Chapter II

REVIEW OF RELATED LITERATURE

Nesselroade and Baltes (1974) found that female adolescents tended to be more anxious than males. In a 1974 summary of the literature in this area, Maccoby and Jacklin (1974) also concluded that girls and women get higher scores on the general anxiety scales. It may be that girls obtain higher scores because they are more likely to respond in the negative when asked, —Do you sometimes dream about things you don’t like to talk about?—

Furthermore, Maccoby and Jacklin (1974) suggest that the tendency of girls to get higher scores on anxiety scales is due to the fact that some of the items are related to special fears of girls or specific circumstances they have been told to avoid. On the other hand, there are few —items in the scale that relate to the boy’s special fear of appearing cowardly in the eyes of his age-mate, his fear of public humiliation or failure, etc. [Maccoby and Jacklin, 1974, p. 188].

In general we do not have at the present time a clear picture of sex differences in anxiety, if they do exist. While some observational studies suggest that there are no sex differences, teachers’ ratings and reports by youngsters suggest that girls may be more inclined to be subject to anxiety. Results based on scales such as the Taylor Manifest Anxiety Scale are not conclusive.

One of the limitations of measuring anxiety by means of scales is that it is difficult to produce scales with a high degree of validity or to
distinguish between readily recognized symptoms and underlying states of conflict.

Several investigators have studied the relationship between measurements of anxiety and performance (for a review see Gaudry and Spielberger, 1971). From a number a study it appears performance is high when anxiety (as measured by tests) is at a moderate level. At extreme, low or high anxiety, performance is poor. It has been surmised that individuals whose scores are at the low end of the anxiety continuum may lack motivation. At the high end of the continuum the individual is regarded as perhaps overwhelmed by anxiety. However, the relationship between anxiety and performance depends on many interacting factors in both the individual and the situation.

The amount of anxiety adolescents experience when trying to learn something is influenced by the complexity and difficulty of the material they are expected to master. O’Neil et al. (1969) measured the anxiety of college students who were then required to learn difficult material in one experimental situation and easy material in another situation. As shown in Figure 11.1 the students gave evidence of the greatest anxiety when they were working on the difficult task; the next highest level of anxiety appeared prior to the study, and the lowest amount of anxiety occurred during an easy task.

Some adolescents are at a great disadvantage when they have to learn complex material. Apparently, high levels of anxiety interfere with their
ability to concentrate. Moreover, according to Ganzer (1968), the performance of students who score high on a test of anxiety drops sharply when another individuals observe them learning a task; students low in anxiety do not appear to be affected by the presence of others.

Form various studies by Spielberger (1962) it appears that the effect of anxiety on learning depends on the adolescent’s level of ability. His findings suggest that students of average ability who scored high on an anxiety scale more often had lower college grades and more often left college as a result of academic failure. However, it appeared that student who scored high on scholastic aptitude test, and also showed a high anxiety level, were able to achieve at a high level in college in spite of anxiety. Indeed, their anxiety may have stimulated them to increased effort in their intellectual work.

MENTAL HEALTH AND MENTAL HYGIENE

Health is generally defined as not only freedom from disease but also that state of the body and mind in which an individual ‘lives most and serves best’. In fact, health has two factors the physical and the mental, though both are inter-related. The physical state of health is one where an individual enjoys freedom from physical disease, has reasonable degree of physical fitness and is capable of normal work without any undue fatigue. Mental aspect of health has deeper connotations and may be expressed in may ways. Generally it is said that a person who is not unnecessarily worried, anxious and tense is mentally healthy. Alongwith this mental health denotes a
normal mental activity e.g. intelligence, sanity, adjustment etc. Of course, such an ideal state of mind is impossible to achieve. The pursuit of materialistic philosophy, several scientific inventions especially destructive in nature, ecological changes have caused mental turbulence in human life to-day. The entire structure of mental life seems to be in doldrums. Life has become extremely fast in all its aspects and man is caught in the vicious circle of mental disorders and disturbances. Physical well-being is ensured by good diet, exercise, rest etc. but mental health is very difficult to achieve in modern times. To-day every individual feels that he is mentally maladjusted in the environment; his needs are not properly met; means of recreation are denied to him; he encounters unsympathetic social attitudes. Under these circumstances, the idea of keeping good mental health, remains a distant dream. Man’s nervous functions and thought processes are subjected to severe strain and stress. Challenges which he has to face in his efforts to adjust himself are the general causes of mental ill-health.

Cults and Moseley define mental health as the ability to adjust satisfactorily to the various strains we meet in life and mental hygiene as the means we take to assure this adjustment. Layman favors ‘emotional health’ to be used in place of ‘mental health’. He gives several reasons for this: (a) Although emotion does not lend itself to exact and succinct definition, it is possible to describe it in terms of physiological components, states of consciousness, motivational aspects and overt behavioral manifestations; (b) as a component of attitudes, emotion is closely tied in
with the negative and interpersonal aspects of personality; (c) studies of psychotic, neurotic and delinquent persons have shown the central importance of emotions in psycho-pathology; (d) ‘emotional’ does not carry the connotation of separation of mind and body which is suggested by adjective ‘mental’, so is more conductive to a holistic view of the organism. We can, in other words, safely say a –healthy person is one who is able to live at relative peace with himself and with his neighbors; who has the capacity to successfully raise healthy children, and who, when these basic factions are accomplished, still has energy left over to make some further contribution to the society in which he lives. Just as physical hygiene is concerned with the health of those who are well, as with those who are sick, so mental hygiene also has implications for all persons. In a broader sense, claims Shaffer, —the aim of mental hygiene is to assist every individual in the attainment of a fuller, happier, more harmonious and more effective existence. The subject matter of physical hygiene is physical health and how it can be maintained. A person interested in his physical well-being should have knowledge of common diseases, the structure and functions of the body and its various parts, preventive measures, principles of personal cleanliness etc. Mental hygiene, on the other hand, deals with mental health and its maintenance. Since behaviour is primarily a psycho-physical function, it is conditioned by the dependent upon good emotional health. Confused, abnormal and disorderly behaviour implies mental ill-health. Much of the abnormal behaviour is the outcome of mental
frustrations and disturbances brought about by emotional imbalance. It is the task of the mental hygiene to help develop wholesome personalities and produce individuals who have good social adjustment and show emotionally matured behaviour. It attempts to discover maladjustment, its causes, its symptoms, its preventive measures and finally puts before us ways and means to curb and get rid of it. In a way, mental hygiene makes use of psychiatry and psycho-therapy including psycho-analysis to bring the mentally disturbed individual back to mental normalcy. To quote Shaffer, —Mental health has implications for all person‖. Several surveys have been conducted to estimate whether people, at large, enjoy sound mental health or not. According to one estimate, there hardly exists any individual who is free from mental distractions. Every one of us is suffering from one mental ailment or the other. Life seems to be a necessary evil because it seems to be totally devoid of mental health. Rosanoff says, —Mental hygiene endeavours to aid people to ward off troubles‖. Crow and Crow elaborate: —Mental hygiene is a science which deals with the problems of adjustment to environment‖. Carrol, while defining the aim of mental hygiene comments, —Mental hygiene has three aims: (a) Check, (b) Curing, (c)Preservation. It is applicable is case of every child‖. Whether at home or at school, or at club or at business, every one confronts situations which make us eventually upset and so maladjusted. The state of maladjustment, if continued for a long time, gives rise to certain psycho-somatic diseases. Those who are conversant with the principles and practices of mental hygiene are blessed
Mental hygiene helps to cure some of the mental ailments and disorders without directing men to a psychiatrist; it tells how to take preventive measures when there is apprehension of mental afflictions. In the context of the present day world, mental maladjustment is on the increase resulting in universal illness of the mind. Until and unless urgent and immediate measures are taken to cope with the increasing pressures of socio-economic problems, there is apprehension that this malady will soon get out of control. There are a number of widely-known reasons for the increase of mental disorders amongst people all over the world. One of the reasons is that the struggle for existence is becoming harder day by day due to rapid and enormous rise in the world population. The world resources of energy and food are dwindling fast. It has now become extremely difficult to live in a world threatened with extinction any moment: we are sitting on a heap of explosives. Economic stringencies have added to human troubles the most.

