CHAPTER - II

REVIEW OF LITERATURE

Andrew Ward, Traci Mann, Erika H. Westling, J. David Creswell, Jeffery P. Elbert, Matthew Wallaert, (2008) did study on ‘Stepping up the pressure: arousal can be associated with a reduction in male aggression’ The attentional myopia model of behavioral control [Mann and Ward, 2007] was tested in an experiment investigating the relationship between physiological arousal and aggression. Drawing on previous work linking arousal and narrowed attentional focus, the model predicts that arousal will lead to behavior that is relatively disinhibited in situations in which promoting pressures to aggress are highly salient. In situations in which inhibitory pressures are more salient, the model predicts behavior that is relatively restrained. In the experiment, 81 male undergraduates delivered noise-blasts against a provoking confederate while experiencing either high or low levels of physiological arousal and, at the same time, being exposed to cues that served either to promote or inhibit aggression. In addition to supporting the predictions of the model, this experiment provided some of the first evidence for enhanced control of aggression under conditions of heightened physiological arousal. Implications for interventions designed to reduce aggression are discussed.

Anita (1994) provided an insight into the gender-differences in adolescent’s self concept and adjustment. It was depicted from the results that girls better adjusted in emotional, social, educational and total areas of adjustment.
compared to boys. Similarly, Muni and Pavigrahi (1997) found that girls were better adjusted in all the areas of adjustment pattern than boys. They examined the effect of maternal employment on adjustment on a total of 80 children (40 boys and 40 girls) from 6th and 7th grades of two different schools of Berhampur, Orissa, having equal number of employed mothers and housewives. Family demographic profile and adjustment inventory by Saraswat (1984) were administered.

**Bernardi L. Passino C. et al. (2001)**:

Assessed influence of different breathing patterns on autonomic cardiovascular modulation during acute exposure to altitude-induced hypoxia in a study ‘Breathing patterns and cardiovascular autonomic modulation during hypoxia induced by simulated altitude’. Relative changes in minute ventilation (VE), oxygen saturation (%SaO2), spectral analysis of RR interval and blood pressure, and response to stimulation of carotid baroreceptors (neck suction) at baseline and after acute (1 h) hypobaric hypoxia (equivalent to 5,000 m, in a hypobaric chamber) were measured in 19 subjects (nine controls and 10 Western yoga trainees of similar age). These were measured while breathing spontaneously, at 15 breaths/min (controlled breathing) and during 'complete yogic breathing' (slow diaphragmatic + thoracic breathing, approximately 5 breaths/min) in yoga trainees, or simple slow breathing in controls. Their results are at baseline %SaO2, VE and autonomic pattern were similar in both groups; simulated altitude increased VE in controls but not in yoga trainees; %SaO2 decreased in all subjects, but more in controls than in yoga trainees (17 versus 12%, 14 versus 9%, 14 versus 8% during spontaneous breathing, controlled breathing and yogic or slow breathing, respectively).
Simulated altitude decreased RR interval and increased indices deducted from spectral analysis of heart rate variability and systolic blood pressure in controls, indicating sympathetic activation; these changes were blunted in yoga trainees, and in both groups during slow or yogic breathing. Thus, slow yogic breathing maintains better blood oxygenation without increasing VE (i.e. seems to be a more efficient breathing) and reduces sympathetic activation during altitude-induced hypoxia.

**Yoga** which encompasses several techniques including physical postures, breathing techniques (Pranayama) and meditation has become very popular for its applications in health starting from better physical fitness Telles S, Hanumanthaiah BH, Nagarathna R, Nagendra HR (1994) to a better quality of life. The mood benefits of Hatha yoga and swimming compared in college students in study of **Berger BG, Owen DR (1992)**, showed that yoga was as effective as swimming in decreasing anxiety, confusion, tension and depression, and that the acute decreases after yoga were significantly greater than after swimming for men who were personally selected to participate.

**Bharshankar Jyotsana R. et al. (2003)**

Conducted a study ‘Effect of yoga on cardiovascular system in subjects above 40 years’ to examine Pulse rate, systolic and diastolic blood pressure were studied in 50 control subjects (not doing any type of physical exercise) and 50 study subjects who had been practicing yoga for 5 years. From the study it was observed that significant reduction in the pulse rate occurs in subjects practicing yoga (P<0.001). The difference in the mean values of systolic and diastolic blood pressure between study group and control group was also statistically significant. The systolic and diastolic blood pressure...
showed significant positive correlation with age in the study group as well as in the control group. The significance of difference between correlation coefficient of both the groups was also tested with the use of Z transformation and the difference was significant. Results indicate that yoga reduces the age related deterioration in cardiovascular functions.


Studied the short-term impact of a brief lifestyle intervention based on yoga on some of the biochemical indicators of risk for cardiovascular disease and diabetes mellitus. Their topic was ‘A brief but comprehensive lifestyle education program based on yoga reduces risk factors for cardiovascular disease and diabetes mellitus’. The variables of interest were measured at the beginning (day 1) and end (day 10) of the intervention using a pre-post design. The study is the result of operational research carried out in their Integral Health Clinic (IHC). The IHC is an outpatient facility which conducts 8-day lifestyle modification programs based on yoga for prevention and management of chronic disease. A new course begins every alternate week of the year. The study is based on data collected on 98 subjects (67 male, 31 female), ages 20-74 years, who attended programs. The subjects were a heterogeneous group of patients with hypertension, coronary artery disease, diabetes mellitus, and a variety of other illnesses. The intervention consisted of asanas (postures), pranayama (breathing exercises), relaxation techniques, group support, individualized advice, lectures and films on the philosophy of yoga and the place of yoga in daily life, meditation, stress management, nutrition, and knowledge about the illness. The outcome measures were fasting plasma glucose and serum lipoprotein profile. These variables were determined in
fasting blood samples, taken on the first and last day of the course. Fasting plasma glucose, serum total cholesterol, low-density lipoprotein (LDL) cholesterol, very-LDL cholesterol, the ratio of total cholesterol to high density lipoprotein (HDL) cholesterol, and total triglycerides were significantly lower, and HDL cholesterol significantly higher, on the last day of the course compared to the first day of the course. The changes were more marked in subjects with hyperglycemia or hypercholesterolemia. The observations suggest that a short lifestyle modification and stress management education program leads to favorable metabolic effects within a period of 9 days.

**C.P. Khokhar and Brijesh Kumar Upadhayay (2007)**

In which they revealed that mean difference on adjustment between the boys and girls is not significant that confirms that adjustment is independent of sex effect.

**Cas L.D., Metra M., et al. (1993)**

Reported in his study on the topic of ‘Stress and ischemic heart disease’ that the role of mental stress in ischemic heart disease is two-fold: as a risk factor of coronary artery disease and as a trigger of acute ischemic attacks in patients with established coronary atherosclerosis. The role of stress as a risk factor is still controversial. Data regarding the relationship between occupational factors and development of coronary atherosclerosis have not been confirmed. A type personality, above all when anger and hostility traits are present, seems to be a predisposing factor for the development of coronary artery disease. These data however, were not confirmed in study groups.
including patients with a higher prevalence of other, more important, risk factors. Stress can have an important role as a trigger of acute ischemic attacks. This is indirectly shown by the circadian distribution of the main manifestations of ischemic heart disease (sudden death, myocardial infarct, ST segment depression). In fact, their incidence is significantly higher in the morning hours, after awakening, when mental stress is higher. In the laboratory setting, mental stress can induce myocardial ischemia in a variable percentage of patients (0 to 80%). Prevalence of mental stress-induced myocardial ischemia varies depending on the stressor used, the patients group and, above all, the diagnostic tool. Ischemic episodes induced by mental stress, in fact, are generally silent and less severe and extensive than those elicited by exercise stress testing. Patients with mental stress-induced myocardial ischemia tend to present higher scores on measures of aggressivity, anger and hostility. These psychological features are related to a heightened cardiovascular reactivity with a brisk and greater increase in heart rate and blood pressure after exposure to stress. The mechanism by which mental stress can induce myocardial ischemia is represented by an increase in myocardial oxygen demand, through the increased heart rate and blood pressure, probably associated with an increase in coronary vascular resistance.

**Chen Kuei-Min, Wei-Shyuan Tseng, Li-fen Ting, Gwo-feng Huang (2007)**

Reported in the topic ‘Development and evaluation of a yoga exercise programme for older adults’ this is called the Silver yoga Programme. Yoga practice is associated with numerous health improvements, including reduced cardiovascular risk, body mass index and blood pressure. Yoga is also associated with improved respiration, psychological health and pain
management. Studies have suggested the beneficial effects of yoga in the older population. The study was conducted in 2005 and it had two phases. Phase I consisted of sending a survey to 10 experts to help develop the Silver yoga Programme. A hard copy and a video containing detailed descriptions and demonstrations of the programme were then sent to the experts for review and critique regarding the clarity and feasibility of the yoga postures. Phase II was an enquiry into older adults' views on the programme using a quantitative evaluation and semi-structured qualitative inquiry. Fourteen women participants from a senior activity centre were interviewed individually after 1 month of Silver yoga group practice, three times per week, 70 minutes per session. They were asked to evaluate the appropriateness of postures based on the criteria of difficulty, acceptability, feasibility and helpfulness. Five open-ended questions asked participants to reflect on their yoga experiences. Participants' mean ratings of the acceptability, feasibility and helpfulness of the four aspects of the programme (warm-up, Hatha yoga, relaxation and guided-imagery meditation) ranged from 8.8 +/- 1.9 to 9.3 +/- 1.5; mean ratings of the difficulty of the programme revealed that relaxation and guided-imagery meditation were fairly easy to follow (0.1 +/- 0.3 and 0.1 +/- 0.3 respectively), but the postures in the Hatha yoga were relatively challenging (2.1 +/- 2.6). The Silver yoga Programme should undergo further pilot-testing with larger samples of older adults before it is taken up internationally as a health-promotion activity for older adults.

