CHAPTER II

REVIEW OF RELATED LITERATURE

The researcher of this study has done extensive review to find out the related literature in various libraries as well as he has gone through various databases. The relevant studies found by the researcher are enumerated in this chapter.

Udupa et al., (2003) conducted a study to see the effect of pranayama training on autonomic nervous system. Twenty four school students were divided into pranayama group and control group. The experimental group was given three months training. The study shows that three months of Pranayama training increases parasympathetic activity and decrease in sympathetic activity.

Madanmohan et al., (2003) conducted a study to see the impact of yoga training on hand grip strength and pulmonary function. The investigators selected forty students of age group 12 to 15 years. The subjects were divided into experimental group and control group. At the baseline and after six months of yoga training both the groups were assessed for hand grip strength and parameters of lung function. The results showed statistically significant improvement in hand grip strength and variables of pulmonary function among the students of experimental group as compared to control group. From the results it was concluded that six months of yoga training improves lung function and skeletal muscle strength.

Kerketta et al., (2008) carried out a study among the elderly populations of four different primitive tribal groups residing in forests of Orissa. The results revealed a high prevalence of mobility disabilities and anemia among the elderly primitive tribal members.
Sinha et al., (2004) observed the cardio-respiratory changes while performing surya namaskar practice. The result showed highest oxygen consumption during eighth posture while lowest during first posture of Surya namaskar. In fact, it was concluded that surya namaskar is equivalent to aerobic exercise.

Banik et al., (2007) conducted a study to see the status of anthropometric characteristics and under nutrition among tribal population of West Bengal. The results showed that the based on the body mass index under nutrition was prevalent in studied population.

Tran, Holly, Lashbrook and Amsterdam (2001) studied the effect of yogic exercises on physical fitness. To achieve these goal investigators of this experiment selected nine female and one male aged between 18-27 years. At the baseline and after completion of eight week training in yoga body composition, flexibility, cardiorespiratory fitness and pulmonary function was assessed. The results of this study evidenced significant improvement in physical fitness of selected subjects.

Chen et al., (2009) investigated the effect of yoga exercise on the health-related physical fitness of school-age children with asthma. For this objective thirty one children aged 7-12 years were selected and were randomly divided into experimental group and control group. The subjects of experimental group were given yoga exercise program three times per week for a 7 week period. The yoga exercise program was comprised of forty minutes yoga postures and ten minutes cool down exercise. The subjects were assessed to record fitness scores at the baseline and after completion of yoga training program. The results of this study showed improvement in flexibility, body mass index, and cardiopulmonary fitness after yoga exercise.
Monyedi et al., (2005) conducted a study on undernourished rural primary school children to determine the body composition characteristics. From the findings of this study it was concluded that body composition was significantly related to physical fitness. Further, the body mass index is not a considered as measure of fatness but should be referred as muscle mass.

Clay et al., (2005) demonstrated that the yoga practices are not sufficient to improve cardiovascular fitness but enhance flexibility and muscular fitness.

Hundley (1985) examined the backgrounds factors, academic achievements, career aspirations, and attitudes of 277 black and white football players to determine if a relationship existed between these variables and the racial predominance of the university’s population. Subjects were enrolled in institutions with 10,000 undergraduate students. For half of the institutions, a min of 70% of those students were black and for the other half a min of 70% of those students were white. Frequencies, percentages, and $X^2$ values were calculated to determine if a relationship existed between the race type of institution variable and subjects responses to the statements on the instrument. Black athletes attending predominantly black institutions of higher education had higher academic and career aspirations; believed academic success to be more significant; had higher perceptions of their ability to succeed; and believed their coaches and instructors had a more sincere interest in their academic success than did black athletes attending predominantly white institutions. Black athletes attending predominantly white universities perceived the academic and the social environments to be more difficult than did their counterparts in black institutions.

Kennedy (1985) carried a study with a view to determine the effects of eccentric work and its comparative contribution in the development of power and strength. 3 different strength training techniques were used and compared. Three groups of untrained subjects (males and females, n=33)
were trained for ten weeks using one of the three prescribed methods. Pre test and post test measures were taken for muscle girths, body fat %, performance on Cybex at three different speeds of arm flexion and leg extension, and 1 RM strength tests using Nautilus machines. Results varied as to testing method used. When Nautilus was used as a testing modality, no significant differences by group were found. However, males showed a significant greater response to eccentric only training as compared to concentric only and concentric/eccentric. When a Cybex was used as a testing modality, using three different speeds (30°, 60°, and 120° per sec), the concentric only group performed significantly better than the eccentric only group or the concentric/eccentric group. For the females, no significant difference in response to training group were noted; however, the males performed significantly better than the females in the concentric only group.

Stumpo (1985) investigated the relationship between power and percent body fat and or power and anthropometric somatotypes in sixteen to eighteen year old male athletes. The subjects were sixty male student/athletes. The Margaria Kalamen power test and the health carter anthropometric somatotype method were administered to determine power output and body classifications, respectively. Wilmore Behnke regression equations were used to statistically analyze the subjects to determine percent body fat. A pearson product moment correlation coefficient was calculated to determine casualty at the 0.05 level of significance. The results of this investigation indicated that a significant relationship existed between power and percent body fat, power and endomorphy, power and mesomorphy, and power and ectomorphy.

Since 1917, when volleyball was first introduced by the missionaries to the Big Island of Hawaii, the game has been a strong influence in the social lives of her inhabitants. Original individual participants were used as primary sources in compiling information through personal interviews (Veloria 1974). Within the last 25 year volleyball has become very important in the lives of the
people of the Big Island through parks and recreation, public schools, churches and religious organizations, and clubs.

Ashy (1985) examined the effects of correct practice attempts, total practice attempts, and selected teacher behaviors on student achievements in a novel motor skill. Eight pre service physical education teachers each taught two 20 min lessons to 10 4th graders. The four more effective and the four less effective teachers were identified by cluster analysis using student post test scores as the criterion. MANOVA was used to compare the more and less effective teacher groups on teacher behaviors with regard to frequency (cues, demonstration, knowledge of performance, encouragement) and duration behaviours (specific and general observations, management, instruction). Follow up ANOVAs revealed that encouragement was the only significant distinguishing factor favoring the more effective teachers. The more effective teachers averaged twice as many cues as the less effective teachers, and students in the more effective teachers classes had significant more correct practice trials than those in the less effective teachers classes. Moreover, significant r’s were found between student achievement and correct practice trials but not total practice trials. It appears that the quality of practice on this novel skill was a better indicator of learning than the total amount of practice.

Subjects were 78 4th grade and 80 5th grade students from eight classes in 2 ELE schools. Two 4th and 5th grades received standards in a 1 week exp teaching unit, and two did not. A Solomon 4 group design was used (Edwards 1985). The data were analyzed in a treatment (standard-no standard) X pre (pre-no pre test) X sex (male-female) X grade (4th -5th ) MANOVA using posttest and motor appropriate trials as the dependent measures and was followed up by 2 separate ANOVAs. r’s between behavior patterns and performances were also computed. As expected, the treatment group was better than the control group, boys better than girls and 5th graders better than 4th graders. Subjects with standards performed significant better than those with no standards. The pre x treatment interaction suggested that
having a pre test tends to standardize the amount of practice a child takes. There was a positive $r$ between motor appropriate practice and performance regardless of treatment group. These data suggest that performance can be improved by individual performance standards and that care should be taken in using pre and post test methods for testing motor skill.

Method 1 with 20s Ss was traditional with oral instruction and demonstration only. Method 2 with 18 Ss, included a self-teaching instructional film. Method 3 with 28 Ss, combined the film with reinforcement and analysis of videotaping of each student (Warr 1974). Testing covered on 8 week period. A t-distribution study revealed no significant differences between any of the groups $p > .05$, and the following conclusions were reached: the use of instructional video tapes did not significantly improve performances when used as an aid, and individual videotape recordings, twice in an 8-week period, did not significantly improve performance when used in conjunction with the instructional film.

Data were gathered through interviews with individuals at Provo’s City Hall working in planning engineering, and parks and recreation departments (McClean 1974). Additional information was gathered from sources at Provo City, Utah County, and the Bureau of Census reports. Findings revealed that Provo City did meet the 1973 demands of average for neighborhood parks, based upon National Recreation and Park Association Outdoor Standards, but several census tracts were not served by neighborhood parks.

A questionnaire was developed for this study and submitted to 43 coaches in the AAAA and AAA classes (Mergenthaler 1974). Group A coaches had the highest winning percentage and group B coaches had the lowest winning percentage. Thirty-two coaches responded to the Questionnaire and the data evaluated at the .05 level of significance. Findings showed that the physical traits most looked for are quickness, shooting ability,
speed, size, coordination, and jumping ability. Personality traits are coachability, ambition, aggression, team player, mental toughness, and determination. There was a significant difference in the main rating of these traits between the 2 groups. The most important traits were quickness and coachability, both physical and personality traits being important. It was concluded that both must be considered and methods of observation and evaluation for both must be developed.

Sixteen Broncho League baseball players were divided into 2 groups by Bow (1974). One group was trained in the hip-rotation method of pitching for 6 weeks period. After being tested for pitching speed and accuracy, the groups were rotated and repeated the training procedure with the other method. Following the 6 week training period, they were retested. Throwing speed was measured by a timer activated when the ball, with its attached aluminium foil, was released from the copper wire electrodes attached to the first and second fingers of the throwing hand. The timer stopped when the baseball struck the target. Each S threw 100 pitches at a strike-zone accuracy target using each of the 2 pitching methods. Neither method was significantly better for either speed or accuracy. They were quite similar in their development of speed and accuracy.

Alexander (1985) examined effects of an eight week strength training program relative to isometric strength, isokinetic strength, anaerobic power and anaerobic capacity. Male subjects (n=25) enrolled in a PA State University strength training class acted as the experimental group, whereas male subjects (n=13) who refrained from strength training served as the control group. the training program included thirteen Nautilus exercises executed three days per week over an eight week period. Physiological measurements were taken prior to and following training: ANOVA and t – tests were used to test for significance. The experimental group experienced increases in isokinetic leg extension strength (60°, 120° and 180° per sec) while being significant difference from the control group. Anaerobic power
(Margaria-Kalaman power test and Wingate anaerobic test), anaerobic capacity (Wingate anaerobic test), and body weight did not increase significant. Both groups demonstrated increases in isometric leg extension strength but the difference between the groups was not significant. The pre test correlations between isokinetic leg extension strength and anaerobic poser (Wingate, r=0.24; Margaria-Kalaman, r=0.22) and isokinetic strength and anaerobic capacity (r=0.23) were positive but not statistical significant. The results of this study reinforce that isokinetic strength, anaerobic power and anaerobic capacity are separate physiological potentials.

United States Marine Corps policy, orders, and financial expenditures were analyzed by Canario (1974) to determine the emphasis placed on programs of athletics and physical fitness. The data indicated that the major purpose of athletics during the early 1950’s was to further the combat readiness in the individual Marine. This purpose remained viable until 1962 when the emphasis was changed to identifying superior athletes for international competition. In 1966 intramural competition was promoted, but this policy was short lived. In 1969 the data indicated a return to the previous policy to identify and aid athletes for higher competition and this purpose remained through 1972. Recreation programs were largely expanded during the period and in 1972 financial expenditures for recreation far exceeded those for intramurals and athletics.