Mental hygiene is concerned not only with the detection, diagnosis and treatment of mental and emotional problems but also with the preservation of good mental health and prevention of further deterioration of mental health. _Prevention is better than cure_ or _a stitch in time saves nine_ are oft-quoted phrases which carry vital advice to all human beings alike. Ways and means have to be found to prevent the occurrence of tensions, frustrations, emotional stresses and strains. If to-day, the clouds of the Third
World War loom large on the humanity, it is because mental peace has shunned all of us.

**General Causes of Mental Ill-Health**

Life is full of purpose. The purpose of animal life may be simply biological but human life exists for causes which are extra-biological. Human needs are greater and more purposeful than those of the animals. Animals do also strive to satisfy their needs of hunger, thirst, copulation, security etc. Human beings have other needs which are psychological in nature i.e. need for achievement, recognition, affection, independence, dominance etc. Social inter-action between one individual and the individual is as important as his struggle for existence. Biological needs, common as they are both to man and animals, are inborn and innate. The struggle for existence is basically the struggle for fulfilment of these needs. When hungry, we need food, and strive to get it; when thirsty, we go in search for water. Such needs that are the result of biological drives and physiological impulsions, require immediate satisfaction and neither man nor animal can afford to live without paying immediate attention to situation which cause them.

Social and psychological needs may crave immediate action or a sustained effort. Man becomes conscious of his social needs much later than he becomes conscious of his biological needs. Social and self-conscious individual-the child of course is not so-knows what his social needs are: these needs vary from person to person and from time to time. As compared
to biological needs, sociological needs can be modified and even substituted: one can afford to wait for the suitable opportunity for the fulfillment of these needs. For example, social recognition is not obtained within a day or two nor does it immediately affect the physical or mental behavior of the individual. The fulfilment of biological needs is irresistible. Needs, they are endless. As the child grows, needs go on multiplying. One need is satisfied, the other crops up. The whole life is a conglomeration of needs and throughout one’s life, one goes on running for the fulfillment of his needs in whatever form and shape they are. In the hope of fulfilling his needs every human being struggles and makes necessary adjustments. But life has become so intricate that complete satisfaction of needs impossible. Catching quick-silver may be easier than living in peace with the needs and desires of the present day life.

If children are worried about play-things, academic achievement etc., elders and adults are anxious about their home, social status, marriages, jobs, appointments so forth and so on. Right from the cradle to the grave, every individual has to face incalculable needs, wants and problems associated with one aspect of life or the other. socio-cultural evolution is the main cause behind the multiplication of wants and needs. Parents and teachers make efforts that children’s needs be attended to first because children cannot wait, whereas the adults have learned to be patient. Till children develop social consciousness and crave for the fulfillment of their social needs, they are satisfied because the satisfaction of their needs (biological
mostly) is the headache of the parents. Conflicts in the family, insecurity, unsympathetic attitude of the teacher, hostile classmates, failure in examination, lacking in skill etc. are some of the factors which create numerous needs that are intangible and involve 'psyche' more than it does 'soma'.

One of the most important needs of the children is the need to play and indulge in physical activity. If opportunity to play and take part in vigorous physical activity is denied, children play is singularly capable of satisfying a number of needs of human life. Play is an instinctive activity; it satisfies the urge for activity; it has some sort of cathartic effect on the emotions of the individual; it is a socializing agency and provides ample opportunities to the individual to come in contact with others and so satisfy the needs for social-inter-mixing. Recognition and dominance. Play and sports are capable of developing personality in a balanced and harmonious manner. Mitchell and Mason add, —play is an activity, it is of interest to the player, the same activity may be work or play, according to the attitude taken toward it, one essential characteristic of play is a satisfaction in the activity for its own sake, with participation being voluntary‖. It is now almost proved that those who have had adequate opportunities of indulging in play in childhood develop traits that go to comprise a good personality. On the other hand, those who are denied such opportunities, show signs of emotional instability, physical insecurity, fearfulness, anxiety,
indecisiveness etc. in their general behavior. Layman contends, “Engaging in sports promotes physical fitness; fitness is associated with good emotional health and a lack of fitness with poor emotional health. The acquisition of motor skills involved in sports contributes toward meeting the basic needs of safety and esteem in young children of both sexes and in boys and young men from the early grades through the college years.” A player does have anxiety, worries and frustrations but he also has the capability of overcoming them through vigorous play, without much mental strain and tension. Sense of accomplishment and success in one form or the other keep his energies up and his tensions and anxieties at bay.