Clay Carolyn C., Lloyd Lisa K et al (2005)

Explain in the study ‘The metabolic cost of hatha yoga’ with to determine the metabolic and heart rate (HR) responses of hatha yoga. 26
women (19-40 years old) performed a 30-minute hatha yoga routine of supine lying, sitting, and standing asanas (i.e., postures). Subjects followed identical videotaped sequences of hatha yoga asanas. Mean physiological responses were compared to the physiological responses of resting in a chair and walking on a treadmill at 93.86 m.min(-1) [3.5 miles per hour (mph)]. During the 30-minute hatha yoga routine, mean absolute oxygen consumption (Vo(2)), relative Vo(2), percentage maximal oxygen consumption (%Vo(2)R), metabolic equivalents (METs), energy expenditure, HR, and percentage maximal heart rate (%MHR) were 0.45 L.min(-1), 7.59 ml.kg(-1).min(-1), 14.50%, 2.17 METs, 2.23 kcal.min(-1), 105.29 b.min(-1), and 56.89%, respectively. When compared to resting in a chair, hatha yoga required 114% greater O(2) (L.min(-1)), 111% greater O(2)(ml.kg(-1).min(-1)), 4,294% greater %Vo(2)R, 111% greater METs, 108% greater kcal.min(-1), 24% greater HR, and 24% greater %MHR. When compared to walking at 93.86 m.min(-1), hatha yoga required 54% lower O(2)(L.min(-1)), 53% lower O(2)(ml.kg(-1).min(-1)), 68% lower %Vo(2)R, 53% lower METs, 53% lower kcal.min(-1), 21% lower HR, and 21% lower %MHR. The hatha yoga routine in this study required 14.50% Vo(2)R, which can be considered a very light intensity and significantly lighter than 44.8% Vo(2)R for walking at 93.86 m.min(-1) (3.5 mph). The intensity of hatha yoga may be too low to provide a training stimulus for improving cardiovascular fitness. Although previous research suggests that hatha yoga is an acceptable form of physical activity for enhancing muscular fitness and flexibility, these data demonstrate that hatha yoga may have little, if any, cardiovascular benefit.
Coie, John D.; Lochman, John E.; Terry, Robert; Hyman, Clarine (1992)

Worked on the research, ‘Predicting early adolescent disorder from childhood aggression and peer rejection’, in which two large cohorts of Black 3rd-grade children from low-income families were followed into early adolescence. Adjustment at the end of the 1st year of middle school was assessed by teacher and parent ratings and by adolescent self-reports. Childhood peer social status predicted parent-reported externalized and internalized disorder and self-reported internalized disorder. Childhood aggression predicted self-reported externalized and internalized disorder and parent-reported externalized disorder. Teacher ratings of school adjustment were predicted by aggression, rejection, and sex of the child. Consensus judgments of poor adjustment were predicted by both aggression and peer rejection, with sex moderating the effect of peer rejection. Both childhood aggression and peer rejection appear to be significant predictors of adolescent disorder, with each making a predictive contribution uniquely its own.

Crutz and Gonzaley (1969)

Used a check list involving 277 problems to study adjustment problems of adolescents. Sample consisted of 105 males and 228 females. Results were found significant at one percent level showing younger adolescents aged 12-15 years having more adjustment problems than older adolescents aged 16-19 years.


Did studied on ‘Engagement in gender normative versus nonnormative forms of aggression: Links to social–psychological adjustment’, said although
many important advances have been made in our understanding of childhood aggression in recent years, a significant limitation of prior studies has been the lack of attention to the possible moderating role of gender in the links between aggression and social–psychological adjustment. To address this issue, the author evaluated the adjustment status associated with engagement in gender normative versus gender nonnormative forms of aggression for both boys and girls. Indexes of social–psychological adjustment assessed included teacher and self-reports of internalizing and externalizing difficulties (N1,166 children 9–12 years old). Results showed that = children who engaged in gender nonnormative forms of aggression (i.e., overtly aggressive girls and relationally aggressive boys) were significantly more maladjusted than children who engaged in gender normative forms of aggression and children who were nonaggressive.

**Crick, Nicki R.; Dodge, Kenneth A (1994), ‘**

A review and reformulation of social information-processing mechanisms in children's social adjustment’, Research on the relation between social information processing and social adjustment in childhood is reviewed and interpreted within the framework of a reformulated model of human performance and social exchange. This reformulation proves to assimilate almost all previous studies and is a useful heuristic device for organizing the field. The review suggests that overwhelming evidence supports the empirical relation between characteristic processing styles and children's social adjustment, with some aspects of processing (e.g., hostile attributional biases, intention cue detection accuracy, response access patterns, and evaluation of response outcomes) likely to be causal of behaviors that lead to social status
and other aspects (e.g., perceived self-competence) likely to be responsive to peer status.

**Damodaran, A., et al. (2002)**

Conducted a study on twenty patients with mild to moderate essential hypertension underwent yogic practices daily for one hour for three months. Their study topic was ‘Therapeutic potential of yoga practices in modifying cardiovascular risk profile in middle aged men and women’. Results showed decrease in blood pressure and drug score modifying risk factors, i.e. blood glucose, cholesterol and triglycerides decreased overall improvement in subjective well being and quality of life. There was decrease in VMA catecholamine, and decrease MDA level suggestive decrease sympathetic activity and oxidant stress.

**Deshpande S, Nagendra HR, Raghuram N(2008)**

Have studied the the effect of yoga on verbal aggressiveness in normal healthy adults. Result revealed that there was a significant decrease in verbal aggressiveness in the yoga group ( P = 0.01 paired samples t-test) with a non significant increase in the control group.


Examined school adjustment problems of about 1000 students aged 6 through 17 years. The Behavior Problem Checklist was factor-analyzed to identify multivariate factors of adjustment problems. Age- and sex-based subgroups were then compared on these factors, and some estimates of criteria for abnormality were derived. Finally, the prevalence of each problem on the checklist was derived separately for age- and sex-based subgroups, which
were then contrasted on the items. The results provide basic information about the adjustment problems of those students who are not considered socially or personally maladjusted.

**Dutta et al. (1997)**

Focused on the home adjustment of 200 adolescents drawn randomly from Assam Agricultural University and Kendriya Vidyalaya, Jorhat, Assam in their study. The tool adjustment inventory for college students developed by Sinha and Singh (1980) was administered. The results suggested no difference between the groups of 16-18 years and 19-21 years in home adjustment.

**Dutta et al. (1998)**

Conducted a study on social adjustment of adolescents on 200 adolescents drawn equally from Assam agricultural university and Kendriya vidyalaya, district of Jorhat, Assam. Sample of 50 boys and 50 girls covering the age group of 16 to 18 years and 19 to 21 years with equal gender representation was selected. Adjustment inventory for college students developed by Sinha and Singh (1980) was administered. Results revealed no significant difference among the gender and also between the two age groups in the area of social adjustment. Studies are in contradictory to draw a conclusion.

**Galantino, Mary Lou PT, PhD, MSCE; Galbavy, Robyn PT, MPT; Quinn, Lauren DPT (2008)**

Had purpose of their study of ‘Therapeutic Effects of Yoga for Children: A Systematic Review of the Literature’ that is to explore various databases and included case-control and pilot studies, cohort and randomized controlled trials that examined yoga as an exercise intervention for children.
The evidence shows physiological benefits of yoga for the pediatric population that may benefit children through the rehabilitation process, but larger clinical trials, including specific measures of quality of life are necessary to provide definitive evidence.


Studied that considerable evidence exists for the place of mind body medicine in the treatment of anxiety disorders in the study ‘Effect of yoga based lifestyle intervention on state and trait anxiety’. Excessive anxiety is maladaptive. It is often considered to be the major component of unhealthy lifestyle that contributes significantly to the pathogenesis of not only psychiatric but also many other systemic disorders. Among the approaches to reduce the level of anxiety has been the search for healthy lifestyles. The aim of the study was to study the short-term impact of a comprehensive but brief lifestyle intervention, based on yoga, on anxiety levels in normal and diseased subjects. The study was the result of operational research carried out in the Integral Health Clinic (IHC) at the Department of Physiology of All India Institute of Medical Sciences. The subjects had history of hypertension, coronary artery disease, diabetes mellitus, obesity, psychiatric disorders (depression, anxiety, 'stress'), gastrointestinal problems (non ulcer dyspepsia, duodenal ulcers, irritable bowel disease, Crohn's disease, chronic constipation) and thyroid disorders (hyperthyroidism and hypothyroidism). The intervention consisted of asanas, pranayama, relaxation techniques, group support, individualized advice, and lectures and films on philosophy of yoga, the place of yoga in daily life, meditation, stress management, nutrition, and knowledge about the illness. The outcome measures were anxiety scores, taken on the first
and last day of the course. Anxiety scores, both state and trait anxiety were significantly reduced. Among the diseased subjects significant improvement was seen in the anxiety levels of patients of hypertension, coronary artery disease, obesity, cervical spondylitis and those with psychiatric disorders. The observations suggest that a short educational programme for lifestyle modification and stress management leads to remarkable reduction in the anxiety scores within a period of 10 days.

**Harinath K. et al. (2004)**

Conducted a yoga based study on the topic ‘Effects of Hatha yoga and Omkar meditation on cardiorespiratory performance, psychologic profile, and melatonin secretion’. In their programme thirty healthy men were randomly divided in two groups. Group 1 subjects served as controls and performed body flexibility exercises for 40 minutes and slow running for 20 minutes during morning hours and played games for 60 minutes during evening hours daily for 3 months. Group 2 subjects practiced selected yogic (postures) for 45 minutes. They found that Yogic practices for 3 months resulted in an improvement in cardiorespiratory performance and psychological profile. The plasma melatonin also showed an increase after three months of yogic practices.