Groups of 20 Ss were fatigued at a 2-4%, 9-11%, or 25-27% work dropoff on a step-up task and then received 8 min of continuous trials on the Bachman Ladder Task. Learning was calculated from performance scores recorded 7 days later (Knapik 1974). Control Ss were not fatigued. ANOVA indicated that significant performance depressions occurred in all 3 fatigue groups. Only the most heavily fatigued group (25-27%) showed a significant learning depressions.
Thirty female Ss were given an underwater body orientation test which consisted of submerging underwater and tilting the body 45° to the left (Markiewitz 1974). Three visual field conditions were present. The Horizontal and Vertical Field consisted of a grid of horizontal and vertical lines; the Circular Field consisted of concentric circles; the No Vision Field involved performing with blackened goggles. Ss were also given the standard Rod and Frame test. ANOVA indicated that Ss performed more accurately with the Horizontal and Vertical Field than with the No Vision Field. Field dependence as measured by the Rod and Frame Test was not related to underwater body orientation performance.

Game choices of kindergarten, 1st grade, and 2nd grade students from high socioeconomic status families; mixed high, middle, and low socioeconomic status families; or low socioeconomic status families were analyzed (Martin 1974). All Ss experienced 3 game sets consisting of a central person-oriented game and a noncentral person game. Each S was then asked which game he or she would like to play again. \( \chi^2 \) analysis indicated that there were no significant differences in game choice among the children of various socioeconomic status families. Game choice was also not related to sex, grade level, or number of children in family.

The development of the proposed curriculum involved extensive study of relevant literature through library technique, visitation to different universities in the U. S., discussion with PE specialists, and letter writing to Tanzania, Africa, to obtain information necessary for the study (Dusara 1974). The members of a panel of experts unanimously expressed the opinion that the proposed curriculum was meaningful, relevant, and valid for implementation. It was concluded that this curriculum is effective and feasible for the preparation of PE teachers at the University of Dar Es Salaam, and the implementation of this program will provide the youth of Tanzania an opportunity to develop well-rounded personalities in a series of systematic experiences in PE.
Twenty-five obese women voluntarily participated in a 16 week weight control program. Pre and post physical measurements (body weight and triceps skinfold thickness) and pre and post psychological measurements (neuroticism-stability and extraversion-introversion) were made (Nelson 1974). It was found that during the 16 week period the Ss were able to decrease body weight and to reduce triceps skinfold thickness. The initially more stable Ss experienced greater changes in body composition than the initially more neurotic Ss. No significant changes in the 2 psychological dimensions occurred during the program.

A sampling of 209 women students, 125 athletes and 84 nonathlete controls was administered the Cattell 16 PF Form A between Jan and June 1974. One way ANOVA and t tests were calculated for the 16 variables, comparing personality traits of athletes with the random control Ss, and comparing each with national norms established by the Cattell 16 PF questionnaire (Brashier 1974). Team and individual-dual sport participants were compared to each other, the control group, and the national norms. A determination of district personality traits was also made. Two of 16 factors differed between athlete and control Ss (p<.05), control Ss differed on 7 of 16 traits (p>.05), and specific sport activities did not differ (p>.05).

Ventilation measurements can accurately measure fitness in the exercise physiology laboratory. In PE classes it is not always possible to take ventilation measures during exercise. The object of this study conducted by Johannes (1974) was to develop a regression equation that would accurately predict the exercise expired volumes from the post exercise. The Ss, 31 HS boys, exercised on a bicycle ergometer at 5 work rates ranging from 300 to 1500 kpm/min. Collections of expired air were made during the last 15 sec of exercise and from 5 until 20 sec after exercise. At 300 kpm/min the r between exercise and volume was Y=19.84008+ .51248X, the r2 of the prediction was
.49, and the standard error of the estimate (SEE) was 5.5 L/min. At 600 kpm/min the r was 0.27, the regression equation was \( Y=38.93547+0.23750X \), the \( r^2 \) was 0.07 and the SEE was 6.8 L/min. At 900 kpm/min the r was 0.45, the regression equation was \( Y=45.57138+0.51608X \), the \( r^2 \) was 0.20 and the SEE was 12.3 L/min. At 1200 kpm/min the r was 0.57 and the regression equation was \( Y=34.40262+.89357X \), the \( r^2 \) was 0.32 and the SEE was 15.4 L/min. At 1500 kpm/min the r was 0.63 and the regression equation was \( Y=49.31884+.78588X \), the \( r^2 \) was 0.39 and the SEE was 16.1 L/min. With all data combined the r was 0.92, the regression equation was \( Y=4.64473+1.21393X \), the \( r^2 \) was 0.85 and the SEE was 14.1678 L/min.

The 1972 Lincoln County HS varsity (N=22) and junior varsity football teams (N=22) were Ss (Blad 1974). Criterion measurement was by the Self and Other Rating Scale given 4 times; first practice day, after the first win, first loss, and at the season’s end. An ANOVA revealed that being a varsity team member did not produce better self-concepts than junior varsity players, being a starter on either team did not produce a better self-concept than a substitute, and participation in HS football did not contribute to an increase in self-concept.

Long haul substitute nostril breathing (ANB) has been indicated to upgrade autonomic control of the heart by expanding parasympathetic regulation. Then again, there is no data on the quick impacts of ANB on autonomic control contrasted with paced breathing (PB) at the same rate in people who are unpracticed with yogic relaxing. To look at heart autonomic balance after ANB in examination to that after PB in people who were unpracticed in ANB (Ghiya and Lee 2012). Twenty sound people (22.3 ± 2.9 years) with no related knowledge with ANB occupied with. Dissection of covariance uncovered Intp, Inlf and Inhf were more noteworthy amid both post-ANB and post-PB contrasted with PRE (P<0.05). MAP and Inlf/Inhf did not fundamentally vary between conditions. These information propose that there was a quick build in cardiovascular autonomic adjustment after ANB and
PB without a movement in autonomic adjust in people unpracticed with yogic relaxing. As far as anyone is concerned, this is the first examination to examine the autonomic impacts of ANB in this populace furthermore to analyze the impacts of ANB and PB at the same respiratory rate

American Indian youth encounter a more prominent commonness of weight contrasted and the general U.S. populace. One parkway to invert the pattern to expanding weight predominance is through advertising physical movement. The objective of this study by Perry and Hoffman (2010) was to comprehend tribal adolescents' present examples of physical movement conduct and their convictions and inclination about physical action. This appraisal utilized a group based participatory exploration approach. Specimen incorporated 35 Native youth matured 8-18. A Community Advisory Board was made that particularly created an activity overview for this appraisal to investigate physical action examples, inclination, and determinants. Twenty-six young finished the overview. Engaging facts were investigated, investigating contrasts by age bunch. Nine young partook in 2 center gatherings. Qualitative information were investigated with topical investigation. Youth recognized games and activity, with each one having distinctive determinants. Basic sparks were companions, mentor, and school, and boundaries were absence of projects and school or work. None of the adolescent reported gathering the suggested 60 min of strenuous practice every day. This tribal scholastic organization reacted to a tribal concern by creating an activity review and leading center gatherings that tended to tribal-particular inquiries. The results are illuminating system advancement.

Pretesting consisted of employment records and the Tennessee Self-Concept Scale. Subjects participated in the Central Wyoming College Career Exploration Program (Jibben 1974). The Tennessee Self-Concept Scale was retaken on the final day of the program and employment records were re-examined 90 days after completion of the program. Mean difference were tested by t tests and these conclusions were drawn significant change in goal
orientation was shown, no significant self-concept changes were shown, and no significant difference between participant’s self-concepts and norms established by William Fitts was shown.

Sixty-seven games from the Utah HS Basketball Tournaments in 1972, 1973, and 1974 were analyzed by Gardener (1974) for length of each possession, opposing type of defense, and stall and non stall situations were primarily considered. The following conclusions were made: very few adjustments would be necessary to conform to a 30-sec clock; without stalling situations, there would be an average of less than 1 possession greater than 30-sec per team per game; teams held the ball longer against a zone defense teams had more possessions greater than 30-sec against a zone defense than against a man-to-man defense.

Holy Beginnings is a group based participatory exploration extend that analyzes the adequacy of a socially suitable previously established inclination wellbeing instructive intercession created by tribal group parts and older folks. The essential objective is to build information of assumption wellbeing and its profits among youthful females and tribal groups. Previously established inclination wellbeing is a region of significant concern among American Indians (Ais) in the Northern Plains locale, as there are high rates of conception, baby mortality, unintended pregnancy, youngster pregnancy, and sexually transmitted infections here. Richards and Mousseau (2012) analyzed the viability of executing this intercession amid a private summer program for AI secondary school understudies. The instructive mediation comprised of 15 assumption wellbeing instruction sessions and was guided amid a mid year secondary school private scholarly program. The mediation (N = 39) and non-intercession (N = 38) gatherings were involved approaching AI female lowerclassmen speaking to tantamount demographics. A pre and post-intercession overview was controlled to both gatherings. Results showed a noteworthy distinction in Time 2 (T2; post-mediation) scores, with the intercession gathering scoring higher than the non-intercession assemble in
general previously established inclination wellbeing information and stoutness learning. Regarding intra-gathering score dissection between Time 1 (T1; preintervention) and T2, there were huge changes inside the intercession amass in learning of heftiness and diabetes. Information changes in smoking were approaching centrality. Inside the non-mediation bunch, there was a noteworthy change from T1 to T2 in scores for diabetes learning just. The key finding was that the intercession gathering had higher general predisposition wellbeing information at T2 contrasted with the non-mediation bunch. Intercession members exhibited an understanding of how bias practices may influence conception results and maternal wellbeing. An alternate key finding was that, among members in the mediation assemble, the change in learning with respect to smoking convictions in the middle of T1 and T2 were approaching hugeness. Since smoking amid pregnancy is a danger element for poor conception conclusions, this discovering accentuates that future educational module adjustment ought to address the impacts of smoking, and the profits of smoking suspension, preceding or amid pregnancy. Study constraints, for example, little specimen size, high standard wellbeing learning, the need to include customary information variables, and abbreviated execution time span uncover key zones for development. Conceivable future intercession adjustments incorporate developing regions that arrived at or approached hugeness, executing the mediation over a more drawn out time of time, recognizing approaches to make an interpretation of customary learning into quantifiable overview measures, and actualizing the intercession with high-hazard, reservation-based populaces of AI youth.

Male subjects (N=15) were matched according to initial max VO2, ml/kg/min (McKibben 1974). Subjects were randomly assigned into the 3 exp. Groups. Training covered a 7-wk period, 5 days/wk. Group I ran for 15 min at 150 HR. Group II interval trained for 15 min between 120 and 180 HR. Group III covered the same distance as group II, but in continuous run and at 150 HR. Running was done on a treadmill at 0 grade with distance, time, HR, and speed completely controlled. Max VO2 ml/kg/min for 1/min; resting HR; max
HR; mile run; and per cent body fat were the pre and post test parameters. An ANOVA on the pre and post test, gain, r, and Tukey’s Range Test were used to test for significance of results. The following conclusions resulted. Running 15 min a day at HR of 150 bpm for 7-wk will produce cardiovascular improvement, and when expending equal amounts of energy during 2 given times, there is no difference in continuous and interval training for cardiovascular benefits.

Curricula from 7 universities and junior colleges and classes from 15 universities and junior colleges were selected for consideration (Batty 1974). Program feasibility was ascertained by interviews with persons and employers whose occupations related to the suggested curriculum of motorcycle/snowmobile technician, recreation guide, and parks and recreation technician training. Cost feasibility was determined from a budget breakdown and a dollar-per-student expenditure construction based on Utah Technical College at Provo financial reports. Findings of the study suggested that a demand for a recreation technician trained by the suggested curriculum did exist both regionally and nationally.