Physical weaknesses, mental inadequacies, emotional disturbances, blockade of instinctual energy etc. are the real causes of mental ill-health. Principles of mental hygiene which enable an individual to keep himself mentally healthy must be known to every one right from the very beginning of one’s career. In fact, mental health is a matter of healthy attitude towards life, work, people and ideas. Those who have developed pessimistic attitude towards life, may not be capable of enjoying good mental health. Mental ill-health affects physical health and vice versa. To-day more and more people are falling victim to mental ill-health than to physical disabilities. Hence it is necessary that adequate measures be taken to minimize the effects of those factors which are solely responsible for mental ill-health. People, especially children and sportmen have to be educated to follow principles of mental hygiene in letter and spirit.
**Principles of Mental Hygiene.**

1. **Self-realization and self-respect.** Every individual, every sportsman and every player must be made to realize what his potentialities, capacities, capabilities, weaknesses, inadequacies—both mental and physical—are. This will help the individual to keep his level of aspiration within his reach. We generally wish to acquire and achieve things which are beyond our reach and vainly aspire for what is naught. When accomplishment is low and the aspirations high, we feel lost in the haze of frustrations. Sportsman must know clearly, through introspection and teacher’s feedback, as to what he can achieve and what his level of aspiration should be: this certainly needs some sort of education which would not come to the individual through books but through good inter-personal relationship.

   Secondly, every sportsman must be made to feel satisfied with what he presently is. He should not feel inferior mentally, physically and socially nor should he be allowed to become over-ambitious and self-complacent. No one can command respect and enjoy mental satisfaction without respecting himself and feeling self-important. Condemning oneself and negative one’s achievement—though not mean in any way—is a sigh of bad health. Every sportsman should train himself to respect himself and others but too much supplicating attitude is as bad as being over-ambitious.

2. **Training one’s emotions.** Emotions are born of instinctive energy. Under the sway of emotions, unpredicted and unexpected behavior is bound to result. Who does not become angry! But wise persons have trained themselves in
such a way that their instinctual energy is not drained out into unwanted emotional outbursts and tantrums but utilized in ingenious ways. Every sportsman must know how to train his emotions: emotions can be trained when one develops in himself respect for others and their ideas, ideals, customs and traditions, and also to keep the level of aspiration under one’s control. One may have good ideas himself but respecting the ideas of others and points of view is equally important for social adjustment. When too much importance to one’s own ideals and ideas or things is attacked and others’ ideas and ideals are considered trivial, inferior and worthless—though they may not be so—conflict is bound to develop. Such situations often affect the emotional and mental health of every individual especially the sportsman. Harboring hatred towards others, rearing up fears of others etc. are signs of emotional imbalance. Hostile feelings and unbecoming behavior on the part of one sportsman are liable to beget hostile feelings from the opponent. Over-hopeful, over ambitious and over-motivated sportmen should be trained to control their hostile feelings against officials and opponents when defeat stares them in their faces.

3. Keeping oneself occupied with worthwhile activities One of the most important causes of mental ill health is that the people have no idea of occupying themselves with activities which are worthwhile in nature. _Idle man’s brain is a devil’s workshop_. An unoccupied person is like a devil who can work havoc with anything and everything in the world. Often people ask what they should do when they are free and have nothing to do.
There are hundreds and thousands of activities-mental and physical-in which one can keep oneself busy. Reading good literature, playing non-competitive and recreative games, having walks, witnessing dramatic performances, swimming, spending some time in parks, pursuing hobbies of various kinds are good pastimes. Not only those activities enables one to "kill" time but also develop some such qualities that can serve as the basis for good citizenship. An unoccupied person develops aversion toward himself and toward life itself. Such an individual is unnecessarily troubled with things and ideas which do not concern him. A purposeless life is worth nothing. Everyone, especially sportsmen, should learn to create some purpose in life and then go on struggling for the achievement of that purpose.

4. Good Physical Health improves Mental Health. Body-mind relationship is an established fact. Those who enjoy good physical health are most likely to have good mental health which includes mental poise and balance, emotional control etc. When we say "sound mind in a sound body", we accept that adequate supply of oxygen—which is done only through vigorous exercise—to nerves, smooth muscles and the brain contributes to the maintenance of good mental health. We do not think with brain alone, even the amount of haemoglobin present in our blood affects our thinking. Besides this, balanced diet and good physical exercise are the main factors of helping us maintain good mental health too. Participation in games and sports presents opportunities for promoting emotional health and preventing delinquency. Studies by Hardman and Kane have confirmed that athletes
with higher performance are more emotionally sound and less anxious while studies by Sperling, Ruffer, Tillman, Whiting and Stembridge, Brunner etc. reveal that extroversion is more prominent in athletes than in non-athletes. Those who play games vigorously, are less liable to fall prey to neuroticism and psychotic tendencies. This proves that sportsmen do not keep their feelings pent-up; they blurt out irritating feelings and that is why they are able to keep mental poise and emotional balance. Obviously, sportsmen enjoy better physical health which ultimately leads to sound mental health.

A physically unhealthy individual is always worried about himself and worry is a sign of bad mental health.

5. Prevention is better than cure. One who knows and follows principles of health—both mental and physical—is capable of preventing disease in advance. How painful it is for an individual to go to the doctor but how easy it is to be careful in the beginning and prevent ailments. Forewarned is to be forearmed. Most people fall into the ditch of psycho-somatic diseases and emotional disorders because they have not been able to train themselves in health practices. The effort should be made by every individual to remove the causes of worry, anxiety and tensions by following good defense mechanisms. Play and sports help people the most in maintaining good mental health. There is catharsis of emotions during physical exercise. Moreover, creative games take away people to their dream lands where they forget the worries of the world. Satisfaction of needs, if pursued adeptly, will always be helpful in the maintenance of mental health. Besides,
every man must make efforts to stop or at least minimize —hurrying and worrying‖. One should learn to live at ease with oneself, and with others. Prevention of diseases cannot be possible without the acquisition of proper knowledge regarding health. Habits of keeping clean should be formed right in the beginning. Social customs, traditions and taboos should not be allowed to play with one’s efforts to live mentally-and-physically healthy.

6. Mental Health is a universal Need. In the present day world, mental health has gained a universal importance simply because all individuals irrespective of their age, experience, profession, social and economic status are going through unabated mental agonies in one form or the other. Children at school have to bear the brunt of school stresses and strains, elders are kept on tenter-hooks by economic factors, social idiosyncrasies, professional jealousies so forth and so on. Industrial workers have their own worries and anxieties. Businessmen are suffering on account of their own follies. There is, then, need to impact knowledge of the principles of mental health and mental hygiene to everyone. The parents and teacher and coaches must shoulder responsibility of educating people especially the younger ones, on such matters as to how to keep mental peace, how to stop worrying, how to sublimate and channelize emotions, how to prevent situations likely to cause fear or anger, how to be patient with the odd circumstances etc., etc.

