CHAPTER – II
REVIEW OF LITERATURE

Review of the related studies which has already been conducted helps us in examining a particular topic in a more detailed and consolidated manner by taking into account the previous references of the work, research pursuits and experiments already undertaken in the same direction. We can continue further research work to add more relevant and valuable studies and their results for the further improvements, modifications and upgradations. Related literature also gives us an opportunity of gaining insight into the methods and procedures which had been adopted by the earlier researchers. It helps us in building a great empire on the foundations which have been laid by the earlier researchers. Without reviewing the related literature it is not possible for an investigator to proceed with the investigation in the proper direction. Thus, review of the related literature guide us like a lighthouse as it does on the seashores.

In this study, the investigator has made an earnest attempt to add a little more to the valuable work and contribution of earlier scholars in the field of sports psychology particularly with regard to the selected socio-psychological variables selected for the present study. The abstracts of the relevant research work relating to the selected variables have been presented in this chapter

EMOTIONAL INTELLIGENCE

Lewis, Sullivan, and Vasen (1987) carried out a study on emotional intelligence of young children and suggested that the ability
to make faces that appropriately communicate an emotion to others as well as the ability to recognize those facial expressions in turn increases linearly with age. Children as young as three years are able to pose voluntarily a facial expression suggested to them by an adult. Profyt and Whissel (1991) found that at about four years of age, children can identify correctly the emotion suggested by about half of the faces that they see. By six years of age, they were able to correctly identify nearly every presentation seen by them.

Lane and Schwartz (1987) have proposed that there are systematic individual differences in the maturity with which feelings are processed. Drawing on a Piagetian view of cognitive development as an analogy, they proposed that individuals respond to emotionally evocative events in one of five different ways with: (i) physiological sensations, (ii) body actions, (iii) undifferentiated feelings, (iv) differentiated emotions (blends of feelings), or (v) multiple differentiated emotions (blends of feelings), depending upon the level of emotional maturity that they have attained.

Salovey and Mayer (1990) suggested a framework for understanding emotional intelligence by stating that it is a set of skills expected to contribute to the accurate appraisal and expression of emotion in oneself and in others, the effective regulation of emotion in self and others, and the use of feelings to motivate, plan, and achieve in one’s life. The emotional intelligence framework suggested that there may be individual differences in people’s abilities to exert effective control over their emotional lives.

King and Emmons (1990) have developed a scale that measures ambivalence regarding emotional expression i.e. the Ambivalence Over Emotional Expression Questionnaire (AEQ). This
scale contains 28 items that are best characterized by a single, reliable ambivalence factor. Individuals who are less ambivalent about their emotional expressiveness seem to report greater happiness than those who express a variety of fears about emotional expression. Individuals who report inhibition to express emotion and being unable to do so or expressing emotion but later regretting it are more likely to feel negative affect and have a variety of psychiatric symptoms such as obsessive – compulsive tendencies, depression, and anxiety.

Bar-on (1997) describes the development of the concept of emotional intelligence, its operationalization, quantitative description and standardization as an emotional intelligence test. He proposes that the EQ-I presents a different definition for the concept of psychological well-being and the personality factors involved in it. The EQ-I was administered to an Argentinean sample and compared to those obtained in other countries, in order to examine the various personality factors regarded as components of mental health. Small differences between American, German, and Argentine, populations, in both male and female samples, demonstrate the similarity of those cultures in comparison to samples from other African and Asian countries, where a larger difference was found. In general, it was suggested that a better ability for problem solving and for managing stress, more impulse control and a more positive attitude towards oneself and others imply greater enjoyment of life, resulting in psychological well-being.

Koifman (1998) investigated the relationship between Emotional Intelligence (EQ) and Cognitive Intelligence (IQ), and relationship to creativity was also examined. The EQ-I was used as a measure of emotional intelligence, grade point averages as a measure of IQ, and
the Jackson's Innovation Scale, as a measure of creativity. EQ was significantly correlated with reported life satisfaction ($r=0.55$, $p<.001$) and creativity ($r=0.41$, $p<.001$). No significant correlation was found between IQ and creativity or IQ and EQ.

Sitarenios (1998) in his preliminary analyses investigate whether emotional intelligence (as measured by the EQ-I) contributes to the ability to identify “star” hockey prospects from other prospects. The sample was small (n=15) and therefore the results are highly preliminary. The largest differences were found in the areas of Problem Solving, the General Mood composite, and the General Mood subscales of Happiness and Optimism. Differences between the groups when skill rating is taken into account suggest that EQ-I scores can be used in combination with other ratings to refine player assessment and to help identify the star performers.

Sosik and Megerian (1999) conducted a study the purpose of which was to examine whether self-awareness of managers (defined as agreement self and other leadership ratings) would moderate relationships between (a) aspects of emotional intelligence and transformational leadership behavior, and (b) transformational leadership behaviour and managerial performance. Multi-source data were collected from 63 managers (who responded about their emotional intelligence and transformational leadership behaviour), 192 subordinates (who rated their manager’s transformational leadership behavior and performance outcomes), and 63 superiors of focal managers (who rated managerial performance). Results indicated that correlations between emotional intelligence aspects, leader behaviour, and performance varied as a function of self-awareness of managers.
Reker and Parker (1999) used the Bar-On EQ-I to examine the relationship between parent and child’s emotional intelligence, as well as the relationship between child’s emotional intelligence and both internalizing and externalizing problem behaviors. A significant but low association was found between the mother and father’s emotional intelligence level. However, only the mother’s level of emotional intelligence was significantly related to the child’s emotional intelligence. Emotional intelligence in children was found to be a moderate to strong predictor of both externalizing and internalizing problem behaviors.

Malck (2000) investigated the relationship between emotional intelligence and collaborative conflict management style using the Emotional Quotient Inventory (EQ-I) and the Thomas-Kilmann Management of Differences Exercises (MODE) Instrument. Participants were 98 employed individuals (the majority in management or professional positions) from metropolitan areas of California. A statistically significant relationship was found between scores on the EQ-I and scores on collaborative conflict management style ($r=.207, p<.005$).

Newsome and Catano (2000) examined whether the EQ-I would account for variance in academic achievement scores after controlling for individual scores on a measure of cognitive ability (the Wnderlic Personnel Test). Given the evidence for a significant correlation between scores on the EQ-I and measures of personality, individual scores on a personality measure (16PF) were also controlled. No support was found for claims of emotional intelligence’s ability to predict academic achievement. On the other hand, both cognitive ability and personality (extraversion and self-control) were significantly associated with academic achievement.
Dawda and Hart (2000) evaluated the reliability and validity of the EQ-I in a sample of university students in the context of a larger program of research examining association between emotion and personality. The EQ-I scores were correlated against the NEOFFI (which measures Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness), the Beck Depression Inventory, Intensity of Affective Experience, the Symptom Checklist Somatization scale, and Alexythymia. The convergent and discriminant validities suggested that the EQ-I taps a fairly broad range of related emotional constructs. The Interpersonal Scale, however, had relatively small correlations with the other EQ composite scales, as well as a different pattern of convergent and discriminant validities. In general, the EQ-I scales show a similar pattern of validity results for men and women, providing preliminary evidence for a lack of gender bias. Based on these results, it is suggested that the EQ Total score may be a good overall index of emotional intelligence.

Parker and Bagby (2001) examined the relationship between the alexithymia construct, as measured by the Toronto Alexithymia Scale (TAS-20), and emotional intelligence, as measured by the EQ-I in a sample of 734 adults. The main purpose was to determine if the total score of the TAS-20, and the scores from each of its 3 factors, are distinguishable from the total score of the EQ-I. The results revealed that the constructs overlap and are inversely related. Significant negative correlations were obtained between the TAS-20 and its 3 factors and the Adaptability and Stress Management factors of the EQ-I. These results raise the possibility that high emotional intelligence might be a protective factor for mental and physical health.
Mayer (2001) examined the psychological activities of the past century and defined the emergence of EI into five periods. Separate Narrow Fields, Precursors to EI, Emergence of EI, Popularization and Broadening of EI, and Research and Institutionalization of EI. It can be noted that the two concepts, emotions and intelligence, were contained in separate domains, and that the convergence of the two is a recent activity. Examination of the interaction did not begin until the 1970s.

Rahim et al (2002) investigated the relationships of the five dimensions of emotional intelligence: self-awareness, self-regulation, motivation, empathy, and social skills of supervisors to subordinates’ strategies of handling conflict: problem solving and bargaining. Data (N=1,395) for this study were collected with questionnaire from MBA students in seven countries (U.S., Greece, China, Bangladesh, Hong Kong and Macau, South Africa, and Portugal). Psychometric properties of the measures were tested and improved with exploratory and confirmatory factor analysis and analysis of indicator and internal consistency reliabilities, and the hypotheses were tested with a structural equations model for each country. Results in the U.S. and in the combined sample provided support for the model which suggests that self awareness is positively associated with self-regulation, empathy, and social skills; self regulation is positively associated with empathy and social skills; empathy and social skills are positively associated with motivation; which in turn, is positively associated with problem solving strategy and negatively associated with bargaining strategy.