**Harvey JR (1983)**

The clinical potential of yoga as a self-control technique for improving and stabilizing affective states was studied by Harvey. In a three armed study, Harvey compared yogic breathing exercises with two control groups (a course on the philosophy of meditation and a course in psychology) and demonstrated that
yogic breathing exercises showed an improvement in mood and vigor as well as decreased tension, fatigue, and depression relative to subjects in control groups.

**Henning, Kris; Leitenberg, Harold; Coffey, Patricia; Bennett, Todd; Jankowski, M. Kay** (1997)

In their research ‘Long-term psychological adjustment to witnessing interparental physical conflict during childhood’, they have examined the long-term psychological impact of witnessing interparental conflict involving physical aggression during childhood. Of the 1,452 undergraduates (mean age 18.8 yrs) that were surveyed retrospectively, 203 (14%) reported witnessing at least 1 incident of physical aggression between parents, and both males and females reported higher levels of current psychological distress than controls who never witnessed interparental physical aggression. The group difference remained even after controlling for parental divorce, parental SES, physical abuse of the child, parental alcoholism and nonphysical aggression between parents. Same-sex parent victimization and outside intervention intensified the negative effect of these experiences. Decreased parental caring and warmth during childhood was found to account for variance in the adult adjustment of the Ss who witnessed interparental physical aggression in childhood.

**Holger Lüttich (2008)**

He chose the subject ‘Managing Negative Mental Health by Regular Yoga Training’ because he is already working as an Addiction Therapist, Psychological Counselor and Yoga teacher he works with mental misbalanced, addicted and psychological sick people. during delivering the lectures on mental health and hold group therapy and yoga lessons, with the evaluation of it and study the writings of Western therapists and Eastern Yoga Masters on Yoga Psychology, he could conclude that specific Yoga exercises are very
helpful in managing negative mental health. Research at several European, American and Indian universities is going on. He convinced that the ongoing scientific studies will show again positive results of yogic treatment. In the future Yoga will become very important for public health care systems. In my opinion it makes sense to begin with teaching Yoga in schools. Children should be trained in mental pureness, concentration, physical fitness and self-discipline by Yoga. By this way we would prevent many problems such as troubles, difficulties of learning, and psychological problems of children.

**James D. Roff, Robert D. Wirt**

Studied on ‘Childhood aggression and social adjustment as antecedents of delinquency’, for the present research a sample of 2,453 grade school children was followed into young adulthood through record sources. Teacher interviews provided information about low-peer-status children that was assessed in relation to subsequent delinquency for both sexes and young adult criminality for males. A multivariate design evaluated the joint effects of social class, a measure of family disturbance, and childhood problem behavior factors as antecedents of delinquency. Childhood aggression emerged as the most prominent antecedent factor for males but not for females. Social class and family disturbance were associated with aggression but did not have significant direct effects on delinquency. Aggression was related to severity of delinquency. Dispositional status, reflecting severity, was the best indicator of which delinquent males would have adult criminal records. A causal model is presented.
Jamie M. Ostrov, Kathleen E. Woods, Elizabeth A. Jansen, Juan F. Casas and Nicki R. Crick (2004),

Did research on ‘An observational study of delivered and received aggression, gender, and social-psychological adjustment in preschool: “This White Crayon Doesn’t Work …”’ in which a semi-structured observational study investigated gender differences in delivered and received relational, physical, verbal, and nonverbal aggression in a young preschool sample (N=60). Findings revealed that gender differences in subtypes of aggression may be apparent as early as 3 years of age. Specifically, girls were found to deliver and receive more relational aggression than males, whereas boys tended, although not significantly, to deliver and significantly received more physical aggression than females. Relational and physical subtypes of delivered and received aggression were differentially associated with preschoolers’ social-psychological adjustment.

Jane Case-Smith, Julie Shupe Sines, Maryanna Klatt (2010)

Have studied about the ‘Perceptions of Children Who Participated in a School-Based Yoga Program’. This study investigated students' perceptions of an 8-week school-based yoga program designed as a preventive intervention to reduce stress and improve behavior in students at risk for learning problems. The program was implemented in a low-income, urban neighborhood with 24 third grade students. The program included yoga poses and exercises, meditation, and slow breathing. After the 8 weeks, 21 students were interviewed in small focus groups (n = 4-5) regarding their perceptions of the program. Three themes emerged from the focus groups: The yoga program helped students (a) feel calm and focused, (b) gave them strategies to control their behavior in stressful situations, and (c) supported a positive self-esteem.
School-based interventions such as yoga programs may help to prevent behavioral problems, improve social participation, and help students to engage in classroom learning.

**Janis B. Kupersmidt, John D. Coie (1990)**

In the research ‘Preadolescent Peer Status, Aggression, and School Adjustment as Predictors of Externalizing Problems in Adolescence’, the comparative effectiveness of preadolescent aggressive behavior, peer rejection, and school functioning were evaluated in the prediction of adolescent delinquency and school maladjustment. Fifth-grade children ($n=112$, 69% white, 53% male, $M=11$ years old) were followed forward for 7 years until the end of high school. Rejected children were more likely to have a nonspecific negative outcome and more types of negative outcomes than average, popular, or neglected children, particularly among the white students. However, in regression models containing sex, race, aggression, frequent school absences, low grades, and rejection, the only significant predictor of juvenile delinquency or of a nonspecific negative outcome was aggression toward peers. Both aggression and frequent school absences were significant predictors of early school withdrawal. Analyses for the white children in the sample revealed that both rejection and aggression best predicted to the nonspecific negative outcome, whereas aggression alone best predicted to school dropout and to having one or more police contacts. Implications for future longitudinal outcome research and for risk-group identification in racially heterogeneous samples are discussed.

Review studies on the topic ‘Yoga in cardiac health (a review)’ efficacy of yoga in the primary and secondary prevention of ischaemic heart disease and post-myocardial infarction patient rehabilitation. Yoga is an unconventional form of physical exercise that has been practiced over a long period of time in the Indian sub-continent. It has gained immense popularity as a form of recreational activity all over the world. Its possible contributions to healthy living have been studied and many interesting revelations have been made. Benefits of yoga in the modification of cardiovascular risk factors and in the rehabilitation of the post-myocardial infarction patient are areas of significant importance. It is important to assess the practical significance and the suitability of incorporating yoga into the comprehensive cardiac rehabilitation programme. Majority of the rehabilitation workers believes that incorporating non-conventional forms of physical exercise such as yoga definitely would enhance efficacy and add value. This article attempts to study the history and the science of yoga and evaluate its effects on cardiovascular health.


Several studies have highlighted the psychological benefits of integrated yoga practices such as anxiety, neurosis, and depressive illness.

Jerry L. Deffenbacher (2008)

Explored the relationship of gender and urban/rural driving to anger, anger expression, aggression, and risky behavior while driving. Some small gender effects were found. Men and women did not differ on anger or forms
of anger expression, but men reported more aggressive and risky behavior. There were no urban/rural differences, except for one interaction. Urban males reported less overall driving anger than did other groups.

John L. Cotterell (2005)

Have done research on School as a Factor in Adolescents' Adjustment to the Transition to Secondary School. Secondary and high secondary students’ adjustment was assessed at three time-points (prior to the transition, shortly after the transition event, and 4 months later). Results showed strong effects for transition for both the expectations and reactions measures, with no effects for gender or personality factors. Where ecological change was greatest (i.e., moving from a small school to a large school) students were initially most optimistic, but also showed the greatest anxiety following the move. Later assessment of adolescents' perceptions of classroom environment found less favorable views following transition, with an increase recorded in the level of pressure and a decrease in supportiveness.

Khattab Kerstin, Khattab Ahmed A. et al. (2007)

Used relaxation techniques and established in managing of cardiac patients during rehabilitation aiming to reduce future adverse cardiac events. Their research topic was ‘Iyengar yoga increases cardiac parasympathetic nervous modulation among healthy practitioners’. It has been hypothesized that relaxation-training programs may significantly improve cardiac autonomic nervous tone. However, this has not been proven for all available relaxation techniques. They tested this assumption by investigating cardiac vagal modulation during yoga. They examined 11 healthy yoga practitioners (7 women and 4 men, mean age: 43 +/- 11; range: 26-58 years). Each
individual was subjected to training units of 90 min once a week over five successive weeks. During two sessions, participants practiced a yoga program developed for cardiac patients by B.K.S. Iyengar. On three sessions, participants practiced a placebo program of relaxation. On each training day participants underwent ambulatory 24 h Holter monitoring. The group of yoga practitioners was compared to a matched group of healthy individuals not practicing any relaxation techniques. Parameters of heart rate variability (HRV) were determined hourly by a blinded observer. Mean RR interval (interval between two R-waves of the ECG) was significantly higher during the time of yoga intervention compared to placebo and to control (P < 0.001 for both). The increase in HRV parameters was significantly higher during yoga exercise than during placebo and control especially for the parameters associated with vagal tone, i.e. mean standard deviation of NN (Normal Beat to Normal Beat of the ECG) intervals for all 5-min intervals (SDNNi, P < 0.001 for both) and root mean square successive difference (rMSSD, P < 0.01 for both). In conclusion, relaxation by yoga training is associated with a significant increase of cardiac vagal modulation. Since this method is easy to apply with no side effects, it could be a suitable intervention in cardiac rehabilitation programs.


