CHAPTER II
REVIEW OF LITERATURE
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Although research inroads are being made, we still have a long way to go in developing research models and conceptual framework to advance our understanding of youth sports. The magnitude of potential changes in athletes diminishes as performance standards increase. Thus, it is very essential for sports psychologists or physical educators to contribute to the field of socio-psychology for the enhancement of performance of athletes.

The researcher has in this chapter quoted some critical and analytical studies which would serve as a base for further research in the subject.

This chapter is sub-divided into three parts:
1. Personality;
2. Adjustment; and

PERSONALITY

Booth (1958) using Minnesota Multiphasic Personality Inventory (1951, MMPI) compared the personality traits of the following groups of college students: -- (a) freshman and upper class non-athletes; (b) freshman and varsity athletes who participated in only team, individual or, team and
individual sports; and (c) athletes who were rated as poor and as good competitors. He found that freshman athletes and non-athletes scored significantly higher than the varsity athletes on the Anxiety (A) variable. Varsity athletes and the upper class non-athletes scored significantly higher than the freshman athletes and non-athletes on the dominance (D) variable. On the social responsibility (Re) variable, the upper class non-athletes scored significantly higher than the freshman athletes and non-athletes. Freshman and varsity athletes who participated in only individual sports scored significantly higher on the depression variable than those who participated only in team sports. It is concluded that differences in personality as measured by MMPI do exist between athletes and non-athletes and between participants in individual sports, in team sports, and in team individual sports.

Pertersen and Kroll (1965) selected five collegiate football teams so as to provide data on winning and losing teams. Personality profiles of five teams (N = 139) on the Cattell 16 PF (From A) test were scrutinized through a multiple-discriminant analysis and a maximum likelihood classification method. They compared the winning and losing football teams and found significant differences favouring winning teams. The winners had greater abstract ability they were more venturesome, bold, self-confident, and placid, more
self-controlled and better integrated than the losers.

Balazs (1975) quotes Kane and Callaghan (1965) who focused the personality characteristics of world class female tennis players and found that emotional stability, ego-strength and low frustration characterised those top players.

Brown (1970) has done a comparative study of personality traits by using Edwards Personal Preference Schedule (1954) to 300 subjects including varsity skiers, varsity wrestlers, varsity swimmers and collegiate non-athletes. The statistical null hypothesis was employed as the basis for treatment and statistical analysis of date. It was concluded that the varsity skiers tended to have greater inner stability and did not appear to need sympathy, understanding, affection or encouragement from other people to the same degree that the varsity wrestlers, varsity swimmers and collegiate non-athletes. The varsity wrestlers were generally more structured, less adventurous, more rigid, and more content with status-quo than all of the other population groups studied.

William et al., (1970) have studied notional level female fencers (N = 30) by using 16 PF questionnaire. They found that the competitive fencer may be described as a very reserved, self-sufficient, autonomous individual with a below-average desire for affiliation and nuturance. She has a strong need to be the very best and is an intelligent,
creative, experimenting and imaginative person. She also tends to be assertive and aggressive. The top level competitor was significantly more dominating than the low level competitor.

Ogilvie (1971) tracing the relationship between personality and athletic ability concluded that the competitor was basically an emotionally healthy person who tended towards extroversion was tough minded, less anxious, self-assertive and self-confident with a high capacity to endure the stress of competition.

Giri (1977) using Cattell's 16 PF questionnaire observed that contact athletes, as compared to semi-contact and non-contact athletes, were bright ($B_+$), and group dependent ($Q_{2-}$) whereas the personality patterns of each of the group at various levels were similar.

Bhushan and Agarwal (1978) also administered Cattell's 16 PF questionnaire to 20 Indian Table Tennis and Badminton players aged between 19-22 years. Ten of these were outstanding players, half of them being women, who had represented India at international events (high achievers). The remaining ten subjects were table tennis and badminton players who had only participated in district tournaments without achieving any distinction (low achievers). The results show that the high achievers scored significantly higher than their low achieving counterparts on dominance and
surgency. The outstanding athletes scored consistently higher on factor of extroversion; that is, outstanding sportsmen and sportswomen were found to be more impulsive, uninhibited, optimistic, aggressive and unable to keep their feelings under control. Contrary to expectations, there were no significant differences in intelligence, ego-strength, self-sufficiency, tenseness and anxiety between high and low achieving sports persons. The outstanding sportswomen scored significantly higher on the primary factors of dominance and tenseness and lower on outgoingness, emotional stability and tendermindedness as compared to sportsmen. The sportswomen scored on anxiety, alertness poise and independence.

Thakur and Thakur (1980) used projective method (Thematic Apperception Test) of personality assessment on 36 athletes and 36 non-athletes who were under-graduate male students (mean age 18.64 years). By using T-test of significance it was reported that the characteristics associated with the athletes are happiness, cordial and affectionate relations, anxiety, achievement dominance and superior organization capacity whereas, the characteristics associated with the non-athletes are guilt, acquisition, passivity, rejection, superior imagination and sex.