Taylor (2002) evaluated Canada’s top 25 corporate personnel using EQ-I and 16 PF. Results were contrary to stereotype, and
provided a description of the key characteristics of the group, including independence, sensitivity and private introversion, creative / abstract thinking, and high IQ. Findings indicated a clear pattern of higher than average emotional intelligence. Highest scores were obtained for independence, optimism, reality testing, and stress tolerance. Motivating factors for their success included self-actualization, achievement, recognition, and fair competition. Possible areas of weakness were workaholism, difficulty working as a team player, and unreasonable demands on others. Overall, the keys to success in litigation were identified as independence, optimism, a good sense of reality, endurance / stress tolerance, creative thinking, and sensitivity and caring about others.

Mayer, Salovey and Caruso (2002) described the ability model of EI as mostly a unitary concept, sub-divisible into four levels and branches. It begins with the first branch, perception and expression of emotion, which involves identifying and expressing emotions in one’s self and in other people. The second branch assimilating emotion in thought, involves using emotions to improve thought. Branch three, understanding and analyzing emotion, involves using thought to process emotions. The final branch, reflective regulation of emotion concerns emotional self-management and management of emotions in other people.

Slaski and Catwright (2002) in their investigation had found that high EI is associated with positive health behaviours and vice-versa, low EI is associated with negative health behaviours. Individual with high EI were more likely to experience better health and well being, more likely to seek help and fellow advice of health professionals, and more likely to resist pressure in connection with risky. With behaviour
such as smoking (Thrinidad and Johnson, 2002). Psychological emotions detrimental to health, such as distress and depression, have been found to be negatively correlated with EI (Dawda and Hart, 2000).

Singh (2002) conducted a study with the objective to ascertain empirically whether different professions require different levels of emotional intelligence or not. Further, the aim was to grade the professions in descending order of EQ. The EQ test developed by Chadha (2001) was used to collect data. The test contains 15 situations measuring different emotional responses and their blends. A list of 27 professions was drawn up by four experts in psychology from Panjab University, Chandigarh. It was decided to study as many professions as possible. After analyzing various professions on the basis of emotional intelligence required, job requirements, job profile, stress experienced, and internal and external psychological factors, these experts decided to retain 18 professions in the study.

Feyrherm and Rice (2002) in his research investigated the relationship among a team’s EI, the team leader’s EI, and team performance. Using the three components of Salovey and Mayer’s (1990) conception of emotional intelligence: understanding emotion, managing emotion, and identifying emotions, the study assessed the EI and performance levels of customer service teams and their leaders. Of the three components of EI studied, only understanding emotion and managing emotion positively correlated with some measures of team performance.

Wolff and Pescosolido (2002) present and test a theory on leader emergence in self-managing teams that highlights the emotional and cognitive skills underlying selection as an informal team
leader. They build on current theory by hypothesizing that 1) specific cognitive processes and skills precede an informal leader's appropriate enactment of constructive task and team management behavior by facilitating an accurate analysis of the task situation and skills by providing an accurate understanding of team and member emotions and needs. In a longitudinal study of teams, the authors found partial support for their theory.

Nikolaous and Tsaousis (2002) explored the relationship between EI, as measured by EI Questionnaire (EIQ), and sources of occupational stress and outcomes in a sample of professionals in mental health institutions. The results showed a negative correlation between EI and stress at work, indicating that high scores in overall EI suffered less stress related to occupational environment. A positive correlation was found between EI and organizational commitment, suggesting a new role for EI as a determinant of employee loyalty to organisations. The authors propose that EI and organizational commitment may work together to reduce occupational stress. He also suggest that employees might benefit from EI as part of an organized management program.

Parker (2002) examined the relationship between emotional intelligence and academic retention in a longitudinal study involving 870 1st year students at Trent University. Students completed the EQ-I: Short in the fall of 1st year. Two groups of students were subsequently identified: a) those who became 2nd year students at Trent, and (b) those who did not. The two groups were matched on age and gender, and did not differ in high school grade-point-average or course load in 1st year. Academic success (staying in university) was strongly associated with emotional intelligence. Emotional
intelligence scores were able to correctly identify the majority of students who would return for their second year. Furthermore, EI scores were even better at identifying those students that would abandon post-secondary education altogether, in comparison to transferring to another institution.

Derksen (2002) assessed that the divergent validity of the General Adult Mental Ability Scale (GAMA), a non-verbal measures of general intelligence, and the EQ-I. Participants (N=873) were drawn from a Dutch population and ranged in age from 19-84 years. Correlations between the scales of the EQ-I and the GAMA were low, both across and within gender. Correlations varied with age, decreasing up to middle age, and then increasing in older age, and the Interpersonal component scale consistently correlated negatively with IQ. Results support the psychometric independence of the EQ-I and the GAMA.

Crick (2002) in his study explored the relationship between emotional intelligence, social competence and success in 31 male and 89 female 14 to 17 years old, using EQ-I: YV, and the Social Skills Rating System – Secondary Student Form (SSRS). Students were categorized as Leaders, Joiners or Non-Joiners of school clubs or organisations. Female leaders exhibited higher Total EQ, Interpersonal, Interpersonal and Adaptability scores in comparison to the normative sample, while male leaders exhibited higher Adaptability scores than the normative sample. Significant mean score differences existed between the emotional intelligence scores of Leaders, Joiners, and Non-Joiners. Emotional intelligence was not shown to increase with age. Teachers ratings of social skills were significantly higher for leaders than for Joiners and Non-Joiners.
Rozell et al. (2002) explored the measurement of emotional intelligence (EI) using a comprehensive scale to tap the construct. Using a sample of 295 undergraduate business majors from a midwestern university, an exploratory factor analysis was performed to examine the factor structure of the scale. Based on the factor loadings, the scale was reduced to 51 items with five factors emerging. Student demographics revealed that accounting majors rated lower on EI as compared to other majors. Results also indicated that higher EI scores were associated with membership in Greek organisations, and involvement in sports organisations. It was also found that international students rated lower on the EI measure as compared to domestic students. Finally, several of the factors within the scale were shown to have a relationship to both cumulative GPA and university-specific GPA.

Zeidner et al. (2002) examined the development of emotional intelligence (EI) in childhood. It is proposed that ambiguities in conceptualizing EI may be resolved by distinguishing multiple levels of emotion-regulation processes. Temperament, rule-based skill acquisition, and self-awareness regulation are differentiated as potential sources of individual differences. They reviewed empirical studies that demonstrate multiple mechanisms linked to these levels. Temperament is shaped by genes, interacting with environmental influences such as pattern of infant-caregiver interaction. Early, language-dependent skill learning is governed by reinforcement and modeling process. Subsequent, insightful learning is influenced by emotional discourse with parents and others, and cultural factors. Cognitive abilities may also influence individual differences in emotional function. At the same time, the biological and socio-cultural
factors that influence EI interact in complex and interrelated ways. They concluded by proposing a tentative “investment mode” for emotional competencies in children that accommodates the multifaceted nature of EI. Lower level competencies may provide a platform for developing more sophisticated emotion-regulation skills, with competencies.

Gohm (2003) conducted studies to examine the difference as to how individuals (Ns = 250, 83, 236) experience their emotions (meta-emotion traits of clarity, attention, and intensity) which led to the identification of 4 distinct types (overwhelmed, hot, cerebral, and cool). When mood was manipulated, the types differed in how they initially reacted to the emotional situation, how they regulated their mood, and how they made judgments. In particular, one type of individual (the hot type) was more reactive to emotional situations than the others. Another type of individual (the overwhelmed type) regulated mood differently than the others, which led these individuals to make judgements that were also different. Overwhelmed individuals appeared unable or unwilling to avail themselves of critical affective information.

Slaski and Cartwright (2003) in his study investigated whether EI can be developed in managers, and if so, whether increased EI has a beneficial impact on health, well-being and performance. A sample of UK managers attended a developmental EI training programme once a week for four weeks. Pre and Post measures were taken relating to EI (measured by the Bar-On EQ-I and the EIQ), stress, and health and management performance. Findings showed that training resulted in increased EI and improved health and well-being. It was suggest that EI training may be useful in reducing stress and improving health, well being, and performance.
Parker et al (2004) explored the process of transition from high school to university for examining the relationship between emotional intelligence and academic achievement. During the first month of classes 372 first year full time students at a small Ontario University completed the short form of the Emotional Quotient Inventory. At the end of the academic year the EQ-I: Short data was matched with the student’s academic record. Predicting academic success from emotional intelligence variables produced divergent results depending on how the former variable was operationalised. When EQ-I: Short variables were compared in groups who had achieved very different levels of academic success was strongly associated with several dimensions of emotional intelligence. Results were discussed in the context of the importance of emotional and social competency during the transition from high school to university.

Petrides (2004) examined the role of trait emotional intelligence (‘trait EI’) in academic performance and in deviant behaviour at school on a sample of 650 pupils in British secondary education. Trait EI moderated the relationship between cognitive ability and academic performance. In addition, pupils with high trait EI scores were less likely to have had unauthorized absences and less likely to have been excluded from school. Most trait EI effects persisted even after controlling for personality variance. It was concluded that the constellation of emotion-related self-perceived abilities and dispositions that the construct of trait EI encompasses is implicated in academic performance and deviant behaviour, with effects that are particularly relevant to vulnerable or disadvantaged adolescents.

