CHAPTER-II

REVIEW OF LITERATURE

There cannot be two opinions about the need for review of the related literature. In the very beginning it helps in a careful and methodical perusal of the study at hand. It not only helps to solve the problem but also facilitates enormously in the process of broadening and deepening our understanding of the published research work in the related field. A review of the concerned literature helps to ascertain that the problem undertaken for investigation has not been put to scrutiny before.

The review of literature cited in this chapter has definitively helped the researcher to imbibe his awareness and understanding of various techniques available for conducting such a study and formulating ideas that profoundly contributed to overall rationale and interpretation of the data gleaned and compiled with great effort. In the process of conducting the study, the researcher was bound to be zealous and meticulous which, in turn, brought about awareness of the peripheral issue that undoubtedly helped him in forming scientific reference.

The review enlisted in this chapter was based on various sources such as journals, periodicals, encyclopedia, newspapers, unpublished thesis etc. which were available in various libraries as well as on internet. The scholar consulted the libraries of Panjab University, Chandigarh, NSNIS Patiala and that of Department of Physical Education, Panjab University Chandigarh. The relevant literature pertaining to the present study has been abstracted in this Chapter to provide the background material to evaluate the significance of this study as well as to interpret its findings.

COGNITIVE STYLE

Riding (1970) developed a two-dimensional cognitive style instrument, his Cognitive Style Analysis (CSA), which is a compiled computer-presented test that measures individuals’ position on two orthogonal dimensions - Wholist-Analytic (W-A) and Verbal-Imagery (V-I). The W-A dimension reflects how individuals organise and structure information. Individuals described as Analytics will deconstruct information into its component parts, whereas individuals described as Wholists will retain a global or overall view of information. The V-I dimension describes individuals’ mode of information representation in memory during thinking –
was identical to Trial I except that subjects previously assigned to SCT condition were given the CC T and vice-versa. Upon completion of Trial II subjects were asked which coping style they had preferred. A two-way mixed ANOVA resulted in a significant coping style x preference interaction. Specifically subjects who preferred the complex task did equally well in both conditions, whereas subjects who preferred the simple task performed significantly better than the complex task.

Rudisill (1988) conducted a study and the purpose of this study was to compare the cognitive and behavioural responses of male sand females competing in an actual competitive win / lose situation. Male and female college age student (N=82) volunteered for this investigation. Each test session involved two subjects who competed against each other in a dart tossing competition. Once a trial (5 tosses) was completed, the subjects scores were tallied. Subjects then responded to a series of questionnaire based on their outcome. Included in this series was a casual dimension questionnaire, a perceived competence scale, and an expectancy scale. Results for each of the causal dimensions (locus of causality, controllability, stability) revealed that there were no sex difference for casual dimension responses. Differences were found between subjects who won or lost for the controllable and stable dimensions. Subjects who won attributed their success to more controllable and stable causes than those subjects who lost at the dart tossing competition. Conversely, sex differences were found for perceived competence, persistence and performance. Males, regardless of the win / lose outcome, had higher perceived competence, longer persistence, and better performance than the females. Additionally, a significant sex x win / loss out come interaction was found for expectations for future performance than the females who lost and the winning males and females. In summary, there appear to be no differences between males and females in selecting casual dimensions when placed in an actual competitive situation. Interestingly, this appears to be true even when the task is one that is typically considered a "male appropriate task". On the contrary sex differences. These results were discussed in terms of the changing trends between sex differences and the attributional process and its implications on future application.

Francoise et al (1989) conducted a study on 11 subjects. Among 11 subjects 7 were team rowers and 2 rowed in individual boats. The purpose of the study was to examine the incidence of sustained exercise on mood and motor, perceptual and cognitive functions. Mean was calculated and analogue scale was used. Differences
were regarded significant at an alpha probability level of 0.05. Results showed a heuristic model of human performance which considers arousal as tridimensional (energetical, emotional and computational). This tentatively suggests that, during a post marathon spill-over period, mental performance was predominantly influenced by the energetical pattern of arousal and that autonomous processing was reinforced.

Kanarek and Swinney (1990) investigated the effects of food snacks consumed in the late afternoon or cognitive performance in college-aged men in two experiments. The effects of the snacks were tested in the same subjects after they are either consumed or skipped lunch. In the fire experiment, the calorie-rich snack was confectionary product, while in the second experiment, the snack was fruit-flavoured yogurt. In both experiments, performance on cognitive tasks following consumption of the calorie-rich snack was compared to performance following consumption of a very low calorie snack (Lemon-lime flavoured diet soda without caffeine). Four cognitive tasks were employed; digit span recall (forward and backward), arithmetic reasoning, reading, and attention. In both experiments, subjects recalled significantly more digits in the backward digit span test and responded significantly faster in the attention task when they had consumed the calorific snack than when they had consumed the diet soft drink. Results of these experiments suggests that a late afternoon energy-containing snack can have positive effects on cognitive performance on tasks that require sustained attention.

Izard (1994) suggests that information processing is mainly what elicits emotion. Of the four types of information processing that Izard posits, only one is solely cognitive. Cellular information processing involves information encoding and decoding that take place mostly in genes and influence mainly emotional traits and temperaments. Organismic information processing deals with genetically coded data that lead to emotion through involvement of interoceptors (sensory receptors that receive input from inside the organism – e.g., taste-elicited disgust), with little input from exteroceptors (sensory receptors that receive input from the organism’s surface) and independently or cognition. Biopsychological information processing reflects interactions between genetic codes and acquired knowledge – for example, fear in response to stimuli such as snakes. Finally, cognitive information processing includes appraisals and attributions that determine emotion.
Khan, Handa and Singh (1994) conducted a study on Basic Differential cognitive and Conative function functioning of individual and Team Game Athletes, aimed at probing into Cognitive and Conative difference between individual and team games on Reaction time (Visual and Auditory), Visual concentration, Two-arm Coordination and Steadiness. Subjects (N=123) belonging to sports disciplines of athletics (N=13), Boxing (N=14), Judo (N=12), Wrestling (N=16), Basketball (N=21), Football (N=22), Hockey (N=13) and Volleyball (N=12), were tested by using reaction timer Knox Cube Imitation Test, Two-arm Coordination Test and Gardeners Steadiness Tester. The 't' test was applied to find out differences between team and individual game players and ANOVA was applied game wise separately. Results revealed that individual and team games significantly differed from each other on Visual Concentration and Visual Reaction time and inter-group difference concerned on steadiness for both individual games and team games separately.

Gill (1995) undertook a study on the effects of specific cognitive strategies on the learning of high jump with selected psychological variables. 98 male subjects were selected of 14-16 years age category of DAV Public School, Sector 8, Chandigarh. Final 45 students were selected by using the random sample procedure by drawing loss on the basis of health records maintained. Cognitive vigilance task (adapted version) Mohan (1982) was administered to measure the levels of vigilance of the subjects. Vigilance along with other variables such as mental imagery, concentration time, sports anxiety, competition anxiety and self concept was studied. ANOVA was used to analyse the data. General measure of vigilance was not significantly influenced by the use of specific cognitive strategies related to skill performance in high jump.

Mouloua and Parasuraman (1995) explored that age-related differences in cognitive vigilance were examined in a task requiring identification of a target (a lower case letter) presented at three levels of spatial uncertainty (low, moderate, and high) and in the context of a low or high event rate. Thirty six young (18-24) year and 36 older (60-74 years adults participated in 30-win vigilance sessions. Increased spatial uncertainty decreased target detection rate and d' to a greater extent in older adults than in the young adults. No age differences were obtained for the low spatial uncertainty condition. The vigilance decrement – the decline in detection rate over time was magnified when event rate was high and when spatial uncertainty was
The results suggest that cognitive vigilance is age sensitive when demands on visual attention capacity are increased by high level rate or spatial uncertainty.

McMorris and Graydon (1997) conducted two experiments were carried out to examine the effect of moderate and maximal exercise on the cognitive performance of experienced soccer players. Experiment 1 examined the speed and visual search in familiar (game) and unfamiliar (non-game) contexts. Participants had to detect, as quickly as possible, the presence or absence of a ball in tachistoscopically presented slides. Participants were at rest and while exercising at 70 and 100% maximum power output. A main effect of exercise intensity was demonstrated and Tukey post-hoc tests showed that performance during maximal exercise was significantly better than in the other two conditions. We concluded that exercise significantly improves speed of visual search. Experiment 2 examined the effects of exercise on speed of search, speed of decision following ball detection, overall speed of decision and accuracy of decision at rest and while exercising at 70 and 100% maximum power output. A repeated measures multivariate analysis of variance and Tukey post-hoc tests showed that performance during exercise was significantly better than at rest. Observation of the separate univariate analyses better than at rest. Observation that most of the variance analyses of variance demonstrated that most of the variance could be accounted for by overall speed of decision and speed of decision after ball detection. We concluded that exercise induces not only an improvement in a simple task, like speed of visual search, but also an overall increase in speed of information processing. Theories concerning the effect of emotionally induced arousal on cognitive performance do not accurately predict the effect of physically induced arousal on cognitive task.

Paul et al (1998) examined that Fatigue is one of the most disabling symptoms of multiple sclerosis (MS), but little is known about patient's perceptions of fatigue and changes in their performance on cognitive task. To study these relations, 39 patients with clinically definite MS and 19 matched healthy control participants completed limitations within the methods used in applied visual research was highlighted and some suggestions for future research direction were advanced.

Travis (1998) opined that the human brain grows and matures throughout one's lifetime, however, no simple measure of cortical maturation has been developed to allow for systematic investigations of cortical-cognitive relations and
volleyball court, using the forearm receive and pass technique, in order to pass it on to a moving human target. The results were displayed in terms of accuracy: accurate passes were successful and inaccurate passes missed the target. Six autonomic variables were recorded simultaneously during the task; skin resistance and potential, skin blood flow and temperature, instantaneous heart rate and respiratory frequency. Results showed that autonomic variables were capable of distinguishing success from failure in 22 subjects out of 24. This made it possible to build up autonomic patterns characterizing subjects’ performance, and to confirm that autonomic functioning may reveal information processing in the central nervous system. Thus, the study of autonomic responses may constitute an inferential model of central nervous system functioning. Such a method could be used as an index for the control of mental preparation.