Mental Health of the Sportsmen

Environmental stresses and strains generally lead to mental disturbances and unidirectional behavior. Physical activity is a medium
through which good mental health of the sportsmen can be maintained. Clinical evidence from play therapy, group therapy and the use of exercise as a psychiatric adjunct in the treatment of emotionally ill patients indicates that when play, recreational and athletic activities are planned with individual needs in mind, they may be very valuable means of improving emotional health. Highly competitive games and sports do create mental stresses and strains in sportsmen. When sports activities are used for fun, they have medicinal effect on the organism as they supply outlets for the expression of emotion (on outward expression of emotion in approved activities is conducive to the development and maintenance of emotional health) but when sportsmen become professionals and participate in these activities only from the point of view of competition, higher emotional activity occurs. Too much emotional stress is considered to be the greatest killer of life than ordinary diseases. However, scientific evidence exists in abundance to show that participation in sports activities brings emotional stability. Say, for example, athletes are excessively aggressive when the sole aim of their participation is ‘excelling’ and ‘beating others’. To quote Layman, ‘When we speak of aggression, we mean the ‘initiation’ of an attack. At this time the psychologists are not in agreement concerning whether aggression, we mean the ‘initiation’ of an attack. At this time the psychologists are not in agreement concerning whether aggressive behaviour is instinctive, is a reaction to frustration or is learned behaviour acquired by means of conditioning. The near-universality of instigation to aggression to
recognized, however, as are the problems this creates from the stand-point of the amount of destructive violence on the international scene and the high incidence of emotional illness centring of problems related to aggression. Physical education teachers and coaches have to play a very significant role in the maintenance of good mental health of the sportsmen and players under their care and supervision. They should follow certain guidelines in this connection along with the universal principles of mental health.

Firstly, they should avoid using remarks which make one player inferior and the other superior. There is no doubt that the performance of an individual has to be compared in one way or the other but comparisons of socio-economic status, emotional nature, attitudes, interests, aptitudes etc. should, as far as possible, be avoided because this gives rise to the formation of complexes in children. Teachers should understand the nature of each individual and guide him accordingly.

Secondly, players should be grouped suitably keeping in view the individual differences children with higher mental ability and experience should not be mixed up with those having lower mental ability and less experience. This will avoid maladjustment. Every player should feel well-adjusted in the existing set of circumstances and training classes. Similarly experienced players should have separate classes and may not be allowed to dominate the beginners.
Thirdly, all situations causing emotional imbalance may be eliminated. Fear, anger, jealousy, hatred, ill-will etc. are the enemies of good mental health. During training and competition, athletes do become emotional and mentally perturbed if proper attention is not paid to them or when they are handled by an inexperienced teacher. Fear of losing an event or the match, over-aggressiveness in overpowering the opponent, racial and political prejudices etc. Affect athletes and their emotional make-up. To quote Layman again,—Probably for many athletes, competitive sports involve principally instrumental aggression (an attack in which the primary goal is not injury to the enemy as in reactive aggression, but the attainment of the reward): that is, the athlete attempts to defeat his rival because of the satisfaction he will experience from proving his own competence, and because of the praise and approval, he will receive, but he really does not feel anger toward his opponent. On the other hand, because winning in a sports contest always involves doing injury to another either physically or psychologically, there are some athletes who cannot force themselves to win unless they can perceive the opponent as the enemy, and can experience anger toward him. Otherwise this expression of aggression would generate too much of a feeling of guilt. Efforts must be made to keep athletes cool-headed and calm. Over-arousal in competition becomes killing for the athlete. All other things being equal, the athlete with cool mind will have an upper edge over the other.
Fourthly, maturity and experience are big factors in helping sportsmen keep themselves healthy. An inexperienced player is likely to lose his head under tense circumstances and unfavourable situations of competition. With the growing in experience and maturity every sportsman gets trained to control and channelize his emotions. It has been observed that temperamental athletes to lose their head when faced with highly competitive situations. The coach must train the sportsmen how to seek guidance and help from others when something goes wrong with their mental as well as physical well-being.

Fifthly, knowledge-theoretical and practical-must be imparted to sportsmen regarding aim and objectives of their activity. Ideals have to be placed before them so that they know what their level of aspiration should be and how much they are capable of achieving; what their limits and limitations are; how their strengths and weaknesses are helpful to them in the accomplishment of their goals so that they are in a position to adjust themselves well in the existing circumstances. In this regard, personal and professional guidance from the coach is of great help. This will help, both the teacher and the athlete, to trace out the causes of maladjustment and remove them as far as possible. The mental-hygiene viewpoint teaches us that behaviour-whether normal or abnormal—on the field or in the classroom—never takes place at random. The doctrine of Determinism holds good as much in the mental realm as in the physical world. It must be clearly kept in mind that behaviour has always some underlying purpose. The sports
field presents a variety of situations where behaviour of an individual is studied in its entirety and practically than in a class room. Why an athlete behaves abnormally on the field than he does outside, is the vital question on which mental hygiene should focus its attention. What is required is to get insight into the springs of human behaviour. Behind an abnormal or disorderly behaviour there is always some repressed, unfulfilled wish or desire. Deviant behaviour of an athlete is symptomatic of some frustration being caused by an unsatisfied desire. Hence an enlightened coach delves deep into the causes of such a behaviour and never gives the athlete undue rebuffs of rebukes. Sympathetic attitude, understanding and guidance will definitely do wonders in bringing the athlete to normalcy.

Lastly, sportsmen must be provided with proper rest and relaxation. Relaxation from mental stress is an important factor for good performance. More and more stress is now being laid on how best athletes can be made to relax mentally so that they face competition with an ease. Everywhere Yogic exercises and other techniques are being employed in training athletes how to relax mentally as well as physically. Research investigators have claimed that 80% of organismic energy is consumed when there is mental restlessness because of which cognition, affection and conation are badly affected. Hence every physical education teacher should strive to instruct sportsmen how to relax mentally.

Freud further believes that an innate source of energy changes as a result of an individual’s experiences during the psycho-sexual stages of
emotional development. Athletics is an acceptable expression of the defence mechanism which an individual adopts to resolve the conflicts arising out of the operation of the three strata of mind viz; the Ego, the Superego and the Id; and as such is a direct form of submation. Sports has different symbolic meanings for different athletes. Sports may be a way of expressing drives that otherwise would be unacceptable, or it may be a way of relating to seemingly foreign or hostile environment. It may also represent either a healthy relationship with authority or a challenge to it. Sports may be an expression of a neurotic conflict to the degree the primary instinct is directed from its original object to another for gratification. Conflicts do arise when the physical and the mental development in an athlete are neither congruous nor synchronized. Often too much emphasis on muscular development-as in case of weight-lifters-results in less attention paid to the psychological fitness. Most neurotic adjustments stem from the phallic stage of development when Oedipal conflicts arise and the objects of the sexual aim are being established. It is at this stage that sexual urges are expressed through outlets others than those specifically sexual, such as through identifications, activities, performances, attention-seeking behaviour and peer group games. Freud suggests that the higher the level of civilization, the more neurosis will be produced among its members, as civilizations forces more and more restrictions upon the libidinal discharge.