Deana (1981) has studied the psychological characteristics of successful and less successful 64 junior
female athletes participating in the Junior National Fast-Pitch Softball Tournament (N=23) and the Great Plains Swimming and Diving Championships (N=32). These athletes were aged from 13 to 21 years. It was concluded that the greater amount of differences between groups occurred between successful and less successful open skill athletes, followed by open and closed skill athletes, and finally by successful and less successful closed skill athletes. Both groups revealed internal and external factors which directly or indirectly caused competitive anxiety. Interview data revealed that closed skill athletes employed self-talk and imagery to greater degree than open skill athletes. These data also revealed the importance of coaches and parents opinions and feelings in causing anxiety in competitive settings. In the closed skill sport, only anxiety in competitive settings. In the closed skill sport, only anxiety and coping was found to discriminate between successful and less successful athletes. Specifically, successful athletes reported more concentration on specific plays, replaced anxiety with positive thoughts, and thoughts about psychological recovery, while less successful athletes reported high level of anxiety and worried over personal problems, the quality of playing field and the outcome of the game.
Kirkcaldy (1982) administered the Eysenck personality Questionnaire (1978) to various athletes. By comparing team and individual athletes using univariate and multiple discrimination function analytical methods, no significant differences were found to exist along the personality dimensions. However, when team sports were considered separately and athletes categorized into one of three class (offensive, centre, and defensive players), it was found that males in <<attacking>> positions were substantially higher on <<psychoticism>> (toughminded, dominant, aggressive) and <<extroversion>> compared to midfield players. The forward, offensive players were easily differentiated from defensive players, the latter group exhibiting a more <<emotionally stable>> pattern than the offensive athlete. In females, the trend was somewhat reversed, that is, attacking players were less extroverted and more neurotic than players from other positions.

Somalingam (1982) described personality factors of Indian Junior (Boys) hockey team administering 16 PF questionnaire. The findings revealed that the subjects were warm hearted, slow learners, bold and sociable. They were found to be self-reliant, self-sufficient, conscientious and analytical. The 18 members Indian Junior Hockey squad was found to be low on 'Anxiety Factor', indicating a fair amount
of motivation to achieve goals set by themselves. The players were high on 'Extroversion Factor' showing a high level of interpersonal communication. High score on 'Alert poise' and 'Independence Factors' delineated that the subjects were enterprising, decisive, aggressive and independent. The characteristics required of successful hockey player like cohesiveness, independence, decision-making and firmness, clearly came out of this study.

Adams (1983) studied the personality characteristics of highly skilled 31 male and 25 female amateur racquetball players. The study revealed that four characteristics affiliation, endurance, nurturance and achievement, were found to be predominant in the male-subject group. The same four traits along with order were found to be predominant in female-subject group also. The mean scores for the male and female racquetball players were not significantly different on any of the personality variables. There was also a substantial similarity between rank order comparisons of the mean of the male and female players. The male players were found to be significantly higher than the general population on achievement, dominance, endurance and nurturance, and significantly lower on aggression and social recognition.

Quarterman and Evans (1983) administered 16 PF questionnaire to assess the personality characteristics of successful and unsuccessful black female basketball players.
and non-athletic females. On factor I, the basketball players, both successful and unsuccessful, scored significantly lower than non-athletic female group toward the tough-minded side of the scale. On factor L, the unsuccessful basketball players scored significantly lower than the successful players, indicating that unsuccessful players are a more trust worthy group.

Petrak and Novotny (1983) administered 16 PF questionnaire two juniors groups playing in higher-competition and lower-competition and into groups of older and younger school boys ice hockey players. The juniors participating in higher competitions differed markedly from the other junior groups by being less trustful in life situation (L), more sophisticated and spontaneous (H), rather careless (F), more ambitious (N), more accessible socially (A), less emotional (C), more flexible interpersonally (E), and more conventional and imitative (M). These junior also proved more self-confident (Q₂), and disciplined (Q₃) and especially more relaxed (Q₄). The school boys differed from the juniors by being more assured, more intergroup related (Q₂), more sober-minded and cautious (F), more self-confident (E) and self-contained inter-personally (A) and did not seem predisposed to abstract thinking (B). They appeared more conscientious (G), resembled prominent players in creative ability (L), were more ingenuous (N) and less conventional
Reeves (1983) studied the personality characteristics of top athletes (N=127) who played different positions in soccer. One way factorial analysis of variance were used to determine mean effects and interactions between five selected personality traits, that is need for achievement and affiliation, autonomy, locus of control, and field-dependence-independence, and the positions played, the degree of success, and position preference. He found that soccer players who played different positions (goal, defensive, midfield attack) did not differ significantly on the abovementioned five personality characteristics alone. However, there was a significant relationship between locus of control and degree of success. There were also three significant interactions between the need for achievement, position played and success; need for achievement, degree of success and position preference; and need for affiliation and position played. Moreover, the more skilled and successful the athlete who played a preferred position, the less was the need for achievement.

Sharma (1984) administered Cattell's 16 PF questionnaire to (N=538) male college students (282 university representing and 256 non-sportsmen). University representing sportsmen belonged to different sports group, i.e., basketball, hockey, cricket, football and volleyball. The
data were analysed by employing both descriptive and inferential statistical procedure. The analysis of data revealed that personality factor $E_+$ (Aggressiveness), $C_+$ (emotional stability), $Q_1^+$ (experimenting), $B_-$ (less intelligent), $G_+$ (conscientious), $H_+$ (venturesome) and $L_-$ (trusting) come next in order of dominance in differentiating university representing sportsmen from non-sportsmen. The least dominant factors differentiating university representing sportsmen and non-sportsmen were $F_+$ (Happy-go-Lucky), $M_-$ (practical), $N_+$ (shrewd), $O_-$ (placid) and $Q_2^-$ (Group-dependent).