McMorris and Graydon (2000) conducted a research examining the effect of incremental exercise on cognitive performance has claimed that increases in exercise intensity result in increase in arousal. An inverted-U effect of incremental exercise on cognitive function has been hypothesized. The majority of researchers have drawn upon undimensional theories of arousal as the underlying rationale for the hypotheses. Some more recent research however, indicate that multidimensional, allocatable resource theories are better and clearly more efficient in mental operation. These results were interpreted with regard to cognitive style theories of motor skill acquisition.

Temprado and Laurent (2000) observed that intention was often referred to as a pure cognitive psychological process and as a property needed to consciously control behavior. They assumed that intentional goals can be used to control movement coordination and they developed a theoretical framework to understand the relationship between intention and action. They advocated that the non linear dynamical system approach to movement coordination may prove to be particularly useful in helping understand how intention and, more never participated in any sports competition. The subjects were administered size Weight Illusion Perception Test. Span of Attention Visual test and cognitive vigilance test. The results revealed that although no significant differences were found between sportsperson and non-sportsperson, but with regard to attention and Vigilance, significant differences were found between sportsperson and non-sportspersons, but with regard to attention and
Vigilance, significant differences were noticed and sports persons were found to be significantly better with regard to attention variable but non-sportsperson were found to be significantly better on the variable vigilance.

Hauw et al. (2003) found optimal methods for preparing elite athletes psychologically for competition requires analyzing an analysis of the specific processes they implemented as they perform. Based on course of action theory, the present study proposes a situated cognition analysis of the actions of four trampolinists during the performance of 13 routines for the 1999 World Championships. Videotapes and self-confrontation interviews were used to collect data. The data analysis involved identifying (a) the elementary units of meaning (EUMs), (b) their constituents, and (c) the coherence relationship between them. Comparisons of the different courses of action revealed variations in the athletes; involvement modes during move execution. Constrained by the alternation between touching the trampoline and moving through the air, the trampolinists mode of involvement alternated accordingly between actions aimed at changing the current situation and actions aimed at assessing the outcome of the changes made.

Lieberman (2003) explored that the effects of nutritional factors on cognitive function has stimulated considerable research on a variety of food constituents. Author reviewed the research on the amino acids tryptophan and tyrosine, caffeine and carbohydrate. Further the potential utility of these compounds in military applications, particularly the acute, as opposed to chronic, effects of these substances on cognitive functions such as alertness, vigilance and resistance to stress. Caffeine, the most intensively studied food or deactivate these networks, whereas good performs either activated the positive or deactivated the negative network, or did both. The fact that both increased activation of task-specific areas and increased deactivation of task-specific areas and increased deactivation of task-irrelevant areas mediate cognitive functions underlying good RVIP task performance suggested two independent circuits, presumably reflecting different cognitive strategies can be recruited to perform this vigilance task.

Ward and Williams (2003) examined that the relative contribution of visual, perceptual, and cognitive skills to the development of expertise in soccer. Elite and sub-elite players, ranging in age from 9 to 17 years, were assessed using a multidimensional battery of tests. Four aspects of visual function were measured;
basis of the visual and other information available to them. This was particularly
evident in their inability to properly scale movement velocities to the amplitude of the
movement and in the number of discrete corrections made during movement
execution.

Williams et al (2007) opined that cognitive style consists of psychological,
emotional, physiological, and behavioral dispositional characteristics that reflect an
individual's perceptions and interactions with, and responses to, the present
environment. Because cognitive style often reflects individual differences in a
learning situation, some researchers refer to this concept as learning style or
perceptual style Individual preferences for processing information represent cognitive
approaches to resolve problems or interact with the environment to foster successful
outcomes. For example, some individuals are more influenced by information when it
is obtained visually, while others prefer verbal, factual or kinesthetic input. Several
researchers have found that people will use psychological strategies that are
compatible with their cognitive style. The extent of this style-strategy link has been
shown to enhance learning verbal material and motor skills in laboratory and field
studies (Anshel & Ortiz, 1986; Anshel, 1988, respectively). Recognition of a personal
disposition in processing information and interacting with environmental demands to
improve performance infers that there is no "right" or "wrong" cognitive style (Hill,
1978). In the field of sport, cognitive style has been relatively unstudied.

Riding and Al-Salih (2008) conducted a study involving a pool of 116 14-18-year-old secondary school pupils who had been given the computer-presented
Cognitive Styles Analysis was used to provide two sub-samples to explore the
relationship between style and motor skills and sports performance. The Motor Skills
sub-sample of 69 (32 males and 37 females) did a battery of motor skills tests. A
factor analysis suggested four skills factors - bodily movement, interactive skills,
mechanical skills and aiming. All of these except the mechanical skills showed a
significant relationship to style. The Sports Performance sub-sample of 99 (46 males
and 53 females) were rated on a five-point scale by their teachers on performance in
rugby, soccer and cricket for the boys, and hockey, netball and tennis for the girls.
There was a significant effect of style for tennis but not for the team games.
EMOTIONAL MATURITY

Shanmugam (1956) conducted a study to find out the symptoms and syndromes of emotional instability of adolescent boys of low socio-economic families and also to find out the causes for emotional instability. The sample consisted of 220 adolescents selected at random from two socio-economic levels higher and lower. Major findings of the study were that the age group of 15 (the puberty group) and the religion were important factors influencing emotional instability of adolescents. It was also found that the age group of 15 was characterized by greater emotional instability and the important syndromes in this age group were hypersensitivity, anxiety orientation towards reality. In other age groups, hypersensitivity alone was found to be important.

It has been found that sports activities have a significant effect in controlling emotional disturbance, developing healthy attitudes, personality adjustments and other personal characteristics. According to Robinson and Shaver (1969) sports participation in general, is positively related with psychological and physiological well being and that people who are active in variety of ways in such activities tend to report a higher degree of emotional stability, life satisfaction, perceived happiness, social adjustment and desire the progress in life.

Arnold (1970) postulates that how one appraises the situation determines the emotion. She identifies two types of appraisal; an intuitive, quick, and almost automatic type that is sufficient and necessary for experiencing emotion, and a more reflective or rational type that is neither necessary nor sufficient to produce emotion but that modifies or reinforces the effects of the intuitive appraisal. For instance, seeing the angry opponent, the hockey player might appraise the situation as dangerous and experience fear; but if he then realizes that the opponent is skating by him to hit the board, he will reappraise the situation and feel relief.

Mithal (1975) studied the reactions of the dominantly frustrated and non-frustrated students to family situations, situation relating to religion and customs, college students and social situations relating to law and order. A sample of 1520 students comprising 6.5% of the total population and studying in degree and post-graduate colleges of Meerut district was selected for conducting the study. The finding was that the frustrated college students expressed their aggression mainly
towards the external environmental or towards the self while the non-frustrated glossed over situations and were not so hypersensitive.

Rao (1978) in his study tested the following hypotheses (i) there is no relationship between sex and social maturity of children (ii) between social class and social maturity of children, (iii) between original position in the family and social maturity of children, (iv) between social maturity and intelligence. A total of 1020 students from grades VIII, IX & X distributed equally overall grades and sexes selected from 50 secondary schools of Bangalore city on stratified random bases formed the sample for the study. Major findings were: (i) there was significant positive relationship between social maturity (ii) social maturity showed a positive and significant relationship with self-esteem (iii) the first born were lower in social maturity among the children of lower grades (iv) the children from private schools scored more on social maturity than the children from Govt. corporate schools.

It was revealed by Khan (1983) in his study that hampering effects of aloofness, emotional instability, excitability, aggression, dominance, guilt, proneness, feeling of insecurity tension and frustration etc. were more prevalent at the adolescent stage (13 to 16 years) than at the pre-adolescent stage.

Arya (1984) revealed that boys and girls of superior intelligence did well on emotional maturity tests. Superior intelligence showed high relationship with emotional maturity. Differences were also influenced by residence of the children.

Larsen and Juhasz (1985) investigated the relationship between the combined effect of knowledge of child development and level of social-emotional maturity, and the extent to which this relationship affects adolescent attitudes toward parenting. The analysis of interview data (multiple regression and canonical analysis) from 434 volunteers attending schools in a large US metropolitan area suggest that there are significant relationships among these variables. In general, the relationships indicate that subjects, negative attitudes toward parenting were associated with lack of knowledge of child development and high levels of social emotional maturity. The joint impact of knowledge of child development and social emotional maturity factors on attitudes toward parenting accounted for 51% of the variation among the variables. Although the findings of the study support the contention that knowledge of child development and social emotional maturity are
factors associated with attitudes towards parenting, it is not possible to conjecture whether training adolescents or the parenting task by transmitting factual information about child development is an effective training strategy. It appears that a certain level of social-emotional maturity is necessary for cognitive instruction if child development is to be an effective method of parent attitude training. Negative parenting attitudes characterized by a lack of empathic awareness of the needs of children, and belief in the use of physical punishment, are correlated with both a lack of knowledge of child development and limited social-emotional development as well as low levels of responsibility, tolerance, socialization, and self-control. The results indicate that the joint impact of social-emotional maturity and knowledge of child development on parenting needs further investigation if intelligent decisions concerning the training of adolescents for the parenting task are to be made.

McAuley, Poag, Gleason, and Wraith (1990) investigated how attributions for dropping out an exercise program determined participants affective reactions. Guilt and shame were positively associated with the casual dimension of locus, while depression was associated with that of stability. Frustration was positively associated with stability and control.

Bird and Horn (1990) conducted a study on high school softball players. Participants completed the Competitive Style Anxiety Inventory (CSAI-1; Martens, Vealey, & Burton, 1990) before a game, after the game and the coaches assessed the mental errors the athletes had made. Athletes were divided into two groups according to their level of mental errors. Athletes in the high mental error group scored significantly higher in cognitive state anxiety than the other group. Smith, Smoll, and Schultz (1990) also found that cognitive anxiety positively related to concentration disruption. These findings accord with those of Isen (1993), showing that positive mood facilitates decision making.

Izard (1991) states that it is no secret that “virtually all of the neurophysiologic systems and subsystems of the body are involved in greater or lesser degrees in emotion states”. Emotional states affect perceptions, behaviours, and thoughts and may also contribute to mental health issues. Emotions (both positive and negative) can either activate the autonomic nervous system (as in adaptive fatigue) or shut it down dramatically (as in maladaptive fatigue). The body reacts intensely to any emotional extreme, less intensely to more moderate
poor performance might do the opposite, perhaps causing changes in the emotional state and producing a more pronounced dysfunctional impact on emotions.

