoga and combination of both physical education and yoga programme on selected physiological variables, the analysis of co-variance was applied at 0.05 level of significance. To find out the difference between the adjusted means (AM) for four groups, critical differences (CD) for adjusted final means was applied to find out which of the differences between the paired adjusted final means were not significant. On the basis of the results, the following conclusions were drawn: In case of SBP (1.42), DBP (0.14), PP (0.08) and MBHC (0021), the experimental treatment groups did not prove to be superior to the control group. In case of RHR (21.90) experimental treatments proved to be superior to the control group and sequence of the training effect of the experimental groups was physical education > yoga> physical education and yoga. India being the second most populous country in the world, finds proportion of mentally handicapped persons in the country alarming. According to several sample

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surveys, over three percent of the children between 6 to 16 years of age were found retarded. As in deep studies of appropriate exercises where the children learn to feel his body parts, muscles have to be developed. Free plie, crawling, rolling, pushing against the resistance and yogic practices as Asana, Bandha, Mudra, Pranayama are the basic practices to be encouraged in these children. **Objectives of the study:** For the purpose of the study, the formulated objective was to determine the comparative effect of physical education programme. Yogic programme and combined program (Physical Education & Yoga) on selected physiological variables on mentally retarded students. **Methodology:** The subjects for the study were randomly selected on the basis of Stanford Binnet intelligence test scores obtained from the school records. 60 moderately retarded males were selected for this study. The 60 moderately retarded children were randomly assigned to four groups (15 subjects in each groups). All subjects were between the chronological age of 12 to 18 years. **Variables:** Following physiological variables were selected for the study. 1) Systolic Blood Pressure (SBP). 2) Diastolic Blood Pressure (DBP) 3) Pulse Pressure (PP) 4) Resting heart rate (RHT) 5) Maximum breath holding time (MBHT) **Experimental Design:** Random group design was adopted for this study as all the subjects were randomly selected and randomly divided into four groups. Further, the experimental treatments were assigned at random to the three experimental groups and the fourth group served as the control group. The experimental groups participated in three training programmes i.e. group A- Physical Education and Yoga (Combined), group B- Physical Education, Group C- Yoga. The training programme was conducted for a total duration of twelve weeks. **Physical Education Programme:** The training schedule was prepared keeping in mind the level of retardation and activity pattern of such children. In the first week of training, schedule was devoted to the learning of fundamental activities and movements of agility- jogging, running, sliding, walking, skipping and hopping in all directions with variation in speed. Spot running was given with a break of three to four minutes of rest in between. Following the above movements, an exercise table indicated
below was followed. Rhythmic jumps- astride, Tuck off the floor (number of repetitions- 8 to 10), On head and neck- turning, twisting and rotation movements (number of repetitions - 6 to 8), Arms and shoulder exercises (number of repetitions- 6 to 8), Trunk twisting and bending (number of repetitions- 8 to 10), Leg balancing, bending and foot placing in all directions (number of repetitions- 4 to 6). The following activities were conducted in the training programme. Gymnastics, Splits (number of repetitions- 2 to 3), Front, left and side scale (number of repetitions- 2 to 3), Back arch (number of repetitions - 2 to 3), Forward roll (number of repetitions - 4 to 6), Backward roll (number of repetitions - 3 to 4), Athletics, 50 meter, 100 meter sprints, starting and finishing (number of repetitions - 2 to 3), Team Game :- (Basketball was selected), Chest pass, bounce pass, under- hand pass (number of repetitions - 8 to 10), Catching and receiving (number of repetitions - 8 to 10), Jump shot (number of repetitions - 10 to 12) With these simple and basic skills, the subjects were given the joy and pleasure of plieing team games for about 8 to 10 minutes. Yoga Programme: A set of 16 yogic Asana, Pranayama and Mudra were chosen for the training schedule. Surya Namaskar containing a series of 12 steps were used as a preliminary warming up. Shavasana was given after each asana and encouraged each subject to remain relaxed and placed like dead for 60 to 80 seconds. The asanas, which were comparatively easy to perform, were taught and practices in the early sessions of the schedule and ended with difficult ones in a progressive way. Initially, 2 to 3 asana were taught in a day, after that 8 to 10 asanas were practiced every day. The following Asanas were chosen for training : Surva Namaskar with 12 steps, Padmasana, Vakrasana, Parvatasana, Paschimottanasana, Shavasana, Halasana, Naukasana, Vipreet Karni, Bhujansana, Ardha Shabhasana, Makrasana, Tadasana, Ardha Chakrasana, Konasana, Padahastasana, yoga Mudra and Anuloma- Viloma Pranayama. Physical Education and Yoga (Combined Programme): A special time table was provided with the combination of both. The total duration of twelve weeks was equally divided between both physical education and yogic exercises for the schedule of group A. The group participated in both the programmes alternately following the same progressive method. Workout time was
the same except the frequency of each activity which was less. **Statistical Analysis:**
To compare the effect of Yoga programme, physical education programme & combined programme on selected Physiological Variables, Analysis of Co-variance was applied at 05 level of confidence. Analysis of co-variance (ANCOVA) table was formulated using ANCOVA program in Pascal language. In case of RHR, critical difference (CD) showed that the mean difference (MD) of group A & group C, Group A & Group D, Group B & Group C, Group B & Group D, Group C & Group D was found to be significant at .05 level of significance. The mean difference of Group A & Group B was not found to be significant at .05 level of significance. In case of RHR the sequence of the training effect of the experimental groups was Group B > Group C > Group A.

**L. Muthu Kumar**\(^{43}\): The objective of the study was to find out the effect of yogic practices on the development of physical fitness skills among the mentally retarded boys. Sixty mentally retarded boys’ subjects for this study were selected from CSI mentally retarded school, Sivakasi. Randomly and divided into two groups as control group and experimental group. Experimental group was involved in Yogic Practices programme for six weeks and the subjects in control group were not engaged in any physical activity during this yogic practices period. The collected data were statistically analyzed by using analysis of covariance (ANCOVA). Experimental group had a significant improvement for the effect of yogic practices on the development of physical fitness skills among the mentally retarded boys than the control group. **METHODOLOGY: Selection of Subjects** : Sixty mentally retarded boys ranging from the intelligence quotient of forty five to fifty five percent and with fourteen to sixteen year of age were randomly selected as subjects. **Research Design:** The following design was used to estimate the effect of yogic practices on the development of physical fitness skills of the mentally retarded boys. They were divided into two groups. Group 'A' (thirty mentally retarded subjects) and group “B5 (thirty mentally retarded subjects). The groups were designated as group

'A' control group and group 'B' Experimental group. The control group was not subjected to any treatment during experimental period whereas experimental group was subjected to the experimental treatment during the period of experiment, experimental group was given yogic practices daily for a period of six weeks, excluding Sunday. The training was given for one hour in the evening for all the days. For the present study the experimental measure was constituted with the following three variables. **Statistical Analysis:** The following statistical procedure was observed to estimate the effect of yogic practices on the development of physical fitness skills of the mentally retarded boys. In this study, two groups (Control and experimental groups) were taken. Since the two groups were unequaled and also the selected variables were more than one, analysis of covariance (ANCOVA) was used. When the groups were two, application of post-hoc test was not necessary. **Discussion:** Since the obtained 'F' value 9.035 was higher than the tale value 4.02, the result becomes significant and the hypothesis was accepted. **Conclusion:** In the light of the findings and within the limitations of the present study the following conclusions were drawn. Experimental group had a significant improvement in the effect of yogic practices on the development of physical fitness skills among the mentally retarded boys than the control group.