Critical wellbeing issues experienced in adulthood frequently have their roots in wellbeing practices launched amid pre-adulthood. So as to invert this pattern, school and wellbeing staff, and in addition folks and other group parts working with secondary school understudies, need to be mindful of the wellbeing related convictions and decisions that guide the practices of teens. (Groft et al., 2005). In spite of the fact that a wide assortment of exploration has been led on this theme among urban young people, less is thought about the wellbeing convictions and practices of youths living in provincial ranges, especially in Canada. When all is said in done, provincial Canadians are less solid than their urban partners. Expanding on the learning and understanding of their own group, key stakeholders were welcome to take part in the outline and usage of a participatory activity examination undertaking went for understanding and enhancing the wellbeing of rustic teenagers. A gathering of
folks, educators, understudies, school managers and open wellbeing attendants occupied with a participatory activity examination venture to better comprehend determinants of the soundness of country young people at a secondary school in Western Canada. Bunch parts created and controlled a wellbeing overview to 288 understudies from a little rustic secondary school, in an exertion to distinguish territories of concern and enthusiasm with respect to wellbeing practices and convictions of country youths, and to make a move on these distinguished concerns. Results demonstrated some intriguing yet conceivably stressing patterns in this populace. Case in point, while continuous contribution in a physical action was noted by 75.9% of members, near a large portion of the females (48%) portrayed their self-perception as ’a bit overweight’ or ’without a doubt overweight’, and roughly 25.8% of respondents noted that they skipped suppers more often than not. Contrasts between the sexes were obvious in a few classifications. For instance, more young ladies smoked (16.2%) than young men (12.3%), and more guys (55.0%) than females (41%) had attempted unlawful medications. Members demonstrated consciousness of other wellbeing trading off practices, including risky driving propensities and high push levels, and recognized a few steps they needed to take to enhance their wellbeing, and the obstructions to making those strides. Learners distinguished enhanced nourishment, stress diminishment, and expanded levels of physical movement as specific paramount wellbeing objectives. Learners additionally proposed courses in which data and backing could be given inside the school environment to empower them to accomplish their wellbeing related objectives. A few exercises created as a team with learners have fused the proposals, and have brought forth different exercises because of the progressing recognizable proof of new concerns. The methodology of incorporating the country group in the recognizable proof of wellbeing holdings and needs from the point of view of understudies - and additionally the arranging and usage of proper methods to address those needs - exhibits the qualities inalienable inside a little rustic populace. Group parts' attention to the need to make a solid environment for youth is reflected in their ability to take part in exercises prompting enhanced
wellbeing. More prominent familiarity with the wellbeing needs of provincial young people, and of the impact of sex in a few parts of wellbeing practices, will help scientists to investigate routes in which the interesting society of rustic groups might be bridled to help shape wellbeing centered intercessions.

Faculty and staff were surveyed concerning acceptance of a community school program, and local residents were surveyed as to their desires and interests (Fernelius 1974). Data were processed by computer and it was concluded that more women were interested in community school than men, residents 25 or younger were more interested than older people, socioeconomic status did not influence participation, those of higher educational levels had more interest than those of a lower level, the present faculty and staff who were under age 30 were more receptive to public use of school facilities, and staff at Provost School favoured a community school program being offered.

A random sample of 200 families from the Salt Lake City area was selected and assessed by questionnaire (Hicks 1974). A total of 186 questionnaires were completed and the data were analyzed by computer for a Pearson’s product moment correlation coefficient, yielding an r- of .5903, significant positive correlation. A simple regression equation test for linear prediction was done to determine predictability of marital cohesiveness by recreation practices and a 19% efficiency rate was shown (p< .001).

The Subjects were selected from the alumni pool from the years 1968 to 1973 and all 315 with current information were sampled by questionnaire (Holley 1974). In addition 120 students enrolled in the recreation program were sampled. Findings indicated that of the 151 graduates responding to present employment, 66.7% were working in recreational areas and 33.3% were not. With respect to educational preparation, 9.5% felt it was excellent,
38.3% replied above average, 17.5% said average, 3.8% indicated below average and 1.6% felt it was poor.

Body density and per cent body fat were monitored throughout the entire wrestling season. Ss were the 1st and 2nd team wrestlers (Kloepfer 1974). Data from hydrostatic weightings were analyzed for significant variations between teams, individuals, and weighing times. Statistically significant findings lead to the conclusions that Ss showed differences among individuals (p<.01), weighing times varied significantly (p< .01), and there was no change in body composition between the teams (p> .05)

A film study was made of a hurdler representative of the championship class 13 step technique, the predominant pattern of top hurdlers today (Mann 1974). The findings were evaluated from cinematographical analysis and applied to produce technical improvements and aid in formulating coaching procedure. From a mechanical standpoint, the key to successful hurcle form is proper motor execution, precise body center of gravity positioning at touchdown, and exact timing as to execution.

Two classes of social dance were the exp. Group and one rec, ed. class was the control for this study (Millet 1974). Pre and posttesting included the Tennessee Self-Concept test and modifications of both the Bill’s Index of Adjustment and the Body Cathexis Scale. ANOVA indicated that no significant change was made in the Ss concept of physical change, social change, positive self-esteem, personal self, self-satisfaction, individual identity, or behaviour.

Control and exp. Ss (N=48) were randomly selected from the Exemplary Center for Reading Instruction Clinic (Muir 1974). The control group received 180 min of tutorial reading instruction daily and the exp. Group received 90 min parental help daily. The parents involved had specific
directives to follow both in the clinic program and at home. Seven variables from the Durrell Analysis of Reading Difficulty Test were assessed and a multivariate ANOVA comparing all 7 variables simultaneously was performed. At p< .001, findings favoured the exp. group in Oral Reading Rate, Oral Reading Comprehension, Word Recognition, Silent Reading Rate, Silent Reading Comprehension, and Spelling. Word Analysis was significant in favour of the exp. group (p< .01).

Ten women intercollegiate athletes were tested 12 times each during 3 consecutive menstrual cycles, 4 phases in each cycle. Max VO2 was measured with a Beckman E-2 O2 analyzer and results recorded via high velocity gasometer and physiograph (Parsons 1974). ANOVA done on the results revealed no significant differences in the max VO2s over the 3 mo, the 4 selected phases, or the 12 test periods. Based on these results, it was concluded that there were no changes in max VO2 during the menstrual cycle.

Primary information was obtained through research of existing publications, related literature in the field, existing programs, experts of survival, and personal notes (Peacock 1974). Preclass needs, 2 day class, impact, weekends, group expedition, survival week, student expedition, the rappel, solo, postclass needs, back-up, public relations, and program results were analyzed, compiled, and reported.

Subjects (N=76) were randomly divided into 3 exp. groups and 1 control group (Price 1974). The control group did not engage in physical training during the 10 week period between pre and post tests. The weight lifting design was 3 fold, 1 set of 24 reps, 3 sets of 8 reps, and 4 sets of 2 reps, for groups A, B, and C, respectively. Training was accomplished twice weekly. An ANOVA was run to determine significance of change and r was used to determine if a relationship existed between increases in strength and
endurance, and between increases in strength and decreases in skinfold measurements. The posttest revealed significant increases in strength and muscle endurance, decreases in all skinfold measurements, 3 of 7 girth measurements, and present body fat.

The proposed program was formulated for Olympus HS in Salt Lake City, Utah, and included survival, jogging, weight training, trampoline, flag football, tennis, volleyball, table tennis, swimming, softball, and student teaching of mentally and physically handicapped students (Roberts 1974). Four potential dropouts regulated the program under supervision, giving them increased opportunities and responsibility. A “nonfailure” self-evaluation grading system was also designed as a success orientation measure at the conclusion of each unit of the program. It was concluded that the proposed program was highly satisfactory based on responses to questionnaires distributed to potential dropouts, and responses from 4 expert consultants observing the program.

A survey was conducted analyzing the affects of noise, litter, number of people in the monument, number of people on the cave tour, and overall visitation patterns on visitor experience quality (Ross 1974). These data along with information from visitation records at Timpanogos Cave were tabulated by computer. The findings revealed that 84.6% of visitations occurred between June and August, but the quality of experience did not vary significantly from that in the other months. Preserved natural scenery was the single, most favourable comment. Visitors rated the quality of their experiences at Timpanogos Cave to be above average.

Through careful analysis of related literature and a study of desired information, a questionnaire was developed and mailed to 50 campuses, which serve the handicapped, within the U. S. and Canada (Seagle 1974). Thirty camps responded. The data were computerized and a frequency
distribution determined to analyze the responses. It was concluded that this type of integration was feasible in terms of contributing to the welfare of all 3 types of children involved. The study also indicated trends in program possibilities, and outlined definite minimal requirements for leadership in the proposed setting. It was also shown that private ownership and operation was not feasible but rather camp fees should be instituted as a means of financing.

A pre and post test consisting of the McCloy Strength Test and the Treadmill Test of Physical Fitness for Hard Muscular Work were given to 50 control Ss, not participating in activity classes at Brigham Young University, and 28 exp. Ss, enrolled in beginning karate classes (Shepherd 1974). Outside activities for both groups were not controlled during the test period. Significance \( p \leq .05 \) produced these conclusions: karate contributed to the development of chinning ability; karate did not contribute toward the development of overall strength or toward the development of endurance. These data also support the contention that karate does not contribute to endurance in the novice performer.

Subjects (N=46) were enrolled in a survival course, and for the period 5 July to 3 August, Ss were in a desert survival experience (Snow 1974). The Taylor Manifest Anxiety Scale was administered as pre and posttest device for anxiety and those Ss with scores above 18 were asked to volunteer for hearing tests. The data were analyzed by ANOVA and at the .05 level of significance it was concluded that levels of anxiety were significantly reduced, levels of speech reception threshold and noise threshold were reduced for both quiet and noise backgrounds, and noise threshold was reduced. Neither sex nor anxiety difference were significant factors in these reductions \( p> .05 \)

The Ss (N=173) were all enrolled in either conditioning, field hockey, soccer, volleyball, badminton, tennis, or golf at Skagit Valley College (Armstrong 1974). The data from 3 skill and 3 cardiovascular variables, 3
motor ability items, and 16 personality traits were analyzed for r, ANOVA, and multiple regression. It was concluded that cardiovascular endurance is not related to skill achievement in classes where learning sport skills are emphasized, and the prediction of skill achievement can be improved with the addition of the EPPS to the preskill test.

Subjects were selected via the Tennessee Self-concept scale and a Sociogram and were pretested for strength and fitness with the Oregon Simplification of the Strength and Fitness Indices (Sorensen 1974). A weight lifting program was set up with 2 reps/set of 4-6 sets of near max capable wt for bench presses, dead lifts, power pulls, and dips. The exp. group exercised in the program 3 times a week. The analyzed results produced the following conclusions, p< .01: the exp. group had significantly greater strength gains, greater increase in peer popularity, and significant positive change in self-concept. The computed t-score for paired data indicated that the treatment did have a positive effect.

Eighty male students enrolled in weight training classes were selected and randomly assigned to 4 treatment groups: group A performed 3 sets of 6 rep on a Mini-Gym power pack, group B exercised 3 sets of 6 on a Universal Gym leg press station, group C executed 3 sets of 6 half squats using an Olympic barbell, and group D was a control and did not participate (Staheli 1974). Isokinetic gains with the power rack and isotonic gains with the Universal and Olympic barbells were determined by pre and posttesting, the data being analyzed at the .01 level of significance and subjected to Tukey’s Studentized Range Test. It was concluded that significant improvement in all criteria measures was made by all groups, but no significant differences were detected among the groups.