He also studied the socio-psychological differentials among various sports groups and reported that personality factor $E_+$ (Aggressive) had been retained by basketball, football and volleyball sports groups but not by hockey sportmen. Similarly, personality factor $C_+$ (emotional stability) had been observed in the personality profiles of football and hockey sports groups but the same factor was not retained by basketball and volleyball sports groups. Factor $Q_3$ (socially precise), appeared in the personality structure of football, hockey and volleyball sportmen. Factor $M$, $O$, and group dependent factor $Q_2$ emerged in the personality profiles of basketball players. Cricket group had obtained the highest mean score on intelligence variable followed by volleyball, hockey, basketball and football. He also found
that the sportsmen representing universities are emotionally stable, aggressive, conscientious, trusting, practical and group dependent.

*Daino (1985) observed that in general, adolescent tennis players, both male and female, scored significantly higher in extroversion and will to win, and exhibited a lesser degree of <<neuroticism>> (emotionally unstable), anxiety apprehension, obsession and depression.

Reeds (1985) found that the personality-performance relationships were not supported when applied to competitive male and female gymnasts, performance. And pre-competitive anxiety was not a statistically significant prediction of gymnastics performance. The California Personality Inventory (1951) testing showed that there are some significant personality differences in the different grouping of athletes, i.e., male-female and team and individual sport participants. Male athletes showed different personality traits than females and female athletes showed personality traits different than female non-athletes. Significant differences were also observed between athletes who participated in individual or team sport (Siavash, 1985).

#Frazier (1986) has identified and compared psychological characteristics of male and female elite and non-elite marathoners and determined if those characteristics predicted ability level in the marathoners. 68 male and 18
female marathoners completed the Eysenck personality Inventory (1951), the profile of moods, the Zung Depression scale and demographic form, designed to assess cognitive strategy. He found that cognitive strategy of elite male marathoners was significantly different (P<.01) from that of the non-elite marathoners. Differences were found between male and female marathoners with female marathoners being significantly higher on the measure of confusion and the trait of neuroticism-stability. The performance level could not be predicted from these characteristics and there were no differences between elite and non-elite marathoners except in cognitive strategy.

Shankar (1986) has reported that the position winning gymnasts and non-position winning gymnasts of various universities of India are almost equally stable and extrovert in their psychological make-up of the personality scales. However, non-athletes are more neurotic and extroverts. Hence, gymnasts are better equipped mentally for successful performance and achievement in sports than non-athletes.

Kumar et al., (1986) have reported that athletes have more outgoing personality than non-athletes and it supports the findings of Eysenck et al., (1982), who found in their study using E. P. Q. that athletes tend to be more extroverted than the non-athletes. Athletes are less anxious,
tender-minded and aggressive persons in comparison to non-athletes.

Scilligo et al., (1986) have studied the relationship between intra-psychic and interpersonal processes and performance in team sports of (N=165) athletes and divided them in three groups of high, middle and low standing. They found that high standing teams, in comparison with middle and low standing ones, would be composed by athletes showing a high degree of self and reciprocal acceptance and attention. Athletes in high standing teams more attentive and planful and less inimical, less self-hurting, less self-neglecting and less isolated.

Sharma and Shukla (1986) have studied the personality traits of 600 subjects divided into two categories of Individual sports included athletes (N=54) and team sports included four sports specialities hockey (66), soccer (60), volleyball (60) and cricket (60). These subjects belonged to the age group 13 to 18 years. They used Cattle’s 16 PF Questionnaire. The conclusions are that athletes in various sports specialities tend to be outgoing, socially confident, emotionally stable, happy-go-lucky, conscientious (rules bound), venturesome, self-reliant, vigorous, confident, self-sufficient, controlled and relaxed. On the other hand, non-athletes are reserved, less intelligent, affected by feeling, weak super-ego, shy, tenderminded, suspicious,
doubting, indisciplined and tense.

Singh and Singh (1986) have conducted a study on 50 cricket players and 50 non-sportsmen. Ages of these subjects ranged from 18 to 25 years. Cattell’s Self-Analysis form (Anxiety Scale) and Eysenck’s Maudsley Personality Inventory (1959) (M.P.I.) were used to assess the psychological behaviour of cricket players. The results of the study indicated that cricketers scored low on anxiety and neuroticism tendency as compared to non-sportsmen. No significant differences were observed in extroversion scores between two groups.

Singh (1986) conducted a study to investigate the personality traits of champion (1st, 2nd, 3rd position holders in All India Intervarsity) non-champion (Who lost in the first round of competition) Boxers by using Cattell’s 16 PF Questionnaire. It was concluded that champion boxers of All India Inter-University level are emotionally more stable, possess stronger super-ego are self-reliant, practical, confident, experimenting, self-sufficient, high self-concept and unfrustrated whereas non-champion boxers are found dependent, imaginative, depressive, emotionally less stable, humble, weaker super-ego, are conservative and frustrated. Both champion and non-champion boxers are outgoing, happy-go-lucky and neither are less intelligent nor more intelligent, shy, trusting, sentimental, socially bold, suspicious and
shrewd and the mean scores fall at the average of the profiles in these psychological traits.