Syrja, Hanin and Tarvonen (1995) replicated the soccer study in national and international level Finnish squash (N=17) and badminton (N=13) players. Current pre-performance and recalled (during and after performance) PNA measures in five game practices were contrasted with previously established individualized optimal and dysfunctional zones. In the squash players, all differences in emotion deviations from the zones were significant and in the predicted direction. As expected, emotion intensity scores in successful players were closer to their optimal zones and outside of their dysfunctional zones. However, before practices, significant differences were found only for positive optimal and negative dysfunctional emotions. After practice, the significant difference were for positive optimal, negative dysfunctional, positive and negative dysfunctional, and total deviation scores. In the squash group, predicted relationships were observed in 52.4% of all 21 cases. These were significant correlations between performance and deviations in dysfunctional (P-N-), optimal (P+N+) and total PNA scores. In the badminton group, there were significant correlations between performance and PNA deviations post-performance only for positive optimal (p<0.01) and positive and negative optimal emotions (p=.01), but not before practices. Significant relationship between PNA deviations and performance level before practices were observed only in 14.4% of all cases. During performance these relationships were significant for deviations in positive optimal emotions, and combined positive and negative optimal emotions (p<.01), as well as for the total deviation score (p<.05). The interactive effect of positive and negative optimal emotions during performance n the squash players accounted for 51.2% of the variance (F=38.9, p<.01), whereas positive optimal emotions alone accounted for 40.4% of the variance (F=50.8, F<.01). In badminton players, 27.2% of the variance in performance was explained by the interactive effect of positive (optimal and dysfunctional) emotions (F=10.1, p<.01), whereas positive optimal emotions alone explained 21.1% of variance (F=14.7, p<.01). Thus, the PNA deviations from optimal and dysfunctional zones during the activity were in the predicted direction in both successful and poor performance groups. In all cases, emotion intensity changed significantly over time. Additionally, in general, players were better aware of the effect of positive optimal and negative dysfunctional emotions on their performance; some were less aware of the effect of negative optimal and positive dysfunctional
emotions. Taken together, the findings indicated that the best predictors of performance before and during practices were positive optimal and negative dysfunctional emotions. During practices, emotion-performance relationships were in the predicted direction and were more significant than either before or after performance. The study supports the utility of the in-out of the zone concept to examine interactive effects of emotions. It also demonstrates the need to identify emotion patterns during performance, as well as the ways emotions change during task execution.

Sport and exercise researchers have also examined the emotional consequence of the various types of motivation. In a study by Pelletier et al (1995), participants from several sports completed the Sport Motivation Scale (Pelletier et al., 1995) and other scales measuring positive emotions. Intrinsic motivation, followed by identified and introjected regulation, produced the most positive correlations; a motivation, followed by external regulation, yielded the most negative correlations. Briere and colleague (Briere et al. 1995) obtained similar results with French-Canadian athletes from various sports and ages, as did Blanchard and Vallerand (1996) with basketball players.

Hanin and Syrja (1997) investigated, via recall, emotions in 12 elite Finnish cross-country skiers during racing, highly intensive training, and technical skills training. The athletes perceived over 50% of all positive emotions as facilitating in competitions and technical skills training; they perceived only 14.2% of negative emotions as facilitating in skills training. From 20% to 45.7% of positive and negative emotions in different settings had either facilitating or debilitating effects. Moreover, intraindividual scores of mean content overlap between optimal and dysfunctional emotions were quite low or both positive (M=.08, R=.00.28) and negative (M=.20, R=.7.36) affect. That is, to describe optimal and dysfunctional emotions in different settings, each athlete selected items differing in content for both positive and negative emotions words for competitions and hard training was moderate (M=.41, SD=.28) ranging from 0 to 1.00). The mean overlap for skills training as compared to hard training ranged from 0 to .87 (M=.31, SD=.22). As expected, for competitions as compared to skills training the overlap was even lower (M=.27. SD=.23, ranging from 0 to .71). Friedman two-way ANOVA revealed significant differences among these three pairs of contrasts (p=.5). Specifically, similarity between words chosen for
competition and hard training was relatively greater than between those for competition and skills training. Words for the two types of training showed the least content overlap. Friedman Two-Way ANOVA also revealed significant differences in intensity for similar positive facilitating (p<.02) and negative debilitating emotions (p<.03). Accordingly, the Wilcoxon test showed that optimal positive emotions for competitions were significantly (p<.02) more intensive than those for hard training. As expected, positive optimal emotions for technical skills training. In within-individual comparisons, independent t-tests revealed significant differences (t=3.92, p<.010) in intensity between positive optimal and positive dysfunctional emotions. In the case of negative affect, the intensity of optimal emotions was significantly (t=4.5, p<.01) lower than that of dysfunctional emotions. For the skiers, on the other hand, the mean overlap for emotion words for competitions and hard training.

Hanin (1997) has pursued the intraindividual analysis further in proposing individual zones of optimal functioning (the IZOF model). The IZOF model emphasizes that each athlete has individualized levels of optimal intensity, but it does not predict the shape of the relationship along the entire range of intensity. The zone ranges derived from the individualized levels ± SD and based on the interquartile range (which includes the range of scores from the 25th percentile to the 75th percentile) attempt to account for the measurement error and interactive effects of different emotions. Through this idiographic approach, Hanin had each athletes determine which types of positive and negative affect he or she experienced when performing dysfunctionally and optimally. He then used this pattern to predict each athlete's future performance.

Diwan (1998) conducted a study with the objective to find the effect of socio-economic status on the social maturity of students. The investigation used SES scale of B.V. Patel and I.A. Vora. The scale was administered to the students of higher secondary along with the social maturity scale. Investigator prepared a 2x2x2 facitional design to study main effects and interaction of 3 independent variables namely socio-economic status, sex and area. Each variable was divided into two levels. The major conclusions were: (a) the students belonging to urban area and rural area are found equal on the scores of social maturity (b) the students of both sexes are just the same on social maturity 5 crores (c) there is no significant differences found between the students belonging to high SES and low SES on the
score of social maturity (d) area and sex do not interact to extent any effect on the social maturity of the students (e) area and SES do not interact to exert any significant effect on the social maturity of the students (f) sex and SES do not interact significantly to leave any effect on social maturity of the students.

Krivoy at al., (2000), compared the EQ-i results of 35 adolescent cancer survivors were compared with those of a control group comprising 35 randomly selected adolescents from the local normative population sample. In addition to revealing significant differences between the two groups with respect to overall ESI, the most powerful EQ-i subscale that was able to distinguish between the experimental and control groups was Optimism, which is an important facilitator of emotionally and socially intelligent behavior as was previously mentioned.

Smith and Crabbe (2000) aimed to introduce exercise psychologists to a psychobiological approach to the study of human emotion and to stimulate research concerning the effects of exercise on the emotions. Distinctions were made between the measurement of emotional responses and the measurement of emotion-related constructs, such as mood. A contemporary view of the motivational basis of emotion was described which had characterized all emotions as variations in orthogonal dimensions of affective valence and arousal. Techniques employed to measure emotional responses, such as electroencephalographic and electromyographic indices of emotion, as well as measure of facial expression, were briefly discussed. Researchers were urged to make clear distinctions regarding the perception of emotional stimuli, the experience of emotion, the expression of emotion, and most-importantly to distinguish these features of emotion from other emotion related constructs such as mood.

Kaur (2001) undertook a study of emotional study of adolescents in relation to intelligence academic achievement and environmental catalysts. 356 adolescents were selected on the basis of multi staged, randomization technique. Emotional maturity scale (Singh and Bhargava, 1988) was devised and it consisted 48 items. Emotional maturity along with general mental ability, environmental catalyst and academic achievement was studied. Co-efficient of correlation technique and t-ratio technique was used to analyze the data. Investigator found that there is significant negative correlation between intelligence and emotional maturity. Those adolescents who were superior in intelligence were also more emotionally mature as compared to
adolescents who were less intelligent. Kaur (2000) in her study on adolescents found a significant relationship between emotional maturity and environmental factors.

Sjölund and Gustafsson (2001) compared the EQ-i scores of 29 individuals before and after they participated in a workshop designed to increase managerial skills. At the time the workshop was conducted in 2000, most of the participants were in their early 40s and had approximately 15 years of managerial experience. Among other skills, they were taught techniques designed to strengthen ESI competencies thought to be important for their work as managers; and these specific competencies and skills were those described in the Bar-On model. Not only did their total EQ score increase from a mean of 97 to 106 (p-level<.000), but 9 out of the 15 EQ-i subscales increased significantly as well. The two ESI competencies which increased the most as a result of their participation in the workshop were emotional self-awareness and empathy, which many consider to be the two most important components of emotional-social intelligence. Another interesting outcome was that those participants who began the workshop with the lowest EQ-i scores were the ones who made the most progress.

Tenenbaum et al (2002) undertook a study which was carried out to examine the ability of equestrians to accurately report precompetition emotions and thoughts across varying time delays (3, 7, and 14 days) after competition. Forty male and female dressage riders were randomly divided into two equal groups: participants who watched their video-taped precompetition routine before responding to the items, and participants who visualized the precompetition routine without any external aid. Each rider completed several questionnaires which measured emotions, items related to horse, and an open-ended question on thoughts and emotions at that moment. After a delay of 3, 7, and 14 days, the riders were asked to respond to the same questions after imaging themselves preparing for the competition. Repeated measures MANOVA indicate that though some decrease in emotional intensity was noted for some emotions in the retrospective report, the stability of reporting precompetition emotions was very high in all delay periods. The horse-related items were reported particularly accurately. Watching the videotape did not improve the accuracy of the report. Content analysis, however, indicated that when measurement consisted of free report, many emotions and thoughts were added or omitted in the delayed modes. Championships in Jakarta, prior to practice...
and competition. The purpose of the study was to test predictions derived from the Individual Zones of Optimal Functioning (IZOF) model extend to emotions other than anxiety. A central tenet of the IZOF model is that each performer has a specific optimal pre-performance will most likely occur. If a performer’s affect level lies outside their own optimal zone, performance will be impaired. Differentiation between best and worst performance should then be obtained on the basis of preperformance affect level. Likewise, successful and less successful athletes of the same competition level should be discriminated on the basis of their proximity to their own optimal preperformance affect. An intra subject, mixed nomothetic idiographic approach was used to measure anxiety components (tension and worry), self-confidence, and idiosyncratic emotions. Current affect scores collected across seven assessments were contrasted with recalled across seven assessments were contrasted with recalled optimal and poor performance. Results provided support for the IZOF model as athletes identified individual patterns of facilitating the inhibiting emotions varying in content and intensity. Furthermore, deviations in prestart worry and self-confidence scores from recalled optimal performance scores were lower prior to successful performance than prior to less successful performance. Finally, successful performers compared to less successful counterparts reported less deviation scores from recalled optimal performance scores in prestart self-confidence across all assessments. These findings were obtained when using an intraindividual approach.

