Chapter II

REVIEW OF RELATED LITERATURE

An exhaustive study of the literature pertaining to the research on hand helps an investigator to confine himself to a certain limit. Such a study of literature illustrates the researches undertaken by the previous investigators and their outcomes. The result of several such studies guide in formulating the design of the study and hypotheses, besides arriving at definite conclusions. Agarwal has aptly opined “the literature in any field forms the foundation upon which all future work will be built”.  

Therefore, the researcher of this study scanned the reports of completed researches, dissertations, articles, books and internet sources by availing the library facilities at the Post-Graduate center, Manasanagotri, Mysore, Department of Studies in Physical Education and Sports Sciences, Mysore, Sports Authority of India, Southern Centre, Bangalore and Bangalore University to gather the related literature. The findings, opinions and statements of various authors which have a bearing on this study are presented in this chapter under the following heads.

- Status
- Meaning and Concept of Socio-Economic Status
- Physical Fitness
- Physical Fitness and Socio-Economic Status
- Physical Activity and Socio-Economic Status
- Health and Health Status
- Physical Activity, Fitness and Health
- Health and Socio-Economic Status
- Sports
- Health and Sports

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Sports Performance
Sports and Socio-Economic Status
Sports Performance and Socio-Economic Status
Proneness to Disorders
Proneness to Disorders and Socio-Economic Status

**Status**

In every society, each member of it discharges certain social responsibility. Depending upon the utility and importance of such responsibility they are arranged in an echelon, and in that hierarchy a position is assigned which is generally referred to as status.

According to Ogburn and Nimkoff, all societies differentiate their members in terms of roles and all societies evaluate roles differentially. Some roles are regarded as more important or socially more valuable than other, and persons who perform the more highly esteemed roles are rewarded more highly. Thus is the introduction of the idea of status which is the rank order position assigned by a group to a role or to a set of roles. Status is thus created by the opinions of others. Thus others act as judges of our role and conduct.²

Criteria for assigning status vary from society to society. In the Indian Society it looks that economic status plays a major role in obtaining status. Thus, there has been a shift in the conceptualization of social status, opines Anand, “Social status today is determined by economic status. It means these days a person is known and respected more for his wealth and income than by the contribution he makes to the society”³.

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From Sociological perspective, status was defined by Popenoe as follows.

Status in general sociological usage is defined as a position in the social structure of an organized group or society. Each status carries with it a set of rights and responsibilities, that is, a set of roles which describe how the status entitles the status holder to an allotted share of society’s assets. However, when discussing stratification the term is used in a more specialized way to mean a ranked position in a social hierarchy or stratification system. It is also used to mean a person’s general or total standing in society, a combination of his known statuses.4

Status will be estimated by a group on the basis of worthiness of a person, state Secord and Buckman.

The status of a person is high if the role he is playing is considered important by the group. If the role is regarded less high, its performer may be accorded a lower status. Thus the status of a person is based on social evaluation. “Status is the worth of a person as estimated by a group or a class of persons.”

In different societies status of persons was determined on different criteria. Sharma illustrates the criteria for status determination in Indian society.

The status of a person in Indian society is determined on the basis of his birth in a particular caste on community and his socio-economic position and social interaction with others. Such a status is regarded as his social status (consisting of status both in the caste system and the class structure) and can be

explained in terms of a composition of evaluation by him and others and his self awareness of such an evaluation. This can also be treated as composite and individual status contrary to the status of his group (caste). More precisely a comprehensive evaluation of social status of the respondents was made through the subjective compositive (based on objective criteria like education, job, income etc); and group (Caste) criteria.6

Meaning and Concept of Socio-Economic Status

A number of factors were taken into consideration while deciding the Socio-Economic Status (SES). SES was used to predict the behaviour of the people in different walks of life. Hirsch Jr. and associates write, SES is an individual’s or group’s position within a hierarchical social structure. Socioeconomic status depends on a combination of variables, including occupation, education, income, wealth, and place of residence. Sociologists often use socioeconomic status as a means of predicting behavior.7

Socio – Economic status index is an index of immigrant adjustment. This index of socio–economic status comprises of the following items, says Nair. (1) Occupational status, (2) Area of residence, (3) Monthly income, (4) Type of housing, (5) Condition of house, (6) House ownership or rental status, (7) Level of living and (8) Formal social participation.8

6 K.L. Sharma Social inequality in India, Profiles of caste, class and social mobility (3rd Edn, Delhi : Sterling publishers, 1999), PP. 452 – 455.


In the words of Page and others, socio-economic status refers to “A person’s position in any given group, society or culture as determined by wealth, occupation, education and social class. The authors also opine that social class is ‘Grouping of people on a scale of prestige in a society according to their social status’’. It is determined by many factors, such as occupation, income, moral standing, family history, social groupings, and organizations, type of schooling and area of residence.9

The accord of social status takes into cognizance the Educational and occupational positions and considerations given to an individual, writes Lundberg.

The social status is judged by the position he gets in the society on the educational and occupational positions and the recognition and consideration given to him by the society.10

In the view of Sorenson, the concept of SES varies from society to society. “The concept of socio-economic status varies from society to society according to the social values held by that society. And hence the definition of socio – economic status is specific to a society”.11


The categories and basis for division of social class was suggested by Sidentop and others.

Social class is often divided into upper, middle, and lower class, based on family income, occupational level, educational level, or location of residence. Social class is important because class differences influence the socialization of children.\(^{12}\)

Nair adds some more aspects to the ones listed by the previously mentioned authors. One of the most popular measures of socio-economic status is occupational ranking which may be used separately or in combination with education and income. In addition to occupational status other criteria such as style of life, self identification, institutional membership, status reputation, dwelling area and house type have used as indications of socio-economic status.\(^{13}\)

As the concept of SES varies, procedure of its measurement also varies. A number of researchers have suggested different methods of doing it. A summary of a few of methods has been presented here.

The term socio economic status (SES) refers often to a person’s position in societal structure. Originally, occupation was used to classify individuals, but later income (Goodman et al; 2003) education (Gordon et. al; 2003) and possession of certain physical properties, assets or material standard (Borrell et. al; 2004) have been used in epidemiological studies. In this study, the youngest subjects were younger than 16 years old and the validity of other measures than possession were ruled out, self reported family possession of a) Summer – house or cabin (b) Car c) home computer or (d) living in a villa,


\(^{13}\) Nair, Op Cit., P.P. 35-36.
each gave one point. SES groups in the present study were defined as follows: Low SES (0-1P), Medium SES (2P) and High SES (3.4P), for subjects living on two locations. For example due to separated parents, presence of these items in any of the two homes was noted.

However, in doing so, several potential artifacts may have been introduced. First, it is possible that families with a poor economic situation will ‘cover’ this by the possession of property that will enhance their status. Secondly, living for example in Stockholm city means living in an apartment and not needing a car, whilst living in a rural part of northern Sweden requires a car and most often means living in a villa. However, as measured with an income based SES measure, Stockholm country has a comparatively high mean income from employment and business, whilst rural areas in northern Sweden have a lower mean income. Therefore results presented in these theses should be compared only with other studies using the same methods for SES – classification.14, 15, 16

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16 E. Borrell, Muntaner C, Benach J, Artazcoz L, social class and self reported health status among men and women, what is the role of work organization, household materials standards and household labour? Social Science Med. 58, 1869 (May 2004).
It was not the economic condition alone which decides the status of family. Osborn had a unique way of assessing the SES.

The long-standing debate in recent years over the validity of conventional approaches to SC or SES classification of individuals, in which scales such as the POCS Classification of occupations are utilized and husbands occupations are used to assign their wives and families to SC positions, is reviewed. An alternative method of assessing family SES is proposed: a composite social index comprising occupation and education of household heads, housing tenure, type of accommodation, persons per room, car and telephone ownership. This is used to classify 11,231 families of children born during one week of 1917 in Great Britain. The advantages of the index include provision of an assessment of SES for single-parent families having no relevant occupational information and increased sensitivity and reliability compared with OPCS SC.17

Reports data from a 1990 face-to-face interview survey (N-145 respondents) in Turkey designed to explore the impacts of socioeconomic status on satisfaction with various domains of life, and of basic social, and psychological needs. Analyses indicate that socioeconomic status is a strong determining factor in both satisfaction with life domains and satisfaction of needs.18

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Physical Fitness

Biological science suggests that movement was the basis of life. Human individuals body has high degree of functional adaptability for physical activities. Human body needs some form of physical activity writes Hebbelinck. Throughout human evolution man has been a nomad, a hunter, and a farmer. His body has high degree of functional adaptability for physical activities. In fact human evolution started with movement, and development of Homosapiens was largely dependent on the action of muscles. Primitive physical activity was related first to survival activity such as, the incessant search for food, clothing, shelter and protection from hostile environment and propagation of species. As society became more and more complex and structured, to keep pace with the complexity of civilization, organization of physical activities in play and military training became inevitable.\(^{19}\)

As Tagore observed, “The highest education is that which does not merely gives us information but makes our life to be in harmony with all existence. “Only persons who equip themselves with a healthy body and healthy mind will be in a position to realize this harmony with all existence. Thus, from every angle physical fitness assumes a great role in the shaping of children to be worthy citizens.\(^{20}\)

Physical fitness plays a vital role in our daily life and optimum level of physical fitness is essential for maintaining our daily life smoothly. A fit person obviously plays a significant role in his own daily life, his family, society and above all the Nation. “Fitness plays an important role in building up a strong man and thus a strong nation”.\(^{21}\)

Physical fitness remained as an important factor then and now say Barrow and Mc Gee. Many earlier societies of the world such as Spartan, Greek, Athenian and Romans laid great stress on the physical fitness of their countrymen. Physical training was an important objective of their educational programmes. The countries which developed strong nationalistic system of education in 19th and 20th centuries, such as Germany’s Nazis gave great importance to the physical fitness of their countrymen. Americans during and after world wars I and II, had introduced an organized physical training programmes for the physical fitness of the youth of her nation, and this continues even today.  

Charles and Ruth observe, “Physical fitness is the entire human organism’s ability to function efficiently and effectively. It is made up of different components, each of which contributes to a person’s ability to work effectively, to enjoy leisure time, to be healthy, resist hypokinetic diseases, and to meet emergency situations”.  