Uppal and Gill (1986) used 16PF Questionnaire to assess the personality profiles of the male (N=20) and female (N=20) badminton players. The analysis of data revealed that highly skilled male badminton players were found to be more suspicious, neither less intelligent nor more intelligent and neither tough minded as compared to poorly skilled male, badminton players who were less intelligent, toughminded and neither trusting nor suspicious. Highly skilled female badminton players were tough-minded, suspicious and hard to fool as compared to poorly skilled female badminton players who were neither toughminded nor tender-minded and neither trusting nor suspicious.

Bhatti (1987) studied the personality differentials between athletes and non-athletes, administering Cattell’s 16 PF Questionnaire. It was concluded that both groups shared nine factors in which athletes were found to be emotionally less stable (C^-), aggressive (E_+), enthusiastic (F_+), sentimental (N_-) confident (O_-), conservative (Q_{1_-}) and tense (Q_{4_-}) as compared to non-athletes. Though results did not find any significant differences in personality factor (B_+), yet athletes were found to be superior in achieving academic scores. It was also noticed that the basketball group was found to be aggressive (E_+), confident (O_-) and liberal (Q_{1-}
football group found to be more intelligent (B+), enthusiastic (F+), toughminded (I_−), suspicious (L+), imaginative (M_) and relaxed (Q−), whereas, volleyball group was found to be concrete thinking (B−), toughminded (I−), imaginative (M+), group-dependent (Q−2) and socially precise (Q+3) as compared to non-athletes.

Bhatti and Singh (1988) have studied the personality traits of cricketers of inter-university level by using Cattell’s 16 PF Questionnaire. The analysis of data reveals that with respect to factors B, C, F and N, the cricketers were found to be less intelligent, affected by feelings, serious and shrewd respectively, whereas, with respect to factors A, E, G, I, L, M, O, Q+1, Q−2, Q+3 and Q−4, cricketers were on the average reserved, humble, expedient, shy, tough-minded, group-dependent, indisciplined, self-conflicting, relaxed and outgoing, assertive, conscientious, venture-some, tender-minded, suspicious, imaginative, apprehensive, experimenting, self-sufficient, controlled and tense.

Dureha (1988) administered Cattell’s 16 PF Questionnaire for comparison of personality characteristics of sportsmen and non-sportsmen. It was concluded that sportsmen and non-sportsmen differ in their personality characteristics in the following factors: emotional stability and realism about life, cheerfulness and frankness, tender-mindedness and practicability, greater control over emotions.
and greater regard for self-respect and social reputation. Non-significant differences in rest of the characteristics between the two samples might be due to the fact that a vast majority of college and university students in India come from middle or higher classes of society. There is, thus, a considerable degree of homogeneity in socio-economic status, family back-ground and the influence of school and peer groups.

Kollarik et al., (1988) were identified superior boxers’ specific personality traits as emotional stability, expressive masculinity, optimism, quietude and easiness.

Meyers et al., (1988) found that inter-collegiate contestants scored significantly higher (p < .05) in vigor and extroversion and significantly lower (p < .05) in depression, fatigue, confusion, total mood disturbance, and conformity than collegiate norms. Female rodeo performers scored significantly higher in neuroticism than male counter-parts in other events.

Sharma (1988) has not found significant differences in the personality traits of players of individual and team games (chess, cycling, gymnastics, swimming, basketball, hockey, kabaddi, kho-kho, volleyball) except in one factor, i.e., shyness vs. venturesomeness.

Singh (1988) has reported that successful inter-university hockey players shared four of the personality
factors, i.e., C, E, Q₁, Q₂. The successful players possessed higher ego-strength, were found to be dominated in group, adherence, critical and experimenting, whereas, unsuccessful players possessed lower ego-strength and were found to be submissive, conservative and self-sufficient.

Sharma and Toor (1988) concluded that national level sub-junior basketball players were above average in intelligence and there were not significant differences of intelligence between high and low performers among sub-junior basketball players. Moreover, there was no significant correlation between intelligence and playing ability.

Singh (1988) administering the personality questionnaire (standardised version of E.P.Q., 1984) found that football, volleyball and basketball groups recorded lowest on extroversion, neuroticism and psychoticism except basketball which scored higher on extroversion. Further, he found that successful athletes (total samples) from individual and team sport showed a higher level on extroversion, and lower on neuroticism and psychoticism, whereas, unsuccessful athletes recorded higher on neuroticism and psychoticism and lower on extroversion.

Bawa and Debnath (1989) have conducted a comparative study of extroversion-introversion on national level female gymnasts, cyclists and badminton players. The analysis of data revealed that all three groups were neither extroverts
nor introverts but fell under average category. It was also observed that badminton players differed significantly from gymnasts and cyclists on introversion/extroversion scale. However, gymnasts and cyclists did not differ significantly. Badminton players were found to be significantly more introverts than gymnasts and cyclists. Contrary to this, Sinha and Verma (1989) administered Eysenck Personality Questionnaire (1978) on 50 high achieving and 50 low achieving female athletes between the age group of 18 to 26 years and found that high achieving female athletes are more extroverted, dominating, helpful and aggressive in comparison to low achieving female athletes.