Tenenbaum and Efrat (2003) investigated the congruence between actual and retrospective reports for pre and post competition emotional states separately and together. Fifty two members of four university sports team participated in one or more of three experimental conditions. The first condition consisted of actual measurement of pre-competition emotional states and retrospective measurement of the same situation following a 72 hrs delay. Actual and retrospective measurement of post competition emotional states comprised the second condition. The third condition included actual measurement of pre-and post state and retrospective measurement of both state after a 72 hrs delay. RM-MANOVA procedure revealed that the athletes could report and differentiate between their pre and post competition emotional experiences, and that retrospective report was not affected by the pre/ post interference after a 72 hours delay. However, athletes under estimated the intensity of post competition unpleasant emotions. Correlations between the
structured actual and retrospective measures of emotions were moderate to strong, and thus congruent. However, thoughts and feelings that were openly expressed after 72 hours were not fully congruent with thoughts and feelings reported in real time.

Tracey (2003) examined the emotional response to the injury and rehabilitation process. Qualitative methods were used to uncover the emotional experience of injured athletes through thick description provided in multiple in-depth interviews, to gain an understanding of the psychological recovery from athletic injury, and consequently, to better assist injured athletes during their rehabilitation process. Participants were 10 university student-athletes from 2 Division III institutions in the northeastern U.S. who had sustained a moderate to severe injury. Participants were interviewed 3 times; onset of injury 1 week post-injury, and 3 weeks post-injury; they respond to a series of writing stems on each occasion. The investigation centered on the interplay of cognitions and affect expressed, and the emotional experience of the injured athlete. Themes that emerged highlighted the fluctuations in emotions characterized by feelings of loss, decreased self-esteem, frustration, and anger. Thoughts and affect changed over time the injury as a challenge which participants approached with a positive attitude. The experience which participants was acknowledged as a process in which they learned about themselves and the many emotions involved with being injury. Understanding the complexity of the experience can help researchers and practitioners assist injured athletes by facilitating a more effective recovery.

Malinauskas (2003) observed that the Department of Pedagogy and Psychology at Lithuanian Academy of Physical Education provided researchers with high mastery sportsmen in cyclic sports, 14 rowers and 17 athletes (middle distance runners). The goal of the researchers was to make precise evaluation of sportsmen’s emotional states. Diagnostics of emotional states referred to the following methods: Eysenck Personality Inventory to evaluate sportsmen’s neuroticism – stability. Modified Dembo and Rubinstein method for evaluation of states (Physical state level of anxiety and self-confidence). Every tested rowers showed an increased neurotic level. Among seventeen athletes only two cases were without signs of neuroticism. Hence tested high mastery sportsmen in cyclic sports insufficiently control their negative emotions, even small psychological difficulties may increase their anxiety,
lessen belief in success and self-confidence. Therefore, these sportsmen need to learn to control their emotional states regularly and systematically. Tested rowers and athletes statistically do not differ much according to the rates of self-confidence ($X^2(2)$, 1.394, $p<0.05$). The better half of tested sportsmen showed a sufficient self-confidence. This is inadequate condition of favourable psychological prognosis for sportsmen’s success during competition, because they are inclined to neuroticism (insufficient emotional stability). Tested rowers and athletes after significantly according to the level of excitement; $X^2 (2)= 6.04$ ($p<0.05$): the level of excitement was more higher for rowers. Therefore, the rowers need systematic desensibilization.

Mainwaring et al (2004) observed that emotions influence recovery from injury, there is little research into the emotional sequelae of mild traumatic brain injury (MTBI), for concussion in sport. This examination compares emotional functioning of college athletes with MTBI to that of injured teammates and undergraduates. A short version of the Profile of Mood States assessed baseline emotions in all groups, and serial emotional functioning in the MTBI and undergraduate groups. Whereas preinjury profiles were similar across groups, the MTBI group showed a significant postinjury spike in depression, confusion, and total mood disturbance subsided within 3 weeks postinjury. Given that concussed athletes were highly motivated to return to play, these data could be used as a benchmark of normal emotional recover from MTBI.

Bar-On & Fund (2004) conducted a study wherein a population sample of 2,514 male recruits in the Israeli Defense Forces completed the EQ-i in the beginning of their tour of duty. From this sample, 91 recruits were identified as having medical profiles indicating mild or minor health problems that allowed them to continue to serve in the military with very few limitations. An additional 42 recruits were found, who were shown to have more severe medical problems, yet not severe enough to justify a medical discharge. Authors then randomly selected an additional group of 42 recruits from the sample (n=2,514) who did not receive a medical profile and were thus considered to be physically healthy. This procedure created three groups representing three different levels of physical health. A multiple regression analysis was applied to the data, using the three different levels of physical health as the dependent variable and the recruits’ scores on the 15 EQ-i subscales as the
independent variables. The analysis rendered an overall correlation of .37 suggesting a low-moderate yet significant relationship between ESI and physical health for the sample studied.

Bar-On et al (2005) examined the relationship between ESI and occupational performance, the EQ-i scores of 1,171 US Air Force recruiters were compared with their ability to meet annual recruitment quotas. Based on USAF criteria, they were divided into those who were able to meet at least 100% of their annual quota ("high performers") and those who met less than 80% ("low performers"), representing a very robust method of assessing occupational performance. A discriminant function analysis indicated that EQ-i scores were able to fairly accurately identify high and low performers, demonstrating that the relationship between ESI and occupational performance is high (.53) based on the sample studied. Prior to 1996, it was costing the USAF approximately $3 million for an average 100 mismatches a year. After one year of combining pre-employment ESI screening with interviewing and comparing EQ-i scores with the model for successful recruiters, they increased their ability to predict successful recruiters by nearly threefold, dramatically reduced first-year attrition due to mismatches and cut their financial loses by approximately 92%.

Chaplin et al (2005) undertook a study which examined gender differences in children's submissive and disharmonious emotions and parental attention to these emotions. Sixty children and their mothers and fathers participated when children were 4 and 6 years old. Children's emotion expression and parental responses during a game were coded. Girls expressed more submissive emotion than boys. Fathers attended more to girls' submissive emotion than to boy's at preschool age. Fathers attended more to boys disharmonious emotion than to girls' at early school age. Parental attention at preschool age predicted later submissive expression level. Child disharmonious emotion predicted later externalizing symptoms. Gender differences in these emotions may occurs as early as preschool age and may be subject to differential responding, particularly by fathers.

Lopes et al (2005) observed that emotion regulation abilities on a test of emotional intelligence, were related to several indicators of the quality of individuals social interactions with peers. In a sample of 76 college students, emotion regulation abilities were associated with both self-reports and peer nominations of interpersonal sensitivity and preschool tendencies, the proportion of positive vs. negative peer
nominations, and reciprocal friendship nominations. These relationship remained statistically significant after controlling for the Big Five personality traits as well as verbal and fluid intelligence.

Jones et al (2005) undertook a study which the outlined the development of a sport specific measure of pre-competitive emotion to assess anger, anxiety, defection, excitement, and happiness. Face content, factorial and concurrent validity were examined over 4 stages. Stage 1 had 264 athletes complete an open ended questionnaire to identify emotions experienced in sport. The items pool was extended through the inclusion of addition items taken from the literature. In stage 2 a total of 148 athletes verified the item pool while a separate sample of 49 athletes indicated the extent to which items were representative of the emotions, anger, anxiety, defection, excitement, and happiness, stages 3 had 518 athletes complete a provisional Sport Emotion Questionnaire (SEQ) before competition. Confirmatory factory analysis indicated that a 22 item and 5 factor structure provided acceptable model fit. Results from stage 4 supported the criterion validity of the SEQ. The SEQ was proposed as a valid measure of precompetitive emotion for use in sport settings.

Juth et al (2005) in a face-in the crowd setting, the authors examined visual search for photographically reproduced happy, angry and fearful target faces among neutral distractor faces in 3 separate experiments. Contrary to the hypothesis, happy targets were consistently detected more quickly and accurately than angry and fearful targets, as were directed compared with averted targets. There was no consistent effect of society anxiety. A facial emotion recognition experiment suggested that the happy search advantage could be due to the ease of processing happy faces. In the final experiment with perceptually controlled schematic faces, the authors reported more effective detection of angry than happy faces. This angry advantage was most obvious for highly socially anxious individuals when their social fear was experimental enhanced.

Kern et al (2005) observed that the emotion memory literature has shown that negative emotional arousal enhances memory. S.A. Christianson proposed that preattentive processing could account for this emotion memory relationship. Two experiments were conducted to test Christianson's theory. In Experiment 1, participants were exposed to neutral and negative arousing slides. In Experiment 2, participants were exposed to neutral, negative arousing, and positive arousing
slides. In both experiments, the aforementioned variable was factorially combined with a divided-attention or non-divided attention condition. The authors predicted that, in contrast to the nondivided condition, dividing attention would adversely impact neutral and positive stimuli more than negative stimuli. The hypothesis was supported; participants recalled more high negative-arousal slides than positive or neutral slides when their attention was divided rather than non-divided.

Laukka (2005) observed that Continua of vocal emotion expressions, ranging from one expression to another, were created using speech synthesis. Each emotion continuum consisted of expressions differing by equal physical amounts. In two experiments, subjects identified the emotion of each expression and discriminated between pairs of expression. Identification results show that the continua were perceived as 2 distinct sections separated by a sudden category boundary. Also, discrimination accuracy was generally higher, for pairs of stimuli falling across category boundaries than for pairs belonging to the same category. These results suggest that vocal expressions are perceived categorically. Results are interpreted from an evolutionary perspective on the function of vocal expression.

Swart (2006) examined the impact of EQ-i scores on the grade point average (GPA) of 106 first-year university students in an American university (C. Marchessault, personal communication from the 7th of January 2005). The students completed the EQ-i in the beginning of the academic year, and their GPA was calculated during the middle of the year. Multiple regression analysis revealed a correlation of .45, which once again confirms a significant relationship between ESI and performance in school.