Of the 256 people in the Orem/Provo, Utah area interviewed, 200 had chronic diseases. These data were stratified, tabulated, and subjected to a $\chi^2$
test to determine statistical correlations (Anderson 1974). The following conclusions were made based on the findings. Numerous nonsignificant relationships did exist between various chronic diseases and moderator variables. Chronic disease knows no age barrier; young and old can be afflicted alike. As educational attainment increased, the likelihood of not contracting a respiratory or degenerative chronic disease decreased. Length of residency in the Orem/Provo area had a definite effect on the incidence of chronic ailments. Visual impairments, asthma, hay fever, and allergies were the conditions of highest incidence in this study.

A Health Opinionnaire developed from health misconceptions was secured and administered to 3 sections of students (Stinebaugh 1974). The prevalence and nature of certain health misconceptions before instruction in personal health and the relationship of the misconceptions to sex, religion, GPA, HS size, type of HS health education, and geographic area of HS graduation were analyzed by ANOVA. Findings indicate that Ss in this population subscribe to many misconceptions, regardless of background. Three health concept misunderstanding had the highest percentage of incorrect responses. Nutrition and consumer health were next. This study indicates that significant efforts in health education at the secondary level are very necessary to overcome the delineated deficiencies.

Eighty-six non-PE major female Ss were randomly selected and triceps and subscapular skinfolds were taken in the morning on 2 days with a 1-wk interval between (Thornton 1974). All skinfolds were on the right side and order of use of callipers was randomized. An ANOVA at the .05 level of significance was run on the data and the r between callipers were determined. The study concluded that the Lange caliper was a reliable measuring instrument when used by both novices and experts: all 3 inexpensive callipers, when used by experts, gave a valid indication of both skinfolds, and the Lyman was hte best inexpensive caliper for subscapular skinfolds, when used by novices. Others tested were the vernier and the outside calipers.
Ss were selected (N=63) from jogging classes at Brigham Young University, and performed prescribed workouts of 2 minutes 4 days a week for 14 weeks (Anderson 1974). Twenty Ss jogged, 21 Ss walked, and 22 Ss were controls. Pre and post tests were max VO2, hydrostatic weighing, and McClay Strength Test for grip, leg, back and arm strength. ANOVA was done and significance was determined at the .05 level. A Newman-Keuls Sequential Range test was also employed. It was concluded that both jogging and walking programs can increase total body strength. There were no significant changes in body composition as a result of either program.

Bhavnani, Madanmohan and Udupa (2003) studied the effect of bhastrika pranayama on reaction time. Twenty two school students practicing bhastrika pranayama were recruited for this study. The results revealed significant decrease in visual and auditory reaction time. This indicates an improvement in sensory-motor performance and enhancement in processing ability of central nervous system.

Madanmohan et al., (1992) studied the effect of yogic exercise on auditory and visual reaction times, maximum inspiratory pressure, maximum expiratory pressure, breath holding time and hand grip endurance. Twenty seven subjects were given yoga training for twelve weeks. The results showed significant decrease in visual and auditory reaction time. Further, increase in maximum inspiratory pressure, maximum expiratory pressure, breath holding time and hand grip strength was observed after 12 weeks of yoga training.

Male 9th grade JHS students (N=10), age 14, who were considered behavioural and/or predelinquent by the school staff were placed in 2 groups: October to January, group A, and October to May, group B. Rosenberg’s Self-Esteem Scale, Bill’s Index of Adjustment and Values, and Schultz’s FIRO-B were administered as pre- and post tests and an ANOVA was used to
determine significance at the .05 level (Anderson 1974). It was concluded that participation in a tutoring program for emotionally disturbed children had no significant measurable effect in the areas of self-esteem, attitude and values, and social interaction. It was also shown that attitude and value variables did change significantly, but only when the individual effect was considered. However, the exactness of the individual effect is questionable because there was no pattern to the tutor’s scores.

Pal, Velkumary and Madanmohan (2004) conducted a study to see the effect of slow breathing and fast breathing exercise on autonomic functions. Sixty male medical students aged 17 to 19 years were enrolled in this study. The subjects were split into two groups. The first group practiced slow breathing exercise (n=30) and the second group practiced fast breathing exercise (n=30). The training was given for three months. At the base line and after completion of three months training subjects of both the groups were examined for autonomic functions. The results indicate that in case of slow breathing exercise group parasympathetic activity was increased and sympathetic activity was decreased while fast breathing exercise group showed no change in autonomic function.

Raju et al., (1997) examined effect of yoga practice on physiological changes by using treadmill test in six healthy girls. The participants practiced yoga for ninety minutes daily for four weeks. The results showed reduced oxygen consumption and significantly lower respiratory quotient. The observations of this study indicates that subjects can do exercise with a significantly lower heart rate. In conclusion it can be said that yoga practices improves cardiorespiratory performance.

Bowling Green State University women students (N=38) were subjects for this study (Fahlson 1974). The lecture demonstration group received instruction by explanations given to the entire class as a group, supplemented by instructor demonstration. The mechanically oriented group received
instruction given by slide sequences, supplemented by the instructor answering student questions. Slide sequences included explanations of mechanical principles related to the skills involved. All Ss were given a 5 iron test, 9 iron test, and putting test, and all played a 9 hole round of golf on a regulation course. Statistical results were analyzed to test the null hypothesis that there was no significant difference between terminal performances of Ss in the 2 groups. The raw scores were statistically treated by ANOVA. Reliability coefficients and predictions were calculated from the scores obtained. It was concluded that the lecture demonstration group and the mechanically oriented group using slide sequences were not significantly different (p> .05) on the performance of the composite 5 iron test or on each of the components of the 5 iron test (trajectory, distance, and accuracy), on the trajectory component of the 5 iron test, and on performance on 9 holes of regulation golf course play. The mechanically oriented group was significantly superior to the lecture demonstration group (p< .05) on the composite 9 iron test, the accuracy component of the 9 iron test, and the combined 3 ft and 15 ft putting test.

Joshi et al., (1992) carried a experiment to see the effect of Pranayama practice on pulmonary functions in thirty three male and forty two female with average age 18.5 yrs. All the selected subjects were exposed to six weeks of pranayam training. Before and after practice of pranayama lung functions of all the subjects were assessed. The results showed improvement in the forced vital capacity, forced expiratory volume, maximum voluntary ventilation, peak expiratory flow rate and prolongation of breath holding time.

Karambelkar et al. (1982) have made sixteen observations on those adult male who were well established in different type of Pranayamas over a period of one year. They have conducted this study with two experiments. In experiment no. 1 normal breathing was recorded, expired air was collected in the Douglas bag for 10 min. Same experiment was repeated with Bhashtrika Pranayama with internal retention (Antar Kumbhaka) instead of normal
breathing. In experiment No. 2, normal breathing was compared with Bhashrika Pranayama, with external retention of breath (Bahya Kumbhaka). The study concludes that Bhashrika Pranayama with Bahya Kumbhaka (Patanjali type) and Antar Kumbhaka (Gheranda type) increase oxygen consumption and carbon dioxide tolerance.

Lolage and Bera (2002) trained forty (n=40) male college Kho Kho players aged ranged from 20 to 30 years from Pravra college of physical education. Their cardiovascular efficiency was assessed by administering three test viz., Harvard step test ($r= 0.63, p<0.01$) 8 minute run test ($r = 0.60, p < 0.01$) The experimental group underwent training of Pranayama (Viz., Anulom-Vilom, Ujjayi, Suryabhedana & Bhashrika) in two session of 45 minutes each day morning and evening 6 days a week for total period of 3 months. The subject of control group did not participate in the above interesting activities separately during experimental period. The result of ANCOVA revealed 1) Treatment affect of pranayama on three test of cardiovascular efficiency were not effected 2) Harvard step test could measure C.V. efficiency with insufficient reliability ($r= 0.30, p > 0.05$) whereas the other tests i.e. 8 minute run test and 1600 M run test could measure this variables with acceptable reliability ($r = 0.82, P< 0.01$, $r = 0.80, p< 0.03$) selected Pranayama were found useful in improving cardiovascular endurance of Kho Kho players.

Telles and Desiraju (1991) conducted a study to see the oxygen consumption and metabolic rate after practice of pranayama. The results showed that pranayamic breathing with short kumbhak is responsible for statistically significant raise in the oxygen consumption and metabolic rate as compared to the pre-pranayamic period of breathing. Additionally it has been observed that pranayama with long kumbhak is responsible for lowering of the oxygen consumption and metabolic rate.
The results of study conducted by Udupa et al., (2003) revealed that pranayama training for three months can cause increase in parasympathetic activity and decrease in sympathetic activity.

Naveen et al., (1997) reported that uninostril breathing increases verbal and spatial memory without lateralized effect. Kasiganesan et al., (2004) evaluated the effects of yoga and Omkar meditation on cardiorespiratory performance, psychologic profile, and melatonin secretion. The results showed that three months of Yogic practices are responsible for enhancement in psychologic profile cardiorespiratory performance and melatonin.

Swami, Singh and Gupta (2010) conducted study to see the effect of pranayama on respiratory functions in hypothyroid patients. Twenty hypothyroid female patients average aged 39.7 years were selected for this study. The subjects were trained in pranayama practices for 21 days and were asked to continue the practices at home for next six months. At the baseline and after completion of three months all the subjects were assessed for the pulmonary function. The results showed significant improvement in forced expiratory volume in first second, Maximum voluntary ventilation and Inspiratory Capacity.

It is evident from the previous studies that Yoga practices improve cardiovascular health (Jayasinghe, 2004), and reduce risk of heart attack (Shannahoff-Khalsa et al., 2004). Furthermore, it was observed that Yogic exercises are helpful to improve musculoskeletal health in normal individuals as well as in disease conditions such as arthritis, carpel tunnel syndrome and osteoarthritis (Kolasinski et al., 2005; Goodyear-Smith & Arroll 2004; Raub, 2002; Luskin et al., 2000; Garfinkel & Schumacher, 2000).

Chaya et al., (2006) conducted a study to investigate the effect of yoga practices on basal metabolic rate. To achieve this purpose the subjects were
undergone training in yogic practices for six months. Before and after six months of yogic practices the subjects under study were assessed for basal metabolic rate. The results showed significant reduction in basal metabolic rate due to practice of yoga.

Datar and Kulkarni (1997) conducted a study in healthy adults males (48) and females (15) of age group 16 – 24 years. Yoga training was given for a period of 21 days ( 3 weeks ). Cardiac efficiency was measured using Harward Step Test, before and at the end of training period. There is a significant improvement in the cardiovascular efficiency measured in terms of fitness index both in Males & Females.

Kulkarni, Datar and Katti (1997) conducted a study in healthy adult males (48) and females (15) between the age group of 16-24 years. The Peak Expiratory Flow Rates were recorded by Mini Wright’s peak flow meter before and after Yoga training. The Yoga training was for the period of 21 days (3 weeks). The results showed an increase in the Peak Expiratory Flow Rate after Yoga training.