Hodge (1989) has found out the psychological characteristics of elite rugby players. The results indicate that successful players are above waterline (population norm) on vigor, but below surface on the more negative modes of tension, depression, anger, fatigue and confusion than the population norm.

Singh (1989) has conducted a study on 400 students (200 sportsmen and 200 non-sportsmen) to compare the personality traits and achievement motivation of the two groups by using Cattell’s 16 PF Questionnaire and Gandhi and Srivastava’s Achievement Motivation Scale. He found that sportsmen scored significantly higher on the achievement motivation and on the personality traits like emotional
stability, intelligence, trust-worthiness, assertiveness, obedience, independence, relaxed temperament, extroversion, tough poise and practicability than non-sportsmen.

Bhullar (1991) employing survey method carried out a study with the objective of comparing five groups of sportswomen (N=90) specialising in hockey, handball, basketball, cricket, volleyball on personality characteristics using Cattell's 16 PF Questionnaire. The results of inter-group comparison with the help of t-ratio revealed that hockey group was characterised by being emotionally stable (C), assertive (E), tough-minded (I), lively (F), and venturesome (R). The handball group was venturesome like the hockey players. The traits of volleyball group observed were E,F, G, H. Cricket group excelled in factor (A), i.e., outgoing ness and volleyball in venturesome (H). All the five groups of sportswomen, in spite of differences in games, had basically same traits as highlighted in the study.

Dureha (1991) conducted a study to assess the personality traits of the winner of East-university level. The Higher Secondary Personality Questionnaire prepared by S.D.Kapoor and K.K.Mehrotra was administered. The analysis of data revealed that male hockey players were found to be warm hearted, easy going, less intelligent, more emotionally stable, of phlegmatic temperament, aggressive, happy-go-
lucky, conscientious, socially bold, tender-minded, vigorous, confident, group dependent, self-disciplined and relaxed.

The high performers in Indian badminton scene have been found to be propelled by a high need for achievement and recognition. They are highly aggressive and dominant for whom winning is everything. The low performers on the other hand have been found to be self-pitying, apologetic and low on the needs of aggression and dominance (Nangia, 1991).

Mathew and Mathew (1991) used Cattell’s 16 PF Inventory on 42 players of indigenous games kabaddi and kho-kho who belonged to age group of 18 to 20 years. The results of the study revealed that the women kho-kho players were shy, conservative, group dependent, tense with anxiety, whereas, the women kabaddi players were venturesome, critical, self-sufficient, relaxed, independent and aggressive with low anxiety.

Sangwan (1991) found that high assertive sprinters performed significantly better in 100 meters as compared to low assertive printers. However, statistically significant differences were not reported between groups in 400 meters.

Shergill (1991) conducted a study to find the personality differences of successful and non-successful (each N=24) volleyball players, using 16 PF and STAT form. Discriminant analysis was applied to study the differences between the two. the results indicate that the two groups can
be discriminated on the basis of given variables. The results also show that while factor A (easy going), C (Ego-strenght), G (super-ego) and H (venturesome) are the traits of successful players, state anxiety, trait anxiety and dominance are the dominant characteristics of non-successful players.

Sharma and Shukla (1991) administered Cattell’s 16 PF Questionnaire on 128 university cricket players of 8 teams (winner and runners up) each at the inter-university zonal competitions held during 1987-88. Multivariate discriminant function analysis of 16 PF profiles indicate that factor G (conscientious) for the greatest amount of total dispersion of any given variable. Other variables possessing a relatively high degree of discriminatory power were E, Q₂, Q₁, A, N, M, L, F, I, Q₃, B, Q₄, C, O, and H factors.

Somalingam (1991) administered Maudsley Personality Inventory (1959) on the cricket team members who participated in South-Zone Inter-University Cricket tournament. He reported significant mean differences in the extroversion scales of winner and runners-up cricket (university representing) teams and also between the successful cricket teams (winners and runners-up) and the losing teams. However, no significant differences were noticed between the different groups on neuroticism scores.
Somalingam and Ravichandra (1991) have found that university level hockey players having desirable personality traits possess more self-assurance, high intelligence, neuroticism, quick decisiveness and more initiative.

**ADJUSTMENT**

Slusher (1964) compared 400 high school athletes (athletic, basketball, football, swimming and wrestling) and 100 non-athletes relative to personality profiles in terms of Minnesota Multiphasic Personality Inventory (1951) using the following categories: hypochondriasis (Hs), depression (D), hysteria (hy), psychopathic deviation (pd), femininity (Mf), paranoia (Pa), and psychasthenia (Pt). Intelligence was measured by the Lorge-Thorndike Intelligence Test (level 10-12). Femininity and intelligence were significantly lower for all athletic groups, whereas, hypochondriasis was significantly higher for all athletic groups, except swimmers when compared with non-athletes.