Freud’s views have often come under fire. Later psychoanalysis have given more importance to social motives operating in the environment than
inner conflicts in an individual. Emphasis has been laid on the concept of self-actualization. Maslow, for example, believes that an individual makes efforts, during his life, to fulfil his basic as well as specific needs and his personality is carved out of the struggle he makes to achieve his goals and during the process of resolving the conflicts which arise out of the non-fulfilment of those needs, love and belongingness are the basic needs which require proper cultural pattern for their fulfilment and each individual makes untiring efforts to find a congenial environment for this purpose. Individual participation in the activities of Physical education and sports can be seen as the function of both the development stages and the basic need level in which he is operating at any given moment. Child’s play definitely reflects this struggle. Manipulations of objects and toys, make-believe, explorative, creative, symbolic and social type of activities during play reflect struggle for the fulfilment of the basic needs of children. If these needs are thwarted or not properly substituted, the development of an individual on right lines remains a distant dream. The physical education teacher and the coach have to play an important role in this matter. They must provide children with such congenial environment where it is possible for each child to fulfil his basic needs. The planning of activity-programmes be such as would afford unlimited opportunities to children to manifest their inner-self and seek satisfaction out of play activities. Each adolescent and each adult must be prepared to achieve the goals of self-actualization, self-realisation and adjustment. More and more stress should be laid on the social aspect of play.
Play and sports must provide to the older people opportunities to have healthy social-intercourse. Play should strengthen the likeable personality-attitudes and attributes such as self-esteem.

The researcher has gone through various databases, print journal, books and periodicals to locate the research studies related to present topic. The research reports that are related to present study have been presented in this chapter as follows:

This study was designed by Chiung-Huang Li (2007) to explore the interactive and main effects of perceived competence and goal orientations on direction and intensity of symptoms related to pre-competitive somatic and cognitive anxiety. The study participants were selected from sixteen high school teams. 109 handball players were selected for this study. All the subjects were administered Perceived Competence Questionnaire, Task and Ego Orientation in Sport Questionnaire, and Competitive State Anxiety Inventory-2 Questionnaire. Multiple hierarchical regression analyses was used for statistical analysis. The results of the present study revealed that task orientation and perceptions of competence moderate the relation among direction of the symptoms of precompetitive anxiety and ego orientation.

The present research study was conducted by Alkhateeb (2010) to assess the self-concepts of Arab-American subjects who were at pre-adolescent stage. Scores of 102 study subjects were compared with 105 Arab national participants in Lebanon. It was found that the Arab American study participants had significantly high scores as compared to Arab study participants in Lebanon. The Marsh’s Self-description Questionnaire-I was used for the assessment of self-concept. It was revealed that Arab-American study participants had overall higher self-concept based on subscales for
physical appearance, physical ability, peer relations, general school, reading, and general self-concept. The results were found to be consistent with the expectations associating high self-concept with biculturalism.

Zafiropoulou et al., (2007) conducted a study to investigate the changes in self-concept stability and self-concept during the transition period of children’s from kindergarten to primary, and also to study the relationship among children’s self-concept and adjustment at the elementary school level. This was a longitudinal study of 2 years in which 346 children participated. The tool used for the assessment of children’s self-concept was _The Pictorial Scale of Perceived Competence and Social Acceptance for Young Children_. The behavioural, academic, and social-emotional procedures of school were used to assess children’s school adjustment. The children’s self-concept seemed to be relatively stable, whereas the decline in scores seemed to be unimportant practically. Statistical analysis showed that school adjustment of children mainly affected the academic aspect of self-concept.

The problem of this study was to determine and compare body figure perceptions and preferences among preadolescent children, grades 1 through 3. A cross sectional survey was conducted with 1,118 males and females, black and white children in 7 purposively selected public elementary schools in Indiana (Collins 1989). A pictorial instrument was developed, reviewed, pilot tested, and tested for reliability and validity. Subjects used the instrument to indicate perceptions of their own body figures and preferences for ideal figures in children and adults. ANOVA and t-tests were used to test hypotheses related to different in figure selections by gender, grade, race, and school/community setting. Though male and female selected similar current figures as self, female selected significant thinner figures as ideal
self than male selected. F also selected thinner ideal adult figures than male selected. Blacks chose heavier figures than whites, however, preferences for thinner figures occurred among female of both races. Preferences for thinner figures among female occurred across all levels of weight, age, race, and school/community setting. These results suggest than the onset of disparate figure perceptions and expectations regarding thinness among female may be evident as early as 6 and 7 year of age.

This investigation was designed to examine if coaches expectations regarding athletes performance abilities affect coach feedback communications and, in turn, influence athletes, self perceptions (Sinclair 1987). The coaches of 3 elite provincial female field hockey teams were asked to rank their athletes to determine high and low expectancy at pre, mid and post season. The feedback communications of these coaches were then recorded and categorized across the season to determine if difference feedback was given to high and low expectancy athletes. In addition, the athletes (n=41), ranging in age from 15 to 23 years, were administered questionnaire designed to assess changes in self perceptions over the competitive season. The self perceptions means in the study were perceived competence, self esteem, and sport confidence. A multi-variate trend (p<0.07) emerged with regard to difference between high and low expectancy athletes in relation to the type of coaching communications they received. Specifically, high expectancy athletes received more evaluative and specific feedback than low expectancy athletes. Low expectancy athletes, however, received more prescriptive feedback than high expectancy athletes. Finally, sport confidence was the only self perception found to change over the course of the season and the timing of feedback proved to be the only significant predictor of this changes. The expectancy effects found in the study are discussed in relation to the context of elite sport.
Forty nine male and female participated in the study conducted by Jones (1988). The experimental group consisted of 24 subjects who enrolled in the Brookings wellness program between June 1, 1987 and February 19, 1988. Twenty five matched control subjects who were similar in age and lifestyle were also recruited. The experimental and control groups were pre and post tested to determine initial and final values for VO2 max using two submax tests, the bicycle ergometer and Rockport fitness walking tests. The Tennessee self concept scale was administered during pre and post test sessions and measured the change in overall self esteem (total positive), self satisfaction, physical self, personal self, and social self. Experimental group subjects participated in the Brookings wellness program for 16 week. Control group subjects maintained their present lifestyle. 2 x 2 factorial ANOVA’s were performed on the amount of pretest to posttest change which occurred. Significant difference between the experimental group and the control group were observed for VO2 max on the bicycle test, total positive, self satisfaction, physical self, and weight change (p<0.05). The experimental group and control groups did not differ in terms of the degrees of change that occurred in VO2 max as measured by the Rockport walking test, personal self, and social self (p>0.05). It was concluded that participation for 16 week in a wellness program can significantly affect certain aspects of health related fitness and self concept.