Explain in the study ‘The Influence of Yoga-Based Programs on Risk Profiles in Adults with Type 2 Diabetes Mellitus: A Systematic Review’ that there is growing evidence that yoga may offer a safe and cost-effective intervention for Type 2 Diabetes mellitus (DM 2). However, systematic reviews are lacking. This article critically reviews the
published literature regarding the effects of yoga-based programs on physiologic and anthropometric risk profiles and related clinical outcomes in adults with DM 2. We performed a comprehensive literature search using four computerized English and Indian scientific databases. The search was restricted to original studies (1970–2006) that evaluated the metabolic and clinical effects of yoga in adults with DM 2. Studies targeting clinical populations with cardiovascular disorders that included adults with comorbid DM were also evaluated. Data were extracted regarding study design, setting, target population, intervention, comparison group or condition, outcome assessment, data analysis and presentation, follow-up, and key results, and the quality of each study was evaluated according to specific predetermined criteria. We identified 25 eligible studies, including 15 uncontrolled trials, 6 non-randomized controlled trials and 4 randomized controlled trials (RCTs). Overall, these studies suggest beneficial changes in several risk indices, including glucose tolerance and insulin sensitivity, lipid profiles, anthropometric characteristics, blood pressure, oxidative stress, coagulation profiles, sympathetic activation and pulmonary function, as well as improvement in specific clinical outcomes. Yoga may improve risk profiles in adults with DM 2, and may have promise for the prevention and management of cardiovascular complications in this population.

**Krishna (1981)**

Conducted a study on adjustment of adolescents on a sample of 200 (100 boys and 100 girls) XI grade students of range 13 – 18 years. Choice dilemmas questionnaire (Kogan and Wallach, 1964) and Hindi Adaptation of Bell’s adjustment inventory by Moshin and Hussain (1970) were administered.
The findings revealed that sex contributed significantly to home adjustment only. Similarly Leelavathi (1987) in her study in Dharwad city on 450 samples found that males had good social and total adjustment than females and age was associated with emotional adjustment. Thirugnanasambadam (1990) also supported where he reported that boys were better adjusted than girls on a sample of 388 students of 9th grade. Children’s behaviour checklist (Slott, 1974) modified by Shanmugasundaram (1986), adjustment scale (Narayanan, 1982) and socio-economic scale (Vendal, 1981) were administered. Similarly Dutta et al. (1997) reported boys to be better adjusted than girls in the areas of health adjustment. The same authors in another study on home adjustment (1997) reported girls to be better. However Mythili et al. (2004) investigated the adjustment problems of intermediate students. A sample of 150 boys and girls students were selected randomly from government and private management colleges in Vijayawada. The results reported that boys have more adjustment problems compared to girls.

**Kuruvilla (2006)**

Found that sex and area of residence influenced the emotional adjustment of adolescents from his study on 980 tenth standard students using standard scale of emotional adjustment (Kuruvilla, 2002). Girls were found to have better adjustment than boys.

Shalu and Audichya (2006) assessed and compared the school adjustment of 60 rural adolescents (14 to 16 years) with reference to their emotional, social and educational sphere. They reported a significant difference in emotional adjustment among the gender were boys scored better, whereas no significant difference was observed in school, social and educational adjustment.
However Hampel and Petermann (2006) investigated age and gender effects on perceived interpersonal stressors and psychological adjustment among early and middle adolescents and examined the associations of perceived stress and coping with adjustment. Results revealed that compared with boys, girls evaluated a higher amount of perceived interpersonal stress and used more social support. Additionally, girls scored higher on maladaptive coping strategies and emotional distress and scored lower on distraction than boys. Problems-focused and emotion focused coping were negatively related to emotional and behavioural problems, whereas perceived stress and maladaptive coping was positively associated with adjustment problems. These relations were stronger in female than in male adolescents.

**Laura Santangelo**

Did research on ‘Reducing Stress in School-age Girls Through Mindful Yoga’. The purpose of this study was to investigate the efficacy of mindfulness training through yoga with school-age girls to reduce perceived stress, enhance coping abilities, self-esteem, and self-regulation, and explore the relationship between the dose of the intervention and outcomes. The method for this study is that the Fourth- and fifth-grade girls were recruited from two public schools and randomly assigned to intervention and wait-list control groups. The intervention group met 1 hour a week for 8 weeks and completed 10 minutes of daily homework. Self-esteem and self-regulation increased in both groups. The intervention group was more likely to report greater appraisal of stress ($P < .01$) and greater frequency of coping ($P < .05$). Homework accounted for 7% of the variance in reported stress.
Consistent with reports of mindfulness training, greater awareness of the feelings associated with stress may enhance coping abilities. However, it is possible that the increasing awareness of stressors in itself increased stress, possibly as part of the process of developing mindfulness or related to cognitive, emotional, or social development. Mindfulness in children may differ from mindfulness in adults and warrants further investigation.

Linda J. Harrison, Ramesh ManochaKatya Rubia (2004),

In the research'Sahaja Yoga Meditation as a Family Treatment Programme for Children with Attention Deficit-Hyperactivity Disorder’, they suggested that The use of complementary and alternative medicine (CAM) as a treatment for children diagnosed with attention deficit-hyperactivity disorder (ADHD) is widespread, but little is known on the effectiveness of many such therapies. This study investigated meditation as a family treatment method for children with ADHD, using the techniques of Sahaja Yoga Meditation (SYM). Parents and children participated in a 6-week programme of twice-weekly clinic sessions and regular meditation at home. Pre- and post-treatment assessments included parent ratings of children’s ADHD symptoms, self-esteem and child–parent relationship quality. Perceptions of the programme were collected via parent questionnaires and child interviews. Results showed improvements in children’s ADHD behaviour, self-esteem and relationship quality. Children described benefits at home (better sleep patterns, less anxiety) and at school (more able to concentrate, less conflict). Parents reported feeling happier, less stressed and more able to manage their child’s behaviour. Indications from this preliminary investigation are that SYM may
offer families an effective management tool for family-oriented treatment of childhood ADHD.

**Lisa C. Kaley-Isley, John Peterson, Colleen Fischer, Emily Peterson, (2010)**

Did research on yoga for children and adolescents ‘Yoga as a Complementary Therapy for Children and Adolescents’ Yoga is being used by a growing number of youth and adults as a means of improving overall health and fitness. There is also a progressive trend toward use of yoga as a mind-body complementary and alternative medicine intervention to improve specific physical and mental health conditions. To provide clinicians with therapeutically useful information about yoga, the evidence evaluating yoga as an effective intervention for children and adolescents with health problems is reviewed and summarized. A brief overview of yoga and yoga therapy is presented along with yoga resources and practical strategies for clinical practitioners to use with their patients. The majority of available studies with children and adolescents suggest benefits to using yoga as a therapeutic intervention and show very few adverse effects. These results must be interpreted as preliminary findings because many of the studies have methodological limitations that prevent strong conclusions from being drawn. Yoga appears promising as a complementary therapy for children and adolescents. Further information about how to apply it most effectively and more coordinated research efforts are needed.

**Louise Arseneault, Elizabeth Walsh, Kali Trzesniewski, Rhiannon Newcombe, Avshalom Caspi and Terrie E. Moffitt (2006)**

Have made study on Bullying Victimization Uniquely Contributes to Adjustment Problems in Young Children. They examined bullying in the
Environmental Risk Study, a nationally representative 1994–1995 birth cohort of 2232 children. They identified children who experienced bullying between the ages of 5 and 7 years either as pure victims or bully/victims. We collected reports from mothers and teachers about children’s behavior problems and school adjustment when they were 5 years old and again when they were age 7. Experimental group was compared with control children, pure victims showed more internalizing problems and unhappiness at school when they were 5 and 7 years. Girls who were pure victims also showed more externalizing problems than controls. Compared with controls and pure victims, bully/victims showed more internalizing problems, more externalizing problems, and fewer prosocial behaviors when they were 5 and 7 years. They also were less happy at school compared with control children at 7 years of age. Pure victims and bully/victims showed more behavior and school adjustment problems at 7 years of age, even after controlling for preexisting adjustment problems at 5 years of age. Results revealed that Being the victim of a bully during the first years of schooling contributes to maladjustment in young children.


Did research ‘Yoga Practice May Buffer the Deleterious Effects of Abuse on Women’s Self-Concept and Dysfunctional Coping’ for Women who experienced abuse as children or adults can suffer from symptoms such as dissociations, physiological regulation difficulties, and mood disturbances that might not respond to traditional interventions. Given the benefits of yoga, they hypothesized that yoga practice would ameliorate the negative impact of abuse
The findings suggest that frequent yoga practice might ameliorate the negative impact of abuse history on self-concept and coping skills. In addition, findings suggest that women who incorporate yoga into other areas of life could get the greatest psychological benefits.


Reports that the effects of yoga training on cardiovascular response to exercise and the time course of recovery after the exercise on the topic ‘Modulation of cardiovascular response to exercise by yoga training’. Cardiovascular response to exercise was determined by the Harvard step test using a platform of 45 cm height. The subjects were asked to step up and down the platform at a rate of 30/min for a total duration of 5 min or until fatigue, whichever was earlier. Heart rate (HR) and blood pressure response to exercise were measured in the supine position before exercise and at 1, 2, 3, 4, 5, 7 and 10 minutes after the exercise. Exercise produced a significant increase in HR, systolic pressure and a significant decrease in diastolic pressure. After two months of yoga training, exercise-induced changes in these parameters were significantly reduced.