Divergent views were expressed by different authors about physical fitness. Hook considers “Physical fitness to the prime requisite to lead the optimum life and to live most and serve best. A sound mind, and a sound body are man’s most precious possession”.  

Catchell regards “Physical fitness as the capacity of the heart, blood vessels and muscles to function at optimal efficiency.”

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23 B. Charles, Corbin and Ruth Lindsay, *Concept of Physical fitness with Laboratories* (Iowa : Wm.C. Brown publishers, 1988), P.5.


Fitness as Clarke and Clarke define “is the ability to carry out daily tasks with vigour and alertness, without undue fatigue, and with ample energy to engage in leisure pursuits and to meet emergency situations”.26

“Physical fitness” was defined as a positive quality extending on a scale from death to “abundant life”. Another concept regards a persons’ fitness as his “distance from death”.27

The ingredients of physical fitness vary according to different writers. Harrison Clarke says, the basic physical fitness elements are muscular strength, muscular endurance, and cardiovascular endurance.28

Bucher defines physical fitness as “The ability of an individual to live a full and balanced life. It involves physical, mental, emotional, social and spiritual factors and the capacity for their wholesome expressions”.29

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28 Ibid. P.203.

Fitness and Health go hand in hand says Bucher:

Fitness rests first of all upon a solid foundation of good health. Fitness for effective living implies freedom from disease; enough strength, agility, endurance, and skill to meet the demands of daily living; sufficient reserves to withstand ordinary stresses without causing harmful strain; and mental development and emotional adjustment appropriate to the maturity of the individual.

Fitness does not come in a ‘have’ or ‘not have’ package, the level of fitness attained is a result of ability to cope with the varied and interacting stresses of life. Optimal fitness permits a person to enjoy life to fullest.30

Every human endeavour demands physical fitness of varying degree. For adept dispensing of physical fitness, it was categorized into two, namely health related and specific. It may be construed with the following statement that physical fitness and health are intimately related and fitness is prophylactic in nature.

The American center of sports medicine, identifies health related physical fitness significantly as “A state characterized by an ability to perform daily activities with vigour and a demonstration of traits and capabilities that are associated with law of premature development of the hypokinetic diseases”.31

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Health related fitness is defined as the ability to perform strenuous activity without excessive fatigue and to show evidence of the traits and capacities that limit the risks of developing diseases or disorders that limit a person’s functional capacity.\textsuperscript{32}

Components of health related fitness were suggested by Tanored. Health related aspect of physical fitness concerns with the development of qualities necessary to function efficiently and maintain a healthy lifestyle. Each of the component of health related fitness is cardio respiratory endurance, muscular strength and endurance, flexibility and body composition.\textsuperscript{33}

Koebel swank and Shelburne, in their historical survey, were of the opinion that “the physical fitness testing had been gradually changed into the health related rather than motor performance test items.” They remarked that physical fitness test currently described in terms of cardio – respiratory endurance, body composition, muscular strength, muscular endurance and flexibility. They have also proposed the use of criterion – referred standards to specify the acceptable level of fitness conducive to health, to find out reliabilities of the modified health related physical fitness test.\textsuperscript{34}

Ekblom opines that physical fitness may be estimated to precision.

Physical fitness as exposure parameters is rather common in studies of human health. Partly it is used as an objective measurement of bodily function, and partly it is used as a substitute for evaluation of physical activity. The precision of the assessment of physical fitness is higher, compared to that of physical activity.

\textsuperscript{32} Berely Nicholas, \textit{Moving and Learning the elementary school physical education and exercise} (Saint Louis : Mosby college publishing Co.1986), P. 182
\textsuperscript{33} Bill Tanored, \textit{Health – related Fitness} , (London : Odder and Stoughton Limited, 1987); P. 15
Both physical activity and fitness correlate to beneficial outcome in adults but they are not complete synonyms. Firstly, fitness is to some extent dependent upon genetics. Furthermore, it is possible, and probably quite common to perform perhaps large amounts of physical activity in such a manner that physical performance is little affected.35

Body weight of a person to some extent reflects his /her health. Heart rate and anxiety level were the reflectors of health. Physical fitness programme helps individuals to maintain health.

Parks undertook a study to determine the effects of ten week physical fitness programme on selected physiological and psychological variables of elderly fifteen females of 65 to 82 years. Pre and post measurements were obtained for psychological variables. Body composition, flexibility, heart rate and blood pressure were measured. The subjects participated in the fitness programme half an hour in the morning three days a week for ten weeks. Each exercise session began with a ten minutes warming up followed by fifteen minutes of exercise of moderate intensity. The last five minutes were used as cooling off period. The ‘t’ test was employed to analyse the data. The following significant changes were found. (1) the subjects decreased in percentage of body weight. (ii) There was no increase in flexibility (iii) There was decrease in heart rate (iv) Anxiety level of subjects were observed. 36

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Physical Fitness and Socio-Economic Status

Hypokinetivity and low SES affect substantially physical fitness of the individuals. A study undertaken in San Diego subscribes to this view. Stephens and associates in an effort to bring to light “Are children of military parents more physically fit than children of civilian parents”, tested 170 of 246 (70%) of third grade students in two public schools in San Diego country, Calif, for their physical Fitness with the help of several standard instruments, including time on a 1- mile run. They concluded that children of Military parents did not have a higher fitness level than children of civilian parents. Lower socio economic status and more television viewing are associated with lower levels of fitness. 37

Dennis’s study compared the motor fitness performance, and established relationship with SES. This study compared the motor fitness performance of male and female public school students, grades five, seven and ten of Hispanic and white ethnic classifications, attending inner city (low status) and suburban high status schools. The purpose of the study was to investigate the motor fitness performance of students and its relationship to ethnic classification, socio economic status and school classification. Results from the physical performance test of California (PPT) (1971) were obtained for 3531 subjects attending a large California school district. These subjects ranged in age from ten through 16 years. Age and ethnic classification were obtained from district provided computer records. SES classification was based on whether a subject was participating in the districts free or reduced price lunch program. Students participating in the free or reduced price lunch program were classed as low SES; those not participating in the program were classed as other SES.

Schools were classified as low status or high status. Students of low SES had mean scores which were consistently and significantly (.05) lower than the mean score of students of other SES across grades, ages, sexes, ethnic classifications, and events. Students of Hispanic ethnic classification had mean scores which were consistently and significantly (.05) lower. Students attending low status schools had mean scores which were consistently and significantly (0.05) lower than the mean scores of students attending high status schools. Using the norms provided from PPT as a reference criterion, students of low SES classification had mean scores which were consistently and significantly (0.05) lower than and California norms across ages, sexes and events. In the population studied, there appeared to be strong associations between motor fitness performance and ethnic classification, socio-economic status, and school classification. Of these variables SES appeared to have the greatest influence. 38

Toddonico studied physical fitness of public school students from economically backward area with National Norms. He did a comparative study of physical fitness of public school students from high poverty and low poverty areas. The finding revealed that there was no significant difference with physical fitness of boys and girls from economically deprived areas and boys and girls represented by the 1975 national norms. No significant difference was found in physical fitness of subjects from high poverty and low poverty areas. 39


Ekblom studied the relationship between SES, physical fitness and overweight among the Swedish youth. Socio-economic difference was measured using an assets based parameter, i.e. the possession of certain commodities. Children belonging to the low SES group had a combined prevalence of overweight and obesity of 19.8% (95% CI: 15.2 to 25.5), compared to 21.0% (95% CI: 18.8 to 23.4) in the high SES group. the middle group had a somewhat lower prevalence of 16.3% (95% CI: 12.4 to 21.2). Study did not reveal the socio-economic difference across SES groups.40

Grewal (1986) investigated physical fitness, attitude towards physical activity and adjustment among university students across socio-economic levels. The purpose of the study was to compare the physical fitness, attitude towards physical activity and adjustment among college students of Punjab University across socio-economic levels. The sample for the study consisted of 549 students who were selected at random as the representatives of the total population. Bhuller’s attitude toward physical activity scale and Bell’s adjustment inventory were used respectively in order to test the hypothesis, the level of significance chosen was 0.05. The subjects were divided into three socio-economic groups namely high, middle and low socio-economic level groups by employing the Devmohan socio-economic status scale. The physical fitness level of the different socio-economic level groups differed significantly on the sub dimensions of attitude towards physical activity. No significant difference was found in attitude towards physical activity and adjustment of the students belonging to middle and low socio-economic level groups.41


A prista, A.T. Marques conducted cross sectional study of 593 students (277 boys, 316 girls) 8-15 years of age to evaluate the physical fitness of children and adolescents from Maputo, Mozambique, relative to socio economic status and physical activity. Physical fitness was assessed by a battery of field tests including the sit and reach, sit-ups, hand grip strength, a 10 x 6 meters shuttle run and two distance runs, 1620 and 2400 meters. Pursuance of physical activity by the subject was estimated with a questionnaire designed for this population. Students were divided into three groups according to region of residence, which was used as the criterion of SES. Physical activity was more intense among underprivileged students due to domestic activities and walking time per day. Physical fitness significantly differed among SES groups. Poor students exhibited significantly better results on the sit and reach and endurance runs, while privileged children performed better on sit ups and shuttle run. There were no difference in grip strength. Comparison with north American reference data suggests that Mozambican youth have greater flexibility and cardio-respiratory endurance, but less absolute strength and power. The results suggest that SES is an important determinant of fitness in Mozambique especially because of its influence on body size composition and on physical activity in addition, cultural effects on the performance of the test were indicated.42

Physical Activity and Socio-economic Status

Ill health looms large on people belonging to low SES because they tend to physically inactive says UNO. Unhealthy diets, tobacco use and physical inactivity are the dominant factors causing chronic diseases and are now leading public health issues in most countries. Of these, physical inactivity is estimated to directly cause 1.9 million deaths globally, while also indirectly contributing to diseases and deaths resulting from factors including high blood pressure, high cholesterol and obesity.

Globally, over 60% of adults do not participate in a sufficient amount of sport and physical activity, largely due to changes in lifestyle such as inactivity at work, sedentary forms of recreation like television and computers, and excessive use of “passive” modes of transport such as a sedentary lifestyle also contributes to obesity. Those most likely to be physically inactive are women, older people, the disabled and people from lower socio-economic groups.  