Subjects for this study were 410 female and male employees of a large, multinational corporation. The questionnaire was comprised of standardized scales, modified scales and original scales. The subjects were classified into three groups, exercisers, occasional exercisers, and non exercisers based on the criteria of frequency, intensity and duration of physical activity (Hope 1988). Each subjects score was calculated for each of the following predictor variables: internal, powerful others, chance, self esteem, perceived estimation of physical ability, childhood sport interest, peer influence,
spouse influence, access to facilities, health value age, number of children, education, income, and body mass index. To test the seven hypotheses the SPSSX discriminant program was used to analyze the data. The 7 discriminant function analysis were significant (p<0.001). The stepwise discriminant function analysis revealed 9 variables which significant (p<0.05) discriminated between exercisers and non exercisers. Exercisers, in order of magnitude, had greater peer influence. Higher perceived estimation of physical ability, higher education, fewer number of children, lower self esteem, higher childhood sport interest, lower body mass index, lower income level and higher HE value than non exercisers. The accuracy of classification was 82%. The stepwise discriminant function analysis for female exercisers and non exercisers produced 8 significant (p<0.05) predictor variables. Female exercisers had higher education level, greater peer influence, higher childhood sport interest, greater access to facilities, lower self esteem, lower body mass index, higher internal locus of control and higher income level than female non exercisers. The accuracy of classification was 92%. The stepwise discriminant function analysis for male exercisers and non exercisers disclosed 7 significant (p<0.05) predictor variables. Male exercisers had greater peer influence, higher perceived estimation, fewer children, lower income, lower body mass index, lower HE value and higher education than male non exercisers. The accuracy of classification was 81%.

Two classes of children (one fourth and one seventh grade) who were scheduled to attend a 5 day resident outdoor education program were matched with a control group (Duke 1968). The Piers Harris Self Concept inventory was administered before and after the resident program. Three bases of comparison were made, the total class, boys and girls, the control group vs. the experimental group, and the pretest vs. post test scores for each group, and the total inventory and individual factor (behavior, general and
academic status, anxiety, popularity, physical appearance and attributes, and happiness and satisfaction) scores which were identified within the inventory. The group means between tests increased significantly and in a positive direction in 30 cases. Significant changes occurred almost equally between the groups attending the outdoor education program and those remaining in the classroom.

The Tennessee self concept scale (TSCS) was administered to spring sport athletes at Springfield college prior to the start of the 1988 season (Mcneil 1988). 14 injured athletes were administered a post test self concept scale throughout the season. At the end of the season 14 non-injured athletes were randomly selected and administered a post test self concept scale. An ANCOVA was utilized for the 9 subscales of self concept, as measured by the TSCS, to compare the injured and non-injured athletes on the basis of adjusted post test mean self concept scores. No difference (p>0.05) were found between the two groups in any of the self concept subscales tested.

This research examined the leadership role of the high school basketball coach using French and Raven’s (1959) theory of social power (Kreisel 1988). French and Raven postulated that leaders influence their followers using 5 basic forms of power: reward power, coercive power, expert power, legitimate power, and referent power. on the basis of previous research, it was hypothesized in this study that athletes would perceive expert and legitimate power to be the major sources of power of the coach, followed in turn by referent, reward and coercive power. additional hypotheses postulated positive relationships between expert and referent power and the reported satisfaction that athletes had with their sport, their coach, and their personal performance. It was hypothesized that reward and legitimate power would be unrelated to sport satisfaction, positive related to coach satisfaction.
and negatively related to performance satisfaction. Negative relationships were predicted between the reported satisfactions and predicted between the reported satisfactions and coercive power. The subject population for this study consisted of the players from 15 Edmonton high school male basketball teams. Participants from each team were tested as a group at their school. They completed a questionnaire under controlled classroom conditions. 130 of the 159 eligible players participated in the study, yielding an 81.8% response rate. 2 sets of scales were used to measure social power. one set arranged single item descriptors of each form of power into a Thurstonian paired comparison inventory. The other set arranged multiple descriptive statements of each form of multiple descriptive statements of each form of power in a Likert scale format. In evaluating the first hypothesis, both means found expert power to be the major source of power emphasized by coaches. The Likert data, however showed reward power to be second overall, followed in turn by legitimate, referent and coercive power, while the Thurstone data showed legitimate power as being second, followed in turn by referent, reward and coercive power. The Likert measures of expert reward and referent power were positive r with athletes reported satisfaction with the sport and with the coach. In addition, significant positive relationships were found between legitimate power and satisfaction with the coach, and reward power and satisfaction with the coach. And reward power and satisfaction with personal performance.

The purpose of this study was the construction and validation of a reliable instrument to gauge the level of exhibited aggression by NCAA division I basketball players (Georgiadis 1988). A checklist was developed enabling trained observers to identify and record exhibited types of aggressive behaviors. The instrument was used to document 2 types of aggressive behaviors: 1) physical aggression against opponents, determined by the amount and type of body contact exhibited, and 2) behaviors accompanying
competed offensive or defensive basketball plays, which may or may not involve body contact but are significant to the game, demand the employment of aggressive characteristics, and indicate the productivity of the physically aggressive behavior. The study was organized around the following 4 factors: 1) instrument construction 2) administration 3) assessment of validity, and 4) reliability assessment. The instrument construction phase dealt with the construction of the Gerogiadis basketball aggression inventory (GBAI). The GBAI was devised by incorporating contributions from: a) existing theoretical frameworks, and b) reviews of related instruments. The administration phase was composed of 4 steps: 1) development of the GBAI checklist; 2) selection of subjects who were the starting 5 players at the University of IL at Chicago men’s varsity basketball team, 3) the procedures for administration in which 8 trained observers, trained by the investigators, tested the instrument in 4 games; and 4) the data analysis in which a formula adopted by Worrell and Harris (1986) was used to compute the final aggression scores. Construct validity of the instrument was demonstrated by predicting scores under varying circumstances. Aggressive scores were predicated. They were higher when the observed player was playing defense compared to the guards. Content face validity of the instrument was obtained by having 4 sports psychologists rate, on a Likert like scale, the body contact category of the GBAI. An average score of 4.15 on a 5.0 scale was obtained for the 29 out of 30 questions on the validation form. 5 head basketball coaches rated the basketball plays category of the GBAI on a Likert like scale. An average score of 4.80 on a 5.0 scale was obtained for all the questions on the coaches validation form. Spearman’s rank order r was used to calculate the objectivity internal consistency of the GBAI. A 0.97 coefficient was obtained giving statistical significance at the 0.01 level. Test retest reliability was established by having 3 observers rate aggressive behaviors captured on video tape over time.