Studied on the topic ‘Lipid profile of coronary risk subjects following yogic lifestyle intervention’ that the effect of yogic lifestyle on the lipid status in angina patients and normal subjects with risk factors of coronary artery disease. The parameters included the body weight, estimation of serum cholesterol, triglycerides, HDL, LDL and the cholesterol - HDL ratio. A baseline evaluation was done and then the angina patients and risk factors subjects were randomly assigned as control (n = 41) and intervention (yoga)
group (n = 52). Lifestyle advice was given to both the groups. An integrated course of yoga training was given for four days followed by practice at home. Serial evaluation of both the groups was done at four, 10 and 14 weeks. Dyslipidemia was a constant feature in all cases. An inconsistent pattern of change was observed in the control group of angina (n = 18) and risk factor subjects (n = 23). The subjects practising yoga showed a regular decrease in all lipid parameters except HDL. The effect started from four weeks and lasted for 14 weeks. Thus, the effect of yogic lifestyle on some of the modifiable risk factors could probably explain the preventive and therapeutic beneficial effect observed in coronary artery disease.


Conducted a study on ‘Effect of yogic practices on subjective well being’. In this study forty eight healthy volunteers who participated in the practice of yoga over a period of 4 months were assessed on the Subjective Well Being Inventory the SWBI before and after the course in order to evaluate the effect of yoga on subjective feelings of well-being and quality of life. A significant improvement in 9 of the 11 factors of the SWBI was observed at the end of 4 months in these participants.

MamtaniRavinder, MamtaniRonac (2006)

Wrote in ‘Ayurveda and Yoga in Cardiovascular Diseases’. Ayurveda is derived from 2 Sanskrit words, namely, "Ayus" and "Veda," meaning life and knowledge, respectively. It literally means science of life. Ayurveda, of which yoga is an integral part, is widely practiced in India and is gaining acceptance in many countries around the world. It is a comprehensive and a holistic system, the focus of which is on the body, mind, and consciousness.
The Ayurvedic treatment consists of the use of herbal preparations, diet, yoga, meditation, and other practices. Based on the review of available studies, the evidence is not convincing that any Ayurvedic herbal treatment is effective in the treatment of heart disease or hypertension. However, the use of certain spices and herbs such as garlic and turmeric in an overall healthy diet is appropriate. Many herbs used by Ayurvedic practitioners show promise and could be appropriate for larger randomized trials. Yoga, an integral part of Ayurveda, has been shown to be useful to patients with heart disease and hypertension. Yoga reduces anxiety, promotes well-being, and improves quality of life. Its safety profile is excellent. Its use as a complementary therapeutic regimen under medical supervision is appropriate and could be worth considering.


Conducted a study on the topic of ‘Retardation of coronary atherosclerosis with yoga lifestyle intervention’ that Yoga has potential for benefit for patients with coronary artery disease though objective, angiographic studies are lacking. Their team evaluated possible role of lifestyle modification incorporating yoga, on retardation of coronary atherosclerotic disease. In this prospective, randomized, controlled trial, 42 men with angiographically proven coronary artery disease (CAD) were randomized to control (n = 21) and yoga intervention group (n = 21) and were followed for one year. The active group was treated with a user-friendly program consisting of yoga, control of risk factors, diet control and moderate aerobic exercise. The control group was managed by conventional methods i.e. risk factor control and American Heart Association step I diet. After one
year, the yoga groups showed significant reduction in number of anginal episodes per week, improved exercise capacity and decrease in body weight. Serum total cholesterol, LDL cholesterol and triglyceride levels also showed greater reductions as compared with control group. Revascularisation procedures (coronary angioplasty or bypass surgery) were less frequently required in the yoga group (one versus eight patients; relative risk = 5.45; P = 0.01). Coronary angiography repeated at one year showed that significantly more lesions regressed (20% versus 2%) and less lesions progressed (5% versus 37%) in the yoga group (chi-square = 24.9; P < 0.0001). The compliance to the total program was excellent and no side effects were observed. The conclusion is that Yoga lifestyle intervention retards progression and increases regression of coronary atherosclerosis in patients with severe coronary artery disease. It also improves symptomatic status, functional class and risk factor profile.

Mayasandra Chaya, Anura Kurpad et al. (2006)

Used different procedures practiced in yoga have stimulatory or inhibitory effects on the basal metabolic rate when studied acutely. Their study topic was ‘The effect of long-term combined yoga practice on the basal metabolic rate of healthy adults’. In daily life however, these procedures are usually practiced in combination. The purpose of the present study was to investigate the net change in the basal metabolic rate (BMR) of individuals actively engaging in a combination of yoga practices (asana or yogic postures, meditation and pranayama or breathing exercises) for a minimum period of six months, at a residential yoga education and research center at Bangalore. The measured BMR of individuals practicing yoga through a combination of
practices was compared with that of control subjects who did not practice yoga but led similar lifestyles. The BMR of the yoga practitioners was significantly lower than that of the non-yoga group, and was lower by about 13% when adjusted for body weight (P<0.001). This difference persisted when the groups were stratified by gender; however, the difference in BMR adjusted for body weight was greater in women than men (about 8 and 18% respectively). In addition, the mean BMR of the yoga group was significantly lower than their predicted values, while the mean BMR of non-yoga group was comparable with their predicted values derived from 1985 WHO/FAO/UNU predictive equations. This study shows that there is a significantly reduced BMR, probably linked to reduced arousal, with the long term practice of yoga using a combination of stimulatory and inhibitory yogic practices.

Mary J. Levitt, Gastón L. Bustos, Noel A. Crooks, and Jennifer Hodgetts

They designed to address the school adjustment of newly immigrant elementary, middle, and high school students in their first post-migration year. Students (N = 638) originated in Argentina, Colombia, Cuba, Haiti, or English-speaking Caribbean nations and they had been in the United States for less than one year. School adjustment indicators were academic grade average (GPA) and school attitudes. Significant predictors of both GPA and attitudes included prior achievement, grade level, English language proficiency, and parental support. Ecological risk predicted GPA, especially for younger students. Results revealed that students experiencing more immigration stress had less positive school attitudes. Experiences accompanying immigration affect initial school adjustment and may have long term consequences for school engagement.
Marsha Therese Danzig (2009)

Revealed after his study that when a child does not experience the necessary steps of social-emotional development, mental illness can develop, violence and aggression can increase, and frozen feelings keep children uninspired, bored, restless and experiencing poor health in bones, joints and organs. Yoga engages all the senses, creates a learning environment so children can relax, be more receptive, allow confidence, curiosity and comfort in relating to others. A relaxed receptive body produces a relaxed receptive brain, willing and most importantly, able to learn. Yoga may provide the one safe place for a person to find their inner language and experience healing. Student’s social-emotional development depends on a balanced and harmonious learning environment, which yoga creates. Yoga, the ancient practice of uniting Sun and Moon, Fire and Air, Earth and Water, Masculine and Feminine, Mind and Body, Spirit and Heart, has at its root, the concept of loving compassion and right relationship. Nurturing student’s body-soul wisdom through all aspects of Yoga, including asana, pranayama, meditation, mudra, philosophy, and so on, establishes the foundation for healthy, compassionate, confident, peaceful and self-aware adults.

M.V.R. Raju and T. Khaja Rahamtulla

Examined the adjustment problems of school students from urban and rural schools of Visakhapatnam district. Adjustment is a process by which a living organism maintains, a balance between the needs and the circumstances. The variables included for the study apart from adjustment (family, social, academic, financial and emotional) are age, gender, class, type of school etc. The study was conducted on a sample of 461 students (197 boys, 264 girls)
randomly selected from the various government and private schools from urban and rural areas of Visakhapatnam district, Andhra Pradesh. A standardized questionnaire developed by Jain (1972) was adopted for this study. The data was analyzed to examine the influence of individual factors on adjustment variables. The major findings of the study have shown that adjustment of school children is primarily dependent on the school variables like the class in which they are studying, the medium of instruction present in the school, and the type of management of the school. Parental education and occupation of the school children also significantly influenced adjustment.

**McCabe, Kym M.(2009)**

Did study on ‘The Effects of Yoga on Symptoms Associated with Conduct Disorder with Callous Unemotional Traits as a Moderator’ The purpose of this research was to investigate the additive therapeutic effects of a yoga intervention on the anxiety, depression and behavioral problems of conduct-disordered male adolescents in residential treatment. In addition, the moderating effects of callous-unemotional (CU) traits on outcome measures were assessed. The program consisted of a four-week intervention program in which participants were randomly assigned to either the yoga group (n=25), in which they practiced yoga with an instructor, or the control group (n=19), in which they met for a supervised study hall. The study included pre-testing on symptoms of anxiety, depression and CU traits, and post-testing on anxiety and depression measures only. Behavioral data were unavailable due to unanticipated program changes. A repeated measures MANOVA was utilized to investigate the benefits of yoga practice on a combined mental health variable that consisted of two dependent variables, anxiety and depression. A
significant effect for time, but not for the interaction between time and group, was found. This indicated that both groups’ scores decreased over time on the depression and anxiety variables, but that there was no statistically significant difference between the treatment groups’ depression and anxiety scores over time. In spite of non-significant results, additional exploratory analysis was conducted. Results indicated a trend towards significantly greater decreases in anxiety outcomes for the yoga group vs. the control group over time. The moderating effects of CU traits on the relationships among the treatment conditions and anxiety outcomes were found to be non-significant. Limitations of the present research, including low sample size and statistical power, are discussed.

**Michael A. Harris, Rhea Oelbaum, David Flomo (2007)**

Given the relationship between lifestyle and health, researchers have examined those factors that predict healthy lifestyle changes in the study ‘State of the Art Reviews: Changing and Adhering to Lifestyle Changes : What Are the Keys?’. Several key variables have emerged from the literature, and these variables predict positive lifestyle changes across multiple health domains. More specifically, past health behavior, demographics, personality traits, social support, family functioning, ongoing contact with health care providers, and an individual’s social ecology or network predict lifestyle change and adherence to lifestyle interventions. These variables are significant predictors of dietary and exercise regimen adherence, smoking cessation, decreased alcohol consumption, and adherence to medical treatment regimens. In addition, the use of behavioral, multicomponent, culturally specific interventions has proven to yield
positivelifestyle changes across multiple health domains. For reasons of brevity, this review focuses on predictors of positive lifestyle change within the realms of diet and physical activity.