Meijer (2004) in his study used a structural equation model to examine the contribution of sleep duration and sleep quality on school
performance in the last two grades of elementary school. Intelligence, achievement motivation, and test anxiety were used as control variables. Mean age of the 153 children was 11 years and 7 months. The relationship with school performance has been modeled more explicitly by two latent variables ‘chronic sleep reduction and ‘eagerness’. ‘Chronic sleep reduction’ is indicated by three variables: usual time in bed during school days, bedtime at the weekend, and allowance to children to set their own bedtime. The latent variable ‘eagerness’ is related to debilitatory and facilitory test anxiety and it is influenced by the observe variable ‘sleep quality’. The relationship of chronic sleep reduction, eagerness, achievement motivation, and intelligence with school performance demonstrates that less chronic sleep reduction, greater eagerness, higher achievement motivation and intelligence give rise to a better school performance. The average contribution of each of these variables is 10%. Together, these variables explain 43% of the variance in school performance.

Parker (2004) studied the relationship between emotional competency and academic achievement in his school. Students attending a high school in Huntsville, Alabama completed the Emotional Quotient Inventory (EQ-I:YV). At the end of the academic year the EQ-I:YV data was matched with students’ academic records for the year. EQ-I:YV variables were compared between groups who had achieved very different levels of academic success. Academic success was strongly associated with several dimensions of emotional intelligence. Results were discussed in the context of the importance of emotional and social competency on academic achievement.

Colom and Lynn (2004) in their study observed that there are no sex differences in intelligence. However, Lynn (1994, 1999) had
formulated a developmental theory of sex differences in intelligence that challenges that view. The theory states that boys and girls mature at different rates such that the growth of girls accelerates at the age of about 9 years and remains in advance of boys until 14-15 years. At 15-16 years the growth of girls decelerates relative to boys. As boys continue to grow from this age their height and their means IQs increase relative to those of girls. This research work presented new evidence for the theory from the Spanish standardization sample of the fifth edition of the DAT. 1027 boys and 924 girls between 12 and 18 years were tested. The general trend showed that girls do better at the younger ages and their performance declines relative to boys among older age groups, which supports the developmental theory. The sex differences for the DAT as a whole for 18 years old is a 4.1 IQ advantage for boys, very close to the advantage that can be predicted from their larger brain size (4.4 IQ points). The profile of sex differences in abilities among the Spanish sample was closely similar to that in the United States and Britain, which is testimony to the robustness to the difference in these different cultures.

Petrides (2004) few constructs have grabbed attention with the intensity of EI. Scientific research still lags behind popular quasi-academic and commercial speculations. It roots go back to Thorndyke’s ‘Social Intelligence’ and Gardner’s Intra and Intern personal intelligences. Various descriptive models are composed of different components and many apparently conflicting findings. Measurement methods have varied – asking someone if they are good at abstract reasoning is very different from testing their abstract reasoning powers. Much of the early work investigated this personality trait as if it were a cognitive ability. Most of the instruments reported for measuring EI show a lack of a clear theoretical framework and usually
fail to cover the whole range of the construct’s domain. Many questions have no clear right or wrong answers making scoring extremely difficult. EI scores do, as expected, consistently show very low correlations with IQ. It was observed that the most concrete progress in study of EI is that trait EI is implicated in academic performance and behaviour at school with particular relevance to vulnerable or disadvantaged children and college students. He showed that low IQ pupils with high EQs did better at school than low IQ peers with low EQs. Low EI pupils were more often truants and excluded from school. But it must be understood that Trait EI and Ability EI are two distinct constructs, conceptually, methodologically and empirically.

Stubbs (2005) in dissertation examined the relationship between team leader EI competencies, team level EI, and team performance. In studying teams in a military organisation, the author found that the EI or team leaders was significantly related to the presence of emotional competent group norms on the team they lead, and that emotionally competent group norms are related to team performance. The author suggested that her findings support both the notion that leader’s EI affects the teams they lead and that team level EI affects team performance.

Locke (2005) in his study opined that EI does not meet the requirements to be considered an intelligence at all as he draws distinctions between cognition and emotion. He argued that the concept of EI is invalid both because it is not a form of intelligence and because it is defined so broadly and inclusively that it has no intelligible meaning. He distinguished the so-called concept EI from actual intelligence and from rationally, identified the actual relation
between reason and emotion, and then revealed the fundamental inadequacy of the concept of EI when applied to leadership. Finally, the author also suggested alternatives to the EI concept.

Sharma (2005) conducted a study the purpose of which was to examine the effects of training programme on the Mental Health and Emotional Intelligence of special children from the Blind Institute in Sector 26, Chandigarh and from Ludhiana. Institution for Blinds The total sample was divided into two equivalent groups i.e. experimental group and control group. The total subject were 80 within the age of 15 to 18 years. He found in his study that on the variable Emotional Intelligence, the post-test experimental group exhibited significantly higher level of emotional intelligence (p<0.01) and the experimental male and experimental female group were found to be having significantly higher level of emotional intelligence then the control groups.

Rathee (2005) in her research study explored the inter-relationship between Emotional Intelligence and Adjustment among sports and non-sportspersons. She had observed that emotional intelligence and adjustment were two such socio-psychological constructs which not only influence performance in sports and in the life itself, but in turn are also influenced by sports participation. To find out the inter-relationship between these two constructs, 100 female college students (50 sportspersons and 50 non-sportspersons) were administered the Sevenfold Emotional Intelligence Scale and the Adjustment Inventory for College Students. The results not only revealed a significant correlation between these two constructs but it was also found that sportspersons were significantly better than non-sportspersons on these two variables.
Hooda (2006) conducted a study to examine cognitive vigilance as related to emotional maturity among the participants of mass and class games. The subjects (N=120) were players from three mass games (i.e. football, cricket and volleyball) and three class games (lawn tennis, shooting and archery). The subjects were administered Cognitive Vigilance Test and Emotional Maturity Scale. She had found significant differences between mass and class games sportspersons with regard to cognitive vigilance. Within the mass male sports group she had found significant differences between the three sports disciplines on cognitive vigilance and emotional maturity. She had also found significant positive correlation between these two variables regarding the mass sports group.

Ziegelmann (2006) applying socio emotional selectivity theory to the domain of health, examined the interplay of socio-emotional and socio-cognitive predictors of physical exercise in two groups of people who perceived their remaining lifetime as either expansive or limited (based on subjective longevity ratings). Individuals (N=370) who were prescribed physical exercise were assessed after 6 and 12 months. Multigroup structural equation modeling showed differences in latent means, inter-relations of predictors, and amount of explained variance. Individuals who perceived their time as limited reported a less favorable profile on socio-emotional and socio-cognitive variables and less exercise goal attainment. This study provide insights on how health self-regulation differs in these groups, and avenues for intervention based on socio-emotional selectivity theory.

**SELF ESTEEM**

Prieto and Robbins (1975) in their study administered a battery of test protocols designed to estimate own and peer’s height on a 5
point likert scale among 69 male (12-15 years old). Although no relationship was found between the actual height of subjects and their self-esteem, positive and significant relationship were found between their own, peer’s and teacher’s perceptions of their height and self-esteem.

Mahoney and Finch (1976) undertook their investigation with a sample of 98 males and 129 females college students who responded to a standard self-esteem rating scale (Rosenberg Self-Esteem Scale) in addition to a body-cathexis questionnaire. Result indicated that body aspects previously considered most important to self-esteem are largely a function of the failure of previous studies to examine the role of suppresser variables. Body aspects stereotypically considered important contribute minimally to self-esteem level, and the total proportion of variance in self-esteem accounted for by body-cathexis was contributed by a small number of body aspects.

Bandura (1977) studied that developing psychological skills should lead to increased self-efficacy. Psychological skills assessed by the TOPS such as imagery and self-talk could be used to enhance self-efficacy provided the images and self-talk describe favourable performance accomplishments. Other psychological skills assessed by the TOPS included controlling negative emotions and relaxation skills. Emotional control and relaxation are skills that should assist controlling negative emotions. Bandura (1997) proposed that negative emotions could undermine self-efficacy. Additional factors assessed by the TOPS might also be associated with self-efficacy. The factor described as activation, which is characterized by the ability to increase energy might be a consequence or antecedent of self-efficacy. Likewise, automaticity, characterized by an autotelic state
might be a consequence or antecedent of self-efficacy. The TOPS is a 64 item measure of psychological skills. Exploratory factor analysis indicated an eight-factor solution for competition factors and an eight factor solution for training factors. Factors were common to training and competition except negative thinking for competition and attentional control for training. Items were rated on a 5-point scale anchored by never (1) to always (5).

Engelman et al (1982) in their study compared group therapy and yoga group participants for changes in self and body cathexis. The sample consisted of 45 subjects from non-body- oriented group therapy (mean age 38 years), 33 subjects from yoga group (mean age 25 years), and 42 control subjects (mean age 23 years). The subjects were asked to complete the Body-Cathexis and the Self-Cathexis Scales before, and ten weeks after the group meetings began. Results showed that yoga participants changed significantly more on self-cathexis and body cathexis. Therapy groups did not show significant body cathexis change in comparison to controls, but they did show significant positive self-cathexis change. To produce change in body concept and self-concept, group therapy is likely to be most effective when intrapsychic, interpsychic, and techniques involving the body were combined.

Balogun (1986) conducted a study with the purpose to determine the reliability of the Body Cathexis Scale (BCS) and the relationship between the BCS and the Tennesse Self-Concept Scale (TSCS) – subscales. A total of 50 female college students completed the TSCS once and the BCS twice. Finding suggested that the BCS was reliable and has a measure of construct validity. The BCS scores were significantly correlated with those on physical self, personal self,
family self, social self, and total self, but not with moral ethical self or self-criticism.