Kaur (2006) conducted a study to investigate personality differentials (including emotional instability – emotional stability) among the participants of yoga, athletics and aquatics. The subjects (N=90) who were college students studying in various colleges of Chandigarh were administered Bhargava’s Dimensional Personality Inventory. She reported significantly instability-emotional stability and the male swimmers were found to be significantly (p<0.01) more stable emotionally as compared to the female swimmers. No significant differences were found among the yoga and athletics groups.
Gohm (2006) conducted studies (Ns=250, 83, 236), to examine the differences as to how individuals 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.

Offermann et al (2007) examined the relative contributions of emotional competence and cognitive ability to individual and team performance, team-member attitudes, and leadership perceptions. Focusing on emotional competencies, they predict that, although both cognitive ability and emotional competence would predict performance, cognitive ability would account for more variance on individuals tasks, whereas emotional competence would account for more variance in team performance and attitudes. They also predicted that emotional competence would be positively related to team attitudes and to both leader emergence and effectiveness. Using a sample of undergraduate business majors who completed tasks alone and as members of teams, results generally supported the hypotheses.

Lane (2008) examined literature on emotion, mood and coping in sports and highlighted that emotion and coping have received considerable research attention over the past 25 years with a marked increase occurring in the last 5 years. The link between affective states and sport performance has been studied extensively in the sport psychology literature (Hanin, 2000). An examination of this literature sows that researchers have tended to use the term emotion, affect and mood interchangeably. However, it is also evident that research has measured these constructs using the same scales, thus investigation of mood and emotion might not be separate lines of enquiry in sport. A review of the literature shows that researchers have used a number of different standardized and comprehensively validated scales such as the POMS, the PANAS, and the Competitive State Anxiety Inventory-2 (CSAI-2, Martens, Vealey, Burton, Bump, & Smith, 1990). Other researchers have used
individualized scales (Hanin, 2000, Jones, Mace, & Williams, 2000). A recent debate of emotion measurement issues in sport highlighted the need for reconciliation of a number of competing arguments (Jones, 2001).

**SELF SATISFACTION**

Kimiecikm, Allison and Duda (1968) investigated that subjective interpretations of outcome of children in a competitive sport setting. Boys from 9 to 12 years age group (N=42) were interviewed before and after competing in a one-on-one basketball game. Prior to the game children were asked about the perceived competence of both self and their opponent. Following the game, children were asked to rate the perceived competence of self and the opponent once again, and the degree of satisfactions with their performance. The results indicated that regardless of outcome, the children experienced high level of performance satisfaction. In addition it is found that one’s own perceived competence was the best predictor of performance satisfaction. The findings support the notion that children subjective interpretation in a sport setting may be more important than the outcome in determining subjective success and failure.

It has been revealed that a person with good self concept is less anxious, generally better adjusted and more effective for a group. Alderman (1974) advocates that trades such as self-confidence, self-assurance, self-assertiveness, self-esteem, self-regard, self-consistency, self-enhancement and self-respect elaborate the self-concept of a person. Sanna (1992) found athletes have high sense of personal worth and self-concepts. Hamockek (1978) indicated that there has been relationship between positive self concept and high achievement.

Olszewska (1982) concluded a study on the relationship of self image, self estimation and tendency to dominate or submit to the effectiveness of the performance of team players. 260 volleyball, handball and soccer players were investigated in order to determine a possible interdependence between their self-image, self-estimation, a tendency to dominate or submit; and their performance effectiveness. The procedures employed were: The Giessen Test, the assessment of the level of aspirations, the A-S Reactions Study Test and the practical assessment of performance effectiveness. Research results show that players who achieved a
high level of performance effectiveness have a high self satisfaction are either sensible or reckless, and reveal a tendency to submit.

Bisht's (1980) investigation aimed at studying the Interactive effects of the school climate and the need for achievement on the stress of students. The sample comprised of two groups of 120 students each selected from sex intermediate colleges (3 boys and 3 girls) controlled by grades age, intelligence, stream and economic status. The major findings were: (a) two type of school climates operating in and by themselves did not differ in their effect on academic.

The relationship between self-evaluation, effort, and re-evaluation of the self suggest a cyclic aspect to the dynamics of self-esteem. Harter (1983) asserts that the term self-worth is frequently used to refer to aspects of motivation and moods. High self-esteem is associated with a mood of cheerfulness, feelings of optimism, self-satisfaction, and relatively high energy. Low self-esteem is accompanied by feelings of doubt about one's worth and acceptability, and with feeling forlorn, morose, or even sad. Such feelings may be accompanied by relatively low energy and weak motivation, invariably resulting in low effort. In contrast, high self-esteem in associated with high energy, which increases effectiveness and competence, which in turn strengthen feelings of self-esteem and self-worth. In this way, feelings about onself constitute a recursive cycle such that the feelings arising from self-appraisal tend to produce behavior that strengthens those feelings – both positive and negative.

Jackson and Marsh (1986) suggested that sports participation influences global self-esteem and general satisfaction indirectly by enhancing physical competence and body esteem. Recent research by Richman and Shaffer (2000) supports this notion. The authors did find a positive relationship between sports participation and general self-esteem. Sports participation may influence global self-esteem indirectly. Greater sports participation may enhance physical self-esteem, which in turn, predicts more positive global self-esteem, and better life satisfaction.

Self-satisfaction theory maintains that students who equate ability with achievement are more likely to be motivated by the desire to protect their own self-esteem than by the desire to master a task (Covington, 1984; Covington & Omelich, 1985). Covington (1983) stated, “failure to maintain a sense of ability triggers shame
and a loss of self-respect and that students feel that if they work hard and fail anyway, they lack ability. However, if their failure is a result of a lack of effort, their ability status is uncertain and their self-worth can remain intact. In a situation that is likely to threaten a student's self-image, there is a very pronounced tendency to reduce effort. From this literature there are implications that students with high self-concept of sports ability and expectations for success will respond persistently to a challenging sports task, whereas students with low self-concepts and low expectations for success will tend to give up on the same sport task. Casual observations and anecdotal evidence indicate that a majority of very young children participate eagerly in musical activities. This may be due in part to the fact that effort is valued very highly by young children (Covington, 1983). Young children believe that effort increases ability, whereas older students tend to believe that intelligence, talent, and ability are stable traits, impervious to change through effort (Asmus, 1985; Covington, 1983).

Schwarz et al (1987) examined the impact of affect on judgments of life satisfaction of male respondents before and after the live broadcast of two 1982 Soccer World Cup games. After their team had won, fans made more positive judgments of their life satisfaction than fans made more positive judgments of their life satisfaction than fans whose team had lost. Presumably, the win generated positive affect that in turn colored judgements of life satisfaction, although the authors did not measure affect and therefore could not ascertain its precise role.

Participating in sport is one way that we can develop self satisfaction as well as physical competence. We learn to appreciate our bodies for what they can do, instead of the perceived appearance by onself or by others. In a sport environment we learn to rely on acquired physical skills. Partaking in sport also helps us trust and rely on ourselves and teammates while working toward common goals. In a sense, participating in sport allows each of us to become our own personal cheerleader – cheering on our physical self and what might be possible; not just standing on the sidelines, or in the bleachers, cheering others on (Nelson, 1994). Involvement in athletics provides lessons in team work and leadership, the development of citizenship, and community involvement. Membership in sport also offers us a greater pool of adult role models from where they can draw guidance and support. (Murtaugh, 1988). Additionally, we find new friends in the sport setting.
Kuthri and Sabri (1988) studied the relationship of self-concept locus-of-control, and level of aspiration and satisfaction to the performance of elite athletes. The major concern of this study was to determine the relationship between athletes' performance and the variables like self concept, locus-of-control, and level of aspiration in an actual competitive setting. The relationship between athlete's expectations and the expectations held by their coaches were also determined. 84 athletes (male=71, female=13) from elite track and field athletes who participated in the league track and field championship during spring of 1986 were taken as subjects. All the subjects were given the modified self-descriptive questionnaire (SDQ). Marsh et al (1984) and the Rotter internal-external scale to measure self-concept and locus-of-control, respectively. Specific track and field events were used to examine performance. Level of aspiration was determined by asking each athlete to predict his / her performance of few minutes before each try in which he / she was scheduled to complete. The same procedure was used to measure coach's expectations for their athletes. The subjects were classified as high or low in self-concept, high or low in level of aspiration and internal or external in locus-of-control. The data was analysed using season product moment correlation coefficient ANOVA and Stepwise multiple regression procedure (.05 level of significance) were used. Results of the analysis revealed that (1) athlete's performance (as measured by improvement of personal performance, competitive performance, and contextual performance) were significantly correlated with the level of self-concept, (2) athletes' performance (as measured by improvement of personal performance, competitive performance and contextual performance) were significantly correlate with their locus-of-control (3) athletes performance were significantly co-related with a level of aspiration. However, no significant co-relation was found between level of aspiration and athlete's performance (as measured by improvement of personal performance), (4) there was a significant co-relation between athlete's expectations and the expectations held by their coaches.

McAuley and Duncan (1990) relationships between the intuitive (performance) and reflective (attributional) appraisal and self-related and general affects after performance of a required gymnastic routine. The intuitive appraisal strongly predicted both types of affects. The impact from the reflective appraisal was much less important, as only stability attributional significantly influenced both type of
affects. Similar findings were obtained with high school students in a team sport program (Robinson and Howe, 1989), participants in a regional squash league (Biddle & Hill, 1992), and participants in an exercise program (Courneya & McAuley, 1996).

Crews (1992) has reported that negative mood (especially tension) lead to higher levels of oxygen consumption than positive mood; possibly such affective states cause athletes to use more oxygen, to fatigue more easily, and eventually to perform less well than athletes with more positive affective states.

Newton and Duda (1993) assessed the degree of task-and ego-involvement of bowlers across three games in a college-level physical education class. In addition, they measured feelings of enjoyment and anxiety. They then correlated the goal orientations with these affects. Results indicated that task orientation was positively related to enjoyment and negatively related to being worried about one’s performance. Similar results were obtained in a study conducted by Duda and Nicholls (1992) in which the sport task orientation of high school students was positively associated with feelings of satisfaction and enjoyment. Conversely, ego orientation was positively related to feelings of boredom. White and Duda (1991) also conducted a study of intercollegiate skiers. The results showed that task orientation was negatively related to task relevant worries and thoughts of escape.