**Mitchell J. Prinstein; Julie Boergers; Eric M. Vernberg (2001)**

Have studied about ‘Overt and Relational Aggression in Adolescents: Social-Psychological Adjustment of Aggressors and Victims’ Examined the relative and combined associations among relational and overt forms of aggression and victimization and adolescents’ concurrent depression symptoms, loneliness, self-esteem, and externalizing behavior. An ethnically diverse sample of 566 adolescents (55% girls) in Grades 9 to 12 participated. Results replicated prior work on relational aggression and victimization as distinct forms of peer behavior that are uniquely associated with concurrent social-psychological adjustment. Victimization was associated most closely with internalizing symptoms, and peer aggression was related to symptoms of disruptive behavior disorder. Findings also supported the hypothesis that victims of multiple forms of aggression are at greater risk for adjustment difficulties than victims of one or no form of aggression. Social support from close friends appeared to buffer the effects of victimization on adjustment.

**Nicki R. Crick, (1996)**

Studied about ‘The Role of Overt Aggression, Relational Aggression, and Prosocial Behavior in the Prediction of Children's Future Social Adjustment’, this research was related to the past researches on social adjustment that were addressed: (1) the tendency to focus on forms of aggression that are typical of boys (e.g., overt aggression) and to neglect forms that are more typical of girls (e.g., relational aggression) and (2) the tendency
to study negative behaviors (e.g., aggression), to the exclusion of positive behaviors (e.g., prosocial acts). Using a longitudinal design (n = 245; third-through sixth-grade children, 9–12 years old), assessments of children's relational aggression, overt aggression, prosocial behavior, and social adjustment were obtained at 3 points during the academic year. Findings showed that, as has been demonstrated in past research for overt aggression, individual differences in relational aggression were relatively stable over time. Additionally, relational aggression contributed uniquely to the prediction of future social maladjustment, beyond that predicted by overt aggression. Finally, prosocial behavior contributed unique information (beyond that provided by overt and relational aggression) to the prediction of future social adjustment.

Nicki R. Crick, Jamie M. Ostrov, Nicole E. Werner

Have stated in their research ‘A Longitudinal Study of Relational Aggression, Physical Aggression, and Children's Social–Psychological Adjustment’, that Although great strides have recently been made in our understanding of relational aggression and its consequences, one significant limitation has been the lack of prospective studies. The present research addressed this issue by identifying and assessing groups of relationally aggressive, physically aggressive, relationally plus physically aggressive (co-morbid), and nonaggressive children during their third grade year in elementary school and then reassessing them a year later, during fourth-grade (N = 224, 113 girls). Two aspects of social–psychological adjustment were assessed during both assessment periods including internalizing difficulties (i.e., withdrawal, depression/anxiety, and somatic complaints) and
externalizing problems (i.e., aggressive behavior, delinquency). It was revealed that the strongest predictor of future social–psychological adjustment problems and increases in these problems from third to fourth was the combination of relational and physical aggression. Relational aggression also contributed unique information, relative to physical aggression, in the prediction of future maladjustment. Implications of these findings for future research and prevention efforts, particularly for aggressive girls, are discussed.


This study aimed to assess and provide improvement in students' adjustments (Health, social & Emotional) among in maters of community homes through yoga practices. It also included dimensions physiological parameters including pulse rate, respiratory rate, breath holding time and weight in two groups (yoga and control) of subjects, students practiced yoga for 30 days had no prior knowledge and it was conducted under supervision regular to their daily routine whereas in control group, children with daily routine only have participated for pre assessment and last two days of the study for post assessment who were attending a regular school. There were equal numbers in each group for each of the 2 assessment (range 40 subjects) but due to five drop-outs, the sample size had n=75, 38 in yoga group and 37 in control group and age range was 09 to 13 years. Result showed that some parameters have pre values that differ significantly between groups. In these cases, no conclusions can be drawn about the comparison of the post values. For such parameters, we instead compare the change scores (POST-PRE) of the two groups and whole analyses have been done through Mann Whitney test. The yoga practice group improved in their adjustment compared to the
control group. There was significant improvement in their emotional adjustment and also in physiological health domain their Pulse rate and Breath holding time showed positive changes after one month yoga practice for positive promotion of health. Care and security provided by community homes to children and adolescents can improve with regular yoga routines.

Noel A. Card, Todd D. Little (2006)

Did study on ‘Proactive and reactive aggression in childhood and adolescence: A meta-analysis of differential relations with psychosocial adjustment’. An aggressive behavior in childhood has long been separated into that which is proactively motivated and that which is reactive. They report a meta-analytic review of the existing empirical literature that examines the associations of each type of aggression with six indices of psychosocial adjustment: internalizing problems, emotional dysregulation and ADHD-type symptoms, delinquent behaviors, prosocial behavior, sociometric status, and peer victimization. Even though not detectable in most single studies, meta-analytic combination revealed that reactive aggression was more strongly related to most of the indices of adjustment than was proactive aggression. This difference was small, however, and we argue that the difficulty in detecting differential correlates is due to the high intercorrelation between the functions of aggression, which appears to be an artifact of traditional measurement procedures. It is recommended that future research use measures that provide distinct assessment of the functions in order to more clearly distinguish the correlates of proactive and reactive aggression.
OKUBO TOMOO (2005)

Developed a subjective adjustment scale for adolescents from the viewpoint of person-environment fit, to examine the reliability and validity of the scale, and, using the scale, to investigate the relation between school life and subjective adjustment. Participants in Study 1 were 621 junior high school students, 786 senior high school students, and 393 university students, and, in Study 2, 375 junior high school students and 572 senior high school students. In Study 1, using factor analysis on the data from the initial set of 47 items in the subjective adjustment scale, 4 main factors were extracted: "sense of comfort," "existence of task and purpose," "feelings of acceptance and trust," and "absence of feelings of inferiority." The reliability and validity of the subjective adjustment scale were confirmed. In Study 2, in order to examine the relation between school life and subjective adjustment, multiple regression analyses were performed, with school life as the independent variable, and subjective adjustment, the dependent variable. The results for all schools in the study showed that although relations with friends were strongly related to subjective adjustment, relations with teachers and studies were not related to subjective adjustment.

Pandey and Tiwari (1982)

Showed that younger age group (14 – 16 years) had better social adjustment than the older age group (17 -18 years). A self structured questionnaire was administered to 181 urban, 66 semi-urban and 161 rural adolescents.

Studied that Conventional mind-body therapy has been proven a valuable noninvasive way to manage coronary disease in the study ‘Mind-body therapy in the management and prevention of coronary disease’. Yoga practice, especially, has been found to be valuable in preventing adverse outcomes of coronary disease by improving resistance to stress.

Parker, Jeffrey G.; Asher, Steven R. (1987)

Did research on ‘Peer relations and later personal adjustment: Are low-accepted children at risk?’, In this review, researchers examine the oft-made claim that peer-relationship difficulties in childhood predict serious adjustment problems in later life. The article begins with a framework for conceptualizing and assessing children's peer difficulties and with a discussion of conceptual and methodological issues in longitudinal risk research. Following this, three indexes of problematic peer relationships (acceptance, aggressiveness, and shyness/withdrawal) are evaluated as predictors of three later outcomes (dropping out of school, criminality, and psychopathology). The relation between peer difficulties and later maladjustment is examined in terms of both the consistency and strength of prediction. A review and analysis of the literature indicate general support for the hypothesis that children with poor peer adjustment are at risk for later life difficulties. Support is clearest for the outcomes of dropping out and criminality. It is also clearest for low acceptance and aggressiveness as predictors, whereas a link between shyness/withdrawal and later maladjustment has not yet been adequately tested.

Did research on ‘The effects of yoga on the attention and behavior of boys with Attention-Deficit/hyperactivity Disorder (ADHD)’ in which the Boys diagnosed with ADHD by specialist pediatricians and stabilized on medication were randomly assigned to a 20-session yoga group (n = 11) or a control group (cooperative activities; n = 8). Boys were assessed pre- and post-intervention on the Conners’ Parent and Teacher Rating Scales-Revised: Long (CPRS-R:L& CTRS-R:L; Conners, 1997), the Test of Variables of Attention (TOVA; Greenberg, Cormna, &Kindschi, 1997), and the Motion Logger Actigraph.

Data were analyzed using one-way repeated measures analysis of variance (ANOVA). Significant improvements from pre-test to post-test were found for the yoga, but not for the control group on five subscales of the Conners’ Parents Rating Scales (CPRS): Oppositional, Global Index Emotional Labiality, Global Index Total, Global Index Restless/Impulsive and ADHD Index. Significant improvements from pre-test to post-test were found for the control group, but not the yoga group on three CPRS subscales: Hyperactivity, Anxious/Shy, and Social Problems. Both groups improved significantly on CPRS Perfectionism, DSM-IV Hyperactive/Impulsive, and DSM-IV Total.

For the yoga group, positive change from pre- to post-test on the Conners’ Teacher Rating Scales (CTRS) was associated with the number of sessions attended on the DSM-IV Hyperactive-Impulsive subscale and with a trend on DSM-IV Inattentive subscale. Those in the yoga group who engaged in more home practice showed a significant improvement on TOVA Response Time Variability with a trend on the ADHD score, and greater improvements on the
CTRS Global Emotional Lability subscale. Results from the Motion Logger Actigraph were inconclusive.

Although these data do not provide strong support for the use of yoga for ADHD, partly because the study was under-powered, they do suggest that yoga may have merit as a complementary treatment for boys with ADHD already stabilized on medication, particularly for its evening effect when medication effects are absent.