There are evidences that the practice of pranayama and aerobic exercises are effective in improving physical and mental health. Therefore, Sakthignanavel (1998) conducted a study to see the effect of pranayama with aerobic exercises on muscular endurance, vital capacity and cardiorespiratory endurance. Thirty normal male volunteers had undergone a 12 weeks training course of pranayama (nt =10), aerobic exercise (n2 =10) and pranayama with aerobic exercise (n3 =10). The suitable parameters were used before and after the training. The results showed significant improvement in vital capacity after practice of pranayama (p<0.05). The aerobic group shows greater cardio-respiratory endurance and muscular endurance as compared to the other groups (p<0.05). But the combined pranayama-aerobic group shows a greater improvement in all aspects than the other three groups (p<0.05).
Bera et al., (1998) examined the effects of three-year Yogic exercise programme on motor functions of school boys, ages 10-13. Variables tested were cardiovascular function, body fat percentage, abdominal muscle strength/endurance, flexibility, balance and grip strength. The subjects participated in the selected Yogic exercise programme 3 days week' with 45 min. day' for consecutively three years. Results showed significant improvement in almost all the selected variables (p < 0.01). A comparison of Yogic exercise subjects with a comparable control group revealed significant interaction between treatment and time on all variables except grip strength. During three-year period of experiment, pretest to posttest scores of the yogic exercise subjects tend to improve progressively with faster rate over the scores of control subjects.

Ganguly, Bera and Gharote (2003) examined the effects of three-year Yoga exercise programme on health related physical fitness and academic achievements of schoolboys, aged 10-13. Physical fitness variables tested were cardiovascular function, body fat percentage, abdominal muscle strength/endurance and flexibility, whereas the variables of academic achievement were the marks secured in theoretical subjects as per the school examination. The subjects participated in the selected Yoga exercise programme. The yoga exercise session was forty five minutes, three days per week for consecutively three years. Results indicate that performance on all variables of physical fitness and academic achievement was improved significantly. A comparison of Yoga exercise subjects with a comparable control group revealed significant interaction between treatment and time on all variables. During three year period of experiment, pretest to posttest scores of the yoga exercise subjects tend to improve progressively with faster rate over the scores of control subjects. The results of Pearson correlation indicate that body fat % is inversely related to all the variables of academic achievement, whereas other attributes of physical fitness indicate a low but positive relationship with academic achievement.
Sultana, Mathew and Vipin (2007) determined the effect of 12-weeks of cycling and pranayama on selected respiratory variables. The subjects of the study were 60 women post graduates studying in Pondicherry University. The subjects were randomly assigned to four groups that is one control group (N=15) and three experimental groups (N=15 each). Group-I practiced cycling, Group-II practiced pranayama and Group-III practiced combination of cycling and pranayama five days a week for a period of 12 weeks. The control group did not participate in any sort of physical activity (cycling and pranayama) during the same period. All the subjects were tested in the selected respiratory variables such as respiratory rate, tidal volume and vital capacity before and after 12 weeks of cycling and pranayama. Respiratory rate was noted by seeing the number of breath per minute. The tidal volume and vital capacity recorded in liter with a standard Spirometer. The data pertaining to selected respiratory variables were analysed by ANOVA and it concluded that there is a significant change on respiratory rate, tidal volume and vital capacity after the 12 weeks of cycling and pranayama practices.

Singh (2007) conducted a study to find out the impact of Nadisodhana Pranayama on forced vital capacity (FVC). The sample consists of 40 persons containing 20 males and 20 females (age range 20-40 years) drawn from Yug Shilpi participants of Dec. 2003 session in Shantikunj, by using Simple Random Sampling without Replacement. The research design employed was one group pre-post-test design. Practice time was fixed 30 minutes for each morning and evening sessions per day and the intervention was given for 1 month. The result revealed that the practice of Nadisodhana Pranayama significantly improves the FVC, which implies the improvement of lung function.

Research reports reveal that modern lifestyle affects overall health in deteriorating cardiorespiratory function of today's school students. The present investigation was, therefore, undertaken by Nandi, Adhikari and Bera (2004) to study the effect of selected aerobic exercises and yogic practices or
the effect of both on cardio-respiratory endurance. Eighty school boys (9th and 10th grades) were randomly selected and then subdivided into four equal groups (n=20 in each group). Three training programmes viz., aerobic exercise, yogic practice and combination of aerobic exercise and yogic practice, were randomly allotted to three groups, where the remaining one group studied as control. The performances on cooper's test (12 minutes Run-Walk) of all the groups were recorded before and after the 12-weeks training programmes. Result of ANCOVA reveals that the aerobic exercise group showed greater cardio-respiratory endurance ability. However the yogic practices as well as combination of aerobic exercises and yogic practice both also have significant improvement on the development of cardio-respiratory endurance (post test F value = 3.785>2.73 at .05 level).

Suryabhedan pranayama (SP) is one of the eight types of pranayama of Hathayoga. Metabolic changes have been reported after practicing 27 rounds daily four times for one month. Hathayoga itself advocates pranayama practice for four times a day having 80 rounds per sitting. A few studies on the long term effect of pranayama have been reported in relation to the cardiac function but there are no studies on the immediate effect of intensive practice of SP. Therefore the present study by Gore (2005) was conducted on 10 (5 male and 5 female) healthy young students of yoga. In all 5 different conditions were studied viz. 1) 1:2:2 ratio without bandhas. 2) 1:2:2 ratio with three bandhas. 3) 1:4:2 ratio without bandhas. 4) 1:4:2 ratio with 3 bandhas and 5) 1:4:2 ratio with only Jalandhara bandha. 3 observations were obtained for each condition on each subject. Rate Pressure Product (RPP) was calculated from Systolic BP (SBP) and PR. Maximum-minimum increase in SBP was 5 mmHg and 1 mmHg respectively. Diastolic BP (DBP) on the contrary showed decrease of 1 to 3 mmHg. Maximum increase in RPP was 10.39 and minimum 1.38 immediately after the pranayama practice. Maximum change in PR was 5 to 7 beats/min due to pranayama. All the changes were statistically insignificant. It is therefore concluded that the intensive practice of Suryabhedan pranayama is physiologically safe and harmless. Hypertensives
and old people should, however, practice it on the moderate scale of 1:2:2 ratio without bandhas.

Shenbagavalli (2005) designed a study to analyze the effect of the selected yoga practices on the cardiovascular efficiency and Body fat percentage. To achieve this purpose, the subjects were selected randomly from the Chidambaram Chettiar Girl's Higher Secondary School, Kottaiyur. Total of 60 students were selected randomly and they were divided into two groups of 30 each. Group I was treated as experimental and group II was considered as control group. The initial reading was taken for both the groups by measuring their height, weight, skin fold measurement and cardiovascular efficiency. The Cardiovascular Endurance was measured by using the Harvard step test. For Body fat percentage skin fold measurements were taken at the biceps, triceps, sub scapular and supra-iliac sites. The experimental group was progressively introduced to the selected yogic exercises given in the National Fitness Corps syllabus published by government of India in 1965. The practice session was conducted for 30 minutes on all days except Sundays. The training was imparted for total duration of six weeks. After completion of training intervention of six weeks the post test measurements were recorded. The results of this study concluded that the practice of the selected yogic exercises helped to increase the physical efficiency index derived from the Harvard step test score which was the indication of the improved Cardiovascular efficiency. There was no change in the height, and weight after the experimental treatment. Body fat percentage did not show any significant reduction and changes in body density were also not found to be statistically significant.

Subjects (n=611) in this study conducted by Dimarco (1985) were students enrolled in selected 1 credit HE classes at the PA State University during fall semester 1984 who volunteered to complete a questionnaire packet containing several instruments to measure both independent and dependent variables. An HRA was used to measure the dependent variables:
use of cigarettes, beer, wine, mixed drinks, and mind altering drugs; sleep patterns; seat belt use; physical activity; and performance in school. The multidimensional health locus of control scale (Wallston et al., 1978) identified internal, powerful others, and chance health locus of control beliefs. A somatic response scale was used to measure the frequency of physiological responses of stress experienced. The questionnaire also contained questions pertaining to demographics and participation in extracurricular activities. Data were analyzed by a step down multiple linear regression procedure. The findings indicated that the independent variables isolated to explain health behavior proved to be successful in accounting for only a small amount of significant variance. Subjects stress level, student status, and participation in REC physical activity were the variables which most frequently explained the selected health behaviors. Use of cigarettes, beer, and wine was more strongly associated with older students than younger ones, and males were more likely to consume beer than their female counterparts. Subjects who experienced high levels of stress were more likely to use mind altering drugs and get fewer hours of sleep, and were less satisfied with their performance at school. The three dimensions of health locus of control were not powerful contributors in explaining accountable variance in the health behaviors studied.

Health and Physical fitness of an individual are supposed to depend upon the cardiovascular endurance (efficiency). This cardiovascular efficiency is the capacity of an individual to maintain strenuous activity of the whole body for a long period. The aim of this study conducted by Joshi et al., (2012) was to find out the effect of short term yogic training (4 weeks) on cardiovascular endurance as measured by Harvard step test. 20 college students of standard 12th (18 boys & 2 girls) with average age 17 yrs were included in this study. They were randomly divided into two equal study and control groups having 10 students (9 boys & 1 girl) in each group. Cardiovascular endurance using Harvard step test to measure Fitness Index was administered in both groups at the start and after 4 weeks. Study group underwent 4 weeks of daily 1 hour
yogic training programme comprising mainly aasanas and pranayam. The readings obtained before and after 4 weeks in both groups were analysed statistically using paired t test which showed average 16.46% increase in fitness index in study group versus -6.10% in control group students and the results were statistically significant at 5% level of significance. This study proves that regular 1 hour practice of aasanas and pranayam greatly improves the cardiovascular endurance and hence the physical fitness of an individual.

The study was designed by Kridakorn (1974) to determine the grip strength, flexibility, and endurance of 21 black SHS students at 3 different times during the menstrual cycle. The Ss were tested at 1 month intervals for 3 months on 3 physical performance tests: (hand dynamometer for grip strength, adapted Kraus-Weber floor touch for flexibility, and Harvard Step Test for endurance). Each S was allowed 3 trials in the first 2 tests. Scores were recorded to the nearest pound on the grip strength and the nearest 1/10 inch in flexibility. The arithmetic x and fitness index for each test were calculated and the Ss were divided into 2 groups, under 17 and over 17 years of age. The data were analyzed using 3-way ANOVA for a 3-factor experiment. The F distribution table was consulted for statistical significance at the .05 level. Differences in grip strength were found which were significant, with the strongest x scores occurring during the postmenstrual phase. No rhythmic variations could be established in this group of SHS girls. No interaction between the menstrual cycle, flexibility, and endurance were found.

Evert (1985) evaluated twenty veteran members of the PA State University varsity football team during the first three weeks of and immediately following completion of a 14 week winter spring training program with regard to body composition and aerobic power. in addition, post training knee extension strength was measured. Body composition was determined utilizing hydrostatic weighing. Max aerobic power was determined during an exercise
tolerance test on a motor driven treadmill. Isometric and isokinetic knee extension strength (0°, 30° 180°, 300°) was measured by a Cybex II isokinetic dynamometer. Findings revealed that linemen were taller, had greater total body wt, greater fat free bdy wt(FFBW), and possessed larger percent body fat than did backs (p<0.05). body composition did not change significantly during the training program. Max O2 uptake per kg TBW and per kg FFBW was greater in backs than liniments. Significant and similar increases were observed in VO2 max for both backs and linemen. Post training muscular strength measurements revealed that linemen were stopper than backs in absolute torque and force generated at 0°, 30°, and 180° and in absolute torque generated at 300°. This advantage did not exist when force generated was normalized per kg TBW and per kg FFBW.