USA President’s Council on physical fitness and sports report suggests that SES determines women participation in sports and fitness related activities. Girls from economically disadvantaged backgrounds, girls of colour and girls with disabilities can face unique obstacles in relation to physical activity and sports. Poor families cannot afford to invest in health club memberships, exercise machines and equipment for their daughters. Families of colour who are disproportionately poor, often cannot pay user fees or transportation costs to bring daughters back and forth between home and school. Fitness and sport are often seen as unimaginable luxuries rather than potential resources. Dual worker parents or single parents (most often mothers) sometimes depend on older daughters to cook or care for smaller children after school, thus curbing their involvement with extracurricular activities. Poor or working class girls often work part time jobs to help families make ends meet thereby reducing the amount of time and energy available for exercise or sports. Parental perceptions of the benefits of exercise and athletic participation for daughters also vary by race and class. For ex. One national survey found that Caucasian parents more often mentioned health related benefits, character benefits and social factors than did African – American parents”. 

\[43\] Report from the UN inter agency task force on “Sport for Development and Peace” sports and health, P. 5, 

\[44\] The President’s council on physical fitness and sports report (1997) may. 5th edition P. 24.
A study undertaken by Sack, A and Thiel, (1979) indicated that football players come from much lower socio-economic background than regular students. The study further suggested that social factors such as different degree of encouragement and different levels of expectations were important in limiting athletic performance of Women. Social Class, background, opportunities set influence participation.45

Educational status influences economic status. In a significant revelation it was observed that physical inactivity was prevalent among low educational groups. Dormers, Schrijvers, van-de-Mheen, Mackenbach.(1998) in a study on educational differences in leisure-time physical inactivity examined educational differences in leisure-time physical inactivity in terms of psychosocial and material factors. Data were obtained Via postal questionnaire from 2,598 15-74 year olds. Physical inactivity during leisure time was defined as not participating in any activity, such as sports, gardening, walking or cycling. Psychosocial factors included coping resources, personality, and stressors. Material factors were financial situation, employment status, and living conditions. Logistic regression models were used to calculate educational differences in physical inactivity. Results show that physical inactivity was more prevalent in lower educational group. Psychosocial factors related to physical inactivity were locus of control, parochialism, neuroticism, emotional social support, active problem focusing optimistic, and palliative coping styles. Material factors associated with physical inactivity were income, employment status, and financial problems, personality and coping style were the main contributors to the observed educational differences in physical inactivity.46


William and Curtis found a positive relationship between levels of physical activity and feeling of wellbeing. In a significant departure the authors found level of education was negatively related to well being among males.

The relationship between physical activity, socioeconomic and demographic variables, and psychological well-being were investigated though analysis of data on fitness norms, baseline physical activity patterns, and factors influencing fitness activity obtained from the 1981 Canada fitness survey (N= 9, 258 adults aged 20+). Feelings of well being significantly improved as levels of physical activity increased for males (Ms) but not for females (Fs). Controlling for the effects of socioeconomic and demographic variables did not alter this relationship, though significant independent effects of these variables were obtained, with well-being positively related to occupational status, income, and age. Level of education had a negative relationship with well-being for Ms, but a positive one for Fs. Of factors associated with the physical activity setting, extent of physical activity ranked higher than social interaction and physical fitness in accounting for variance in well-being for Ms, while for Fs, social interaction ranked first, followed by activity and then fitness level.47

Potential influence and SES wield greater influence on the involvement if individuals in physical activity suggests Yang et. al.

Yang Telama, and Laakso (1996) examine parental influences on children’s participation in sport and their later physical activity via questionnaire. Data collected over a 12-year period at three-year intervals for a random sample of 1,881 boys (Bs) and girls (Gs), initial ages 9-15 and their parents in Finland. Results indicated that fathers 1980 physical activity was

related to children’s habitual physical activity in the same year and was a significant predictor of physical activity index values for Bs and Gs 12 years later when the starting point was age 9 and also among Bs ages 15-27 during the three year follow-up period, participation in sport was higher in families with active parents than in families with passive parents and single parents. Relationship of physical activity and sports participation with father’s socioeconomic status and education was not so strong as with father’s physical activity.  

Family influence correlates of youth physical activity and the effect of SES was studied by Spinks and associates.

Spink’s (2003) study revealed that 47.7% of youth indicated that family was a source of social influence associated with being physically active. Given this apparent association between family, social influence and physical activity, and the fact that family influences may differ by socio-economic background, one wonders whether the family influences on youth physical activity behaviour may be differentiated by socio-economic background. The purpose of this study was to examine, whether different types of family influence (i.e. conformity, compliance, obedience, and modeling) that are associated with physical activity differ on the basis of SES. In youth and adolescents, eighty eight youth from a midsized Canadian city who were involved in a summer youth programme participated in the study. Census data on the neighbourhood where the youth programme were located was used to classify participants as high or low SES participant (mean age 12.6 years ± 2.07) completed a questionnaire asking them which family’s social influences

were associated with being active. Discriminate function analysis revealed that
four forms of family influence differentiated between high and low SES group
(wilks n = 817.x2(4) = 17.02 P = 000 cononical r = .428). Based on the
standardized discriminent function coefficients in the low SES group family,
conformity family, obedience, and family modeling were associated with being
active, while in the high SES group family compliance was associated with
being active. The current results provide preliminary support for the idea that
family influence associated with physical activity may differ based on SES.49

Health and Health Status

Health is a positive quality. It holds man and society in good stead. Mere disease free state of an individual is not health. It means different thing for different individuals.

Anderson and Martin define “Health is that quality of life that enables the individual to live most and to serve best”.50

Darrell and others define “Health is a dynamic status that results from an interaction between hereditary, potential, environmental circumstance, and life-style selection”.51


Park quotes Webster’s dictionary meaning of health. “The condition of being sound in body, mind or spirit especially freedom from physical disease or pain.”

Oxford English Dictionary defines meaning of health was given by Park, “Soundness of body or mind; that condition in which its functions are duly and efficiently discharged”.

He further quotes “A condition or quality of the human organism expressing the adequate functioning of the organism in given conditions, genetic and environmental”.

In 1977, the 30th World Health Assembly decided that the main social target of governments and WHO in the coming decades should be “The attainment by all citizens of the world by the year 2000 of a level of health that will permit them to lead a socially and economically productive life”, it called “Health for All” with the adoption of health as an integral part of socio-economic development by the United Nations in 1919.

Dimensions and characteristics of health are illustrated by Park. Health is multidimensional. The WHO’s definition envisages three specific dimensions – the physical, The mental and the social. Many more may be cited, viz., spiritual, emotional, vocational and political dimensions. As the knowledge base grows, the list may be expanding. Although these dimensions function and interact with one another, each has its own nature, and for descriptive purposes will be treated separately.

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53 Ibid. P.12
54 Ibid. P.11.
The physical dimension of health is probably the easiest to understand. The state of physical health implies the notion of “Perfect functioning” of the body. It conceptualizes health biologically as a state in which every cell and every organ is functioning at optimum capacity and in perfect harmony with the rest of the body. However, the term “Optimum” is not definable.

The physical health in an individual cover “a good complexion, a clean skin, bright eyes, lustrous hair with a body well clothed with firm flesh, not too fat, a sweet breath, a good appetite, sound sleep, regular activity of bowels and bladder and smooth, easy, coordinated bodily movements. All the organs of the body are of unexceptional size and function normally all the special senses are intact: the resting pulse rate, blood pressure and exercise tolerance are all within the range of “normality” for the individual’s age and sex.

In the young and growing individual there is a steady gain in weight and in the future this weight remains more of less constant at a point above 2.5 kg. More or less than the individual’s weight at the age of 25 years. This state of normality has fairly wide limits. These limits are set by observation of a large number of “normal” people, who are free from evident disease.55

Health has different facets, and may be developed and maintained by participating in holistic physical activities. Physical Education today is much more relevant than in a couple of decades ago. “Fit people are assets and the sick are liability to the society” is although on old saying, but very much true and applies to the present too. Our predecessors developed and maintained their physical fitness in the process of their daily activities. Contrary to this, modern man’s fitness is gradually deteriorating as a consequence of absence of strenuous physical activities in the daily living. It is common knowledge that

fitness and health are related. Health does not mean physical alone, but includes mental and emotional health as well. It may be remembered that wholesome participation in recreation activities significantly contributes to the mental and emotional health. Television and Internet facilities have robbed youth’s active involvement in physical activities and often times attracted them towards the programmes projecting base instincts. If this continues, our society has to pay a heavy price. The present day youth are confronted with various kinds of stress. These stresses lead to many physical and mental disorders. Over weight and obesity are the other two health risks confronting the developed society.56

Benefits of health are many fold, and cannot be fully enumerated Resnick’s study indicated that mental and physical health influence efficacy.

Barbgra Resnick studied to test a model of exercise behaviour in older adults. It was hypothesized that (a) mental and physical health directly influence self efficacy expectations; (b) mental and physical health, age and self efficacy expectation influence outcome expectations; and (c) all these variables directly and/or indirectly influence exercise behaviour. The sample was composed of 175 older adults living in a continuing care retirement community, each of whom was interviewed once. Seven of the 10 hypothesized paths were significant. Physical health, self efficacy expectations, and outcome expectations directly influenced exercise behaviour and age and mental health indirectly influenced exercise through self efficacy expectations and out come expectations. Combined these variables accounted for 30% of the variance in exercise, behaviour to improve exercise behaviour in older adults, health care providers should focus on developing interventions to strengthen self efficacy and outcome expectations related to exercise.57

56 Seshanna “Key note address” Souvenir. Published on the occasion of State Level conference of University and College Physical Education Teachers, 2005, P.1.
Physical Activity, Fitness and Health

Ambani, was of the opinion that, “you can buy anything in the world like cars, building, even islands. But the one you can’t buy is your health.”

Bouchard and Shephard highlight health, physical activity and fitness.

The relationship between physical activity, health related fitness and health in adult population can be examined and understood that physical activity may influence fitness, which in turn may modify the level of physical activity. With increasing fitness, people tend to become more active, and the persons with high level of fitness tend to be the most active. The association between fitness and health is also reciprocal. Fitness influences health, but health also influences both physical activity and fitness.