**R. Babu and K. Kaliamoorthy (2006)**

Have investigated the achievement and educational adjustment of higher secondary students in their study. Normative survey method was used in the present investigation. A sample of 700 higher secondary students was randomly selected from different schools of Cuddalore, Villupuram, Nagapattinam and Trichy districts of Tamilnadu State. Accountancy Achievement Test (2006) was prepared and validated by the investigators. A part of adjustment inventory prepared and validated by Sinha and Singh (1993) was used to measure the educational adjustment of higher secondary students. Data were analysed in terms of mean, standard deviation and ‘t’ ratio. The achievement test in accountancy was conducted for a maximum score of 39. Hence, having score of 28 or above was considered to be high achievement in accountancy and above a score of 19.5 was considered to be average and below 19.5 was considered to low achievement in accountancy.

The mean (22.51) and standard deviation (6.59) of the higher secondary students’ achievement was average. Similarly educational adjustment inventory was conducted for maximum marks of 20. Hence, having a score of 10 or above was considered to be low educational adjustment and a score of 5
or above was considered to have average educational adjustment and a score of less than 5 was considered to be of high educational adjustment. The mean (4.19) and standard deviation (3.13) educational adjustment of higher secondary students was high. It was found that the entire sample showed average achievement and high educational adjustment of higher secondary students. There was significant difference in mean achievement scores of male and female higher secondary students, urban and rural higher secondary school students, and students’ mothers’ education. Female higher secondary students showed better achievement than that of their male counterparts. Rural higher secondary students showed better achievement than that of their urban counterparts. The results of the study showed that there were significant differences in respect of students having educated mothers with respect to achievement in accountancy. There was no significant difference in mean achievement scores of students of literate and illiterate fathers. There was no significant difference in the students in respect of their fathers’ education. There was significant difference in mean educational adjustment scores of male and female higher secondary students. Female higher secondary students showed better educational adjustment than that of their male counterparts; whereas there was no significant difference in mean educational adjustment scores of urban and rural higher secondary school students, higher secondary students’ fathers’ education, and higher secondary students’ mothers’ education. Rural higher secondary school students had better educational adjustment than that of their urban counterparts. The results of the study show that there are no significant differences in respect of education level of fathers and mothers of students with respect to educational adjustment.
Raub James A (2002)

Reported in his study ‘Psychological effects of hathayoga on musculoskeletal and cardiopulmonary function: A literature review’ that Yoga has become increasingly popular in Western cultures as a means of exercise and fitness training; however, it is still depicted as trendy as evidenced by an April 2001 Time magazine cover story on "The Power of Yoga." There is a need to have Yoga better recognized by the health care community as a complement to conventional medical care. Over the last 10 years, a growing number of research studies have shown that the practice of Hatha Yoga can improve strength and flexibility, and may help control such physiological variables as blood pressure, respiration and heart rate, and metabolic rate to improve overall exercise capacity. This review presents a summary of medically substantiated information about the health benefits of Yoga for healthy people and for people compromised by musculoskeletal and cardiopulmonary disease.

Ray U.S., Mukhopadhyaya S., Purkayastha S.S. et al. (2001)

Conducted a study on ‘Effect of yogic exercises on physical and mental health of young fellowship course trainees’ to observe any beneficial effect of yogic practices during training period on the young trainees. 54 trainees of 20-25 years age group were divided randomly in two groups i.e. yoga and control group. yoga group (23 males and 5 females) was administered yogic practices for the first five months of the course while control group (21 males and 5 females) did not perform yogic exercises during this period. From the 6th to 10th month of training both the groups performed the yogic practices. Physiological parameters like heart rate, blood pressure,
oral temperature, skin temperature in resting condition, responses to maximal and submaximal exercise, body flexibility were recorded. Psychological parameters like personality, learning, arithmetic and psychomotor ability, mental well being were also recorded. Various parameters were taken before and during the 5th and 10th month of training period. Initially there was relatively higher sympathetic activity in both the groups due to the new work/training environment but gradually it subsided. Later on at the 5th and 10th month, yoga group had relatively lower sympathetic activity than the control group. There was improvement in performance at submaximal level of exercise and in anaerobic threshold in the yoga group. Shoulder, hip, trunk and neck flexibility improved in the yoga group. There was improvement in various psychological parameters like reduction in anxiety and depression and a better mental function after yogic practices.

Rogers, Mary Jo; Holmbeck, Grayson N. (1997)

Have stated in their research, ‘Effects of interparental aggression on children's adjustment: The moderating role of cognitive appraisal and coping’ that this research examined the relationship between interparental aggression and children's adjustment through an analysis of the moderating effects of children's cognitive appraisal and coping strategies. Participants were 80 children in Grades 6, 7, and 8 who completed measures of level of interparental aggression and of cognitive appraisal and coping strategies reported in response to parents' conflicts. Children's adjustment was based on self-report measures of self-worth, externalizing behavior, and depression. Results showed that more frequent and intense conflict was associated with greater adjustment problems for children. Problematic beliefs about
interparental conflict and ineffective coping strategies were also related to greater maladjustment.

**R. Ramadoss, B.K. Bose (2010)**

Did research on ‘Transformative Life Skills: Pilot Study of a Yoga Model for Reduced Stress and Improving Self-Control in Vulnerable Youth’, in which Two pilot studies demonstrate that a comprehensive multimodality intervention of Transformative Life Skills (TLS) consisting of Yoga poses (asana), breathing techniques (pranayama), and meditation (dhyana) can reduce perceived stress and increase self-control and self-awareness in at-risk and incarcerated youth. As part of a countywide violence prevention effort, Niroga Institute conducted daily 60-minute TLS programs at Alameda County Juvenile Justice Center (ACJJC). Additionally, a condensed 15-minute TLS protocol was implemented at El Cerrito High School, a large urban public high school. The effectiveness of TLS was evaluated using the Perceived Stress Scale (PSS-10) and Tangney's Self-Control Scale (TSCS-13). Statistical analyses indicate a significant improvement in stress resilience, self-control, and self-awareness among the youth exposed to Niroga's TLS protocols. These results have substantial relevance to education and community-wide violence prevention.

**R. Kannappan and R. Lakshmi Bai (2008)**

Studied on Efficacy of Yoga: Cognitive and Human Relationship Training for Correcting Maladjustment Behaviour in Deviant School Boys. One hundred and twenty adolescent deviant boys were randomly assigned into two experimental groups and one control group. The two experimental groups underwent yoga-cognitive training (YCT) and human relationship training
(HRT) respectively. The control group did not get any training for the entire period. The trainings were administered to adolescent school boys for a period of one year, weekly twice. The parents of the adolescent boys of the experimental groups were given parent management training (PMT). The study adopted before-after design. The data collected were analyzed by using critical ratio (CR). The results show that both experimental groups had significant changes in their maladjustment and antisocial behaviors. When the respective effect of the trainings was compared, yoga-cognitive training had better effect than the human relationship training. The follow-up of these groups showed that the behaviour change in the adolescent boys was sustained.

**Sahanaz (1995)**

Revealed that environmentally disadvantaged children shows that they have poor adjustment in social, emotional and educational area as compared to the environmentally advantaged children. Enrichment of physical environment in childhood leads to better health in old age is the general observation. Generally residential schools were assumed environmentally enriched. A present result is in line with the above study.


Yoga has been used effectively for stress reduction that has resulted in biochemical and physiological changes.

**Singh S, Malhotra V, Singh KP, Madhu SV, Tandon OP. (2004)**

Conducted a study ‘Role of yoga in modifying certain cardiovascular functions in type 2 diabetic patients’ and set objectives like to study the effect of forty days of Yogic exercises on cardiac functions in Type 2 Diabetics. And second to study the effect of forty days of Yogic exercises on blood glucose
level, glycosylated hemoglobin. The present study done in twenty-four Type 2 DM cases provides metabolic and clinical evidence of improvement in glycaemic control and autonomic functions. These middle-aged subjects were type II diabetics on antihyperglycaemic and dietary regimen. Their baseline fasting and postprandial blood glucose and glycosylated Hb were monitored along with autonomic function studies. The expert gave these patients training in yoga asanas and they pursued those 30-40 min/day for 40 days under guidance. These asanas consisted of 13 well known postures, done in a sequence. After 40 days of yoga asanas regimen, the parameters were repeated. The results indicate that there was significant decrease in fasting blood glucose levels from basal 190.08 +/- 18.54 in mg/dl to 141.5 +/- 16.3 in mg/dl after yoga regimen. The postprandial blood glucose levels decreased from 276.54 +/- 20.62 in mg/dl to 201.75 +/- 21.24 in mg/dl, glycosylated hemoglobin showed a decrease from 9.03 +/- 0.29% to 7.83 +/- 0.53% after yoga regimen. The pulse rate, systolic and diastolic blood pressure decreased significantly. Corrected QT interval (QTc) decreased from 0.42 +/- 0.0 to 0.40 +/- 0.0. These findings suggest that better glycaemic control and stable autonomic functions can be obtained in Type 2 DM cases with yoga asanas and pranayama. The exact mechanism as to how these postures and controlled breathing interact with somato-neuro-endocrine mechanism affecting metabolic and autonomic functions remains to be worked out.

Storch, Eric A.; Bagner, Daniel M.; Geffken, Gary R.; Baumeister, Audrey L.(2004),

Association Between Overt and Relational Aggression and Psychosocial Adjustment in Undergraduate College Students’. This study examined the relations between overt and relational aggression, social anxiety,
loneliness, depressive symptoms, and alcohol and drug use in a sample of 287 undergraduate college students. Consistent with prior work, men reported engaging in more overt aggression than women. Contrary to our predictions, men also reported engaging in more relational aggression than women. Results also indicated that overt and relational aggression were positively associated with social anxiety, loneliness, depressive symptoms, alcohol use, and drug use for the overall sample. Hierarchical regression analyses showed positive relations between overt aggression and alcohol use for men and no relations between relational aggression and any psychosocial adjustment index. For women, overt aggression uniquely predicted social anxiety, loneliness, and depressive symptoms, whereas relational aggression uniquely predicted social anxiety, loneliness, depression, and alcohol and drug problems.