To describe student time on task in the specific context and for the specific content of the Y’ way to physical fitness programs, this study both developed and used a new descriptive instrument, the “Time on Fitness Instrument (TOFI) (Chung 1986). It consists of 9 exhaustive and mutually exclusive activity categories in four major divisions and records behavior at 5 second intervals during alternate 1 min class segments and was used to observe 410 adult students in 46 classes over 8-10 weeks at 5 different YMCAs. Field notes and interviews provided additional data. Analysis of the data (14760 intervals) indicated that 65.1% of class time was spent in active fitness (43.7%, strength/stretch, 21.4% cardiovascular), 20.4% in transitional fitness (11.3%, warm up, 9.1% cool off); 4.9% in passive fitness (2.5%, rest, 2.4% knowledge) and 9.6% in non fitness (6.8%, management, 1% wait, 1.8% other). The data confirmed that these students were mostly on task (90.4% on the fitness objective) and were active physically (85.5%). Less time was observed in cardiovascular exercise (21.4%) than recommended (32.4%) and much more on strength (43.7%) than recommended (18.8%). The TOFI, shown to be valid, reliable, and easily used, represents a straightforward approach to the design of context and content specific descriptive instruments and studies.
Campe (1985) selected 2,269 subjects were 7th through 12th graders (excluding 18 yr olds) from a school district in a residential, suburban area in PA in 1982. Chi square analysis was used to test the association between 4 REC activities (sports, religious activities, hobbies and skills, and extracurricular activities) and 9 delinquent acts. Kendall’s Tau C was used to indicate the level of association. The hypotheses were presented such that the more an individual was involved in a particular REC activity the less likely it was posited that they would be involved in delinquent acts. Involvement in REC activities was not found to be a consistent deterrent to delinquency. The hypotheses involving sports and extracurricular activities were not supported. The hypothesis involving religious activities was supported. Hobbies and skills had the most positive association such that those students who were involved were less delinquent.

The pupil assessment practices and perceptions of 13 teachers in six school districts were described, using formal and informal interviews, observation of classes, and document reviews (Veal 1986). The six directors of physical education were also interviewed in order to describe their perceptions of pupil assessment. A theoretical framework guided data collection and analysis. Five themes emerged from the perceptions of teachers: effort, improvement, individualization, purpose/utility, and efficiency. Assessment practices were summarized into a frequency index of instances of assessment by teacher, activity, types of assessment, and phases of assessment. Of the 90 reported instances, 16% was pre assessment, 30% was formative, and 54% was summative. Subsequent to a comparison of theory and practice, several recommendations for change were made. First, there should be an emphasis on assessment rather than evaluation during professional preparation of teachers, which may serve to separate the concept of assessment from tests and grades. Second, an increase in formative assessment was suggested, particularly for high school students. Third, teachers should place the emphasis on tracking student progress and improvement, rather than on tests and grades. Last, and perhaps most
importantly, administrators must communicate to teachers an expectation that they are accountable for tracking the progress of students.

Divinski (1986) was to determine the impact of wellness program upon lifestyle knowledge of 4th grade students, as well as find out a similar effect on a significant other who was exposed only through a series of homework laboratory exercises. The subjects that participated in this study were selected from a population of 4th grade female and male students enrolled in the Unified School District 489 in Hays, Kansas. 4th grade class rosters were collected from each building principal, then 21 4th grade subjects were randomly selected. The experimental group was composed of 5 females and 12 males while the control group was composed of 6 females and 8 males. In an attempt to determine if teaching overflow affected the lifestyle knowledge of a significant other, it was necessary that 1 significant other from each family unit participate in the study. The modified American association, putting your heart into the curriculum intermediate level heart health test, was used as a measure of the individual’s knowledge achievement regarding lifestyle education. All subjects were pretested and post tested on the modified AHA knowledge test. The 4th grade students participating in the experimental group were exposed to a wellness program consisting of 7 meetings covering the following content units: physical assessment, cardio-respiratory endurance, nutrition, substance abuse, stress and relaxation, posture, and self image and self satisfaction. An analysis of covariance was used to determine the effect of the treatment upon lifestyle knowledge. Analysis of the data revealed a significant gain in concept acquisition (p> 0.05) for 4th grade students participating in the experimental group. however, a data analysis revealed no significant gain in concept acquisition (p<0.05) for significant others participating in the experimental group. Therefore, a 7 unit wellness program affected the 4th grade students exposed to the treatment, but teaching overflow was not observed for the significant others participating in the experimental group.
An identity index, which predicts membership in one of the following groups: aerobic exercisers, recreational exercisers, dropouts or non-participants in an employee fitness program, was developed using a population of 125 employees of sentry insurance (Olison 1982). The subjects were divided into one of five groups, based upon their level of participation in an employee fitness program. The groups were then compared on demographic items, physiological variables, Type A personality, state/trait anxiety, and personal health items. Discriminant function analysis was used to select 15 items from the personal health questionnaire, which were most likely to discriminate between the four groups. Three discriminant functions resulted, representing health actions, demographics, and health beliefs. Using classification coefficients, group membership for the criterion group was predicted. Overall prediction accuracy was 76%. When prediction was viewed in terms of exercisers vs. non-exercisers, prediction accuracy rose to 90%.

Fifty untrained fifth grade boys were randomly assigned to five treatment groups. One group received instruction on the mechanics of running. A 2nd group engaged in running training, while a 3rd group received both instruction on the mechanics of running and participated in running training. The 4th and 5th groups served as controls, one received instruction unrelated to running to control for a possible Hawthorne effect, while the other served as a typical control and merely engaged in their normal school routine (Petray 1982). Running economy, defined as the steady state aerobic demands of over ground running, was measured before and after the eleven week treatment program. There were no significant differences (p>0.05) among the five treatment groups in running economy, stride length, or stride rate either prior to or following the treatment. It was concluded that neither instruction on mechanical techniques, nor training of the nature and duration employed, nor a combination of the two, affect running economy in boys of this age. Arizona State University
Twenty one male college age students participated in a seven week strength training study (Staub 1981). Nine were randomly assigned to a recreational type workout and nine to an Olympic type workout. Three students were controls. The primary purpose was to determine the affects of these workouts on Vo2 max. Peripheral to the major objective was the effect of these workouts on muscular endurance, % body fat, lean body weight, strength, and power. These were assessed via maximum bicycle endurance time, hydrostatic weighing, bench press and leg extension, and vertical jump and medicine ball throw. ANOVA was used to assess pre test, post test and change differences between the two treatment groups and between treatment and control. No significant changes in Vo2 max were found for any group. there were non significant changes in other parameters that might be expected as suggest that although there are various physiological benefits associated with both training programs, neither had an effect on Vo2 max as a result of this study.

The purpose of this study conducted by Buer (1982) was to develop a reliable and valid scale to measure the value of intercollegiate football. A preliminary form of one hundred sixty statements was constructed from a review of literature. Using the Likert technique, the scale was administered to former intercollegiate football participants to establish reliability and validity. The reliability of the final form of the attitude scale was 0.89. The instrument was used in a survey involving 146 former football players, who completed their eligibility in 1960, 1970, or 1980, from six universities two each from division I-A, II and III. Significant difference were found in the attitudes of former participants toward their perveived value of intercollegiate football among the six universities at the 0.05 level. However, no significant difference were found among the 1960, 1970, or 1980 classes, nor were significant difference found when the universities were compared on the basis of NCAA divisions I-A, versus II, versus III.
Male (n=264) and female (n=91) varsity athletes at BYU who competed during the 1981-82 season completed a psychological profile which determined their mood states, and the effects of a season of varsity competition on these mood states (Cavanaugh 1982). The relationships between twenty nine selected groups of athletes and their mood state profiles were then examined. The findings revealed that significant difference exist between athletes and the established college norms, between athletes of one sport and athletes of other sports, and between starters and substitutes. Specifically, athletes were less tense, less depressed, and less confused as well as feeling more vigorous than the college norms. Team a starters were found to be less confused than the substitutes. No difference were found when comparing team sports to individual sports, male athletes to female athletes, pretest scores to posttest scores, or starters, substitutes, and dropouts in an attempt to develop a prediction model for the pretest scores.

Five basketball players and five volleyball players served as subjects and participated in typical warm up procedures for their sport (Hammer 1982). Rectal temperatures were measured at rest, after warm up, during warm down, for forty five min and twenty min respectively, for basketball and volleyball players, and after re warm up for basketball players. Testing was repeated without wearing warm up suits and while wearing warm up suits during the warm down and re warm up periods. An internal core temperature of between 38 degrees and 38.5 degrees was considered to be optimal. The following conclusions were made: warm up procedures were effective in raising the core temperature to optimal levels or above, volleyball players remained warmed up for 20 minutes, basketball players dropped out of the optimal zone before the first half and half time re warm up was effective, warm up suits did not affect the internal core temperature.

The effects of six week of high intensity anaerobic training on various physiological, metabolic and performance factors were assessed in 14 well trained male endurance athletes (Ibarra 1980). Anaerobic training caused a
14% decrease in succinate dehydrogenase activity of gastrocnemius muscle and a 7% decrease in treadmill running time to exhaustion. There were no significant changes in Vo2 max, fiber type distribution, slow twitch or fast twitch fiber areas or in performance times at a 3000 and 10000 m run. These data suggest that intense training of an anaerobic nature is capable of maintaining an already high aerobic capacity, but that total SDH activity may decrease as a result of a decrease in total work time over the training period. The implications of the fall in SDH activity were not apparent from the results of the middle distance runs. However, under the more exhaustive treadmill test the fall in SDH activity may have influenced endurance.

The purpose of this study conducted by (Reeve 1982) was to compare the nystagmus reflex of male and female athletes and non athletes, and to compare the nystagmus reflex of athletes involved in a rotary movement sport (gymnastics) with athletes who participate in a linear movement sport (volleyball). The following screening tests were administered to the 72 subjects from BYU to insure normal vestibular functioning: gaze test, saccade test, horizontal tracking, positional test, hallpike maneuver, and optokinetic test. The two nystagmus inducing stimuli included the rotary chair and water caloric irrigations. ANOVA showed: a group and group by sex significant difference with the female gymnast always having the most suppressed reflex followed most often by the male volleyball players, the presentation factor although significant difference for this study, in a clinical setting would not be significant, the necessity to analyze the rotary chair data separately from the water caloric irrigation data because of the difference in response.

The routines monitored were composed collectively of various types of dance forms such as folk, jazz, modern, and calisthenics. Eleven males and twenty six females took part as subjects. The average age of the subjects was twenty three years (Rose 1982). Statistical analysis was made by means of a t test which was used to determine that there was a significant difference between the caloric expenditure during aerobic dance of men and women.
Heart rate was monitored during an actual aerobic dance workout using radiotelemetry. An average heart rate from the workout was then compared to a nomogram which was made as a result of a heart rate monitored sub maximal modified Balke test. Caloric expenditure values were determined, 0.088 Kcal/1b/min for men and 0.069 Kcal/1b/min for women. Conclusions from this study were: There is a significant difference between the caloric expenditures of male and females engaged in an aerobic dance workout, aerobic dance is similar to other aerobic type activities that can be used in exercise prescription and Weight control programs.

The prosocial behavior inventory is based on observable and measurable data. Content validity was established after satisfying two criteria: collecting a large pool of behavioural statements from a number of sources through a variety of methods, and using competent judges to rate the statements (Adams 1982). The content of the prosocial behavioral inventory includes the following activities: helping an opponent up after a fall, using school equipment properly, being attentive to helping a partner for safety reasons, acknowledging a single effort by a teammate, helping another student with a new skill, participating each day, leaving the game quietly when asked to by the official, volunteering to take out or pick up equipment, praising a teammate who makes a good play, after injuring an opponent accidentally, either helping the player up or showing some kind of concern for the hurt player, and lastly, as a superior athlete, giving another student instruction and encouragement.