Powers and Frickson (1986) in their study examined the relationship among body image, body satisfaction, and self-image in 164 undergraduate women (aged 18-50 years). Subjects completed a body image silhouette Scale, verbal checklist, and body cathexis scale (child, adolescent, and current status), reported on their body size. Findings indicated that body image was not related to body satisfaction, but it was related to self-image. Subjects who perceived themselves as thin had the highest self-image scores. Findings suggest that young women have a tendency to view thinness, rather than arrange weight, as a goal to reach.

Boudreau (1988) examined in his study the differences in body satisfaction, self-esteem, depression, life satisfaction and outlook in four groups of women who were investigated using the body cathexis scale (Secord and Jourard, 1953), the Rosenberg Self-esteem Scale (1965), the Beck Depression Inventory (Beck et al 1961), the life satisfaction inventory – a (Neugarten et al 1961), and the outlook scale (Ferman and Aiken, 1964); women who did not have a history of cancer or a mastectomy (N=61), women with mastectomies who were not consulted regarding reconstruction (N=37) women who had consulted (N=37), and women with reconstruction (N=41) were assessed with these scales as well as demographic questionnaire, it was suggested that women with mastectomies for cancer were able to adjust to the loss of a breast by making “downward and comparisons” thereby enabling them to deny feeling of helplessness and hopelessness, and that these women felt in control by virtue of making feelings of helplessness and hopelessness, and that these women felt
McIntyre (1989) in his study examined the sex differences in the dimensions of self-esteem and body esteem, and the relationship of these differences to the cultural standard of body shape for college age men and women. Male (N=121) and female (N=109) students from two universities completed surveys in summer school classes. Results indicated that male students emphasized physical abilities and muscular size and strength in self-whereas female students were concerned with their aesthetic appearance and focused particular attention on their weight.

Foley's (1989) study was aimed to determine whether professional female fashion models differ from female non-models in how they perceive themselves and in how they perceive causality as related to events in their lives. Subjects consisted of 59 models and 60 non-models who were compared on the Body Esteem Scale and on measures of causality using the Causal Dimension Scale for eight scenarios involving successes and failures with men and women in social and work contexts. Results suggest that there were differences in how models perceive themselves and the causes for events in their lives as compared to non-models. The study concluded that women in general, and models in particular, may be socialized differently, with physical appearance stereotyping beginning early. The higher frequency of eating disorder symptoms for models may reflect the societal introjection of a "thinness at any cost" injunction.

Finkenberg et al. (1990) studied the effects of participation in Taekwondo on college women's self-concept. The experimental group contained 51 women enrolled in Taekwondo classes, and the control
group contained 49 women enrolled in 4 sections of general health courses. Pretests and posttests were administered in the first week of a semester and the last week of the semester. The Tennessee Self-Concept measuring self-concept was used as the instrument in this study. The questionnaire was used to assess perceptions of physical self, moral-ethical self, personal self, family self, social self, identity, self-satisfaction, and behavior. Support the test's reliability and validity. An analysis of Covariance was used to control statistically for initial differences in self-concept among subjects with the pretest scores as the covariant. The results indicated that significant differences were found on total self-concept and on sub-scale scores in physical, personal, social, identity, and satisfaction. Insignificant differences were found on moral-ethical, family, behavior and self-criticism scales. The authors concluded that the total self-concept and certain sub-scales were influenced by participation in an 8 weeks course in Taekwondo. This study supports the findings of who showed that students of martial arts were more self-confident than those without training. It also supports the conclusion that “it could be assumed that one or two months of karate training is sufficient to improve the typical student’s level of general self-esteem.”

Finkenberg and McCune (1993) investigated differences in self-reported scores on the Body Esteem Scale (BES) of college women and men who were participated in classes requiring vigorous or little physical activity respectively. The correlation between participation and body esteem was also examined. The BES was given to the subjects during the first and the last weeks of one semester. MANOVA indicated significant differences initially among the two groups of women on three subscales (Sexual Attractiveness, Weight Control, and Physical Condition), while mean for overall scores for body
esteem were higher for women in the vigorous activity group than in the comparison group. No significant differences were found at the later testing. Meanwhile, there were no significant differences on men at either testing.

Sonstroem an Salisbury (1993) conducted their study on Male (N=93) high-school swimmers from nine schools were evaluated at pre, mid and post-season using three self-perception scales for specific swim skills, perceived physical competence, and global self-esteem. A verity of relationships were revealed, some factors relating to performance at different times during the season. However, in general all three measures improved as the season of swimming participation progressed but at different times during the season. A high school competitive swimming experience produced positive psychological effects associated with self-perception in males.

McAllister and Caltabiano (1994) examined in their study the self-esteem of 60 women attending weight loss centers in relation to attitudes towards body and weight, actual weight, number of diets undergone, and weight fluctuations. The results indicated that there was no association between self-esteem and either eating restraint or significant other’s attitudes. However, the study found that women with stable weight had the highest self-esteem where as women on diets were indicated having low self-esteem.

Campbell and Jones (1994) found that a growing number of persons with disabilities are involved in sports. The health benefits one receives from exercise is a proven fact. Physical benefits are not the only benefits obtained. Psychological benefits have become just as important. This article investigated the psychological well-being of wheelchair sport participants wheelchair nonsport participants. It also
researches the influence of competitive level on the psychology well-being of wheelchair sport participants well-being was evaluated by considering mood, trait anxiety, self-esteem, mastery and individual self-perceptions of health and well-being. Subjects were 93 wheelchair athletes and 29 persons with a disability who did not complete in sports. Mood trait were measured by POMS 65 word adjective, self report questionnaire. Trait anxiety was measured by the state trait Anxiety Inventory. Trait anxiety will measure how one deals with stress. The Rosenberg’s self-esteem scale was used to find results to one’s self-esteem. Mastery or being in control of the important forces that effect our life, was measured by Pearlin and Schooler’s (1978). Seven item scale, lastly, health and well-being were measured by the author’s own questions. The questions had to be rated on a point likert -type scale. Questions related to the “I am healthy” statement. Results showed that athletic participants scored better on the POMS in the area of tension, depression, anger and confusion but worse on vigor compared to the non-athletes. There was a significant greater level of mastery by those who participated in sports and a significant indication that participants in study focused on well being of athletic participants as compared to elite athletes. The higher the competitive level of the athlete, the better the athlete scored on the tests. The results give support to the hypothesis that exercise and competitive athletics can be just as beneficial to the psychological well-being as the physical well-being.

Gauvin and Spence (1996) indicated that the presence of high self-esteem or self efficacy beliefs has been demonstrated to be factors in determining whether an individual will elect to participate in an exercise programme. The research indicated that exercise adheres report higher levels of efficacy beliefs about their ability to adhere to
exercise as well as their physical proficiency in exercise activities. The studies utilizing the physical self perception profile successfully demonstrated that positive self-worth showed a relationship between global self-esteem and the sub-domain levels of sports confidence, physical conditioning, attractive body image, and strength.

Theodorakis (1996) investigated the effects of goal-setting, commitment, self-efficacy, trait-efficacy, ability, and self-satisfaction on tennis performance. Undergraduates (N=48; aged 19-23 years) enrolled in physical education tennis classes performed four trials of a specific service task, and set personal goals before the third and fourth trials. The psychological variables of self-efficacy, self-satisfaction, and commitment, were assessed before each trial. Results showed that ability, self-efficacy, goal-setting, and goal commitment were predictors of performance at the various stages of the experiment. Personal goal setting was affected by level of ability, as well as by perceived self-efficacy and satisfaction. Self-efficacy and goal commitment were direct as well as indirect determinants of performance. Even with low-standard performers, self-efficacy, goal setting and commitment to achieving goals influenced performance.

Sliobounov and Adams (1997) studied movement variability, self-efficacy, self-evaluative reactions, and expert evaluations of springboard dives in Olympic athletes. It was found that the more difficult an intended dive, changes in factors occurred. Specifically, self-efficacy declined with an increase in difficulty and preparatory movement variability also declined with dives that are more difficult. As practice progressed, self-efficacy and accuracy of self-evaluative reactions increased. As dives were practiced, no matter what their degree of difficulty, self-efficacy for performing the dives improved over the course of the practice set.
Self-evaluation increases indicated that the divers became more satisfied with their performance as the practice set progressed. The nature of athlete’s self-evaluations was marginally consistent with those of the coaches’ evaluation (r=.68). High level athletes appeared to “try harder” at practice, the more important the practice item. This was demonstrated by reduction in physical performance variability with increased skill difficulty with repetitive success at practice items and athlete’s self-efficacy and self-evaluations.