Exercise is a saleable commodity, claims an article on health. Regular activity has a number of proven, positive health effects, especially on heart’s health. Vigorous exercise strengthens the heart as a pump, making it a larger, more efficient muscle. Even moderate activity can boost cholesterol, aid the circulatory system, and lower blood pressure and blood fats. All these effects translate into reduced risk for heart disease, heart attack, and stroke.

Exercise can also offer other benefits, including strengthened muscles, increased flexibility, and stronger bones, which can help ward off the bone–thinning condition called osteoporosis.

Regular activity also promised mental health benefits, like relieving stress and anxiety. It can help sleep better and renew your energy. If exercise could be bottled, it would be a best selling potion at the local pharmacy.

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58 Anil Ambani, Marathon man, “Deccan Herald Sunday Review”, (Thursday, June 27, 2002) P.2


The following lines of Bucher helps the naïve to ponder over the subject lack of physical activity. What are the causes of coronary heart diseases?. Does a person’s life style play a part in determining whether he will be a victim?

Research analyses of CHD studies show that no single factor is responsible, since there appear to be many contributing causes to the disease such as hypertension, cigarette smoking, overweight, diet and heredity. One important factor that also appears in the life style of many coronary victims is the lack of physical activity.61

Contemporary thinking in public health points that childhood and adolescent physical activity and physical fitness may influence health status during childhood and adolescence, as well as throughout adulthood. Malina’s paper addresses the evidence dealing with potential associations of physical activity and physical fitness in childhood and adolescence to health status during childhood, Adolescence and Adulthood. There are generally low to moderate relationships between childhood and adolescent physical activity and health, (operationalised largely in terms of health related physical fitness) and adult physical activity and health. A large part of the variability in health related physical fitness is not accounted for by physical activity as assessed in the available studies. Nevertheless, the trends emphasize the importance of a life style of regular physical activity during childhood and adolescence, which continues into and throughout adulthood, for the health and well being of the individuals and populations.62

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Exercise minimizes the chances of occurrence of cardiac and pulmonary diseases say Blair and others. Blair (1996) in his major review article examining relationships among physical activity, nutrition and chronic disease, found that the best strategies for lowering cholesterol levels appear to be a combination of diet and exercise. These authors also discovered that exercise may be beneficial because it lowered blood pressure, perhaps through decreased cardiac output and decreased peripheral resistance, and exercise may also reduce the risk of thrombosis because of positive effects on blood clotting. It is important to note that this major review examined studies which sampled males and females across the life span.63

Singer (1992) suggests that physical activity may act as antidote for many of the depressive disorders. It is estimated that as much as 25 percent of the population suffer from anxiety and depressive disorders which may range in severity from mild to more severe forms. Such mental health states have been shown to be particularly responsive to exercise and/or physical activity that can decrease many of the symptoms associated with a number of psychiatric condition.64

Michael and Pollock make the observation in his study that, “Research has shown that regular physical exercises, enhances the function in joints, increases the sense of physical well being and promotes a sense of feeling good: increases physical working capacity by increasing cardio respiratory fitness, muscle strength and endurance, and decreases the risk of serious disease that could lead to early disability and death.”65

65 L. Michael, Pollock et. al., Health and Fitness Through Physical activity, (New York : John willy and sons, 1978), P. 21
Contribution of exercise to individual and national vitality was realized by many. People in high offices like President of America call upon their people to have exercise as part of their lives.

Health is merely a freedom from disease is not in terms of current needs and existing understanding of health. It is true that a person must be free from disease and disabling defects to have an acceptable level of health, but health includes more than this aspect. The old concept “Fit citizens can build strong Nations”, hold good even today when we consider health promotion of the public. Most of the developing countries give greater emphasis to the promotion of public health.

The movements like “Health for all” and “sports for all” are formed the bases of community building that is directive for health awareness among the people. The total health concept is most appropriate at this juncture. Many national leaders give utmost importance to keep their personal health and show to their people that health and fitness are basic qualities of human being to lead a better life. Good example for this would be that of Mr. George W Bush, the President of the USA, who himself is keeping appropriate level of fitness and also making room for himself to devote an hour out of his busy schedule for fitness programme. The American leader made a broadcast, “Exercise is daily part of my life, and I urge all Americans to make it an important part of their lives”.

Gilmore Writes that there exists a strong relationship between exercise and health. Studies demonstrate that vigorous exercise apparently raise high density lipoprotein levels (HDL) and lowers low – density lipoprotein (LDL), which helps to get rid of cholesterol. For example biochemist Peter wood and his colleagues from the standard Heart Disease programme compared the blood

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chemistry of 41 middle aged men who ran at least 25 kilometers a week with that of a similar group of non-runners. Results revealed that, “The runner had Calf the pleasantly carried level of the non runners and slightly less total cholesterol, most significant of all the runners. HDL level was 64 milligrams versus 43 for the non runner. This study signifies that the involvement in physical activity will be beneficial for better health and fitness.67

Health and physical fitness can be maintained only by carefully selected, physical activities, which are called “Exercise”. The utility of a particular exercise can be evaluated in promoting a particular factor or factors of physical fitness.68

Stuntman was practical in suggesting exercise enhance health. Moderate physical activity could reduce blood pressure level. Stuntman found in his study that one of his patients, of 64 years old man with a history of hypertension and coronary heart disease, asked if he would be able to exercise. The patient was permitted to start with a conditioning programme that would build up to a one hour walk every other day for a distance of three or five kilometers. By the end of six weeks, he was walking four kilometers, everyday. He had lost 2.7 kilos and then blood pressure had decreased substantially.69

Deborah Rohm Young and Mary A Steinhardt concluded that low physical fitness and low physical activity were associated with high health risk.

Numerous epidemiological investigations have shown that low physical fitness and low physical activity are related to the incidence of coronary artery disease (CAD). Most studies, however, have not examined both variables concurrently to determine which has the strongest association with CAD risk. The purpose of this investigation was to cross sectionally examine the relationships among physical fitness, physical activity, and risk factors for CAD. Male law enforcement officer (N = 412) from the City of Austin, Texas, were subjects for this study. Physical fitness, physical activity, and risk factors for CAD were assessed through health screenings and from data collected as part of an annual physical fitness assessment. Multivariate analysis of covariance revealed that physical fitness, but not physical activity, was related to several single CAD risk factors. Percent body fat, smoking habits, and Type A behaviour scores were negatively related to physical fitness level, and high density lipoprotein (HDL) cholesterol was positively related to physical fitness level. Univariate analysis of variance found both physical fitness and physical activity to be significantly related to a composite CAD risk score. Low physical fitness and low physical activity were associated with a high CAD risk score. These data suggest that physical activity must be sufficient to influence physical fitness before statistically significant risk reducing benefits on single CAD risk factors are obtained, although minimal engagement in weekly vigorous activity provides a significant benefit for the composite CAD risk score. It is plausible, however, that physical fitness is a stronger measure than physical activity and optimally characterizes the relationship among physical activity and CAD risk factors.  

\[70\] Deborrah Rohm, young and Mary a steinhardt, The Importance of Physical Fitness versus physical activity for CAD risk factors: A cross – sectional Analysis. Research Quarterly for Exercise and Sport @ 1993 by the American Alliance for Health, Physical Education, Recreation and Dance Vol. 64, No. 4, PP 377-384.
Droomer’s conclusion was endorsed in the study of Pratt and associates. Pratt, Macera and Blanton, describe current level of physical activity and inactivity among adults and young people of the United States. Estimates of participation in regular physical activity were derived from three national surveys for adults (National Health interview Survey, National Health and Nutrition Examination Survey, and the Behavioural Risk factor surveillance system) and from the youth Risk Behaviour survey (YRBS) for high school students. They found overall 63.8% of high school students surveyed on the 1997 YRBS reported participating in vigorous physical activity for at least 20 minutes on 3 or more days per week. Among adults 27.7% meet recommended levels of either moderate or vigorous physical activity. Gender differences in participation in physical activity are less pronounced than in youth, and age related patterns were complex, whites are more active than blacks and Hispanics, and persons with higher family incomes and more education reported to be more physically active. There have been only minor changes in reported participation in leisure time physical activity over the past 15 years.71

Moller and Associates obtained negative correlation between SES and physical activity at work. They suggest that SES and Physical activity are related. Physical activity at work and during leisure time, physical fitness and cardiovascular risk factors are analysed in a birth chart of 577 Danish men examined in 1976 at age 40 and 1987 at age 51. Despite increasing age, the physical activity over the 11 years was relatively constant during leisure time, but decreasing at work while there was no correlation between socio-economic status and physical activity during leisure time at age 40, there was a

clear tendency towards greater activity among those belonging to the higher social strata in the study of the 51 year old. At both time points, there was a negative correlation between socio-economic status and physical activity at work; that is, physical activity at work decreases with increasing socio-economic status, there was no tendency towards a more beneficial cardiovascular risk profile among those increasing their physical activity during leisure time as compared with those with a constant or decreasing activity. As expected, physical activity during leisure time correlated with the cardiovascular risk factors, whereas physical activity at work did not. Increased physical activity during leisure time reduced the serum cholesterol level only in those men who concomitantly reduced body weight. The study corroborates results from other countries demonstrating increasing inequalities between social strata as to the distribution of cardiovascular risk factors.72

Health and Socio Economic Status

A number of factors like exercise, habits, nutrition, rest, relaxation etc., influence health. Several recent studies have indicated that socio-economic status had a say in the health of individual. Blane was of the view that health was not only related to SES, but also physco-social facts.

The social causation theory was based on the assumption that the socio economic status had an influence, via intermediate factors, on the state of health. Cultural factors were closely connected to socio-economic position and also played a role here. Social health differences arose if the factors that influenced health were unequally distributed between different socio economic groups. The first group of intermediate factors were the behavioural factors

and way of life, such as diet, smoking, physical exercise, risk behaviour and the use of health facilities. The next group contains the structural factors, which comprise the material living and working conditions, the individual financial condition and health insurance. Psychosocial factors, finally, also influenced health. This heading includes stress factors (such as life events) and mechanisms for dealing with these stress factors such as the individual coping style and the social network. Not only the current socio economic position, but also the socio-economic position during the total course of life would show a causal time with health.73

For the naïve poverty and illness are related. Park takes a different view and writes certain health problems keep the company of especially affluent. Socio economic conditions have long been known to influence human health. For the majority of the world’s people, health status is determined primarily by their level of socio economic development, e.g. per capita GNP, education, nutrition, employment, housing, the political system of the country, etc.