Guthrie (1982) determined the degree of homophobia within female college athletes, PE majors and non majors and examined the effects of this phenomenon on women in sport and physical education. Homophobia, the irrational fear or intolerance of homosexuality, is oppressive to women in sport and physical education. These women have been an historical their involvement in the traditional male domain of sport. As women in sport and physical education venture outside conventional sex role boundaries,
homophobia inhibits such behavior and thereby may prevent the actualization of athletic potential. Results indicated the following: homophobia was prevalent within this female population, non athletes were significantly more homophobic than athletes, athletes were significantly more homophobic than physical education majors, non majors were significantly more homophobic than physical education majors, and physical education majors were perceived as significant more masculine and homosexual than female college students in general.

A unidirectional linear tracking task was used with independent variables of sex, mass and stimulus velocity. A handle of varying mass was mounted on the slide and subjects attempted to coincide their movement with a light on a basin timer runway (Hunt 1982). Results indicated significant difference in performance of the required task and demonstrated support for both the impulse variability model (Schmidt et al, 1979) and the mass spring view (Sherwood and Schmidt, 1980) for production and control of discrete, rapid movements. Practical implications of the results and possible future directions of research were discussed.

This study by Grandstaff (1979) was concerned with the content of recreational programs at selected juvenile correctional rehabilitation centers throughout the US. A questionnaire was formulated to determine demographic, school program, and recreational program information. Selected juvenile correctional centers were surveyed (n=88) with response of 37. Results found that: recreational was open to all clientele and emphasized lifetime sports, over half of the institutions had athletic teams and a majority of these participated in interscholastic competition, the institutions have adequate facility, recreational personnel are hired strictly for recreation, are 26-35 years old, have college degrees, and stay in the program 6 years, a majority of institutions felt recreation helped reduce aggression in institutional setting and that it helped in the rehabilitation process, and a majority of respondents felt that ample recreation opportunities were provided.
This study by Stumf (1982) was to determine whether a statistically significant difference occurred in personality traits of male and female JHS students that participate in team or individual sports and nonparticipants. The GPI was administered to JHS students at Gering and Scottsbluff NE (n=780). Dependent variables were cautiousness, original thinking, personal relations and vigor. Independent variables held constant were: sport sex, grade, and interactions of the three. Individual three way ANOVA were computed to determine significant F values. Conclusions reached were: no significant difference in team sport participants, individual sport participants, and non participants on personality characteristics, cautiousness, and original thinking, a significant difference was present between team sport participants and non participants, but not between team and individual sport participants on the personality characteristic vigor, and no significant difference was determined between the three groups on personal relations.

The rhythmical warm up routine was composed of 15 exercises choreographed to one song three minute and 20 seconds in length. The routine was conducted over a period of 10 weeks. Subjects consisted of members of two basketball classes and 2 conditioning classes with an N of 101. Subjects were given a pre test and post test to determine the effect of the routine on agility, as measured by the Dodging run agility test, a figure eight run in and around four chairs (Schwartz 1982). The test was timed using the Dekan performance analyzer. Results indicated that there was not a significant difference (p> 0.05) between the agility of the experimental the groups (p<.30). the results further showed that agility is educable at the college age level and that it can be improved and measured through this technique.

The influence of instructional set, age and experience on the predictive and reactive movement organization of the equilibrium reaction was examined by Keshner (1983). Healthy children, 4, 5 and 6 yrs old, were tested under one of four stimulus conditions. Subjects were either informed about the time
of onset or the direction of the stimulus, or they were informed of both or neither of these parameters. Subjects were placed upon a motorized tiltboard that tilted laterally, 0.035 rad/sec, in two directions. An acoustic signal preceded onset of the tilt. The number of tones and directions of tilt were randomized across six trials. ANOVA on the initial latencies of six limb segment response components, and chi square analyses of the final response patterns supported a dominant influence of instructional set. A differential effect of instructional set on the age groups illustrated a variable ability to attend selectively to the relevant stimulus information. Predictive responses increased in the four year olds when direction was certain, and in the six year olds with either spatial or temporal certainty. Five year olds exhibited no predictive influence of specific instructional sets. The equilibrium reaction was considered to be result of triggering a central movement program.

Subjects were 14 skilled and trained females with a mean age of 12.4 years. Subjects completed two five min rope skipping tests at cadences of 125 and 135 turn/min. Vo2 and heart rate were measured during work. Metabolic equivalents, kcals, and volume expired were calculated. A 2 x 3 factorial ANCOVA with repeated measures on one factor was used to test for significant difference between cadences and ages (Eifel 1982). No significant difference existed between the physiologic response recorded at either cadence. Vo2 was 1.64 and 1.60 1/min for the 125 and 135 cadences respectively. When adjusted to body weight Vo2 values were 35.99 and 35.55 ml/kl/min for the two cadences. These values were consistent with the 60-90% recommended for cardiovascular benefit, as compared against max values in samples of similar age. Heart rate was 192 and 193 bpm for the 125 and 135 cadences. When compared to the same samples, heart rate response was 93-104% of max values reported. The near max response may be due to the arm component of the activity. Energy cost was calculated at 10.3 and 8.16 kcal/min at the 125 cadence and 10.2 METS and 7.99 kcals/min at the 135 cadence. Energy costs were less significant than those reported in adult samples. No significant difference existed between the
chronological age groups, between 11 to 13 years. It was concluded that rope skipping for 11 to 13 year old skilled females with cadences of 125 and 135 turns/min was an appropriate activity for participation, and that children less skilled in the activity may produce a more severe response than the sample studied.

Measurements were taken from 35 male JHS students, ages 12-15. Simon and Stoll’s (1974) Children’s attitudes toward physical activities instrument was used to measure attitudes toward physical activities for health and fitness (Johnson 1982). The AAHPERD health related physical fitness test was used to measure health related physical fitness. Results indicated that subjects had positive attitudes toward physical activities for health and fitness. Health related physical fitness levels were at the 50th percentile when compared to national AAHPERD norms, except for the skinfold component which was near the 25th percentile. No significant relationship existed between subjects attitudes toward health and fitness activities and performance on the AAHPERD health related physical fitness test. However, the r for the AAHPERD sit up test and the CATPA health and fitness component was significant at the 0.10 level of confidence. An extracurricular physical activities questionnaire indicated subjects were involved in appreciable amount of physical activities thorough the year, apart from PE classes. Procedures included a test retest to determine CATPA reliability, which was also tested for distortion qualities. Results indicated CATPA was reliable and also distortable. It was concluded that there was no relationship between CATPA’s health related physical fitness components. Therefore, development of attitudes could not have occurred as a result of development of health related physical fitness. Qualities would have to be addressed independently by PE curricula if aim was to develop students capable of achieving lifetime health related physical fitness.

Subjects were an experimental group of seven females and a control group of six females. The experimental group performed three 40 min circuits,
designed for strength improvement, 3 days per week for 10 weeks. Vo2 systolic blood pressure, heart rate, physical work capacity, and total time to exhaustion were measured and recorded during submax work at 150 kgm and at max exertion (Neubauer 1982). Data were treated by ANCOVA. No difference was found for max and submax vo2, heart rate and max SBP. Only significant changes were in SBP submax, PWC max, and total time to exhaustion for the experimental group. decreased submax SBP, with no change in heart rate, suggests a decrease in cardiac output, possibly due to biochemical improvements in the skeletal muscles evident at submax work which cause a greater o2 extraction. Post training physical work capacity and total times to exhaustion were significantly higher in the experimental group. findings may be due to anaerobic energy utilization as no changes were observed in vo2 max. The findings concur with previous research indicating that at max exertion, little or no aerobic benefit is derived from circuit weight training, whereas at submax exertion, some improvement is evidenced.

Maintenance of cardiorespiratory fitness and body composition were investigated with 25 college age volunteer subjects from the population of students enrolled in fitness and conditioning classes (Dufek 1982). Subjects participated in personal fitness programs for a minimum of six weeks during class and were retrained for four weeks at an intensity of 75% duration of 30 min, and frequency of 5 days/week prior to treatment. Pretests consisted of a 12 min run and vo2 max bicycle ergometer test to evaluate cardiorespiratory condition. Skinfold measures and body weight were recorded to evaluate body composition. The experimental phase consisted of various frequencies of training on a bicycle ergometer with initial intensity of 75% and duration of 30 min. subjects were randomly assigned to one of 4 exercise frequency groups: 5, 3, 2, or 1 day/week. The maintenance period consisted of 7 weeks. Subjects were post tested with the same tests as the pre test. MANOVA and univariate tests were performed with the independent variable of treatment and dependent variables of pre post gain scores of the four measures taken.
This study was to determine if an increase in isometric strength affected reaction time and its fractionated components when assessed under resisted and unresisted conditions (Adeyanju 1982). 26 college age students enrolled in beginning weight training classes were randomly assigned to an experimental group or control group. Max voluntary contractions of the knee extension muscle group of the right leg were recorded in 2 sets, 1 before and 1 after the subject reacted to a visual stimulus for a series of trials. The reaction time to the visual stimulus was recorded in 2 sets of 20 trials, with 1 under unresisted condition and the other under a condition that resisted the response with a force equal to 20% of the MVC. EMG procedures were used to partition total reaction time into central and peripheral components. Subjects completed 3 days of baseline assessment of isometric strength and fractionated reaction time the experimental group completed a six week weight training program that resulted in improvement of knee extensor strength. Following the 3rd and 6th week of training subjects were again measured on reaction time and strength criteria. Analysis of the effects of groups, test conditions, and test days was competed using a 2 x 2 x 3 factorial design for the strength total reaction time, premotor time, and motor time measurements. Improvement in strength paralleled a faster motor time under the resisted condition. Total reaction time and motor time lengthened under the resisted condition. No difference was found with the pre motor time when measured under the 2 test conditions.

A scale to measure college students commitment to physical activity was modified and evaluated for use with ELE school children (Wendelberger 1982). 74 subjects enrolled in grades 2-6 of and ELE parochial school were administered a three part questionnaire consisting of: the children’s commitment to physical acidity scale, a perceived benefits scale, and a self concept scale for children. In addition, teachers ratings of students, activities were obtained. Test retest reliability of the children’s commitment to physical activity scale was 0.77 and the internal consistency was 0.72 Only 3 of the 10 items had acceptable discrimination. The concurrent validity of the instrument,
when compared to selected measures obtained from the perceived benefits scale, self concept scale, and teacher ratings was low.

Eighteen male subjects were divided into three groups based on their max vo2 scores. Each subject performed a static test (holding a weighted briefcase), a dynamic test (walking on a treadmill) and a combination of the two. A counterbalanced order was used (Harper 1982). Workloads for all subjects were relative to their max vo2 and to their max voluntary contraction. MANOVA and ANOVA revealed that aerobic fitness level was not an influencing factor with regard to heart rate, blood pressure, or pressure rate product response to the three types of work examined. Furthermore, max vo2 was not increased by the addition of static work during a max test as hypothesized. Heart rate, PRP and systolic blood pressure were highest during combination work, diastolic blood pressure was highest during static work.

United States Marine Corps policy, orders, and financial expenditures were analyzed to determine the emphasis placed on programs of athletics and physical fitness (Canario 1974). The data indicated that the major purpose of athletics during the early 1950’s was to further the combat readiness in the individual Marine. This purpose remained viable until 1962 when the emphasis was changed to identifying superior athletes for international competition. In 1966 intramural competition was promoted, but this policy was short lived. In 1969 the data indicated a return to the previous policy to identify and aid athletes for higher competition and this purpose remained through 1972. Recreation programs were largely expanded during the period and in 1972 financial expenditures for recreation far exceeded those for intramurals and athletics.