**Telles S., Naveen K.V. (1997)**

Have been reported that the use of yoga for rehabilitation has diverse applications in their study ‘Yoga for rehabilitation: an overview’. Yoga practice benefited mentally handicapped subjects by improving their mental ability, also the motor co-ordination and social skills. Physically handicapped subjects had a restoration of some degree of functional ability after practicing yoga. Visually impaired children showed a significant decrease in their abnormal anxiety levels when they practiced yoga for three weeks, while a program of physical activity had no such effect. Socially disadvantaged adults (prisoners in a jail) and children in a remand home showed significant improvement in sleep, appetite and general well being, as well as a decrease in physiological arousal. The practice of meditation was reported to decrease the degree of substance (marijuana) abuse, by strengthening the mental resolve
and decreasing the anxiety. Another important area is the application of yoga (and indeed, lifestyle change), in the rehabilitation of patients with coronary artery disease. Finally, the possible role of yoga in improving the mental state and general well being of HIV positive persons and patients with AIDS is being explored.


Conducted a study on yoga base topic ‘Oxygen consumption and respiration following two yoga relaxation techniques’. In it two yoga practices, one combining "calming and stimulating” measures and the other, a "calming” technique, were compared. The oxygen consumption, breath rate, and breath volume of 40 male volunteers were assessed before and after sessions of cyclic meditation (CM) and before and after the sessions. In their results found that there was a significant decrease in the amount of oxygen consumed and in breath rate and an increase in breath volume after both types of sessions. However, the magnitude of change on all 3 measures was greater after the calming and stimulating session: (1) Oxygen consumption decreased 32% compared with 10%; (2) breath rate decreased 18% versus 15%; and (3) breath volume increased 29% versus 16%. These results support the idea that a combination of yoga postures interspersed with relaxation reduces arousal more than relaxation alone does.

**Timothy L. Hopea and Karen L. Bierman (1998)**

Also examined the cross-situational patterns of behavior problems shown by children in rural and urban communities at school entry. Behavior problems exhibited in home settings were not expected to vary significantly across urban and rural settings. In contrast, it was anticipated that child behavior at
school would be heavily influenced by the increased exposure to aggressive models and deviant peer support experienced by children in urban as compared to rural schools, leading to higher rates of school conduct problems for children in urban settings. Statistical comparisons of the patterns of behavior problems shown by representative samples of 89 rural and 221 urban children provided support for these hypotheses, as significant rural-urban differences emerged in school and not in home settings. Cross-situational patterns of behavior problems also varied across setting, with home-only patterns of problems characterizing more children at the rural site and school-only patterns of behavior problems characterizing more children at the urban sites.

**Vempati R.P., Telles, Shirley (1999)**

Studied ‘Yoga based isometric relaxation versus supine rest: A study of oxygen consumption, breath rate and volume and autonomic measures’ physiological variables in 40 men (aged 16-46 yrs) before and after yoga-based isometric relaxation technique and supine rest. Assessments of autonomic parameters included oxygen consumption, breath rate, and breath volume. There was a significant decrease in breath rate after yoga and in finger plethysmogram after supine rest.


The Hatha yoga and African dance course groups (but not the biology lecture group) self reported significant reductions in negative affect and perceived stress. The yoga participants showed a decrease in salivary cortisol in contrast to the African dance group who had an increase in cortisol levels. No significant effects were found for positive affect in the yoga group, but were found for the
African dance group. The authors speculate that the cortisol differences may have been due to differences in the intensity of the two activities.

**Werner, Nicole E.; Crick, Nicki R. (1999)**

Did research with ‘Relational aggression and social-psychological adjustment in a college sample’. This study examines the associations between relational aggression and social-psychological adjustment in a sample of young adults. A peer-nomination instrument was constructed to assess relational aggression, and self-reports of adjustment were obtained from 225 college students (45% male; mean 19.5). Regression analyses showed that relational aggression = age provided unique information, after controlling for age and gender, about peer rejection, prosocial behavior, antisocial personality features, and borderline personality features. Interactions with gender further showed that, for women, relational aggression was linked with bulimic symptoms. The importance of relational aggression for understanding adjustment problems during young adulthood is discussed.

**Wong C.K., Freedman S.B. (1997)**

Studied on topic ‘Usefulness of laboratory mental stress test in patients with stable coronary artery disease’ that many episodes of ischemia in daily life are silent occurring during sedentary activities and may be related to mental stress. In 35 patients with stable angina and positive exercise test awaiting bypass surgery, they investigated whether laboratory mental stress tests would trigger ischemia of a comparable severity to that occurring in daily life and attempted to elucidate some of the underlying mechanisms. All patients underwent exercise testing, personality assessment, 2-day Holter monitoring, and laboratory mental stress tests while on their usual
medications. They explain the results such as only four patients (12%) had positive mental stress test (ST depression \( \geq 0.1 \text{ mV} \)). All episodes were silent and usually associated with fast heart rate (> 90 beats/min). In contrast, ambulatory ischemia was common (average duration of 51 min per 24 h), and at least one episode was recorded in 27 patients (77%) including the 4 with positive test. Patients with positive mental stress test had a higher heart rate during testing and a shorter exercise time and time to 1 mm ST depression on cycle ergometry than those with negative mental stress test. None of the four patients were on beta blockers. There was no difference in personality inventory between the two groups. Comparisons between patients with and without positive mental stress test revealed no difference in the duration and frequency of ambulatory ischemia, or in the occurrence of silent ischemia. However, the heart rate at onset of ambulatory ischemia tended to be higher in the patients with positive mental stress test. Further subgroup analysis in patients without beta blockers (4 mental stress test positive and 18 negative) showed similar results. And concluded that laboratory mental stress test is a weak inducer of ischemia detected by electrocardiographic monitoring in patients with frequent ambulatory ischemia. While larger scale studies may determine its clinical role, the present study illustrated that patients with heightened heart rate response to mental stress were identified in whom beta blockers could be the drug of choice.


Reported that oxidative stress contributes to the process of aging as well as a variety of chronic degenerative diseases. Their research topic was ‘Effect of a comprehensive yoga-based lifestyle modification program on lipid
peroxidation’. There are indications that psychological stress increases oxidative stress whereas relaxation decreases it. They measured the concentration of thiobarbituric acid reactive substances (TBARS) in blood as an indicator of oxidative stress at the beginning and at the end of a comprehensive yoga-based lifestyle modification program (YLMP). The data was collected from 104 subjects (59 male, 45 female), 19-71 years of age. The YLMP consisted of a nine-day educational out-patient course on the theory and practice of yoga and included, besides a daily one-hour practice of physical postures (asanas) and breathing exercises (pranayama), lecture and films on yoga, stress management and nutrition, practice of meditation and shavasana (a relaxation technique), and individual counseling. Venous blood samples were collected on the first and last day of the course. The serum concentration of TBARS decreased significantly from 1.72 +/- 0.72 nmoles/ml on day 1 to 1.57 +/- 0.72 nmoles/ml on day 10 (P<0.05). The study suggests that a brief low cost lifestyle intervention based on yoga reduces oxidative stress

**Yogendra, J., Yogendra H.J. et al. (2004)**

Carried out a project on the topic ‘Beneficial effects of yoga lifestyle on reversibility of ischemic heart disease: caring heart project of International Board of Yoga’. In it they examined angiographically proven coronary artery disease patients and given them a Yoga Program. Yoga based lifestyle modifications have been earlier shown to be beneficial in coronary artery disease in a small number of patients. They evaluated the role of lifestyle modification based on Yoga techniques, stress management and dietary modifications in retardation xof coronary artery disease. This prospective,
controlled, open trial included angiographically proven coronary artery disease patients (71 patients in study group and 42 patients in control group). They were assessed clinically, by biochemical parameters, stress myocardial perfusion and function studies and coronary angiography and on psychological parameters. The study group patients were given a family based Yoga Programme which included, control of risk factors, dietary modifications and stress management for a period of one year. The patients were assessed at baseline, at frequent intervals and at the end of one year. At the end of one year of yoga training, statistical significant changes (P<0.05) were found in serum total cholesterol (reduction by 23.3% in study group patients as compared to 4.4% in controls); serum LDL cholesterol (reduction of 26% in study group patients as compared to 2.6% in the control group), regression of disease (43.7% of study group patients v/s 31% control group on MPI and 70.4% of study group v/s 28% of control group on angiography) arrest of progression (46.5% study group v/s 33.3% control group on MPI) and progression (9.9% of study group vs 35.7% of controls on MPI, 29.6% of study group v/s 60.0% of controls on angiography). At the end of the study improvement in anxiety scores was concordant with the improvement seen in the MPI. No untoward effects of the therapy were observed. Hence it can be concluded that Yoga based lifestyle modifications help in regression of coronary lesions and in improving myocardial perfusion. This is translated into clinical benefits and symptomatic improvement.

Yoga including Relaxation exercises and techniques are frequently included when behavioral problems are the focus of interventions because of their association with physiological arousal reduction that can have a negative
influence on behavior (Novaco, 1975). The physiological arousal associated with aggression includes an increase in heart rate, muscle tension, and breathing rate (Kellner & Tuttin, 1995). With an increase in this physiological arousal comes an increase in angry thoughts, even more so when combined with alcohol and or drugs, and results in an inhibition of internal control (Hollin, 2003).