The per capita GNP is the most widely accepted measure of general and economic performance. There can be no doubt that in many developing countries, it is the economic progress that has been the major factor in reducing morbidity, increasing life expectancy and improving the quality of life. The economic status determines the purchasing power, standard of living, quality of life, family size and the pattern of disease and deviant behaviour in the community. It is also an important factor in seeking health care. Ironically, affluence may also be a contributory cause of illness as exemplified by the high rates of coronary heart disease, diabetes and obesity in the upper socio economic groups.74

Relation of SES and disease activity was studied by Brekke. The major purpose of the study was to investigate possible differences in measures of disease process, joint damage, health status, and self-efficacy between patients with rheumatoid arthritis living in an affluent and in a less affluent area in Oslo, Norway. Analysis of 1994 questionnaire data, supplemented by 1997 clinical examinations (N=246 and 133 patients, respectively), reveals no significant difference regarding joint counts, patients or investigators evaluation of diseases severity, blood test results or number of joint replacements. Significant differences were observed for disability and for various dimensions of health measured by the arthritis impact measurement scales and the short form-36 patients in the less affluent area reported poorer health status and also showed significantly lower scores on the arthritis self-efficacy scale. Thus patients with rheumatoid arthritis in two socio-economically different areas were equal regarding disease process and joint damage measures; however, measures reflecting physical and psychosocial health status suggest that patients in the less affluent area were more seriously ill and had less confidence in their ability to influence the disease. Even in a welfare society with universal access to health care, the impact of a well defined chronic disease seems to be closely linked to the patients socio-economic situations.75

Adegoke’s study established the relationship between SES and health. Analysis of inventory data obtained from a sample of 361 female and 339 male adolescents, ages 11-17, in Kwara state, Nigeria, reveal initial pubertal problems (menarche and speramrche) were experienced differentially according to socioeconomic status (SES) and gender. Boys with low SES experienced more physical problems than high SES and low SES adolescents experienced more health problems than high SES adolescents.76

Frohlich opines that SES and health were related. The nature and validity of regional studies comparing socioeconomic status and health are discussed in a regional analysis of the 23 municipalities of Manitoba. Regional socioeconomic status was measured by a ranking of housing, education, employment, income, mobility and social characteristics, while health status was determined by hospital admission for injury, and respiratory infection among infants and preschool children and the elderly. The aggregate survey evidenced a strong positive correlation between socio-economic status and health, consistent with individually based studied in Canada and elsewhere.77

William offers psychological explanation of ill health and its relation to SES. The mind body perspective is extended by the argument that low SES itself is a contributor and determinant of psychosocial characteristics that lead, via biobehavioral processes to ill health. A model pathway is traced which indicates that social conditions lead to depriving children of material care that leads to low central nervous system serotonin function which underlies depression and hostility that contribute to ill health. The model suggests points for psychosocial / behavioural and pharmacological intervention.78

Langnasa and associates undertook a study to assess the effect of the socio-economic status (SES) on long term outcomes of a family based obesity treatment intervention in prepubertal children. A total of 52 overweight and 26 normal weight children were investigated. Nutritional status, intake of fruit, vegetables and low fat foods, in between meals, sports club membership,


78 William Redford B., “Conditions of low SES increase the likelihood of the Biological Bases underlying psychosocial factors, that contribute to ill health” Sociological Abstracts 1986 – 2000/06.
frequency of exercise and daily television viewing were measured before intervention (to and after a mean period of 1.3 years (1). The result obtained indicates that a low SES may serve as a barrier against family based intervention.79

Steve and others who conducted a study of SES and health concluded that analysis of 1992/93 interview data from 574 adult members of ethnic minorities living in Bristol, England, reveals that many, but not all, intergroup differences in self-assessed health are explained by socioeconomic variables. These respondents reported poorer health than respondents in similar surveys of the general English population, with only 58 of 512 black Caribbean, other blacks, Indians, Pakistani’s and Bangladeshis is reporting excellent health. However, many differences between groups correlated with socio-economic differences eg., Pakistanis reported both the poorest health and the poorest socioeconomic status, including high rates of unemployment and living in unheated homes. Although some group differences persisted after controlling such factors, it is concluded that the link between poor health and material advantage is clear.80

Evidence of physical activities, games, sports, exercise, dance etcetera may be found in archeological rudiments, literature and art from the earliest times to the most modern times. These activities were simple recreational pursuits as well as spontaneous contests and tournaments. Societies in different places and at different times seem to have planned their activities in


different purposes or ends in view, depending upon what felt as the most important needs. As civilization advanced they were used to satisfy socio nationalistic needs and more recently to satisfy the need for individual and social betterment. These physical activities in various forms have been used by human communities throughout the world from the primitive times to the most modern times for survival, competition and reward, fitness, individual and social development and so on.

In the present century, sports have transgressed all boundaries and barrier to be acclaimed as a striking social phenomena, what were once simple play activities have become darling of masses with a lot at stakes.

**Sports**

The value of sports is such that many international organizations like UNESCO, UNICEF, IOC besides several communities declared “the practice of sports is a fundamental and human right”. \(^{81, 82, 83}\) Thus sports have pervaded the entire world.

Play has been considered by a number of social scientists to be of major importance in socialization and personality formation. Of the various forms of play as reflecting the particular traits, values, expectations on the degree of social control in a given culture.\(^ {84}\)

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\(^{84}\) Eric Dunning, *The sociology of sports : A Selection of Readings* (Cambridge : Published by Cambridge University, 1976), P. 177.
The play activities of different cultures have in course of time were modified; controlling bodies for the same were established and countless number of contests at various levels have been organized. Despite all these, efforts to offer a comprehensive definition for sports have been futile. However some definitions the experts consent were listed here. Incorporated into the definition of “Sports” are all forms of physical activity that contribute to physical fitness, mental well being and social interaction. These include play, recreation, organized, casual or competitive sport and indigenous sports or games.

When sports are accepted as an integral part of culture, many benefits accrue argues Sharma. Sports is as old as human society itself. It is an institution which has its own traditions and values. Being an institutionalized and competitive activity, it involves vigorous physical exertion or the use of relatively complex physical skills by individuals whose participation is motivated by a combination of intrinsic satisfaction associated with the activity itself and external rewards earned through participation.

Sports as an activity offers an opportunity of self knowledge, self expression, and fulfillment, personal achievement, skill acquisition and demonstration of ability; social interaction, enjoyment, good health and well being. It promotes involvement, integration and responsibility in society and especially when sports activities have been accepted as an integral part of the culture of every society in every nation.

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Synder and Spreitzer opine that sports reflects the society. Sports is a means of highlighting and mirroring social values. These values in society, sport represents a microcosm of society, the nature of dominant sports will vary from one society to another. Even within a society the sub cultural variations are likely to be reflected in the types of sports most acceptable to a particular segment of society.87

Health benefits of sports participation were narrated by an agency of United Nations. Participation in sport has significant physical benefits, contributing to people’s ability to lead long and healthy lives, improving well being, extending life expectancy and reducing the likelihood of several major non communicable diseases, particularly heart disease, diabetes and certain cancers. Sports also provides psycho social benefits, such as fostering social integration and teaching coping mechanisms as well as psychological benefits, such as reducing Depression and improving Concentration.88

Sharma illustrated the contributions of sports. The relationship between sports and society is not one sided. Sports inculcate in us the spirit of cooperation, courage, sportsmanship, honesty, self discipline and respect for the rules and fairness. Sports is a social phenomenon because it is a playful, competitive, skilful and institutionalized activity. On the one side society puts some goals as inputs before the sports system and on the other sports provide some significant output to the society. On one side society provides the goals, facilities, infrastructure, competitions, awards and punishment, on the other hand sports provide to society the fame, physical and mental fitness, character formation, glory, money, recognition, international peace. Sports indeed are and had been mirror of society. Throughout the world, sports have popular appeal among people of all ages and both sexes.89

Guenther opines that sports and health are related. Historically, sport and physical activity have figured prominently for preventive health and health promotion in both Europe and the US. While health benefits are being confirmed in principle, relationships appear to be as much structural as they are causal. Moreover, structural conditions and a limited rationality and participation for the most efficient forms and amount of exercise appear to be less than is sport’s potential. Comparative epidemiological data from Europe and the US show a significant, but not very strong relationship between sports and subjectively evaluated health.90

Health and Sports

Sports not only help participants earn acclaim for themselves and their alma mater, but also improve personal and social health. Availability of abundant literature confirms this fact. The fundamental elements of sports make it a viable and practical tool to support the achievement of the United Nations Millennium Development Goals (MDGS). Sports has an impact on health and reduces the likelihood of many diseases. Sports programmes serve as an effective tool for social mobilization, supporting health activities such as HIV/AIDS education and immunization campaigns. Sports can be a significant economic force, providing employment and contributing to local development. It is also a key site and natural draw for volunteer involvement, furthermore, participation in sport supports the preservation of a clean and healthy environment.91


United Nations task force on sports and development of peace said that sports contributes towards disease prevention. Sports and physical activity are essential for improving health and well-being, an aim integral to the achievement of the millennium Development Goals. Appropriate forms of sport and physical activity can play a significant role to prevent as well as help cure many of the world’s leading non-communicable diseases. Evidence shows that regular participation in physical activity programmes provides all people with a wide range of physical, social and mental health benefits. Such active participation also interacts positively with strategies to improve diet, discourage the use of tobacco, alcohol, and drugs and enhance functional capacity. Consequently, physical activity is an effective method of disease prevention for the individual and for nations, a cost effective way to improve public health.\(^92\)

Health culture and sports were interrelated, suggest Gunther and others. A research reveals a focus on the health impacts of sports, mainly on the cardiovascular system. Other causal relation are less firm, and results for the skeleton and accidents appear to be negative. Results of the American-German Health Study of 1985 (N=1,605 respondents) support these findings and indicate that sport’s interdependence with health culture is stronger than a supposedly casual impact on indicators of health status.\(^93\)

Sports participation contributor towards alleviating mental stress, facilitating maintenance of mental health.