Boyd and Hrycaiko (1997) examined relation more directly of pre-adolescent and adolescent females revealed that the pre-adolescent low self-esteem and low physical self-concept groups derived the greatest benefit from the physical activity intervention. The purpose of the study was to examine the effects of a physical activity intervention package which involved a six-week structured exercise program on the self-esteem of pre-adolescent and adolescent females. They hypothesized that a physical activity intervention would positively affect physical self-concepts and global self-esteem of low-esteem early and pre-adolescent subjects. Upon examination of the intervention package of self-esteem, ranked on the basis of total self-concept, the impact was significant only for the physical appearance of self-concept for the pre-adolescent girls. With respect to the pre-adolescents, partial support for the hypothesis was made since this group experienced significant changes in global self-esteem. However, the results for the early and middle adolescents did not support the hypothesis, as these groups did not have significant changes in self-esteem. Therefore, the hypothesis that a physical activity intervention would have a positive effect on physical self-concepts was only partially supported.
Mckenzie and Howe (1997) expressed in their study that a multiple baselines-across-subjects design was used to investigate the effect of mental imagery training on the magnitude of individual’s self-efficacy for a dart throwing task. Six (n=6) subjects were administered a 15-session mental imagery training programme following baseline sections of varying lengths. Each imagery session included a relaxation component, followed by specific imagery training. Subjects were then asked to stand, perform a one minute centering exercise, and to image successful performance of the task. This was immediately followed by the completion of a self-efficacy and imagery rating scale, and actual performance of the task while blindfolded. Two subjects showed that their self-efficacy magnitude for the task had increased as a result of the imager training. All subjects reported an improvement in their overall ability to image the task as a result of the intervention. It was concluded that imagery was able to enhance self-efficacy magnitude for the dart throwing task in subjects who were high ability imagers, had previous experience at throwing darts, believed in the performance-enhancing capabilities of mental imagery training, and had been exposed to relaxation and imagery procedures prior to the study.

Sosik (1998) examined in his study the relationship among leader self-concept based dispositional attributes (i.e. self-consciousness, self-monitoring and purpose-in-life) with rating of charismatic leadership – Questionnaire were used to collect data from different sources; 64 managers rated themselves on self-concept based dispositional attributes, while 194 subordinates assessed their manager’s leadership style. Results indicated that leader private self-consciousness, self-monitoring and purpose-in-life were positively related to charismatic leadership. Leader purpose-in-life was
negatively related to both private and public self-consciousness. Private self-consciousness was positively related to self-monitoring. Results were discussed in terms of their theoretical and practical implications.

To understand how people feel about themselves, Furnham (2002) examined self-esteem and body satisfaction. Self-esteem has been defined as the "level of global regard one has for the self" or how well a person "prizes, values, approves, or likes" him or herself. Body satisfaction has been defined in various ways, particularly in terms of body cathexis, body image, and weight satisfaction. Body-cathexis reflects how satisfied people are with specific aspects of their bodies, body image reflects how close a person’s actual shape is to their ideal shape, and weight satisfaction reflects how close a person’s actual weight is to their ideal weight. As part of his attempt to investigate the possible benefits of exercise, body satisfaction might mediate any relationship between exercise activity and self-esteem. That is, exercise might have physical effects that lead to greater body satisfaction which in turn leads to greater self-esteem.

Champman and Tunmer (2003) reviewed a number of studies on the development of achievement-related self-system factors in relation to young children’s reading acquisition. Reading self-concept, academic self-concept, and reading self-efficacy appear to develop in response to initial experiences in learning to read. For children who experience initial and ongoing success or difficulty in reading, development of relations between reading performance and self-system factors occurs within the first year of schooling. Studies also show that phonological processing ability and letter name knowledge at the outset of schooling not only predict subsequent reading performance but also
academic self-concept and reading self-efficacy. Children who are deficient in phonological processing or state a identifying unfamiliar words in text rather than word-level. Information tend to develop difficulties in reading related self-perception to overcome both skill deficiencies in reading and the negative reading and achievement related self-beliefs that develop in response to reading difficulties, he observed that attention to the development of word level skills and strategies is essential. The use of attribution retaining methods, combined with appropriate skills training should be used for overcoming children’s negative self-beliefs.

Furnham and Thomas (2004) in their study examined the role of parental gender and personality in self-estimations of their own overall and multiple intelligences and that of their children. Fathers rated their verbal, mathematical and spatial intelligence higher than mothers and parents tended to rate their children’s IQ higher than their own. Regression revealed specific personality dimensions such as Openness and Agreeableness to be relatively powerful predictors of estimated intelligence, more so than demographic variables. Results showed that personality had a greater predictive role for self-estimations of IQ compared to the estimations of the other members in the family. Findings not only provide insight into the role of personality, but also draw attention to other potentially influencing variables such as sex, age, actual IQ and attitudes towards IQ testing on self-estimations of IQ.

Robbins (2004) examined the relationship between psychosocial and study skill factors (PSF’s) and college outcomes by meta-analysing 109 studies. On the basis of educational persistence and motivational theory models, the PSF’s were categorized into 9 broad
constructs: achievement motivation, academic goals, institutional commitment, perceived social support, social involvement, academic self-efficacy, general self-concept, academic-related skills, and contextual influences. Two college outcomes were targeted: performance as measured by cumulative grade point average (GPA). Meta-analyses indicate moderate relationships between retention and academic goals, academic self-efficacy, and academic related skills. The best predictors for GPA were academic self-efficacy and achievement motivation. Supplementary regression analyses confirmed the incremental contributions of the PSF over and above those of socio-economic status, standardized achievement, and high school GPA in predicting college outcomes.

Hagger (2004) stated that the self is considered to be of paramount importance as it is implicated in a person’s decision making, motivation, and behaviour. Aspects of the self associated with physical appearance are likely to implicated in the decision-making processes related to engagement in exercise and physical activity behaviours. However, two notes of caution should be heeded at this juncture. First, while self-esteem is considered as an adaptive, positive, and influential construct, there is evidence to suggest that high levels of self-esteem could be accompanied by maladaptive outcomes and behaviors. Recently there has been increased interest in the importance of physical self-concept in young people, particularly in the light of guidelines recommending the promotion of physical activity participation in young people. Elite and high level athletes represent a specific sub-population, whose pursuit of achievement in sport may well result in this being manifested in significantly higher perceptions of physical ability or sports competence than those in the normal population. Theoretically, because self-esteem is intrinsically
associated with success and competence, research in education has suggested that adopting a mastery-oriented motivational climate will result positively affect self-esteem.

According to Salminen and Simo (2004) the aim of his study was to examine the question, do self-esteem predict physical activity stronger than physical activity predict self-esteem? Subjects were 438 girls and 439 boys, aged 10 to 16 years. They filled up a questionnaire including Coopersmith's Self-Esteem Inventory and questions of physical activity three times; 1985, 1987 and 1988. Preliminary results showed that self-esteem affects physical activity more than does physical activity to self-esteem. Only for boys, physical activity at the beginning of the study predicted self-esteem stronger than does self-esteem to physical activity. Two alternative interpretations were given for these results.

Luszczynska's (2005) study investigated whether benefits in cancer can be predicted by assimilative and accommodative coping strategies, general self-efficacy, and received social support. Self-efficacy and social support were measured 1 month after cancer surgery, coping strategies 6 months after surgery, and benefit finding 12 months after surgery. Ninety-seven patients with cancer completed measures of benefit finding and its predictors. Four dimensions of benefit were distinguished; personal growth, acceptance of life imperfection, sensitivity to others, and improved family relationships. Path analyses revealed that self-efficacy beliefs had direct effects on personal growth, acceptance of life imperfection, and increased sensitivity to others, whereas received social support affected improved family relationships. Effects of social support were unmediated. The effects of self-efficacy on acceptance of life imperfection.
imperfection were mediated by accommodative coping strategies, but the effects of self-efficacy on personal growth and increased sensitivity to others were mediated by assimilative coping strategies. Resources and coping strategies predicted specific dimensions of benefit finding.

According to Luszczynska (2005) general self-efficacy is the belief in one’s competence to cope with a broad range of stressful or challenging demands, whereas specific self-efficacy is constrained to a particular task at hand. Relations between general self efficacy and social cognitive variables (intention, implementation intentions, outcome expectancies, and self-regulation), behavior-specific self-efficacy, health behaviors, well-being and coping strategies were examined among 1,935 respondents in three countries: Germany (n=650), Poland (n=344), and Korea (n=941). Participants were between 16 and 86 years old, and some were dealing with stressful situations such as recovery from myocardial events or tumor surgery. Perceived self-efficacy was measured by means of the General Self-Efficacy Scale. Meta-analysis was used to determine population effect sizes for four sets of variables. Across countries and samples, there was consistent evidence for associations between perceived self-efficacy and the variables under study, confirming the validity of the psychometric scale. General self-efficacy appeared to be a universal construct that yields meaningful relations with other psychological constructs.

Scholz and Sniehotta (2005) observed that during the process of health behavior change, persons pass different phases characterized by different demands and challenges that have to be mastered. To overcome these demands successfully, phase specific self efficacy beliefs are important. The present study distinguished between task
self-efficacy, maintenance self-efficacy, and recovery self-efficacy. These phase-specific beliefs were studied in a sample of 484 cardiac patients during rehabilitation treatment and at follow up 2 and 4 months after discharge to predict physical exercise at 4 and 12 months follow up. The three phase specific self efficacies showed sufficient discriminant validity and allowed for differential predictions of intentions and behavior. Persons in the maintenance phase benefited more from maintenance self efficacy in terms of physical exercise than persons not in the maintenance phase. Those who had to resume their physical exercise after a health related break profiled more from recovery self efficacy in terms of physical exercise than persons who were active continuously.

Schwarzer and Mohamed (2005) studied that perceived general self-efficacy may serve as a dispositional coping resources factor in times of stress. Over a time period of 11 months, self-efficacy was studied as a predictor of four coping strategies: Planning, humor, acceptance, and accommodation. Participants were 130 men and women who had undergone tumor surgery. They provided data at one, six and 12 months after surgery. In the context of this stress episode, coping turned out to vary in terms of general self-efficacy levels and in terms of time. Planning, humor, acceptance, and accommodation were substantially associated with general self-efficacy, and time lagged correlations suggested an antecedent role of general self-efficacy as a personal resource factor. Cross lagged panel co-relations with latent variables confirmed the hypothesized sequence of the two sets of variables.