Axpe, Goni and Infante conducted a study to evaluate the efficacy of six-week educational program on physical self-concept. This study was carried
out in classrooms of university sports and physical activity faculty. The control and experimental groups comprised of 41 and 45 study participants respectively. The questionnaire named Autokontzeptu Fisikoaren Itaunketa/Physical Self Concept Questionnaire i.e. AFI was given pre intervention and post intervention. The results showed statistically significant improvement in post-test scores of experimental group on General physical self-concept, condition, strength, and attractiveness scales. Whereas control group did not show any statistically significant changes.

The purpose was to determine the effects of cohesion on team performance of women’s basketball teams as measured by won-loss record (Spieth 1981). 21 women’s junior college basketball team members (n=163) were used. The sports cohesiveness questionnaire results were correlated with % wins. 10 statements from the questionnaire were completed by each subject. The highest r was between sense of belonging and membership importance. Other variables which correlated well with each other in a cluster fashion included affiliation, sense of belonging, teamwork, and cohesion. Utilizing a multiple regression analysis, variables that dealt with teamwork and sense of belonging were most significant. Variables of affiliation and friendship were next in importance. The standard regression item also supported the same results. Negatively marked coefficients, friendship and teamwork, were both associated with winning teams. Variables of affiliation and sense of belonging were marked positively and were associated with losing teams.

Short and Short conducted a study to compare the coaches’ self efficacy with the help of their athletes’ perceptions of coaches’ efficiency. Coaching Efficacy Scale was used to measure coaching efficacy of the coaches. 76 football players and 9 coaches of the same team were included in this study. It was observed that the coaches were having high confidence in their
abilities of coaching. 7 out of 9 coaches rated themselves more than athletes’ ratings, whereas, for the remaining 2 coaches, the athletes’ ratings were higher than the ratings of coaches regarding their efficacy. All the ratings of coaches’ were within 95% confidence interval on the basis of athletes’ scores of coaches’ efficacy. Interplay among coaches and athletes efficacy beliefs and its influence on behaviour.

Guedes and Netto (2013) designed a study to identify motives for participation in sports in 1,517 young athletes of Brazil based on age, sex, and training history. The age group was between 12-18 years including both girls and boys. Participation Motivation Questionnaire (Portuguese version) was administered to identify sport participation motives. The results revealed that the Skill Development and Fitness was the most important motive and Fun and Achievement/Status was the least important motive. Age, sex, type of sport, duration of training, onset of training, competitive experience, training volume influenced the motives significantly as reported by athletes. The results of this study will help in establishing intervention programs which are designed to minimize sports dropout rates of young athletes.

Subjects were 85 female athletes: 34 individual sport participants and 51 team sport participants (Lacry 1980). the team sport group activities were lacrosse (n=23), softball (n=18), and basketball (n=10). The individual sport group activities were swimming (n=11), gymnastics (n=10) and track and field (n=13). Competitive trait anxiety levels were assessed through the use of SCAT. Locus of control factors were measured by use of Rotter’s LOC inventory. Pearson r was used to determine relationships, one way ANOVA, and the Scheffe’s multi-comparison follow up tests were used to compare the individual and team sport athletes on trait anxiety and locus of control.
No relationships were found between the competitive trait anxiety levels and the LOC factors. Athletes competing in track and field had significantly higher scores on the SCAT than athletes participating in basketball and in softball.

Solberg (2009) examined relationships among characteristic of personal goals, perceived autonomy support from coaches, and emotional wellness from perspective of self determination theory in ninety five elite athletes from Greco-Roman Wrestling, Track and Field, Power Lifting, and Taekwondo. These elite athletes represented their countries in their respective sport. An idiographic approach was performed to measure autonomous, controlled reasons, personal goals, extrinsic and intrinsic contents. Sport Climate Questionnaire was used to assess coach’s perceived autonomy support. Positive and Negative Affect Schedule was used to assess subjective emotional wellness. Path analysis using LISREL was performed and it supported the entire hypothesis.

52 children age 4-6 years were randomly assigned into experimental and control groups (Nolan 1988). Subjects were pre and post tested for self concept and perceptual motor ability using Martinek Zaichowsky self concept scale and Cratty six category gross motor test. The experimental group engaged in an 8 week perceptual motor program for ½ hr each school day. ANCOVA showed no significant difference for overall and subtest self concept. ANOVA showed a favorable significant change in experimental group subfactors of satisfaction, happiness, personality traits and emotional tendencies. There was no significant difference between groups in overall perceptual motor performances. There were significant changes in subfactors of balance, body perception and locomotor agility. In the experimental group, a low r was found between both overall post test scores.
The study partially supports the position that changes can occur in specific self concept as a result of perceptual motor performance.

The psychological factors such as poor self concept, aggression and anxiety have detrimental effects on sports performance. Smith (1986) conducted a study among 208 sports participant and non-participant with a view to find out the relationship between self concept of athletes and non athletes. The participants were 3rd to 6th grade students from lower, middle and urban backgrounds. All the subjects were team sport participants. Self concept questionnaire was administered for all the subjects and three factor analysis of variance revealed that self concept among sports participant was higher than the non participants.

Sundgot-Borgen and Torstveit (2004) conducted a 2-step study to evaluate the prevalence of bulimia nervosa, anorexia athletic, anorexia nervosa, and eating disorders in both female and male Norwegian elite athletes. General Norwegian population was selected as control group. The researchers conducted clinical interview and used self reported questionnaire to examine the various eating disorders. 1696 subjects were included in control group and 1620 subjects were assigned to experimental group and were evaluated for prevalence of eating disorders. It was observed that the greater number of athletes had clinical or subclinical eating disorders as compared to the control group. Eating disorders were prevalent in male athletes of antigravitation sports as compared to the ball game and endurance sport athletes. In females, prevalence of eating disorders was higher in athletes playing in aesthetic sports as compared to technical, endurance, and ball game sports. Athletes showed higher prevalence of eating disorders than control group. Female athletes had higher prevalence of eating disorder than male athletes. Also, eating disorders were common in athletes competing in
weight and leanness dependent sports than other sports. It was suggested that athletic trainers, coaches, parents, athletes, and physicians should make a collaborative effort in order to recognize, prevent and treat eating disorders in athletes.