Kerr and Vlaswinkel, (1995) examined the effects of sport participation on mood, including stress, arousal and psychological reversals. Subjects were 42 students (aged 22-30 years) enrolled in an international MBA program

\(^92\) Ibid. P.5.

which included, in addition to a range of academic courses, a course in Physical education for which attendance was voluntary. The Subjects, 26 sport participants and 16 non participants, completed mood measures on 5 occasions throughout a typical working day, including just before and just after a sport session. Significant differences on some mood measure items and a number of pre to post-sport significant effects (serious-mindedness and stress) were found between the sport and non-sport group, as well as reversals in psychological state. These results suggest that sport may well act as modulator of mood and an inducing agent for reversal and therefore may play an important role in stress management intervention programmes at work.94

Sports participation helps the creative minded pupil to cope the stressful situations effectively.

Konvac, (1996) studied 59 soccer players (14-17 years) from a Private Secondary School for soccer in a small Slovak participated in a research project focused on creativity coping with stress at school, and soccer efficiency. Data were processed by factor analysis which titrated 2 factors of creativity and factor of barrier memory results found that combining school education with active sports activity enables creative individuals to develop their talent more effectively and vice versa. It was also found that better the memory of the Ss, the worse their coping with stressors as well as soccer efficiency. Finally the authors suggest that (1) creativity is a distinct feature of soccer talent, (2) creativity makes coping with stress easier, and (3) negative experience in the given area inhibits the development of soccer talent.95

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Lee and Mc Grath, (1995) studied a sample of 250 completed a questionnaire where they rated 30 statements describing their behaviour and experiences during a recent time pressure situation. A factor analysis resulted in three factors. Personal Burden, work problems and difficulties and Challenge Orientation. People high on this last factor liked the excitement of being under pressure, were very absorbed in the task, and showed signs of being effective in dealing with the situations. Such individuals were having what has been identified as a “flow experience” often observed in sports and the arts. The results of this study suggest that effective coping with time pressure is related to taking a task oriented attitude, avoiding self-preoccupation, and using time management skills to focus on successful achievement.96

Lamb and associates study revealed that sports participation brings about a lot of health benefits. Health related data were compared for adult respondents to 2 surveys in GB: a 1986 study of 4,441 participants in indoor sports in 6 cities, and a representative sample (N=9,003) of the general population who completed the 1984/85 health and lifestyle survey. Statistical analysis revealed that sports participants had significantly lower body mass index values, blood pressures, and resting pulse rates, and better self-perceptions of health. The evidence supports both the objective and subjective health-promoting value of sports participation.97

A moderately comprehensive study undertaken by Lamb and associates revealed that physically demanding sports, whether competitive or otherwise offer measurable health gain.

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Questionnaire data obtained from 4,441 adult participants in 7 indoor sports at 46 sports facilities in 6 UK cities are used to examine health in relation to age, sex and sport type and frequency. Statistical analysis of the relationship between 6 indicators of health and these independent variables reveal that the highest health scores are obtained by Ms and Fs of all ages who participate in more physically demanding sports, particularly when they participate more than once a week. Higher health scores are also associated with other health-promoting lifestyle practices, eg never smoking and moderate alcohol consumption. Though longitudinal corroboration will be necessary to confirm sport as a causal factor in health, results suggest that all types physically demanding sports, competitive or not offer measurable health gains to men and women of all ages.98

Caltabiano’s study under scores the importance of outdoor active sports in developing and maintaining health. Survey data collected from 340 residents of Cairns, Australia, are drawn on to explore the main and stress moderating effects of 3 types of leisure – outdoor active sport, social and cultural hobbies activities on physical and psychological illness symptoms. Results indicate that the stress reducing capacity of outdoor sport participation was beneficial for health in the absence of stressful life events. Life change and distress components of life events interacted differently with leisure factors in affecting health Social leisure moderated the relation between life event distress and symptoms. These stress-buffering effects of social leisure did not hold at high levels of social activity. Rather, high levels of social leisure exacerbated the effects of distress on symptoms. The presence of stress-reducing cultural-hobbies leisure moderated the effects of distress, but exacerbated the effects of life change.99

99 Caltabiano, Marie Louise, Main and Stress Moderating Health Benefits of Leisure, Sociological Abstracts, 1986-2000/06
**Sports Performance**

Singh defines performance in sports is a unit of execution and result of sports action or a complex sequence of sports action measured or evaluated according to agreed and socially determined norms.

Sports competitions have definite purposes. One of the purposes was to declare the winner. Thus efforts were made by the coaches, institutions, agencies and nations to groom sports persons who could win. In this process, perennially performance of sportspersons are monitored. Estimation of performance won done both in objective and subjective ways. The mode of assessment varies. Performance of a sportsperson depends upon a number of factors such as fitness level, motor ability, proficiency over skills, nutrition, application of strategies.

Russell Mcclenghan and Rotalla say that competition is a social and cultural activity. In sports competitions sportsmen are directly involved physically and psychologically. But along with sportsman the sports officials and public are also involved e.g. audience present at the site of competition and the people who are listening or watching the competition on radio or television.

Sports competition is basically a process of performance comparison among persons of sports teams. Its principal objective is to determine the winner and the ranking of participating sports persons or teams. Competitions are held according to definite rules and regulations which are laid down by the sports federations. The criteria for deciding the winners or the ranking of participants is also decided by the sports federations.

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The sports performance is defined by Schnabal as “Unity of execution and result of sports action or a complex sequence of sports actions measured or evaluated according to agreed and socially determined names”.102

Kirsch says humans crave for recognition and hence desire to perform. Walking, running, jumping and throwing are all movements that have acquired a different significance. During this evolution, which lasted many years, the meaning of records, sports technique, and tactics have evolved, words such as performance, competition, record, training, self restraint, personal achievement, express the essence of the world of sports. Sports persons strive to leave a mark for posterity, set record, or tie their name to an Olympic medal.103

Barrow and McGee suggest the manifestation of performance components. Performance components that are identified by researches are strength, endurance, speed, agility, flexibility, coordination and balance. These components are manifested through the fundamental skills of running, jumping, lifting, throwing or holding which make up the basic pattern of movement.104

Sports sciences play a major role in performance. Performance in sports and games is determined by several factors namely, skill, technique, tactics, fitness, training etcetera. Both physical and mental fitness play vital role in performance.105

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Influence of functioning of nervous system and sports performance was illustrated by Schnabel. The sports performance is the result of the interpreted action of various control and regulatory process taking place at various levels of the central nervous system and consciousness. These processes determine the level of motor coordination and find expression in the movement structure and in various qualities and characteristics of sports movement.106

Johnson and Buskirk say that technical perfection alone will not suffice for performance. Man’s endeavour to achieve higher standard of performance has remained unchanged. As a result, today’s sports and games demand optimum fitness and the highest degree of performance. If the level of fitness is below their abilities, performance tends to go down though the sports person is well versed in skill of a particular sports. Merely playing the game, in which one likes to excel, may develop certain level of fitness but to excel at the higher level of competition all the components are to be developed independently and collectively under the supervision of an expert. The research findings show that most of the games demand a higher level of speed, strength, endurance, flexibility, coordination of the organism for higher performance and technical perfection alone is not sufficient.107

Schollarnder was of the view that it were not physical, physiological, environmental and economic factors alone that influence sports performance, psychological factors were also playing dominant role.

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106 Schnabel, Op. Cit., P. 71

There are many factors, such as physique, body constitution, technique, tactics, level of motor and physical abilities, psychological abilities, personality make up of a sportsmen etc., which influence sports performance at National and International events. Sports psychology has emerged as an important field to enhance one’s performance during competition. The role of psychology in attaining high performance goes on increasing and becoming greater as the level of competition goes on becoming higher.  

A host of factors influence sports performance says Ashok kumar Sports performance is an end product of Training state and relationship developed among various factors of training state. A change in performance occurs with a change in the level of Training State.  

Training state is considered to be the level of various personal factors i.e. Technique, condition, coordination, Tactical level, personality of the sportsmen and socio economic background. McGill (1984) stated that performance depends principally on capable technique and the physical and mental capacity of the athlete. 

Comprehensive procedure of assessment of sports performance was not achieved due to lack of consensus. However, efforts were on to devise methods. Oslin and associates ventured to make one. Reports on the development and validation of the game performance assessment instrument (GPAI). The GPAI is a multidimensional system designed to measure game performance behaviors that demonstrate tactical understanding, as well as the player’s ability to solve tactical problems by selecting and applying appropriate

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skills. The GPAI provides analysis of individual game performance components (e.g., decisions made, skill execution, and support) and/or overall performance (e.g., game involvement and game performance). The individual game performance components were developed and evaluated by experts to determine validity and reliability. The GPAI protocol was field tested across 3 categories of games: invasion (soccer and basketball), net/wall (volleyball), and field/run/score (softball). Validity and reliability were examined through 3 separate studies using middle school physical education specialists their sixth-grade class. Finding suggest that the GPAI provides a valid and reliable method for assessing game performance.110

Grupe’s collection indicates that high performance in sports was on account of many factors. The factors which help to have optimum development and achieve high performance are ideological position of the athlete, social relationship of the athlete with his family, trainer, coach, friends people at school, spectators, has own education, professional and social standing of the parents and the social security provided to the athlete on retirement.111

Sidentop and others were of the opinion that social approval influences acquisition of motor skills. It may be that social class interacts with other variables to influence physical activity. For example, social approval has been found to facilitate the performance of boys from lower socio-economic status families and disapproval impairs their performance more than it affects that of boys from middle socio-economic status families. It may well be that different social reinforcement, and it is this fact that directly influences motor skill acquisition.112

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111 Ommo Grupe (Ed) Sport in the modern world chances and problems (New York : published on behalf of the organizing committee for the games of xx Olympiad Munich 1972), P. 428.
Sports and Socio Economic status

Americans seem to involve in sports more than the people in other nations. Normally interest and aptitude influence the choice of sporting event as understood by the naïve. Sage was of the view that socio-economic status was a factor which presides over the performance of sporting events. Sports participation varies from one SES Group to other. Though sports permeates American life, sports interest and participation are not identical in various socio-economic classes. Life styles, the kind of house and neighbourhood one lives in, the kinds of books and magazines one reads, the cultural products one enjoys and one’s sports pursuit vary from one socio-economic group to another.113