Luszczynska et al (2005) study based on social cognitive theory (Bandura 1997), it was examined whether perceived self-efficacy was
a universal psychological construct that accounts for variance within various domains of human functioning. In this study an assumption was made that self-efficacy is not only of a task specific nature but it can also be identified at a more general level of functioning. General self-efficacy is the belief in one’s competence to tackle novel tasks and to cope with adversity in a broad range of stressful or challenging encounters, as opposed to specific self-efficacy that is constrained to a particular task at hand. The study aimed at exploring the relations between general self-efficacy and a variety of other psychological constructs across the countries. Relations between general self-efficacy and personality, well being stress appraisal, social relations, and achievements were examined among 8,796 participants (aged 14 to 77) from Costa Rica, Germany, Poland, Turkey, and the USA. Self-efficacy was measured by means of the General Self Efficacy Scale. Across the countries, the findings provide evidence for associations between perceived general self-efficacy and the selected variables. The highest positive associations were found for general self-efficacy and optimism, self-regulation and self-esteem, whereas the highest negative associations emerged with depression and anxiety. Academic performance, job satisfaction, and stress appraisal (challenge) were also associated with self-efficacy as hypothesized. The replication across languages or cultures added significance to these findings. The relations between self-efficacy and other personality measures remained stable across cultures and samples. Thus, perceived general self-efficacy appeared to be a universal construct that yields meaningful relations with other psychological constructs.

Diehl et al (2006) studied that the psychometric properties of the Self-Regulation Scale (SRS; Schwarzer, Diehl, &
Schmitz, 1999), a measure of attention control in goal pursuit, were examined in two independent studies. Study 1 included young adults (N=443), whereas Study 2 included young, middle-aged, and older adults (N=330). In both studies, the SRS showed good internal consistency. In Study 1, the SRS also showed satisfactory test-retest reliability over a 6-week period. Support for the criterion validity of the SRS was found in terms of positive correlations with measures of proactive coping, self-efficacy, and positive affect, and in terms of negative correlations with neuroticism, negative affect, and depressive symptoms. Hierarchical regression analyses showed that attention control accounted for unique portions of variance in relevant outcome variables above and beyond the big five personality factors and general self-efficacy. This suggested that attention control, as assessed by the SRS, was distinct from personality traits and had unique predictive validity.

MENTAL SIMULATION ABILITIES

Simulation is similar to imagery is that it seeks to improve the quality of training by teaching our brain to cope with circumstances that would not be otherwise met until an important competition was reached. Simulation, however, is carried out by making our physically training circumstances and similar as possible to the real thing for example by bringing in crowds of spectators, by having performance judges, or by inviting press to a training session. In many ways simulation is superior to imagery in training, as the stresses introduced are often more vivid because they exist in reality. However simulation requires much greater resources of time and effort to set up and implement and necessarily is less flexible in terms of the range of eventualities that can be practiced for. Players should therefore use simulation and imagery together for maximum effect.
Simulation seeks to make players training environment as similar to the competition environment as possible. While imagery relies on use of imagination, simulation relies on manipulation of the training environment by actually recreating the stresses under which players will perform. Effectively, athlete can consider normal training only to train muscles and nerve pathways directly involved in the control of muscles, imagery is a good way of training these nerve pathways in the brain, as well as those related to performance and sport psychology, it does not train muscles and body nerves nearly as effectively. Simulation, however, seeks to train all parts of athletes brain and body by helping them to physically perform the skill being trained under a physical environment that recreates all the stresses and distractions of competition. This helps them to develop the mental skills that stop them hoaxing under pressure stress management, distraction management, goal focus and imagery. It enables athletes to actually feel that you have been in a novel situation before.

Weinberg (1984) observed that to create reality in the mind, athletes must concentrate on imaging the behaviour perfectly. If the image created is not exact, athlete will have to reattempt the behaviour until he gets it right in his mind. This is simply an extension of the perfect practice rule that athletes adhere to when practicing physically. He has suggested that for an image to be effective, it is necessary that the outcome matches that the athlete wishes to achieve. It was important to image not only the entire performance associated with a skill, but also a specific positive outcome.

Weinberg et al (1987) carried out study to determine if imagery preceded by arousal or relaxation was more effective in terms of the quality of the imagery as well as performance on a variety of motor
tasks. Subjects (N=42) were students enrolled in self-defense classes which met three times a week for 16 weeks. The first six weeks of class served as a baseline period for the performance tests which included three karate measures (skill, combination and sparring), and muscular endurance. Starting on week seven, subjects, were matched based on their baseline ability measures and then randomly assigned to one of the following condition: (1) arousal / imagery, (2) relaxation / imagery, (3) placebo control. During the next four weeks the experimenter met with all subjects individually and helped train them in their specific technique. Subjects were tested on weeks 12 and 16 and told to utilize their mental preparation strategy just prior to each performance test. Results indicated that the relaxation / imagery condition produced significantly better performance on the karate measure of skill than all other conditions. No other main effects or interactions reached significance. In addition, no significant between group differences were found for any of the imagery measures with subjects generally reporting clear, vivid, controllable images. Results were discussed in terms of task specificity and the arousal-performance relationship.

Burhans et al (1988) conducted a study to assess the effects of single and combined cognitive strategies on long distance running speed. 36 male and 29 female students between the age group of 17 to 22 years enrolled in a physical conditioning course of Wake Forest University who were subjected to 12 week training programme. Running speeds were found to be superior over the initial four weeks of training for the internal imagery group as compared to the control group. The results indicated that mental imagery benefited students running performance when the specific skills and movements involved in a successful performance are the objects of focus. They suggested
that when using visual imagery as a supplemental training strategy, athletes should be encouraged to focus on performing the specific skills and movements necessary for successful performance in their event in order to more quickly achieve one's maximum performance level.

Isaac and Marks (1992) conducted a study which examined the influence of mental practice on sports skills. While most of the previous studies on this topic showed positive effects of mental rehearsal, they were not performed in actual field context using subjects who learned actual sport skills rather than just novel motor tasks. The author eliminated this problem in her experiment. She also tested the hypothesis of whether people who have better images and control over their images results in better performances. She tested 78 subjects and classified them as novice or experienced trampolines. Then she further divided the two groups into experimental and control growth. She also classified the subject either higher or low images based on initial skill level. Both groups were trained in three skills over a six week period. In order to prevent confounds, the imagery group was unknown to the experimenter until afterwards. The experimental group physically the skill for 2-½ minutes, which was then followed by 5 minutes of mental practice. Lastly, an additional 2-½ minutes of physical practice followed the mental practice. Meanwhile the control group physically worked on the skill for 2½ minutes, which was then by 5 minutes of a session trying a mental task of an abstract nature, such as math problems, puzzles and deleting vowels. Then, 2½ more minutes were spent physically working on the skill again. The outcome of the experiment difference was as followed; the existed a significant difference in the improvement of the high and low imagers. In both no vice and experimental groups where the initial skill ability was similar,
the high imagery groups showed significantly more improvement than the low imagery group. Furthermore, there was a significant difference between the experimenter and control groups. Not surprisingly, the experimental group had significantly more improvement than the control group. This study found that despite the level of skill (beginner or experienced) visual imagery proved effective.

Orlic (1992) examined the effects of mental imagery on performance enhancement with 7-10 year old children. In this experiment, table tennis players were divided into three groups. The result indicated that the children who used mental imagery had significant improvement in the accuracy and quality of their shots compared with the control group. This study showed that the mental imagery training for children can be beneficial. This could be a perfect opportunity to learn mental skills at an early age which can ultimately give them greater control over their own destiny.

O’Halloran and Gauvin (1994) conducted a study to examine the role of one individual difference variable in the effectiveness of imagery training for the improvement of motor performance and imagery vividness. Specifically, the variable of Preferred Cognitive Style, which classifies people according to their preference for imagic versus verbal thinking, was examined using a pre-test, post-test control group design. It was hypothesized that Imagic subjects would benefit more from imagery training than Verbal subjects because mental imagery constitutes a mode of thinking that Imagic subjects prefer and use more often. Forty-eight (48) female undergraduate students were classified as Imagic (N=24) or Verbal (N=24) according to the Preferred Imagic Cognitive Style questionnaire and randomly assigned to a treatment or attention control group. Results indicated
that both the treatment and control conditions had a significant impact on the motor performance of the Imagic subjects but not on the motor performance of the Verbal subjects. In addition, Imagic subjects demonstrated superior vividness of mental imagery and ability. While not directly in line with the hypothesis, these results do support the importance of Preferred Cognitive Style as an individual difference variable which might mediate the effects of mental imagery training.

Hanrahan et al (1995) conducted a study to evaluate the effect of mental imagery when used during performance of three different dance movement tasks. Three groups of 65 dance students performed the battlement, d’velope’ and arabesque in the same pre-and post-test conditions. Analysis of variance and Scheffe post-hoc tests on the angle scores, for each movement pattern separately, revealed significant improvement for two of these, the battlement, p>0.1, and arabesque, p>0.05. These results suggested that directional whole-body image can be used successfully during certain dance movements. Ballistic battlement and the sustained arabesque improved significantly as a result of imagery.