A study published by the Women’s Sport Foundation (1998) on over 30,000 girls compared athletes to non-athletes. The study stated that athletes were more likely than non-athletes to score well on achievements tests; feel “popular” among one’s peers.

Perrault, Vallerand, Guay, Chantal, and Richer (1998) have proposed and tested a model specifying the antecedents as well as the consequences of both positive mood and self-related affects. In this model, people’s mood depends mainly on their level of team identification and on their intrinsic motivation, while self-related affect depends only on team identification. On turn, mood and self-related affect impact fans’ judgments of life satisfaction. In a test of the model in Montreal during the 1993 Stanley Cup parade after the Montreal Canadiens’ win, 217 male and female attendees at the parade completed scales assessing team identification, intrinsic motivation, positive mood, self-related affect, and life satisfaction. Structural
equation modeling showed support for the proposed model. Thus both positive mood and self-related affects can influence fans' judgements of life satisfaction. The authors ran a series of different regression models in order to best determine the most significant predictor of score by group. The first regression model used sport profile, athletic division, sex, and time zone as predictors of cumulative scores of student-athletes' satisfaction levels. Of these 4 variables, time zone was not a significant predictor of satisfaction ($P = .558$). The second regression modeled the predictive ability of the remaining 3 independent variables: sport profile, athletic division, and sex. This model was discarded because athletic division was not a significant predictor of student-athletes' satisfaction ($P = .242$). The third regression model, employing only the remaining 2 predictor variables of sport profile and sex, was determined to be statistically significant ($P = .000$). The coefficient for sport profile was $-8.309$ ($P = .029$), indicating that athletes in low-profile sports demonstrated lower satisfaction scores than athletes in high-profile sports, regardless of sex. Thus, sport profile was a significant predictor of satisfaction score. The model also indicated the coefficient for sex was $4.267$ ($P = .029$), suggesting that female athletes demonstrated higher satisfaction scores than male athletes, regardless of sport profile. Thus, sport profile and sex were significant predictors of satisfaction score. The authors concluded that high student-athlete satisfaction may reflect the quality of health care provided by athletic trainers. Results suggest that the collegiate student-athletes who participated have a high level of satisfaction with the care provided by their athletic trainers. The findings also demonstrate, however, that satisfaction is not uniform and that athletic training professionals need to continue to work to improve delivery of health care across the athlete population.

Lee and Man (1998) investigated the effects of participation in a selected program of physical activities upon self-concept, self-acceptance and ideal self of college students. The subjects of this investigation included 261 college students. The subjects of this investigation included 261 college students enrolled at Nichollas State University in Thibodaux, Louisiana during the 1987 full semester. Participants were enrolled in the physical activity classes of weight training, karate or golf. Other subjects were enrolled in the courses in the professional education sequence for prospective elementary teaching and student development class. The adult index of adjustment values was used as a measure of self-concept. This instrument consisted of a list of forty nine trait words on a scale of 1 to 5 which provided scores for self-
concept, self-acceptance, ideal-self, and discrepancies. This instrument was administered to participants before and after a 12-week period of classes. Correlated “t” tests were used to determine whether or not there was a significant change in any of the four sub-scores for each of the four groups change in any of the four sub-scores for each of the four groups during the period between administration of the pre-tests and post-tests. The findings show the changes significant at the .05 level of self-acceptance for the golf-group. In addition, there was a significant difference in both self-concept and in the discrepancy scores for the professional education group. The results presented several conclusions about this study. First, students in academic subjects showed greater gains in their self-concept and discrepancy scores as well as between self-concept and ideal self than students in activity classes. This finding suggest that the students being more serious about academic subjects perceived these courses to be more meaningful and important than activity classes.

Treasure and Newbery (1998) have found that self-satisfaction relates to positive mood most strongly at a level of exercise that is individually optimal. For sedentary persons, for example, exercise at 50% of capacity may represent the optimal challenges leading to the highest level of self-efficacy and the highest level of positive mood. On the other hand, such an effect may be experienced at 70% of maximal capacity for highly active individuals. These findings suggest that optimal levels of challenges during exercise are conducive to a flow state, self-efficacy, and positive mood.

Young-Jun et al (1999) conducted a study to examine the level of satisfaction of elite track and field athletes in South Korea with six factors; facilities, equipment, financial support, head coach’s technical ability, training methods, and leadership. The subjects were 194 track and field athletes who were selected from a 1997 ranking list of the top five athletes in each track and field event. A survey questionnaire was distributed to each subject with a return rate of 80% (N = 168). Statistical analyses were conducted using the SPSS-Window statistical package. Descriptive statistics, independent t-tests, one-way ANOVA and Post Hoc tests were used to analyze the data. Results of this study indicated that there were statistically significant differences among means of the six factors. The results of the post hoc test indicated financial support was significantly lower than facilities, head coach’s technical ability, training methods, and leadership. The findings indicated the majority
of the track and field athletes were satisfied with all aspects of their facilities, head coach's technical ability, training methods, and leadership. However, athletes were not satisfied with financial support from their club, company or school. Results of this study indicated financial support should be improved for track and field athletes in South Korea.

Pajares et al (2000) conducted two studies to investigate the relationship between achievement goals (task, performance-approach, performance-avoid, motivation constructs and gender in the areas of middle school (N=97) and Science (N=281). In the area of writing, task goals were positively related with expectancy beliefs and with self-efficacy and self-concept; and performance – avoid goals were negatively associated and self-concept, and performance-avoid goals were negatively associated with self-efficacy and self-concept and positively associated with apprehension. Girls had stronger task goals. In the area of science, task goals were positively associated with self-efficacy, self-concept, and self-regulation and negatively associated with science apprehension; performance approach goals were positively associated with self concept and negatively associated with apprehension; and performance-avoid goals were negatively associated with self-concept and with self-regulation and positively associated with apprehension.

Eys et al (2003) examined the relationship between athletes' perceptions of role ambiguity and satisfaction. The relationship between these multidimensional constructs was investigated at the beginning and at the end of the season, as well as from early season to end of season. Volunteer (n= 101) club and inter-university soccer players representing four female teams (n = 46) and four male teams (n= 55) participated in the study. Their mean age was 21.1 years (s = 3.7) and their average association with their respective teams was 2.5 years (s = 1.9). There were 68 starters, 29 non-starters and 4 practice roster players. Starters are those players who begin their teams' competitive matches in the playing unit (i.e. on the field). Non-starters include those players who begin their teams' competitive matches out of the playing unit as potential substitutes for the starting players. Practice roster players are those athletes who participate in practice sessions but are unable to compete for a variety of reasons. Athlete satisfaction was assessed using the Athlete Satisfaction Questionnaire (ASQ; Riemer and Chelladurai, 1998). Athlete perceptions of role ambiguity were assessed using a questionnaire developed by Beauchamp and
others (2002). Consistent with the a priori hypothesis, concurrent analyses revealed lower perceived role ambiguity was associated with higher athlete satisfaction. Specifically, role ambiguity, as represented by the dimension Scope of Responsibilities on offence, was significantly related to the leadership facets of athlete satisfaction (i.e. ability utilization, strategy, and training/ instruction) both at the beginning and at the end of the season. However, contrary to expectations, role ambiguity at the beginning of the season was not predictive of athlete satisfaction at the end of the season.

Theodorakis and Bebetsos (2003) observed that even though athletes are probably the most important component of every sport program or activity, the concept of athlete satisfaction has received little attention by the researchers. Thus, the purpose of their study was twofold: (i) to assess the construct validity of the “Athletes Satisfaction Scale” presented by Chelladurai et al. (1998), and (ii) to examine, if variables such as the gender, the sport, the weekly training program, and the athletic experience, influence the levels of athletes’ satisfaction. The sample of this study was 141 athletes from four different team sports. Results from factor analysis provided evidence for the construct validity of the scale developed by Chelladurai et al. (1998). Also, the results of this study indicated that the gender, as well as, the athletic experience influenced athletes satisfaction.

Weiss and Amarose (2005) examined that both level (high Vs. low) and accuracy (discrepancy between perceived and actual) of perceived competence are important contributors to domain specific emotions and motivational processes. Moreover, age differences in level and accuracy of perceived processes. Moreover, age differences in level and accuracy of perceived competence have been explained by the sources of information children use to judge their competence. Thus the purpose of the study was to examine simultaneously the inter-relationships among age, actual competence, and level, accuracy, and sources of perceived competence. Children (N=159) completed self-reports while teachers rated their actual competence at a sport camp. Cluster analysis revealed five profiles of children who varied in age, actual competence, perceived competence, and accuracy of perceived competence. These groups further distinguished by the importance they placed on competence information sources. Results indicate that age, actual ability, and level, accuracy, and sources of perceived competence should be considered
Reinboth and Duda (2006) conducted their study with the purpose to examine the relationship between changes in perceptions of the motivational climate to changes in athletes’ need satisfaction and indices of psychological and physical well-being over the course of a competitive sport season. A field correlational longitudinal design, including two data collections over the course of a competitive season, was used. Participants were 128 British university athletes (M age=19.56; SD=1.83). Athletes completed questionnaires assessing perceptions of the motivational climate; the need for autonomy, competence, and relatedness; subjective vitality and physical symptoms. It was found that an increase in perceptions of a task-involving climate positively predicted an increased satisfaction of the needs for autonomy, competence and relatedness. In turn, changes in the satisfaction of the needs for autonomy and relatedness emerged as significant predictors of changes in subjective vitality. Findings suggest that for sport participation to facilitate athlete well-being, the sporting environment should be marked in its task-involving features.

Singh and Surujlal (2006) conducted a study to determine what contributed to athletes satisfaction in South Africa Universities. They observed that one of the most frequently studied sectors of sport management is university sport which, in the South African context, includes the overall experiences of student athletes of higher education institutions in relation to the sport department/ bureau, their personnel, activity programmes and offerings. In countries outside South Africa the issue of athlete satisfaction has been studied from several research perspectives such as coach behaviour, athletic trainer and medical cover, leadership behaviour, role ambiguity, holistic university experience and stakeholder satisfaction with selected goals and processes. One of the conclusions reached was that critical to athlete satisfaction was the sport department's emphasis on student development over the performance of the sport department. The purpose of this study was to determine what contributed to the satisfaction of athletes at universities in South Africa. The participants in this study consisted of 400 student-athletes at universities in the Gauteng province of South Africa. The instrument that was used in the study was a validated athlete satisfaction questionnaire (ASQ) developed by Riemer and
Chelladurai (1998). The present study has identified support, individual performance, personal treatment by the coach, team task contribution and strategy as important indicators of athlete satisfaction. The findings of the study have important implications for universities as a whole as it can influence the reputation and image of the institution, the financial and other resources being made available for the institution, the number of quality athletes that can be attracted to the institution and the culture of the institution.