Krishnaiah made a comparative study of socio-economic status of student sports persons at university level. Participants of Mysore University Inter Zonal inter collegiate competition in Badminton, Cricket, Gymnastics, Kabaddi, Table Tennis, Volleyball and Wrestling were selected for the study, (N-155). He concluded that sports persons at the University level did not enjoy a high social status. Families of cricket and Badminton players had better economic background, the study revealed.114

Pate and others illustrate how the economic conditions of sports persons are getting improved. The high importance to sports and performance in sports competitions has given rise to sports industry, sports press and a number of professionals associated with sports. Millions of people earn their living by working directly or indirectly for sports. The total amount of money spent on sports equipment, stadium, sports dresses, implements etc., run into billions of

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dollars all over the world. In addition to this, there is increasing commercialization of sports. Professional sports have become very popular, and the outstanding sports persons earn millions of dollars per year. For example in boxing, lawn tennis, foot ball, base ball, cricket etc., to be able to win international competitions is increasingly being taken up as serious profession and not just a pastime and recreation activity.\textsuperscript{115}

Kumara, who compared the socio-economic status of Mysore University level Kho-Kho and Kabaddi players (\(N.=101\)) concluded that there was a significant difference in SES of families of Kho – Kho and Kabaddi players. The study revealed that the kabaddi player’s families enjoyed a higher economic status, while the families of kho kho players enjoyed a higher social status.\textsuperscript{116}

Shushila (1992) studied select personality variables, adjustment and socio-economic status as related to performance on Neuroticism and sports competition anxiety. The analysis also revealed that Indian wrestlers belonged to low middle stratus of society. They came from lower middle socio-economic status families.\textsuperscript{117}

Khatib and Hashim (1988) studied 60 male elite athletes who participated in Iraqi National teams in a variety of sporting events. They found that elite male athletes received greatest influence from peers in terms of their interest, participation and encouragement during both childhood, and current participation in sports. Parents were not found to significantly influence the athletes. Participation in sports was significantly related to their socio-economic status.\textsuperscript{118}

\textsuperscript{115} Pate, Op. Cit., P.108.
\textsuperscript{117} Sushila Yadav, (1992), selected personality variables, adjustment and socio-economic status as related to performance in mass and class sports. A Doctoral thesis submitted in the faculty of Education (Physical Education), Punjab University, Chandigarh.
\textsuperscript{118} A Khatib, and Hashim, A (1988). The socialization process of Elite male Iraqi Athletes into sports Roles. D.A.I. 49 P. 57-A.
Higginson and Charles conducted a study on the factors affecting female students participation in eight sports. The results indicated that for various groups of sports, fluctuating response rates did not adversely affect the measures of social status, or the strength of the relationship between social status and sport participation. It was also discovered that gender differences did exist in terms of social status measures and participation in selected sports. Finally, the social learning paradigm (Socialising agents and opportunity set) as a predictor of sport participation was found to be questionable for the index measures constructed in this study.)\(^{119}\)

Sohi and Yusuff (1986) in their study found that sports permeates upward social mobility. They conducted an investigation of the SES of elite Nigerian athletes, their social origins and social mobility. All these aspects were observed through social stratification indices. Data on 341 elite athletes (226 M and 115 F) in 15 sports, and on their parents, were collected using questionnaires. It was found that most of these athletes came from families of lower SES and many experienced upward social mobility.\(^{120}\)

Pratt and associates say that sports participation provides economic benefits too. Medical evidence shows that participation in physical activity, as part of an overall healthy lifestyle, is the most cost effective and sustainable way to tackle the rise in noncommunicable diseases. Improving public health through increasing opportunities to participate in sport offers large economic benefits, particularly in developing countries, where health resources are already stretched making prevention especially essential.


Beyond improving public health and reducing health care costs sports and physical activity also provide significant economic benefits through increased productivity. For example “in the USA, where physical inactivity added US Dollar. 75 billion to medical costs in 2000, it is estimated that US Dollar 1- spent on physical activity results in a US Dollar 3.20 savings in medical costs”.

Weiler, (1998) discusses how race ethnicity, socioeconomic status, and area of residence, whether urban, suburban or rural, impact girl’s sports experiences. The social contest of girl’s lives shapes their sports choices and opportunities, with financial restraints often restricting African girl’s opportunities. When access to sports is possible. All girls appear to derive positive benefits from exercise and athletic involvement, although they perceive the benefits differently based on their experiences and social contests. Because low-income girls of color have their sports opportunities through schools, recreation departments, and nonprofit agencies, their participation is usually limited to the stereotypical popular sports of basketball and track and field, in which African American girls are over-represented. Economic class and racial and gender stratification also significantly impact the participation of women of color in sports leadership positions, including coaching and sports administration.

Vaidya, had conducted a string on SES and selection of activity. In his study of examination of the family, caste, income and SES of Male players of Kabaddi, Football, Cricket and table tennis at Nagpur University, India, it was hypothesized that selection of sports activity would be influenced by social environment and SES of the player’s family. Questionnaire and interview data


were collected from 25 players of each game; the SES scale of Pareck and Trivedi was modified for quantification of the data. Chi square analysis showed a significant relationship between game specialization of close relatives and Rs’ choice of activity. Table tennis and Cricket were more popular among the higher caste group (I), whereas Kabaddi was the preference of many in-groups II & III & football of those in group III. It was also found that SES factors affect selection of activity, with Cricket and table tennis more popular among Rs of higher SES and Football among M and Lc Rs.¹²³

**Sports Performance and Socio-Economic Status**

Cratty was of the View that players to a significant level, present different personality tenets corresponding to their level of socio-economic status. Usually, players of high socio-economic status have advantageous background to enrich their performance. Whereas, the players of low socio-economic status, due to deprived conditions are most likely to show poor performance. Economic circumstances can influence the availability of equipment and facilities. Size of the play yard and the number of pieces of play equipment are positively associated to the size of the family income. Activity also found to be correlated positively.¹²⁴

Sharma tried to assess the differences between university representing sportspersons (N=282) and non sportspersons (N=256) among the various teams using Dev Mohan’s socio-economic status scale (Revised, 1972). The analysis of data revealed that university representing sportspersons in each of the five sports, groups i.e. Cricket, Volleyball, football, Basketball and Hockey, were


considerably higher than the non sport persons on the composite SES variable including its two dimensions, viz., income, status and social status – the highest mean score on composite SES variable belonged to cricket sportspersons followed by football, volleyball and basketball sportspersons. On the social status dimension, the highest mean score was obtained by football followed by cricket, volleyball, hockey and basketball. Whereas, cricket sportspersons attained highest mean score on the income status variable, followed by football volleyball, hockey and basketball. On the professional status dimension of the SES variable, no significant differences existed between non sportspersons and university representing sportspersons except for cricketers.125

Singh (2003) reading a theme paper at the national conference emphasized that through sports, socialization takes place across different socio-economic levels. Similarly the author emphasized that modern sports has a relationship with economics and society. This appears to be a new dimension given to sports. This trend probably has created the social and economic disparity in different segments of sports groups. For example a cricketer can be a millionaire while a wrestler or volleyball player may not get.126

Individual’s achievements and proficiency in physical activity are influenced by Socio-Economic Status says Craty. The family wields the earliest influence and weilds most vital influence too upon the child’s attitudes towards and opportunities for physical activity. The efforts of the child is continually evaluated by the parents, and as a result his relative need for subsequent achievement is moulded by socio-economic status and race also influences the child’s opportunity for proficiency in physical activity.127

Gupta (1986) in his study observed that there is a definite pattern in which the sports activities were pursued. He collected data through a pretested questionnaire distributed to 200 sports participants, of an average age of 19. These belonged to student population of the university of Punjab state in India during 1984. They were also subjected to the unstructured interview. He found that sports persons with higher socio-economic background are likely to participate in more prestigious games such as Lawn Tennis, cricket, shuttle, golf etc, while middle class preferred boxing, wrestling, Basketball etc.\textsuperscript{128}

Frank, and others concluded in their study that there was positive correlation between sports participation and earnings. It has been reported that participation in high school athletics has a positive effect on education, occupational status attainment, and earnings. Findings on the economic benefits of sports participation, however, need to be examined for generalisability beyond local labour markets. Presented is an analysis based on a national sample of 1628 males from a 5 – wave panel study. The regression analysis, which uses annual earnings, average monthly earnings, and current hourly wages to measure current incomes not support the positive correlation between sports participation and earnings in adult life reported elsewhere. It is suggested that the economic pay off may not begin to accrue until adequate after graduation.\textsuperscript{129}

**Proneness To Disorders**

All men look alike. Never the less they differ in the structure, functions, interests, achievements and even in the state of health. Some enjoy robust health, some suffer minor ailments occasionally, and some people have


the tendency of falling sick every now and then. This tendency of the individuals getting afflicted with various kinds of illness is referred to as proneness to disorders. An encyclopedia gives the general meaning of disorder as follows. Factors that affect the probability or predisposition of an individual to the development of a disease or disorder.130

World Health Organization’s statistics suggest that people world over were prone to suffer cardio-vascular diseases, diabetes and respiratory diseases. “The health burden from preventable Non Communicable Diseases, (NCD) such as cardiovascular diseases, cancer, diabetes and chronic respiratory diseases are increasing significantly throughout the world. WHO estimates that mortality, morbidity and disability resulting from these leading diseases currently account for approximately 60% of all deaths and 43% of the global disease burden”.131

“These rates are expected to rise to 73% and 60% respectively by 2020.132

The concept that a majority of medical and psychiatric illness are related to stress and a spectrum of emotional factors is probably as old as the history of recorded Medicine itself (Rosch, 1979)133, Traditional Indian medicine Ayurveda, which is more than 2000 years old, stated that certain types of people based on personality and somatotype had a greater proneness to certain diseases (Solomna, 1984)134, Gulen, early in the second century,

130 The Columbia Electronic Encyclopedia, 6th Edn, Copyright (c) 2005, Columbia University press.
132 UNEP. And D. Chernushenko. Greening our games : Running Sport events and facilities that won’t cost the earth, (1994, 2000)
observed that women who manifest depression seemed more inclined to
develop breast cancer than those with less melancholic dispositions. Modern
research has been successful in validating a number of these observations made
by the early clinicians. Recent studies have focused on two psychosocial
variables that appear to have a significant impact on the induction and growth
of cancer cells. These two factors are (a) stress and life events (b) Personality.