Groups of 20 Ss were fatigued at a 2-4%, 9-11%, or 25-27% work dropoff on a step-up task and then received 8 min of continuous trials on the
Bachman Ladder Task (Kanapik 1974). Learning was calculated from performance scores recorded 7 days later. Control Ss were not fatigued. ANOVA indicated that significant performance depressions occurred in all 3 fatigue groups. Only the most heavily fatigued group (25-27%) showed a significant learning depressions.

Thirty female Ss were given an underwater body orientation test which consisted of submerging underwater and tilting the body 45° to the left. Three visual field conditions were present (Markiewtz 1974). The Horizontal and Vertical Field consisted of a grid of horizontal and vertical lines; the Circular Field consisted of concentric circles; the No Vision Field involved performing with blackened goggles. Ss were also given the standard Rod and Frame test. ANOVA indicated that Ss performed more accurately with the Horizontal and Vertical Field than with the No Vision Field. Field dependence as measured by the Rod and Frame Test was not related to underwater body orientation performance.

Game choices of kindergarten, 1st grade, and 2nd grade students from high socioeconomic status families; mixed high, middle, and low socioeconomic status families; or low socioeconomic status families were analyzed (Martin 1974). All Ss experienced 3 game sets consisting of a central person-oriented game and a noncentral person game. Each S was then asked which game he or she would like to play again. χ² analysis indicated that there were no significant differences in game choice among the children of various socioeconomic status families. Game choice was also not related to sex, grade level, or number of children in family.

Twenty-five obese women voluntarily participated in a 16 week weight control program (Nelson 1974). Pre and post physical measurements (body with and triceps skinfold thickness) and pre and post psychological measurements (neuroticism-stability and extraversion-introversion) were
made. It was found that during the 16 week period the Ss were able to decrease body weight and to reduce triceps skinfold thickness. The initially more stable Ss experienced greater changes in body composition than the initially more neurotic Ss. No significant changes in the 2 psychological dimensions occurred during the program.

Ventilation measurements can accurately measure fitness in the exercise physiology laboratory. In PE classes it is not always possible to take ventilation measures during exercise. The object of this study conducted by (Johannes 1972) was to develop a regression equation that would accurately predict the exercise expired volumes from the post exercise. The Ss, 31 HS boys, exercised on a bicycle ergometer at 5 work rates ranging from 300 to 1500 kpm/min. Collections of expired air were made during the last 15 sec of exercise and from 5 until 20 sec after exercise. At 300 kpm/min the r between exercise and volume was Y=19.84008+.51248X, the r2 of the prediction was .49, and the standard error of the estimate (SEE) was 5.5 L/min. At 600 kpm/min the r was 0.27, the regression equation was Y=38.93547+.23750X, the r2 was .07 and the SEE was 6.8 L/min. At 900 kpm/min the r was .45, the regression equation was Y=45.57138+.51608X, the r2 was .20 and the SEE was 12.3 L/min. At 1200 kpm/min the r was 0.57 and the regression equation was Y=34.40262+.89357X, the r2 was .32 and the SEE was 15.4 L/min. At 1500 kpm/min the r was .63 and the regression equation was Y=49.31884+.78588X, the r2 was .39 and the SEE was 16.1 L/min. With all data combined the r was 0.92, the regression equation was Y=4.64473+1.21393X, the r2 was .85 and the SEE was 14.1678 L/min.

Varsity baseball coaches (N=74) in randomly selected SHS in IL were surveyed to investigate the relationship between the use of selected hitting drills to team batting average (TBA) and to determine the contribution of each hitting drill to X TBA. Subpurposes involved determining the hitting drill that varsity baseball coaches used most frequently and the % of hitting practice that was devoted to each of the hitting drills (Sherwood 1976). The following
conclusions appear warranted. There was a slight r between the selected hitting drills, Down Swing and Hitting the Curveball, to TBA X. Some of the selected hitting drills seemed to measure the same aspect of what was being measured by about 21% of what was being measured by TBA X. All 11 selected hitting drills contributed less that 50% of what was being measured by TBA X. Over 50% of the TBA X must be attributed to something other than the contribution of the selected hitting drills. The selected hitting drill, Pepper, was most frequently used by varsity baseball coaches in IL, accounting for over 11% of hitting practice.

Subjects were 14 skilled and trained females with a mean age of 12.4 Subjects completed two 5 min rope skipping tests at cadences of 125 and 135 turn/min. Vo2 and heart rate were measured during work. Metabolic equivalents, kcals, and volume expired were calculated (Eifel 1982). A 2x3 factorial ANCOVA with repeated measures on 1 factor was used to test for significant difference between cadences and ages. No significant difference existed between the physiological response recorded at either cadence. Vo2 was 1.64 and 1.60 l/min for the 125 and 135 cadences respectively. When adjusted to body weight, vo2 values were 35.99 and 35.55 ml/kl/min for the 2 cadences. These values were consistent with the 60-90% recommended for cardiovascular benefit, as compared against max values in samples of similar age. HR was 192 and 193 bpm for the 125 and 135 cadences. When compared to the same samples, HR response was 93-104% of max values reported. The near max response may be due to the arm component of the activity. Energy cost was calculated at 10.3 and 8.16 kcals/min at the 125 cadence and 10.2 METS and 7.99 kcals/min at the 135 cadence. Energy costs were less significant that those reported in adult samples. No significant difference existed between the chronological age groups, between 11 to 13 yrs. It was concluded that rope skipping for 11 to 13 yrs old skilled females with cadences of 125 and 135 turns/min was an appropriate activity for participation, and that children less skilled in the activity may produce a more severe response than the sample studied.
Selected max and submax physiological responses of females to an 8 wk rope skipping program were studied (Morehouse 1982). Changes in HR, Bo2, and body composition were evaluated. Subjects were 16 females, aged 18-17 yrs, 8 serving as control group and 8 as the experimental group. Subjects performed a continuous max treadmill test and two 5 min submax rope skipping tests prior to training, with skipping cadences of 110 and 135 turns/min. a modified jump rope was used to allow for direct measurement of Vo2. HR and Vo2 values were recorded and skinfold measurements were taken. After pre testing, the EG participated in an 8 week interval program 3 days/week. Total skipping time increased weekly and varied between 15-30 min per session. Both groups were tested again following the 8 weeks. Variables were analyzed using 2x2 factorial ANOVA and the Tukey post hoc tests. No significant (p> 0.05) changes occurred in vo2 amx following the 8 week program for either group, but the experimental group showed a significant decrease in submax HR response at the 135 cadence, indicating that training increased the efficiency of the cardiovascular response to submax work. No significant changes in vo2 or HR occurred in the 110 cadence. This speed appeared to be mechanically inefficient. Lean body weight, total body weight, and percent body fat remained relatively constant. Observed lack of significant in experimental group HR, submax vo2 and vo2 max values may be due to small sample size. All subjects had a high level of fitness, which may have limited the amount of change. Findings indicate rope skipping training is not an effective exercise for subjects with high initial levels of fitness.

Maintenance of cardiorespiratory fitness and body composition were investigated with 25 college age volunteer subjects from the population of students enrolled in fitness and conditioning classes (Dufek 1982). Subjects participated in personal fitness program for a minimum of 6 weeks during class and were retrained for 4 weeks at an intensity of 75% duration of 30 min, and frequency of 5 days/week prior to treatment. Pre tests consisted of a 12 min run and vo2 max bicycle erogometer test to evaluate cardiorespiratory
condition. Skinfold measures and body weight were recorded to evaluate body composition. The exp phase consisted of various frequencies of training on a bicycle ergometer with an initial intensity of 75% and duration of 30 min. Subjects were randomly assigned to one of 4 exercise frequency groups: 5, 3, 2 or 1 day/week. The maintenance period consisted of 7 weeks. Subjects were post tested with the same tests as the pretest. MANOVA and univariate tests were performed with the independent variable of treatment and dependent variables of pre post gain scores of the 4 measures taken.

This study was concerned with the implications for professional preparation of sport administrators in Brazil, based on investigation of duties performed by sport administrators of selected sport associations of the St of Sao Paulo, in that country (Medilha 1982). Subjects (n=37) were interviewed using a questionnaire which contained 91 duties divided into 10 categories. The subjects were asked to indentify duties performed in terms of frequency occurrence and to rate the level of importance and difficulty of the duties. Respondents indentified their reasons for rating the duties at extreme or considerable levels of difficulty. Data gathered were analyzed through descriptive statistical techniques generating frequencies, mean ratings, rank orders, model scores, and percentage presented in tabular form. The administrators performed more than 70% of the duties listed on the questionnaire, on an independent or cooperative basis. Duties were rated as being considerably important, and moderately difficult to perform. Lack of time, finances and experience were problems most often encountered by the subjects. Sport administrators investigated perform a wide variety of duties, which are of considerable importance and moderately difficult to perform. Administrators should be properly prepared through specialized interdisciplinary programs. Emphases should be placed on an academic background in PE and sport, and on related curricula and experiences in administrative and managerial procedures. The findings provided the basis for the suggested curriculum comprising 11 required and 9 elective course areas for the training of sport administrators in Brazil.
6 male and three female volunteers underwent testing for max HR and max VO2. Each subject then skipped rope for 5 min. at each of the rates 90, 120, 150 and 180 turns per min using a running style (Coccagna 1981). Collections for HR and O2 consumption were made at the 5th min. A comparison of the HR-VO2 relationships between treadmill and rope skipping exercise revealed no significant in slopes (p > 0.05), but values for HR were higher for RS than TM at the same relative O2 uptake. Regression equations for TM and RS were: HR predicted TM= 1.27 RVO2 + 62.71 and HR predicted RS= 0.81 RVO2 + 111.72, respectively. The caloric requirements for TM increase with increases in HR but for RS remain the same regardless of increases in HR. The HR and VO2 are linearly related with respect to increases in skipping rate, but the relationship has minimal slope. Regression equations for HR and VO2 were: Relative HR predicted RS= 0.05 tpm + 81.07 and relative VO2 predicted RS= 0.08 tpm + 58.83 respectively. The treadmill energy expenditure relationship can be used in predicting RS rates for skipping for training intensities in the range of 63 to 75 % max Vo2.

Data were collected from 54 male and 53 female athletes using the work and family orientation questionnaire (Helmreich & Spence 1978) and the survey of Interpersonal Values (Gordon 1976). Additionally, each head coach ranked all team members form most valuable to least valuable (Lidstone 1982). This served as the dependent variable. Also, 13 skill related indices were obtained for each player from 1981-82 cumulative statistics. Findings were as follows: Two sample t-tests revealed that male and female athletes differed on only 2 of 10 psycho-social variables. Female athletes obtained higher support scores and lower conformity scores. Multiple regression analyses indicated that psycho-social variables accounted for only 20.1% of the variability for males (support, benevolence, recognition, personal unconcern and work) and 24.7% for females (benevolence, competitiveness, recognition, support, work and conformity. When skill related variables were added, points per game, assists per game, rebounds per game, field goals attempted, work, recognitions, field goals made % of games played, support
free throw % and personal unconcern explained 87.2% of the variability for male athletes. For females, points per game, assists per game, mastery, personal unconcern, % of games played, and field goals made accounted for 74.9% of the variability in MVP.

The literature presented above indicates the availability of ample of researches on the effect of yoga practices on physical, physiological and psychological attributes. Impact of pranayama, on health benefits is also well documented. However, there is little or no literature available examining efficacy of pranayama on cardio-respiratory function in tribal students.