Eys et al (2006) examined athlete leadership and satisfaction in interactive sports teams. Participants included 218 intercollegiate athletes from a variety of interactive team sports. At the beginning and end of their competitive seasons, athletes indicated who the task, social, and external leaders were on their respective teams and responded to four dimensions of the Athlete Satisfaction Questionnaire. The results indicated that those who perceived all three leadership functions to be represented to same degree (i.e., higher number of leaders for all three functions, an average number of leaders for all three functions, or a lower number of leaders for all three functions) were more satisfied with their team’s performance and degree to which the team was integrated than those individuals who perceived an imbalance in the number of athletes engaging in those functions.

Chelladurai and Ogasawara (2006) conducted study with regard to Satisfaction and Commitment of American and Japanese College Coaches. Male coaches from NCAA Division I (n=297), Division III (n=294), and Japanese universities (n=254) responded to the Coach Satisfaction Questionnaire measuring satisfaction with supervision, coaching job, autonomy, facilities, media and community support, pay, team performance, amount of work, colleagues, athlete’s academic performance, and job security, and Blaue, Paul, and St. John’s (1993) General Index of Work Commitment. Japanese coaches expressed significantly lower satisfaction than American coaches with seven facets (supervision, coaching job, autonomy, team performance, colleague, athlete’s academic performance, and job security). American coaches were significantly more committed to their occupation than the Japanese coaches who were significantly more committed to their organizations than American coaches.
Kim and Andrew (2007) conducted a study regarding distributive justice in Intercollegiate athletics. They observed that athletic directors must make difficult decisions concerning the welfare of their athletic teams and student athletes every day. In turn, the student athletes, whether consciously or subconsciously, make internal judgments as to whether the respective decisions made by their athletic director are fair or unfair. These perceptions of fairness can significantly impact the psychological well-being of an athlete and whether or not his or her team is perceived to be valuable to the athletic director. The majority of studies on distributive justice (perceived fairness of outcomes) in intercollegiate athletics have focused on the precursors or antecedents of distributive justice. In particular, these studies highlighted the impact of demographic differences (i.e., gender, division level, and revenue versus non-revenue sports) on the perceived fairness of resource distributions among athletic department employees. There are several limitations of the existing research on distributive justice in intercollegiate athletics. First, only one study (Mahony et al., 2006) actually attempted to examine student athletes as the target population, even though they are directly affected by the resource distribution system. Mahony et al. (2006) examined the view of fair distribution among student athletes and other college students in hypothetical intercollegiate and sport business settings. However, since the study incorporated hypothetical rather than actual situations, the results do not reflect student athletes' actual perceived fairness in their current situations. Secondly, no research has examined the comprehensive outcomes of perceived fairness on the recipients in a sport organization. Therefore, the primary purposes of this study were to (a) examine student athletes' perceived fairness of outcomes under their current resource distribution system in collegiate athletics and (b) predict how much the athletes' perceptions of fairness influences outcome satisfaction, job satisfaction, affective organizational commitment, and organizational citizenship behavior. Internet survey methodologies were used in this study. Among 463 distributed questionnaires, 169 questionnaires were returned (36% response rate), and 159 were usable for the study. The survey was a 47-item questionnaire including demographics and previously validated measures of distributive justice, outcome satisfaction, job satisfaction, affective organizational commitment, and organizational citizenship behaviors. The range of Cronbach coefficients of the factors was from = 0.777 (affective organizational commitment) to = 0.973 (outcome satisfaction). The results indicated no significant main or
interaction effects in terms of gender, scholarship status, and type of sport on the perceived fairness based on equity, equality, and need, so Hypotheses 1 and 2 were rejected. Regression analyses revealed distributive justice was a strong predictor of outcome satisfaction \[ F (3, 155) = 164.68, p < .001 \], which means Hypothesis 3 was accepted. The bases of need \( f = .444 \) and equality \( f = .419 \) were the strongest predictors. Outcome satisfaction was not a significant predictor of job satisfaction in this study \[ F (1, 157) = 3.53, p = .062 \], so Hypothesis 4 was rejected. The perceived fairness of outcomes was not a significant predictor of job satisfaction, affective organizational commitment and organizational citizenship behavior, which means hypotheses 5, 6, and 7 were rejected. Findings from the current study can be used to advise athletic department personnel on how to present resource allocation information to the athletes in a manner to enhance satisfaction, commitment, and positive athlete behaviors that enhance the organization as a whole.

Unruh et al (2007) conducted a study to evaluate the satisfaction collegiate student-athletes have with their athletic trainers and the services they provide. Authors specifically looked at differences in satisfaction levels between male and female athletes and athletes in high- and low-profile sports who compete at the National Collegiate Athletic Association Division I and II levels. A systematic, stratified, random sample was conducted to select subjects for this project. A total of 325 athletes from 20 institutions participated. The subjects were administered Athlete Satisfaction Questionnaire. The questionnaire comprised 35 questions designed to collect responses along a Likert-type scale. An additional 15 questions were designed to obtain either a yes or no response.

Rana (2008) in his published articles "What's Wrong with Indian Sports" has very aptly observed that we must provide latest facilities and equipment if we want good results in major international competitions. This may be one of the reasons of the deprived condition of our national game Hockey. He further highlighted that sponsorship is required for development of sports; it is the means to get more and more monetary help as the financial aid from the government does not meet the requirement of sports and sports facilities. But cricket no other game and sports have much sponsorship. This is the reason why the maximum companies want to invest the money in cricket because they want to sell their products with the help of cricket. But in Hockey, Football, Athletics and other games, the media coverage as well
sponsorship is very less. The Indian government has launched DD sports to telecast
the sports event in India, but we need a proper coverage of all major sports at least
some national cups, championships etc. for which a law must be made, so that the
cricket crazy country should also come to know and watch the other sports events
than cricket, then other sports will also get the recognition in the society.

Singh (2008) conducted study to examine different aspects of self such as self
presentation, confidence and self efficacy among sample (N=100) drawn from
various sports disciplines and athletes. After analyzing the results of analysis of
variance, he had found that National level athlete were significantly better on
perceived physical ability, confidence in physical self presentation and self-efficacy
total as compared to District level athletes. Significant difference have been found
between male and female athletes on the variable confidence in physical self­
presentation and self-efficacy total except perceived physical quality were no
significant differences were found. The result of performance by gender interaction
were significant on the sub variable confidence in physical self-presentation and self­
efficacy total. No significant differences were found on sub variable perceived
physical ability.

Review of the related literature indicates that despite recent theoretical and
empirical advances, our knowledge of the antecedents and consequences of cognitive
processes is quite limited. The study of cognitive concepts and cognitive interventions
although provide a solid foundation for sports psychology itself, cognitive style, however,
has not been investigated quite extensively by sports psychologists. More so, there is
paucity of research regarding this very pertinent psychological construct with reference to
peculiar coaching and training environment that exist in our country. There exist gaps in
literature as to whether there are any potential training methods to enhance the
development of cognitive learning styles and perceptual skills in sports and games and
more cognitively based interventions needs to be considered in depth. Similarly,
emotional maturity which undoubtedly has profound influence on sports performance has
although been examined in various sports settings but there seems to be lack of research
material particularly with reference to emotional maturity among sportspersons
belonging to different sports disciplines, participating at varying levels. Besides this, self
satisfaction parameter among the athletes which has direct and significant impact on
their performance as well as their well being has not been fully explored in India,
Cognitive Style Inventory (CSI) is a self-report research tool which gives an estimate of cognitive style of an individual in a five-point – Likert format. Five response categories are: Strongly Disagree; Disagree; Undecided; Agree; Strongly Agree. For each statement, the respondent has to refer to the above scale and decide which number corresponds to his / her level of agreement with the statement and write that number in the blank space provided on the left of each statement. The scores are interpreted; which helps to determine to what degree specialize in systematic and intuitive styles and identify the specific cognitive style to which they might belong. According to the scored obtained, the subjects can be classified. Respondents are classified – as having a systematic style, or an intuitive style. As the CSI is a bio-dimensional measure of systematic style and intuitive style consisting of 20 items each; the minimum and maximum score on both dimensions ranges between 20-100. Thus, interpretation of scores must follow the norms accordingly.

Reliability

Reliability of test was determined by two methods – (i) split-half method (ii) Test-retest method.

(i) The product moment co-efficient or correlation between two halves; i.e. Split-half was calculated for the whole scale and for each of the five sub-scales (Systematic Style; Intuitive style; integrated style; undifferentiated style and split-style) of CSI. The Spearman-Brown Phrophecy formula was used to estimate full length reliability. The full length split-half reliability of CSI was found .653 (P< .01).

<table>
<thead>
<tr>
<th>TABLE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internal Consistency of CSI</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Sub-Scales</th>
<th>R</th>
<th>Full length reliability</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Systematic Style</td>
<td>.70*</td>
<td>.83*</td>
</tr>
<tr>
<td>2. Intuitive Style</td>
<td>.67*</td>
<td>.78*</td>
</tr>
</tbody>
</table>

DF= 98 * p<.01 level of confidence

From an inspection of Table above, it is evident that the Pearsonian r ranges from .54 to .69 and full length reliabilities from .78 to .83 and all are highly significant beyond .01 level of confidence. These internal consistency values reveal that all the scales of CSI are consistent with regard to the dimensions measured.
(ii) To test the temporal stability, the CSI was administered to 50 retired persons residing at Saharsa town of Bihar State so that they were available for retest after a lapse of 3 weeks and the test-retest reliabilities co-efficients were calculated on the basis of the data obtained from them. The test-retest reliability of the whole test was calculated .39 (p< .01) and the temporal stability of different sub-scales of CSI were found as follows:

<table>
<thead>
<tr>
<th>Sub-Scales</th>
<th>Test-Retest correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Systematic Style</td>
<td>.58*</td>
</tr>
<tr>
<td>2. Intuitive Style</td>
<td>.56*</td>
</tr>
</tbody>
</table>

DF = 48 * p< .01 level of confidence

From the above Table it is evident that all test-retest correlations are highly significant beyond .01 level of confidence. This indicates the temporal stability of CSI.