Further, in the Present are the impact of mental states and
neurohormonal events on immune response in being intensively studied
(Cunningham, 1993)\textsuperscript{135}. The evidence for a brain – immune link was
demonstrated by Ader and Cohen (1975)\textsuperscript{136}.

They showed that the depression of antibody responses could be
behaviourally conditioned. Sklar and Anisman (1981)\textsuperscript{137} in a review of the
work done on stress and cancer found that stress generated by life events
frequently preceded the appearance of several forms of neoplasia. Further
more the incidence of cancer was particularly prevalent among individuals
who had lost an important emotional relationship. Problems were also related
to the development of cancer.

Life events research has shown that it is not merely the stress itself, but
also the way the individual perceives and appraises it that potentates its effects
(Lazarus and Fulkman, 1984)\textsuperscript{138}. It was seen that those individuals who

\textsuperscript{135} A.J. Cunningham, Does Cancer have a meaning? Advances, 9, 63-69.

\textsuperscript{136} Ader. R. Cohen, N Behaviourlly conditioned immuno suppression
Psychosomatic Medicine, 37, 333-340.

\textsuperscript{137} L.S. Sklar. & Anisman H Stress and Cancer Psychological Bulletin,
89, 369-406.

\textsuperscript{138} R.S. Lazarus, and Fokmen, S Stress, appraisal and coping. New
York : springier publication.
expressed a sense of loss and hopelessness and an inability to cope with the stress had a higher incidence of cancer and depression (Le shan, 1959)\textsuperscript{139}. The cancer Prone Personality is a concept that is increasingly being studied. The two characteristics that are emphasized in cancer patients are (a) the suppression of emotion, lack of outlets for strong feelings and failure to express such emotion (b) the inability to cope with interpersonal stress; leading to feelings of hopelessness and helplessness and finally depression, and a tendency to give up rather then fight (Eysenck, 1991)\textsuperscript{140}. Temnoshock (1987)\textsuperscript{141} described a type C personality who are cooperative unassertive, suppress negative emotions and accept or comply with external authorities, they are more susceptible to develop cancer. They are the polar opposites of type A1 individuals whose behaviour had been linked with heart disease.

Personality characteristics and stress combine and interact to produce feelings of helplessness, hopelessness and depression. Research has shown that this can produce hormonal imbalances and immune deficiencies, which allow the illnesses to grow and proliferate.

Gilmores study signifies that the involvement in physical activity will be beneficial for better health and fitness. Studies demonstrate that vigorous exercise apparently raise, high density lipoprotein (HDL) and Lowers Low – density Lipopraite (LDL) which helps to get rid of cholestrol. For example biochemist Peterwood and his colleagues from the standard Heart Disease Prevention program, Compared the blood chemistry of 41 men aged 30 to 40

\textsuperscript{139} L. Leshan. (1959) Psychological stats as factors in the development of malignant diseases : A critical review, Journal of National cancer Institute, 29, 1-18


\textsuperscript{141} L. Temoshok (1987) personality coping style emotion and cancer : Towards an integrative model. Cancer surveys. 6, 547-56
years who ran at least 25 kilometers a week with that of a similar group of non-runners. Results revealed that “The runner had half the plasmatic carried level of the non-runners and slightly less total cholesterol, most significant of all the runners. HDL level was 64 milligrams versus 43 for the non runners”.142

Physical inactivity is associated with unfavourable profile of cardiovascular risk factors, several authors opine,

A Low level physical activity is known to be associated with an increased rate of all cause mortality (Lee And Skerrett 2001), increased incidence of cardiovascular disease (Kohl 2001), obesity (Ross Janssen 2001), Type 2 diabetes (Kelley & Good paster 2001), Colon cancer (Thune & Furberg 2001), Osteoporosis (Vuori 2001) and Depression symptoms (Dunn et al. 2001).

Physical inactivity is also associated with an unfavourable profile of cardiovascular risk factors, such as high level of blood pressure (Fagard 2001) and blood lipids (Beon and Sanchez 2001). Among the oldest adults long term physical activity is related to postponed disability and independent living (Spirduso and Cronin 2001).143

Porch and Schullen investigated the relationship between scores on scales that purport to measure psychosis-proneness and scores on vocational interests, identity, and differentiation scales in a sample of 233 college students who completed the perceptual aberration and magical Ideation scales, the strong Campbell interest inventory, and the career decision scale. The present findings are consistent with prior work indicating a sex-related association of scores on measures of psychosis-proneness and vocational interests. A positive correlation between


scores on vocational indecision and measures of psychosis proneness was also found, suggesting that both men and women who score high on psychosis proneness find it difficult to formulate long-term career goals. Finally there was no significant correlation between scores on measures of psychosis proneness and Holland’s Vocational differentiation index. Presence relates are discussed in light of previously reported sex differences among psychosis-prone adults and diagnosed Schizophrenics.144

**Proneness To Disorders and Socio-Economic Status**

Socio economic status is not a mystical force. It operates by changing or biology, behaviour, psychological responses and social situations. Although adjustment for a full range of biological behavioural psychological and social variables offer, evidence of routes through which socio-economic status may affect mortality, these nevertheless remain a major explanatory problem adjusting for other major risk factors does not address the fact that each of these risk factors is graded by socio-economic status. These risk factors are likely to be part of the pathway between socio economic status and health.145

Heinemann and others in their study observed, a strong correlation between socio-economic status and the risk of CVD has been demonstrated by analyses of the death register mortality studies in Britain, Scandinavia, Western Europe, the United States and Japan. For example, in eastern Germany, the cardiovascular death rate is considerably lower for the upper social classes than for the lower classes in England and Wales, where general mortality rates are declining. The relative gap between the upper and lower classes is widening.

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144 Poreh, Amir M, Schullen, Carol, vocational interests and career indecision psychosis-prone College students, *Psyc LIT* 1998-1999/09

Socio-Economic status is typically defined by such indicators as occupation, occupational qualifications and position, level of education and, in some instances income level. These are readily translated into standard of living, nutritional patterns, free time activities, family size and access to medical care. As noted above behavioral risk factors (such as smoking and diet) and the somatic risk factors (such as over weight, hypertension and hyperlipidemia) vary considerably among social classes and occupational groups.146

A study of Tuinstra and others strongly revealed that there was no relationship between SES and health risk behaviors.

Tuinstra, Groothoff, van-de-Heuvel and post, (1998) analyzed the questionnaire data collected during 1994/95 from 1,984 students at vocational and high schools in four northern provinces of the Netherlands are drawn on to examine socioeconomic differences in health risk behaviors, testing both the main and interaction effects of socioeconomic status (SES) and gender on separate and cumulative health risk behaviors (smoking, alcohol consumption, soft drug use, and (no) physical exercise). Analysis indicates that the relationship between SES and health risk behaviors is not as linear as is often found in adulthood. Overall, there was an absence of relationship between SES and health risk behaviors. The only exception applies to sport, which is linearly related to SES. There is an irregular relationship between father’s occupational status and an adolescent’s smoking and drinking. Adolescents in the highest, lowest and middle of the 6 SES groups have the highest rates of health risk behaviors. All observed relationships are similar for both males and females, there being a relationship between gender and the separate health risk

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146 Lother Heinemann, Gottfried Enderlin, Heide stark, the Risk factor concept in cardiovascular Disease, an experimental research conducted in United States.
behaviors only for alcohol consumption and drug use, where for both, males showed higher rates of risk behavior. Males also scored higher on the cumulative health risk behaviors than their female counterparts. Findings do not support the hypothesis of latent health differences in adolescence.\textsuperscript{147}

Robert and Decbbering were of the opinion that SES and health are related. One of the most persistent disease patterns observed in public health research is that people in the lowest socioeconomic groups have the highest rates of morbidity and mortality. In a comprehensive review of 30 studies on this topic, Antonovsky noted the consistency of this binding dating from the twelfth century. Further this differential has been observed throughout the world, regardless of whether the dominant diseases of death and disability were attributed to infections or noninfectious causes and regardless of the specific methods used to assess socioeconomic status,

In a massive nationwide survey of mortality in the United States, Kitagawa and Hauser found that mortality rates varied dramatically, among socioeconomic groups for both men and women whether socioeconomic status was studied in relation to education. Income or occupation,

In addition, Kitagawa and Hauser found that those in lower socioeconomic group had higher death rates for every cause of death, except motor vehicle accidents and breast cancer among women. Higher rates of morbidity also have been observed among those in lower socioeconomic status groups. These higher morbidity rates include virtually every disease, as well as mental illnesses and conditions such as schizophrenia, Depression, unhappiness, worry, anxiety, and hopelessness.\textsuperscript{148}

\textsuperscript{147} Tuinstra, Jolanda, Groothoff, Johan W. Van-den-Heuvel, Wim J.A. Post. Docke Socio-Economic Differences in Health Risk behaviour in Adolescence : Do they exist? Social Science and Medicine, 47, 67-74.

Williams and associate’s study concurs with the strong of Tuinstra and others.

Williams, Currie, Wright Elton and Beattie (1997) investigated the relationship between socioeconomic status and risk of adolescent injuries, the major cause of morbidity among children and adolescents in developed countries, via analysis of questionnaire survey data from a national sample of 4,160 Scottish adolescents, ages 11, 13, and 15 socioeconomic status was based on the registrar General’s classifications of paternal occupation and a composite measure of family affluence. Results showed no evidence of a socioeconomic gradient in the total incidence of medically attended injuries however there was marked socioeconomic variations in the circumstances in which injuries occurred. Low family affluence was predictive of injuries occurring in the home, in public parks, and on the roads, while high family affluence was associated with increased incidence of injuries in school and sports injuries. There were also socioeconomic differences in the extent and type of reported risk behaviors, indicating differential rates of risk exposure. Injuries resulting from daring, fighting, and cycling without an helmet were more common among less affluent adolescents. The implications of the findings for the design of injury prevention strategies are discussed.149

149 J.M. Williams, Currie, C.E. Wright P, Elton R.A. Beattie, T.F. Socio-economic Status and Adolescent Injuries – Social Science and Medicine, 44, 1881-1891.