Gilden, Blake & Hurst (1995) used visual motion adaptation to study whether the visual system is involved in imagery. When a region of the visual field receives extensive motion stimulation, an object presented in that region is seen to move in the opposite direction to the inducing movement (this is called the “waterfall illusion”) and a moving object is seen as moving more slowly. Gilden, et al., designed their study with the intention of showing that the motion of an imagined object is affected by aftereffect of a moving field. They had subjects gaze for 150 seconds at a square window on a screen containing a uniformly moving random texture. Then they showed subjects a point
moving towards that window and disappearing behind what appeared to be an opaque surface, and they asked subjects to imagine the point continuing to move across the previously stimulated region and to report when the imagined point emerged at other side of the surface. Gilden et al. did not find an effect of motion adaptation on imagined motion, but it was not exactly the effect they had expected. They found that when the point was imagined as moving in the same direction as that of the inducing motion field (i.e., against the motion aftereffect) it appeared to slow down (it took longer to reach the other side of the region). However, when the point was imagined as moving in the opposite direction to the inducing motion field (i.e., in the same direction as the motion aftereffect), the point appeared to speed up (it reached the other side in a shorter time).

Savoy and Beitel (1996) conducted a study to determine the relative effect of physical practice only and a combined physical practice and imagery intervention programme on foul shot percentages of a highly skilled women’s basketball team. The subjects were 10 members of a National Collegiate Athletic Association women’s basketball team within the age group of 18-21 years. Five players were starting players and five came off the bench as substitutes. The study encompassed a 35 game period during regular and post season play. The results of the interventions employed in this study indicated that foul shooting improved when the interventions were employed across 35 years and there were negative effects when interventions were removed. The findings of this study indicated: (a) that coaches can create an environment for their players to improve their foul shooting percentage by incorporating imagery during practice time in addition to their regular physical foul shooting practice, and (b)
that one initiated, imagery intervention programmes should be consistently maintained.

Hall et al (1998) developed the Sports Imagery Questionnaire (SIQ) to assess the motivational and cognitive functions of imagery proposed by Paivio's Analytic Framework of Imagery Effects (1985). They reported three experiments designed to validate the content and construct properties of the SIQ. Initially, items were developed through a thorough literature review, other imagery questionnaire, and the expert evaluations of research professionals and elite athletes. In Experiments 1 and 2, the items on the SIQ were found to separate into distinct factors. These factors corresponded well with the functions of imagery proposed by Paivio. Experiment 3 was designed to assess construct and predictive validity in a sample of 271 athletes competing in individual and team sports. Again results revealed the existence of five distinct factors corresponding with the motivational and cognitive functions of imagery proposed. Predictive validity of the SIQ was supported in that greater imagery use was associated with successful performance. Finally, differences between individual and team sport athletes were observed with respect to the functions of imagery use. Overall, the results of these experiments indicate that the SIQ may be a useful tool for helping understand how athletes use different types of imagery.

Rathee (2000) observed that mental imagery has been recognized as an effective method in the realm of performance preparation. It also serves a useful function from the very outset of learning a physical skill. The degree to which an athlete can manage his thoughts and mental strategies pertaining to the activity, determines the chances of his success. Mental practice of skills by an
athlete can result in better performance. Imagery is also useful in the adjustment of pre-competition arousal and the overall improvement of the performance. By resorting to mental imagery, an athlete can strengthen his skills or correct the improperly executed ones. Sports Psychology immensely benefit from determining what form of mental practices are appropriate for particular purposes and activities. Appropriate models verified in practice would allow guidelines to be developed, helping the athletes to utilize the same for enhancing their performance.

Vealey and Greenleaf (2001) conducted a study to find out that how mental imagery works for the basketball players. The main purpose of the study was classified into four categories: (1) where you can use imagery; (2) when you can use imagery; (3) what can you image; and (4) how you should use imagery. In the "where" section, the players were given suggestions as to where they could use imagery based on the common locations reported in the imagery literature. In the "when" section, the players were given suggestions for adherence-related strategies on time management, as well as how they could easily integrate imagery into their existing training programme (e.g. before, during and/or after practice and games) and other times during the day. In the "what" section, information was provided about the five different types of imagery. The players were taught that cognitive specific imagery could be used to learn or perfect different basketball skills, such as dribbling, foul shots, and lay-ups, and that cognitive general imagery could be used for learning and perfecting different strategies of play, such as man-on-man defense. The players were also taught that imagery could be used to help them stay motivated by imaging their short and long term goals (motivational specific imagery), to help to regulate their energy and anxiety levels by
imaging the energy and excitement of performing in practice and game situations (motivational general arousal imager), and to help them become more confident, focused, and mentally tough by imaging themselves successfully dealing with difficult situations (motivational general-mastery), the players were encouraged to individualize the content of their imagery use by imaging weak aspects of their playing (e.g., technical skills, psychological weaknesses), as well as reinforcing what they had learned or corrected during a particular practice and/or game. In the “what” section, suggestions were made to the players on how they could make their imagery use more effective. The players were encouraged to incorporate all their senses when imaging, especially visual and kinesthetic, and to image playing basketball in both practice and game settings. The final component of the study was to teach the players how to complete the imagery diary and provide them with general guidelines for how much time they should spend time using imagery over the following six weeks. Because research has yet to establish optimal patterns of imagery use, no specific targets were set for the frequency and amount of imagery to be performed by the players during the six-week period. Instead the authors had adopted Orlick’s (1990) recommendation, and encouraged the players to establish a regular routine of imagery use by starting with short imagery sessions that were high in quality, and then gradually increase the frequency and duration of these sessions.

Cumming and Ste-Marie (2001) examined athletes of a similar age bracket had shown increases in imagery use following intervention programs of lengths varying from 5 to 16 weeks. The results of the present study suggested that an intervention as sort of a workshop can be successful at increasing basketball player’s overall use of imagery. Some changes in imagery use were consistent across
competitive level (e.g. cognitive general imagery, motivational general-mastery). Some changes in imagery use were consistent across competitive levels (e.g. motivational specific imagery, motivational general-arousal). All of the players reported significant increases in their use of cognitive general imagery and motivational general mastery imagery from prior to the workshop unit six weeks post-workshop. In comparison, bantam athletes did not change their use of motivational specific imagery or motivational general-arousal imagery. Midget athletes reported a decrease in their use of motivational specific imagery and motivational general arousal imagery from pre-workshop to 3 weeks post-workshop and then a significant increase of these functions by 6 weeks post-workshop. Finally, juvenile athletes significantly increased their use of motivational specific imagery, but not motivational general-arousal imagery, from pre-workshop to 6 weeks post workshop.

Callow and Hardy (2001) observed that imagery use may be dependent on the importance of a particular function to the player. For basketball players, who play a game that requires a heavy emphasis on strategies, it is not surprising that they increased their use of cognitive general imagery. In addition, the use of motivational general-mastery imagery would be important to all basketball players because it allows them to practice mastering challenging situations. As a result, they would develop efficacy expectations that could lead to increased self-confidence (Bandura, 1997). An unexpected pattern of imagery use that emerged from the study, however, was for midget athletes who significantly decreased their use of motivational specific imagery and motivational general arousal imagery from pre-workshop to 3 weeks post-workshop, and then significantly increased their use of these functions until 6 weeks post-workshop. This “yo-yo" pattern of
motivational imagery may be related a losing streak that the midget athletes experienced during the first three weeks of the intervention period. Following discussions with the coach, it appears that the players doubted their ability to win during this period, which is probably reflected in their decreased use of imaging themselves winning (i.e. motivational specific imagery) or the atmosphere of winning (i.e. motivational general arousal imagery).

According to Murphy and Martin (2002) most researchers agree that everyone seems to have the ability to generate and use imagery by the age of seven (Isaac & marks, 1994; Piaget & Inhelder, 1971). However, differences certainly exist in the extent to which people can do so. Indeed, imagery ability appears to be one of the most important factors that will influence how effective imagery will be in enhancing performance (Hall, 1998). Several studies examining the acquisition of motor skills have found that individuals with higher imagery ability are better able to learn, retain, and reacquire skills. Moreover, imagery ability also seems to be related to other aspects of performance, such as state sport confidence. Although research has not directly examined whether imagery ability is related to frequency of imagery use. In this study three competitive levels are organized according to the ages of the players, it is also possible that differences in imagery use might be related to developmental differences. According to Piaget’s stages of cognitive development, the highest level of cognitive ability begins at approximately 11 to 12 years when individuals enter the stage of formal operations, which is characterized by abstract thinking and enhanced problem-solving skills. It is also around this time when individuals enter the third and final stage in the development of attention, and marked improvements in coordination occurs for the performance of motor skills. In the present study, the
basketball players ranged in age from 12 to 17 years, suggesting that the younger players (i.e. members of the bantam team) would be just entering these final stages of adolescent development whereas the older players would have nearly completed these stages and making the transition to adulthood.