Kane and Callaghan (1965) (quoted in Balazs, 1975) focused the personality characteristics of world class female tennis players. They found that emotional stability, ego-strength, and low frustration characterized those top players.

Cooper's (1969) analysis of literature also revealed that athletes tended to be outgoing, socially adjusted,
higher in prestige and social status, stronger competitors, less compulsive, less impulsive, having greater tolerance for pain, lower feminine interests and higher masculine ones.

Antonelli and Mascellani (1973) using Bell's Adjustment Inventory (1937), on 351 top Halian athletes found that athletics, volleyball, sailing and fencing participants have good adjustment whereas cycling, swimming, rowing and gymnastics participants have inferior adjustment.

Rani, Usha (1974) studied the personality adjustment differences of \( N=170 \) athletes and non-athletes, by administering the Bell's Adjustment Inventory (1937). Mean, SD and t-ratio statistical techniques were used to assess the data. She found that there were differences in personality adjustment between athletes who participated in group and non-athletes. In the individual events group, badminton players had better home adjustment than track and field athletes, wrestlers and tennis players. As far as the team games group were concerned, hockey players were better adjusted in health than football, basketball and volleyball players. Non-athletes had better home adjustment and had poor health adjustment as compared to the athletes. Athletes were more aggressive than non-athletes and were also emotionally more unstable than non-athletes.

Balazs (1975) conducted a study on 24 female volunteer subjects who represented the U.S. in the 1972.
Olympic games, as members of the swimming, track and field and ski-teams. Interview, Personal Data Questionnaire (PDQ), and Edwards Personal Preference Schedule (1954) (EPPS), were used as tools to assess the psycho-social characteristics of outstanding female athletes. It was concluded that outstanding female athletes had a value orientation that pushed them from childhood onwards to the highest level of performance in sports. They had particular family dynamics that seemed to be crucial; like the parents’ support and encouragement coupled with their high expectations. They gave manifestation of integrity and autonomy and they appeared to hold satisfying social contacts and heterosexual relations.

Gill (1977) investigated the influence of success, failure and relative ability on interpersonal responses within a group competition situation. All interpersonal dependent variables were assessed with State Anxiety Inventory modified as described by Martens (1977). To assess perceived ability, each subject was asked to rate her individual ability on the maze task on 97 point. Likert Scale ranging from low (1) to high (7). Thirty two subjects comprising of college females were divided in two groups of 16 each taken as sample. These participated in two group competition sessions. (3x2) ANOVA’s, MANOVA’s and covariance analysis were performed to analyse the data. He observed that members of successful teams reported higher perceived
ability, greater satisfaction and lower state anxiety than members of failing teams. Morgan and Johnson (1978) using MMPI (1951) found that less successful athletes possess more desirable social traits than the unsuccessful athletes.

Duda (1980) has studied similarities and differences in personality characteristics of college, young adult and adult women athletes. California Psychological Inventory, (1951), Duda Need for Achievement Scale and a personal information questionnaire were administered to 250 subjects. It was found that sociability was significantly lower for the young adult women athletes in comparison to college and adult athletes. It was concluded that there were no significant differences in the overall personality profiles of the three groups of women engaged in competitive sports.

Krotee et al., (1984) investigated that cooperative interaction tends to promote putting skills (golf) and more positive attitudes towards the instructor and each other. Students in the cooperative and competitive conditions showed a preference for their own interaction patterns, while all students indicated less positive feelings for the individualistic conditions.

Johnson et al., (1980) completed a meta-analysis of 122 studies, comparing the effects of three (cooperative, competitive and individualistic) interaction patterns on achievement. The results strongly indicate that cooperative
learning promotes higher achievement than do competitive or individualistic instruction.

Bhatti (1987) has also studied the adjustment level of athletes and non-athletes by using Bell's adjustment inventory (1937). A descriptive analysis was carried out and it was found that home adjustment of non-athletes was significantly better than athletes. There could not be found any differences in their health, social, and emotional adjustment. Basketball group was found to be emotionally better adjusted than non-athletes. Football group was superior in health adjustment, but inferior in social adjustment than non-athletes. No difference was found in home and emotional adjustments. Volleyball group was found to be submissive and retiring in their social contacts and emotionally unstable than non-athletes.

Kumari, Amra (1988) conducted a study of 300 sports girls and 300 non-sports girls in the age group of 14 to 16 years by using Sinha and Singh Adjustment Inventory (1980). She concluded that sports girls belonging to rural and urban areas were better in all variables of adjustment, i.e., emotional, social and educational than non-sports girls.

Singh (1988) administered Adjustment Inventory for college students (Sinha and Singh, 1980) on 202 athletes (88 individual and 114 team athletes). Bivariate and
multivariate analytical procedures were used for the analysis of data. He found that individual and team athletes differed significantly in educational adjustment. Team athletes were found to be more interested in educational activities. He also observed that basketball group was better adjusted on all the variables as compared to volleyball, handball and football groups, which were found 'average' on level of adjustment. He further found that successful athletes were better adjusted in home, health, social, emotional and educational adjustment as compared to unsuccessful team and individual athletes.

Ismail (1989) has conducted a study to re-examine the personality and motivation variables that influence athletic performance especially among Malaysian elite athletes. He found that athletes with ascendancy orientation are aggressive and cooperative while those with poor emotional balance are competitive. Conversely, responsible and social athletes were found to be competitive and cooperative in nature.