The complexity of life as a student in an outdoor-based, residential school was examined to determine its effect on the self concept of students during their first year of residence (Wood 1988). Earlier research has indicated that an optimal level of student self concept is highly correlated with other personality and behavior characteristics such as achievement, satisfaction and social adjustment. Recognizing these possibilities, outdoor education and outdoor pursuits program have been established privately, and in most physical education courses in schools and universities. The St John’s school of Alberta program is based on a belief in the value of meaningful work, and the outdoor, acd and work program give the boys an opportunity to respond to numerous challenges. The school contends that the interaction of outdoor adventure, acd excellence and spiritual growth, in a disciplined residential environment, positive effects the self concept of its students. The present research explored the reality of the schools contention. In a pre mid post design using the TN self concept test (TSCS), self concept scores of the total sample of 35 new male students over a 10 month period demonstrated no statistically significant change, although a slight negative change was reported overall. Grade 8 (n=9) student self concept scores dropped in all self concept dimensions, while grade 10 scores (n=5) showed consistent, positive trends in self concept change. Instructor observation forms (IOF) were used to record student behavior changes over the research period, and although showing a significant positive change, indicated no relationship between self concept and behavior. Qualitative data collected in research field notes of in schools and outdoor trips, and interviews with subjects, parents and staff indicated both positive and negative individual responses to
the school environment. The present study reported that although large individual changes in self concept occurred, overall, the program did not effect a positive change in student self concept over the students first school year at the St John`s school. Although not intended to be generalizable, the present case study, using both qualitative and quantitative methodologies, offers an understanding of the relationship between private, outdoor based residential school programs and group and individual self concept change.

Korten and Henderson (2000) conducted a survey to examine distribution of psychological symptoms and its associated disablement in Australian population. The status of mental health of a population can be represented by symptom scales and case prevalence rates. Sub-syndromal distress levels can be identified with the help of scales. Sub-syndromal levels may be commonly found and generally associated with substantial disability. 10,641 individuals from households of Australian population were surveyed. The surveyed population, representative of adult population, was interviewed using completed scales and Composite International Diagnostic Interview measuring recent disablement and symptoms. Symptom scales revealed similar relationships with socioeconomic variables like diagnoses, however, very small degree of variance in symptoms was explainable by these variables. Considerable amount of disablement was found to be associated with level of symptoms, showing distress but not statistically significant. Parsimonious measures related to psychological distress were provided by symptom scales, and were found to be appropriate for large scale survey of disablement and mental health.

Byrne and McLean (2002) conducted a similar study to evaluate prevalence of disorders related to eating in Australian population of both females and males elite athletes and non-athletes. 263 study participants were assigned to
experimental and control group each. The subjects of experimental group represented various sports. The study participants were asked to complete various self-report questionnaires and were interviewed by using Composite International Diagnostic Interview. The athletes, both female and male, who competed in sports which required lean body shape or weight showed highly significant prevalence of eating disorder symptoms and eating disorders as compared to non-athletes and athletes. Results also revealed that athletes had higher prevalence of disorders related to eating as compared to non-athletes. The athletes are continuously under pressure to have a thin body shape or to maintain low body weight. Therefore, it was revealed that this is the main reason of high prevalence of eating disorders among elite athletes.

Martinsen and Sundgot-Borgen (2013) examined the prevalence of disorders related to eating in male and female adolescent elite athletes and nonathletic subjects as controls. They carried out a 2-phase study which included clinical interviews and a self-report questionnaire. Athletes from 16 Norwegian Elite Sport High Schools and randomly selected two high schools were asked to participate. Experimental group consisted of 611 athletes whereas control group had 355 non-athletes. The study participants from both the groups completed questionnaire. The study participants symptoms which were associated with eating disorders were categorized as —at risk‖ for eating disorder. In second phase, all the athletes —at risk‖, random sample of 50% of controls categorized as —at risk‖ and sample not —at risk‖, along with a random sample categorized as not —at risk‖ were asked to attend the clinical interview in order to screen for eating disorders i.e. meeting the criteria of Diagnostic Statistical Manual of Mental Disorders questionnaire for bulimia nervosa, anorexia nervosa, or eating disorders-NOS. In first stage, lesser number of athletes were classified as —at risk‖ for eating disorder as compared to controls. No significant difference in prevalence of eating disorder was detected amongst females in less weight
sensitive and weight sensitive sport groups. The prevalence of eating disorder was found to be higher in adolescent and elite athletes as compared to control group and more in the case of females than males. Accurate prevalence of eating disorder can be determined with the help of clinical interview.

The problem of the study was to construct a valid and reliable instrument to measure the health knowledge of male freshmen college students in Saudi Arabia (Hashim 1988). Content for the instrument was derived from information contained in required health knowledge science textbooks used in HS and from American health knowledge tests. Items were prepared in English, then translated into Arabic. Steps included in the process were development of a table of specifications, construction of test items, formulation of specific instructions for test admin, and statistical analysis of the HE knowledge items. An initial compilation of 160 items arranged in 10 content areas was submitted for review to a jury of Saudi American experts in HE. Based on jury suggestions, a preliminary instrument was prepared and administered to 200 subjects at Um Al-Qura University in Saudi Arabia. Subsequently, a revised instrument was prepared and administered to subjects at King Saud and King Abdul Aziz University in Saudi Arabia. Analysis included item analysis, reliability estimation and descriptive statistics, as well as factor analysis.

Thomas, Dunn and Burns (2010) conducted a self-administered survey study to examine the benefits and perceived risks of illicit drugs that elite athletes associate with and to investigate the beliefs concerned with the impact of recreational drug use on the performance of athletes. 947 elite athletes were selected from eight national sports organizations of Australia and the Australian Institute of Sport. A self-administered survey was completed by
the study participants in the National sporting organization meets or competitions. The questions explored the perceptions of participants regarding the impact of illicit drug use on athletes’ physical performance. Risk perception on the performance of athletes due to illicit drug use was the main outcome measure. The results of this study revealed that the majority of athletes felt that illicit drug use will have a negative impact on athlete’s performance. Physical and mental functioning were the main perceived ill effects of illicit drug use on athlete’s performance. Few athletes believed that illicit drug use will not have any effect on physical performance if taken in moderation or during off-season. Short term effects such as mental and physical functioning were the main perceived risks associated with illicit drug use, however, no long term consequences were perceived by the athletes. Harm reduction strategies which can communicate the effects of illicit drug use to elite athletes in an effective and appropriate manner can be developed with the help of the findings obtained in this study.