Durand-Bush and Salmela (2002) have stated that a final possible explanation revolves around the experience level of the player. Juvenile level players, who played at the highest competitive level and had the most experience in the sport, used significantly more cognitive general imagery than midget level players, who in turn used more of this function of imagery than bantam level players. This finding probably reflects the player’s development of their physical performance skills and strategies. Since the bantam level players had only one to two years of experience, it is likely that they are still mastering the basic skills of basketball (e.g. dribbling, foul shooting, lay-up shots) and are probably just being introduced to strategies at the most basic level. In comparison, while mastery of skills are still important for midget and juvenile players, these players are becoming more experienced at performing their skills, and are able to incorporate them into more sophisticated strategies. It is likely that the increased importance placed on the performance of strategies with the higher competitive levels is reflected in their greater use of cognitive general imagery. Similarly, juvenile level players used significantly more motivational general-mastery imagery, the function of imagery that involves being self-confident, mentally tough, focused, and positive, than bantam level players. It is probable that the basketball players are using this function of imagery to review tough or challenging situations that they have previously encountered (i.e. playing with a sore ankle) and imagine how they will handle them in
the future. The bantam level players, who in general, have less experience in these types of situations, would therefore be less likely to image them. It is also possible that the bantam level players have not yet developed the psychological strategies that enable them to remain focused, confident, and mentally tough to the same extent as the older, more experienced, juvenile players, and this is reflected in their lesser use of motivational general-mastery. Qualitative studies with Olympic athletes also supported this notion by finding that psychological characteristics develop with increased investment and experience in the sport.

Gupta (2003) conducted a study to explore the mental imagery abilities among elite national level basketball players both male and female. She administered MIQ (Mental Imagery Questionnaire) to the subjects (N=80) she reported that the female basketball players were found to have better visual auditory, fact as compared to male players. The two gender groups differed significantly from each other on assessing overall mental imagery among them as female basketball players had better overall or total imagery.

Kaur, (2003) conducted a study on 390 college athletes from different sports disciplines in the age group 16 to 22 years. The study has focused test construction on the variables mental imagery. Norms for sports imagery scale were prepared by using Hull Scale and Percentile Scale. This inventory was applicable to the sports population of the state of Punjab and Union Territory of Chandigarh as the subjects were drawn from these regions of country.

Jennifer et al (2003) undertook a study to examine the influence of a mental imagery workshop on athletes' subsequent use of imagery. The participants were 36 female basketball players from three different
levels of a high school basketball league: bantam, midget, and juvenile. Two different types of self-report measures were used to assess patterns of imagery use over a six week period following the workshop. The Sport Imagery Questionnaire was given to the players prior to the start of the workshop, and three and six weeks following the workshop. The players also recorded the frequency, duration, content, and effectiveness of their imagery use in a training diary. Results revealed that the basketball players significantly increased their imagery use for the 6 week period following the workshop, and that the basketball players believed the imagery training to be both valuable and effective.

Singh (2004) conducted on the athletes from Northern and Southern regions who had represented their respective universities in various events of track and field (i.e. sprints, jumps and throws) at All India Inter-University level. He investigated his study with regard to three selected psychological variables i.e. Anxiety, Mental Imagery and Self-Esteem to find out their psychological level and the effect of these variables on their performance. There were 144 athletes from successful group and 142 from unsuccessful category. In all 122 were from northern region and 164 from southern region. It consists of 286 subjects in the age group of 18 to 25 years studying at the college and University levels. And the result shows that the male sprinters differed significantly from male throwers on auditory, gustatory, olfactory and organic imagery indices as well as on the total mental imagery. The sprinters were found to have significantly better mental imagery abilities as compared to the throwers. Even jumpers demonstrated significantly better mental imagery abilities on gustatory and olfactory imagery indices of mental imagery.
Kaul, Kumar and Mittal (2004) investigated the effect of Imagery training on psychological variables i.e. precompetition anxiety, positive and negative psychic energy and concentration and on field performance skills in relation to penalty corner conversion in hockey. Twelve hockey set players (four pushers, four stoppers, four hitters) were the subjects. They were divided into two groups (experimental and control) of six subjects each (i.e. two pushers, two stoppers and two hitters). Employing a pre-test, post-test design, the subjects were initially pre-tested on all the psychological variables and field performance skills. Field observations were also made (by a psychologist) regarding their arousal and concentration while playing and by a hockey coach regarding their body position, speed, accuracy and follow through. The experimental groups was given 30 sessions of individualized autogenic relaxation cum imagery training while the control group was given no such training. Following the imagery training programme, the subjects were again post-tested on the psychological and field performance variables as done in the pre-test phase. T-test was applied to test the significance of mean difference between pre-test post-test scores of experimental and control group subjects. Results showed that as compared to the control group, the experimental group showed marked improvement in its scores on psychological variables and field performance skills. It was concluded that imagery training can be a useful tool in improving the mental state and field performance skills of players in relation to penalty corner conversion in hockey.

Cumming and Hall (2004) investigate the influence of a workshop aimed at developing more regular and structured imagery training and an overall increase in imagery use with basketball players. Two different types of self-report measures (i.e. SIQ, diary) were used
to assess patterns of imagery use during a 6-week period following the workshop competitive level differences were identified. A number of different factors may explain this finding, including variations in the players' motivation to perform imagery, differences in the players' ability to effectively create and control their images, development differences related to the age of the players, as well as amount of experience in the sport of basketball. Limited research has examined why athletes are motivated to engage in imagery. Several recent studies, however, have adopted an achievement goal approach to study this issue and have found that differences in frequency of imagery use can be explained by understanding the athlete's profile of task and ego goal orientations (Cumming, Hall, Gammage & Harwood, 2002; Harwood, Cumming, and Hall, 2003; Harwood). These studies have found that athletes will be more likely to invest efforts in performing imagery when their motivational profile consists of moderate to high levels of task and ego orientation. It is possible that reported differences in frequency of imagery use found in the present study may also be explained by variations in the players' dispositional goal orientations.

Sniehotta and Scholz (2005) investigated that planning is regarded as highly valuable in the process of health behaviour change. It bridges the gap between behavioral intentions and health behaviour. To further develop this concept, a distinction is made between action planning and coping planning. The latter refers to the mental simulation of overcoming anticipated barriers to action. Action planning and coping planning for physical exercise were examined in a longitudinal study with 352 cardiac patients. They were approached during rehabilitation treatment and followed up two and four months after discharge. Both planning cognitions were psychometrically
identified, and it was found that they operated differently in the behavioral change process. Action plans were more influential at an earlier point, whereas coping plans were more instrumental later on. Participants with higher levels of coping planning after discharge were more likely to report higher levels of exercise four months after discharge. It is suggested that to include both kinds of planning interventions at different stages in health behaviour change.

Pylyshyn (2005) carried out an extensive review of the literature related to the various mental imagery theories. In this article, the author considered and examined the assumption that entertaining mental images involved inspecting a picture like objects. He also brought out a distinction between phenomena attributable to the nature of mind, to what is called the cognitive architecture, and the ones that are attributable to the tacit knowledge used to simulate what would happen in a visual situation. He concluded that the only theory that shares some of the formal properties listed by him is a system of formal reasoning.

Kumar (2006) conducted an experimental study to investigate the impact of mental imagery training on the selected psycho-somatic variables. The subjects (N=120) were state level boxers belonging to the state of Himachal Pradesh. The subjects were divided into four groups i.e. skill and result imagery group, relaxation imagery group, combined imagery group, and the control group. The three experimental groups were provided specifically designed mental imagery trainings for 12 weeks. The results of the study revealed that the three experimental groups were significantly better on the variables anxiety (p<0.05) and aggression (p<0.01) as compared to the control group. The subjects of these experiment groups had also
reported to have significantly enhanced their levels regarding their mental imagery abilities.

Weinberg and Williams (2001) have suggested that psychological skills are developed in a similar manner to physical skills in that positive effects occur after extensive practice and application. Hall (2001) has suggested that mental simulation and imagery for the rehearsal of skills (i.e. cognitive specific) should be treated in a similar fashion to physical practice. Research examining use of simulation, however, suggests that many athletes do not approach such mental training practice in the same structured (i.e. plan duration and topics to be imaged) and regular (i.e. at a specific time each day) fashion that they approach physical practice. In a systematic comparison of use of mental visualization process across different sports, Hall et al. (1990) found that athletes varied their visualization use throughout the year, and mental simulation and imagery sessions were not always structured, regular or of the same duration. Elite athletes, however, reported more structured such sessions then their non-elite counterparts. Similarly, Cumming and Hall (2002) found that non-elite athletes perceived such mental trainings as being less relevant to their competitive performance and practiced the same much less than elite athletes. Rodgers et al (1991) found that adolescent figure skaters did not structure their mental simulation and imagery practice as they would their physical practice, and failed to practice imagery on a regular basis. Furthermore, the skaters believed that such mental practice had some value, but they didn’t regard the same as a skill worthy of practice on its own, or were unaware of how to best develop and use their mental simulation and imagery skills. Finally, Bull (1991) reported that athletes who chose not to participate in a psychological skills training program perceived these skills to be of little benefit to them. These findings suggest a need for education and training aimed at teaching athletes and sportsperson, especially developing and young ones, the
values and benefits of using mental simulation and mental imagery training. In addition, these athletes need to be shown how they may incorporate such mental training more effectively into their regular training programs, with the ultimate goals for them being to use such training in a more structured and regular fashion, so as to maximize their potential for performance benefits. Young sportspersons will certainly benefit a lot more through specially designed, developed and need based programmes such as the one utilized in the present study.

After reviewing the abstracts of related literature reproduced above, it appears that although there have been some studies for examining the effects of mental simulation training on the performance of specific sports skills but the efficacy of mental simulation abilities and training have not yet been employed extensively to strengthen the psychological aspects in tandem with sports specific skill enhancement among the sportspersons. More so, there is hardly any research concerning mental simulation abilities of young players and in fact, the present study is perhaps the only such experimental study that has been conducted among young sportspersons in India.