Mahoney (1989) found that the competitively defined best in the sport of Olympic weightlifting also tended to score as more psychologically healthy (non-symptomatic) than their less successful peers, across genders and age levels. The most successful athletes tended to show a composite picture of being less depressed, less interpersonality
sensitive, and yet more anxious and angry than their less successful counterparts.

Nangia and Sengar (1989) administered Sinha and Singh Adjustment Inventory (1980) on 320 sportspersons and non-sport persons. Subjects included players of university level teams of basketball, volleyball, hockey, cricket, athletics, badminton, and table-tennis and non-sport persons. 't'-test revealed significant differences in adjustment levels of sportsmen and sportswomen as well as between sports persons and non-sport persons. Significant differences were also found in the players of team and individual games.

Singh and Shergill (1991) conducted a study to find out the effect of group cohesiveness on the performance of players belonging to the volleyball team. The team under investigation participated in All India University Women Volleyball Championship. Different sociometric criteria were used to collect the relevant data. Results indicated that there was more group cohesiveness amongst successful team players as compared to the less successful ones.

SOCIO-ECONOMIC STATUS

Jerry (1969) has studied the relationships between attitudes towards physical education activities, motor performance levels, and socio-economic status of 50 matched pairs of Negro and Caucasian subjects who were randomly selected for the study from two different California Junior
Colleges. The subjects were evaluated in the following performance tests: (i) running high jump; (ii) standing broad jump; (iii) fifty-yard dash; (iv) shot-put; and (v) pull-ups. 't' test, correlation coefficient technique and a multiple correlation method, when justified, significance at the 0.05 level of confidence was reported. The results revealed the Negro superiority cannot be explained in terms of the aspects of socio-economic status and attitude toward physical education activities. Information about an individual's socio-economic status does not lend to prediction of his gross motor performance ability.

Young (1969) has studied the relationship between personal-social adjustment, physical fitness and attitude towards physical education among (N=114) high school girls with varying socio-economic levels. ANOVA results reveal that there is a significant difference (p<.01) between socio-economic groups in the matter of personal-social adjustment, with the high SES groups showing better adjustment scores than the middle groups, and the middle groups showing better than the low groups. The same results occur at the (p<.01) personal adjustment and at the (p<.05) level with reference to social adjustment.

Riddle (1969) investigated the relationship between physical education activity preference, socio-economic status and personality needs of freshmen and sophomore college
women. Stern's Activities Index (AI) for personality need differences and family Background Questionnaire were administered on 322 subjects. Analysis of variance with respect to socio-economic status, for the university sample studied, was not a significant factor in physical education activity preference. The nature of physical activities itself acted as a selective environment, being differentially attractive to various types of people.

Norbert (1971) examined forty youths of grades VII to X and obtained their attitude towards sports. Socio-economic status was measured by Hollings Head Index of social position (1959) and self-concept. It was found that the youth who had played sports had a more favourable attitude towards sports. Sports participant, of white-collar background had a more favourable attitude towards sports than did the white-collar non-participant.

Lashley (1972) administered AAHPER Youth Fitness Test, the California Psychological Inventory (1951) and the American Home Scale to 500 junior high school boys to determine if there would be any significant differences or relationships between the levels of physical fitness, personality characteristics, and socio-economic status of the Negro and Caucasian junior high school boys of selected North-East Texas public junior high schools. It was concluded
that there was a significant relationship between the personality characteristics and the level of physical fitness, and between socio-economic status and level of physical fitness of Negro and Caucasian junior high school boys. There were also found some significant differences between personality characteristics of Negro and Caucasian boys. Caucasian junior high school boys had a significantly higher socio-economic status than the Negro boys.

Persky (1973) randomly selected 300 subjects to examine the relationship among socio-economic status, racial or ethnic background, and physical development of New York City elementary school children. The comparative physical growth profiles were measured by the Wetzel Grid (1948). Semi-annual measurements of the physical status of lower and middle SES subjects were conducted over three year period in order to detect their prevailing and ongoing physical irregularities. For the analysis of data, chi-square, t-test and fisher exact probability test were used. This study has shown that the comparative physical growth profiles between middle non-white SES children and middle white SES children indicated no significant differences lending support to the researcher's position that socio-economic status and not race is directly related to poor health. Most significant is evidence of the fact that a large corps of chronically ill students are found among the lower SES subjects.
Mehra (1976) conducted a study of the socio-economic status of team-mates in different sports and concluded that members of basketball, athletics, hockey, cricket and football teams differed in their socio-economic status. Cricket players belonged to the highest socio-economic status group and the athletes to the lowest group.

Hyes (1977) administered Ellis Index of class position to 126 wrestlers to determine the influence of social class on the wrestling participation and success at the University level. The Spearman Rank Order Correlation Coefficient was used to determine the correlation between success and social class. He found that the success level of university wrestling teams did not appear to be related to the social class composition of the teams. The wrestlers were found to belong to a middle class environment.