Thus, a perusal of above Tables reveal that the split-half and test-retest reliabilities of the CSI are significant beyond .01 level of confidence. So the CSI can be taken to be a reliable test to measure cognitive style of college and university students as well as the other sample of Indian Population.

Validity

The validity was examined by three ways; i.e. judges validity, concurrent validity and internal validity.

Table showing split-half, test-retest reliabilities and evidence of judges validity, concurrent validity and internal validity indicated that the inventory could be used to measure the cognitive style in college and university students and other areas to determine the nature and extent of cognitive style in Indian population.

EMOTIONAL MATURITY SCALE (EMS)

For evaluating the levels of emotional maturity among the subjects, Singh and Bhargava’s (1988) Emotional Maturity Scale was used. This scale consists of five parameters namely,
(i) Emotional Unstability
(ii) Emotional Regression
(iii) Social Maladjustment
(iv) Personality Disintegration, and
(v) Lack of Independence.

These parameters include in their scope the areas mentioned below:

(i) **Emotional Unstability**:

This parameter includes the broad factors that comprises lack of capacity to dispose off problems of irritability, vulnerability, stubbornness, temper tantrums and need of constant help for one's day-to-day work. This parameter has a high correlation (0.75) with the total scores obtained on the scale. On the inter-correlational matrix, emotional unstability has high inter-correlation with social maladjustment parameter but low with emotional regression, personality disintegration and lack of independence.

(ii) **Emotional Regression**

This parameter includes in its scope a broad group of factors such as feeling of inferiority, restlessness, hostility, aggressiveness and self-centeredness. This parameter has significant correlation (.63) with the total scores on the scale. On the inter-correlation matrix, it is highly inter-correlated with other two parameters namely personality disintegration and lack of independence but has low inter-correlations with the two remaining parameters namely emotional unstability and social maladjustment. Factor analysis reveled that this parameter emerged comprising most broad factors in the scale.

(iii) **Social Maladjustment**

This parameter includes factors such as lack of social adaptability, feeling of hatred, seclusiveness, boasting habit, and lying. It has a high correlation (0.58) with the total scores on the scale. This parameter is highly inter-correlated with other parameter emotional unstability and has low inter-correlation with emotional regression.
(iv) **Personality Disintegration**

This parameter includes in its scope the factors that represent disintegration of personality such as phobia formation, aggressiveness in reationalization, pessimism, immorality distraction, distorted sense of reality. This parameter has highest correlation with total scores on the scale. This parameter is highly inter-correlated with parameter social maladjustment and has low inter-correlation with emotional regression.

(v) **Lack of Independence**

This parameter includes main factors such as parasitic dependence on others, egoistic, lack of objective interests, unreliable and indifferent. Although statistically insignificant positively, this parameter is positively correlated with the total scores on the scale (.42). It has high inter-correlation with social maladjustment and lowest with emotional regression.

**Scoring**

Emotional Maturity Scale has a total of 48 items under the five categories given below:

<table>
<thead>
<tr>
<th>Areas</th>
<th>Total No. of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Emotional Unstability</td>
<td>10</td>
</tr>
<tr>
<td>b) Emotional Regression</td>
<td>10</td>
</tr>
<tr>
<td>c) Social Maladjustment</td>
<td>10</td>
</tr>
<tr>
<td>d) Personality Disintegration</td>
<td>10</td>
</tr>
<tr>
<td>e) Lack of Independence</td>
<td>8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>48</strong></td>
</tr>
</tbody>
</table>

EMS is a self-reporting Five Point Scale items of the scale are in question from demanding information for each in either of the five options mentioned below:

V. Much, Much, Undecided, Probably, Never

The items are so stated that if the answer is in a positive say Very Much, a score of 5 is given for Much, 4 for Undecided, 3; and for Probably, 2; and for negative answer of Never a score of 1 is to be awarded. Therefore, the higher the score on the scale, greater the degree of the emotional immaturity and vice-versa. The scale has been standardized on Indian student population. It has been tested for its reliability, internal consistency and validity.
ATHLETE SATISFACTION QUESTIONNAIRE

Athlete satisfaction was assessed using the Athlete Satisfaction Questionnaire (ASQ; Riemer and Chelladurai, 2000). This measure was used because it has been found to be psychometrically sound, is useful across a variety of settings, and is easy to understand and respond to. Also, unlike previous attempts to measure athlete satisfaction, the ASQ was conceptually derived and reflected a more 'exhaustive set of facets of satisfaction that reflects the various aspects of athletic experience'. The ASQ was derived from a model that is multidimensional in nature, incorporating 15 facets of athlete satisfaction. These facets include: athlete satisfaction regarding Individual Performance (3 items), Team Performance (3 items), Ability Utilization (5 items), Strategy (6 items), Personal Treatment (5 items), Training and Instruction (3 items), Team Task Contribution (3 items), Team Social Contribution (3 items), Ethics (3 items), Team Integration (4 items), Personal Dedication (4 items), Budget (3 items), Medical Personnel (4 items), Academic Support Services (3 items) and External Agents (4 items). Therefore, the complete version of the ASQ has 56 questions. These are presented on a 7-point Likert scale anchored at 1 ('not at all satisfied') and 7 ('extremely satisfied'). Thus, higher scores reflect greater self satisfaction among the athletes.

Validity and Reliability

The development of the 15-dimension, 56-item Athlete Satisfaction Questionnaire (ASQ) was based on Chelladurai and Riemer's (1997) classification of facets of athlete satisfaction. Qualitative procedures included item generation, expert judgment, and independent placement of items in relevant facets. Quantitative procedures, item-to-total correlations, exploratory and confirmatory factor analyses, involving 172 undergraduate students and 614 Canadian university athletes, confirmed the construct validity of the scale. Correlations between the ASQ's subscales and scales of commitment and negative affectivity provided evidence of criterion-related validity. Reliability estimates (Cronbach's alpha) ranged from .78 to .95. The 15 facets of ASQ encompassed salient aspects of athletic participation, performance (both individual and team), leadership, the team, the organization, and the athlete.
### Administration of the Tests

The investigator had to approach and seek cooperation as well as support from various quarters. For obtaining data with regard to the international, interstate and state level subjects the investigator had sought prior permission from the officials of team management such as managers and coaches of various teams of Handball, Hockey and Basketball. Information regarding the date, and timings of their coaching camp as well as of their competition schedule was obtained in advance. Thereafter, the time and date of administration of the test were finalized after detailed consultation with them and the same were planned in

<table>
<thead>
<tr>
<th>Scale</th>
<th>Riemer &amp; Chelladurai, 1998 N=614 Mean (SD)</th>
<th>α</th>
<th>Riemer &amp; Toon, 1998 N=148 Mean (SD)</th>
<th>α</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual Performance</td>
<td>4.70 (1.2)</td>
<td>.85</td>
<td>4.76 (1.3)</td>
<td>.92</td>
</tr>
<tr>
<td>Team Performance</td>
<td>3.98 (1.78)</td>
<td>.95</td>
<td>5.86 (.97)</td>
<td>.91</td>
</tr>
<tr>
<td>Ability Utilisation</td>
<td>4.56 (1.4)</td>
<td>.92</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Strategy</td>
<td>4.90 (1.1)</td>
<td>.94</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Personal Treatment</td>
<td>4.88 (1.2)</td>
<td>.92</td>
<td>5.28 (1.3)</td>
<td>.93</td>
</tr>
<tr>
<td>Training &amp; Instruction</td>
<td>4.92 (1.2)</td>
<td>.88</td>
<td>4.84 (1.3)</td>
<td>.90</td>
</tr>
<tr>
<td>Team / Group Task</td>
<td>4.91 (1.0)</td>
<td>.83</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Social Contribution</td>
<td>5.34 (1.1)</td>
<td>.91</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Team / Group Ethics</td>
<td>5.22 (.94)</td>
<td>.79</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Team / Group Integration</td>
<td>4.96 (1.1)</td>
<td>.88</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Personal Dedication</td>
<td>5.56 (.84)</td>
<td>.78</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Budget</td>
<td>4.19 (1.6)</td>
<td>.92</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Medical Personnel</td>
<td>5.64 (1.1)</td>
<td>.87</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>Academic Support Services</td>
<td>4.34 (1.4)</td>
<td>.86</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>External Agents</td>
<td>3.92 (1.4)</td>
<td>.85</td>
<td>n/a</td>
<td>n/a</td>
</tr>
</tbody>
</table>
such a way that he same did not unduly disturb their training and competition schedule. For obtaining the data from international players, the investigator had to meticulously follow their competition calendar after obtaining the same from NSNIS Patiala, from various sports Associations and from internet. It was very difficult to contact them and even special permission from the officials and consult of the players were obtained so that tests could be administered without slightest disturbance to them personally as well as professionally. The tests were administered at a place where there were no distraction and minimum disturbances. All the tests were administered one after the other. Before administering the tests, instructions provided in the respective test manuals were read over and explained to the subjects and their doubts, if any, were cleared. The subjects were requested to list their first response without any delay to meet the demands of the tests. The tests were got completed within the time schedule and by following the procedure prescribed in the test manuals.

**STATISTICAL DESIGN**

The collected data was subjected to statistical treatment on computer. Analysis of variance (3x2 factorial design) was used to compare the three performance levels and two gender groups pertaining to each of the three selected sports disciplines, their interaction effect was also found out regarding all the selected psychobiosocial variables. Descriptive statistics such as mean and SD values were got calculated and post-hoc test was also applied to find out the direction of differences among these performance and gender groups. Oneway ANOVA was employed on the selected variables: (i) to find out differences among the three sports disciplines within each of the three performance levels i.e. State, Interstate and International, (ii) to find out the differences within both the gender groups of each sports discipline and (iii) to find out the differences regarding overall three sports disciplines. Arithmetic mean and SD values were also worked out to supplement as well as to find out the direction of differences with regard to the results of these oneway analysis of variance. Further, mean, SD and t-values were also worked out to find out overall inter-performance level differences as well as overall gender differences. Finally, Pearsons Product Moment coefficient of correlation was employed to explore the inter-relationship among the selected psychobiosocial variables. For the purposes of this study, the level of significance was set at 0.05 level.