Shine (1977) reported sociological investigation of American elite winter athletes (N=80) who represented the United States of America in the winter Olympic games of 1976. Data revealed that the vast majority of athletes came from solidly middle and upper class families. Parental support, both emotional and financial, for the athletes' development was perceived as being very important by most of the subjects. Sports clubs and youth sports associations played key roles in the "athletic pipline" for most athletes. The "urge to excell" was rated as the most important factor in
becoming a world-class American winter athlete.

Poston (1978) used Ellis Index of Class Position (ICP) to determine the relationship of social class to swimming participation and team success at the collegiate level. The test was conducted on 262 swimmers of 13 women's collegiate swimming teams. By using Spearman Rank Order Correlation Coefficient and Kruskal Wallis One-Way Analysis of variance, it was found that success of collegiate swimming teams does not appear to be related to the social class composition of teams. The collegiate swimming teams were very similar in regard to the social class composition of the team members. The swimmers who qualified for the national championships were predominantly from the upper middle class. Moreover, all teams were predominantly composed of upper-middle class swimmers.

Best (1982) has given a description of socio-psychological differences between male athletes and non-athletes. He concluded that the athletes are more likely to be from the middle or upper class background and to have good relations with their parents. Both groups, i.e., the athletes and the non-athletes, do not differ in social values with the exception of valuing physical development. Athletes with upper class background have high intelligence and high achievement motivation. He also concluded that blacks are more likely to be athletes than whites.
Sharma (1984) tried to assess the differences between university representing sportsmen (N=282) and non-sportsmen (N=256) and among the various sports teams using Dev-Mohan’s Socio-Economic Status Scale (Revised, 1972). The analysis of data revealed that university representing sportsmen in each of the five sport groups, i.e., cricket, volleyball, football, basketball and hockey, are consistently higher than the non-sportsmen on the composite SES variable including its two dimensions, viz., Income Status and Social Status. The highest mean score on composite SES variable belonged to cricket sportsmen followed by football, volleyball and basketball sportsmen. On the social status dimension, the highest mean score was obtained by football, followed by cricket, volleyball, hockey and basketball, whereas, cricket sportsmen attained highest mean score on the income status variable, followed by football, volleyball, hockey and basketball. On the professional status dimension of the SES variable, no significant differences existed between non-sportsmen and university representing sportsmen except for cricketers. The mean professional status score in the ascending order were that of basketball, volleyball, hockey, football and cricket. Cricket sportsmen score significantly higher on academic status dimensions of the SES variable than sportsmen from remaining four sports groups followed by football, hockey, basketball and volleyball sportsmen.
Grewal (1986) collected data of 549 subjects of urban and rural area colleges that were affiliated to the Panjab University. He administered Bhullar's Physical Activity Attitude Scale (1976), Bell's Adjustment Inventory (1937) and Dev Mohan's Socio-Economic Status Scale (1972) to compare the attitude towards physical activity and adjustment among university students across various socio-economic levels. Analysis of variance, Fisher's test and product moment correlation were used and hypotheses were tested at (p<.05). This study indicated that the subjects of three socio-economic levels, i.e., high, middle and low, differed on the variable of physical fitness, attitude towards physical activity, and adjustment. The middle socio-economic level group proved to be better adjusted to the variables of adjustment over the low socio-economic group only. In the case of sub-areas of adjustment, only the home adjustment showed a significant difference among high and middle, and middle and low socio-economic level group, whereas no difference was observed between high and low groups. Significant relationship between attitude towards physical activity and adjustment was observed for the entire population of middle and high socio-economic level group. However, no relationship was found among the variables in the low socio-economic level group.

Gupta (1986) collected data through a pre-tested
questionnaire distributed to 200 sports participants, 100 males and females having an average age of 19 and 18 respectively. These belonged to the student population of the universities of the Punjab state in India in 1984. They were also subjected to unstructured interview. He found that sportsmen/women with higher socio-economic background are likely to participate in more prestigious games such as lawn tennis, cricket etc. He examined the relationship between occupation and game participation of the respondents. Stone (1957) (quoted in Gupta, 1986) found that upper class adults indicated a preference for golf, hockey and tennis, while middle class chose football, basketball and bowling, and the lower class preferred boxing and wrestling.

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

Kumar and Singh (1991) used Sports Competition Anxiety Inventory of Rainer Marten's (1977), Maudsley Personality Inventory (1959), and Socio-Economic Status Scale
Questionnaire of Kocher and Kapoor to find out selected psychological profiles and socio-economic status of senior wrestlers of National and International level of India. The analysis of data clearly revealed that Indian wrestlers of National and International level are extroverts, have a low level of sports competition anxiety, and possess low level of neuroticism. It was also found that Indian wrestlers come from middle socioeconomic status group of Indian society.

The review of the related literature reveals how athletes differ in their personality traits depending on the event, and level of performance. The studies related to adjustment also demonstrate that different performance level and different sports events contribute in a different way to various aspects of adjustment. Further, the studies in socioeconomic status reveal that there is a greater participation of middle socioeconomic group in specific sports events. While upper strata groups participate in those events which are more expensive and socially accepted as higher status sports.

However, the studies conducted in the past did not take into account the mass and class phenomenon as it prevails in Indian sports. The investigator has made an attempt in which the social and class differences viz-a-viz performance and sports participation have been studied in relation to the selected personality variables, adjustment and socioeconomic status.