Clarke and Clarke (1970) has advised that a survey of the existing literature must be accomplished before data are collected. The obvious reasons, of course, are to make certain that the study is properly formulated and major considerations have not been overlooked. This should not be interpreted that once the collection of data has begun there is no longer any need to pursue further study. This process is seldom over until the available sources have been exhausted.

The review of the related literature serves as a guide-post to identify the general trend in the research work already done in the field which in turn helps to provide a direction for formulating hypotheses. Though the investigator aimed at a comprehensive and thorough survey of the related literature, yet it is quite possible that some studies may have escaped her attention. The present review is based upon the available literature in respect of the variables under investigation and is, therefore, confined to the studies to which the investigator could lay her hand upon. The surveyed studies have been classified in three different sections viz. : 
1. Self-concept differentials.
2. Adjustment differentials.
3. Creativity differentials.

Self-concept differentials:

Some of the frequently cited research studies on psychological differences between athletes and non-athletes were conducted by various research workers. One of the earliest investigators to demonstrate that athletes and non-athletes differ on self-concept was Schendel (1965, 1970). Schendel (1965) concluded that at both the ninth and twelfth grade levels the athletes generally displayed more positive personal and social characteristics than the non-athletes.

Koening (1969) found that high school Basketball girls had a higher positive self-concept than the non-participants. Snyder and Streitcer (1975) also found similar findings in case of high school athletes. Schendel (1970) by using non-parametric statistical procedures including the Chi-square test, the median test and an analysis of variance reported that college athletes have higher positive self-concept than the non-athletes. King and Chi (1974) studied the relationship between personal characteristics and athletic involvement. The findings indicated an affinity between personal characteristics and athletic involvement and participation. Playboy (1976) found that athletes did not tend to rate themselves higher than non-athletes on originality, nor was there a clear
pattern for athletes to rate themselves as political conservatives relative to non-athletes.

In a comparative study on the self-concept of high school Baseball players, college baseball players and non-players, Bunnell (1978), using Tennessee self-concept Scale (TSCS) reported that Baseball players had a significantly higher positive self-concept than the non-players. College Baseball players had a higher self-concept than the high school subjects; the Baseball players position had no effect on the self-concepts of the players. The researcher concluded "The data presented in this study tend to support the belief that athletes possess higher self-concept than non-athletes".

Morris et al (1981) found that the self-esteem scores of competitive swimmers were positive and higher than normal population.

Vincent (1976) studied the self-concept of 460 subjects, 248 were non-athletes and 212 were participants. He tested the following hypotheses:

1) College women athletes do not significantly differ in total and sub-scale self-concept scores from college women non-athletes.

2) College women physical education majors do not significantly differ in total and sub-scale self-concept score from college women non-athletes.
3) College women who participated in a high school competitive programme do not significantly differ from those who do not participate.

The result showed that the participants in physical activities in high school competitive programme scored higher in self-concept scale than those who did not participate.

Ibrahim and Morrison (1975) conducted a study on 100 athletes representing high school and college and 100 non-athletes. They found that athletes were average in their self-actualizing traits and less than average in self-concept. Male high school athletes differed from non-athletes in both self-concept and actualization, while female athletes differ in self-actualization only.

In a study concerning the impact of high and low sports performance on the self-concept of athletes, Pate (1973) employing two-way ANOVA Statistical Procedure observed that winning performance appears to have a significant positive effect on the Wrestler's concept of self. High school wrestlers have a lower level of self-concept as a result of low level of wrestling performance, whereas the wrestlers who demonstrate a high level of winning performance appear to have a significantly positive self-concept.

Anderson (1979) in a related investigation using the
TSCS revealed that subjects receiving high grades in boxing were significantly different being positively higher on self-concept. A higher positive self-concept for athletes is reflected in some correlational studies. French (1977) reported a significant positive relationship between self-concept and sports ability on a sample of school children.

Kay et al (1972) and French (1977) reported a significant positive relationship between self-concept and sports ability on a sample of school children. In a related investigation Riley (1983) studied the inter-relationship between self-concept and physical performance from the perspective of symbolic interaction theory and findings revealed a significant positive relationship between self-concept and physical performance.

Gurdial Singh and Kalpana Debnath (1986) studied the competitive performance and self-concept of Indian gymnasts. They found that the better performance group was better in self-concept scores when compared with the poor performance group. The better performance of the group, they claimed could be attributed to its better self-concept. It appears that the authors have made a generalization which at the moment cannot be accepted as the study failed to control other variables.

According to Richard (1979), children in grades I through 5 were classified as either participants or non-
participants in organised youth sports programmes. Relationships between sports participation and non-participation were examined by comparing motor ability, self-concept, academic achievement, trait anxiety, and physical fitness. Results indicated that the two groups of children could not be distinguished on the basis of these tests. Questionnaires related to the degree of involvement in sports parental participation in sport were also administered. Results of these questionnaires indicated that a large percentage of children in the elementary school were involved in sport. It was also found that there was little relationship between parents either previously or presently involved in sports and their children being involved in sports while in elementary school.

Studies have been reported about the relationship between physical fitness - one of the most important elements underlying sports performance (Tutko and Richards, 1979, Wooden, 1980) - and self-concept. In an investigation, Jackson (1980) found a significant relationship between total physical fitness and total self-concept scores for both the college male and female groups. Cone (1979), however, concluded that physical fitness was only minimally related to self-concept. Likewise, Gil (1981) observed that high and low self-esteem levels did not influence the participants' physical fitness level.
Attempts have also been made to study the relationship between body concept - a significant part of the overall self-concept of the individual (Bittner, 1977) and self-concept. Bittner (1977), Kulka and Pragman (1976) and Zion (1979) reported that there is a significant relationship between self-concept and body concept. The researcher suggested that self-concept and age are significantly related. Best (1982), however, reported that there was only a slight relationship between self-esteem and athletic participation. Hutchison (1977), using Martinek-Zaichkowsky Self-Concept Scale, on the other hand, concluded that there was no significant relationship between self-concept and body-estimation. The findings of Riley's (1983) investigation revealed a significant positive relationship between self-concept and physical estimation. The investigator suggested that academic achievement, extra-curricular activities, teacher interest and physical health acted as intervening variables in the relationship between self-esteem and athletic participation.

In a related study, the Tennessee Self-concept Scale (TSCS) was administered to students from different courses by Wescott (1981) at the beginning and end of a semester. Using t-test, the analysis of data revealed that there were no significant differences between the experimental and the control group on the pre-test. There were significant differences favouring the experimental group on the post-test.
From pre to post-test, the experimental group showed significant improvement on all the TSCS variables examined. Trujillo (1983) found that self-esteem scores of college women increased as a result of participation in weight-training and running exercise program. The weight-training group showed significant gains in self-esteem as compared with the control group.

However, studies have been reported indicating little impact of sport or physical activities participation on the self-concept of individuals. In a study of children, Monseau (1977) by using the Piers-Harris Children's Self-concept Scale and ANOVA revealed no significant differences among treatment groups on self-concept as a result of sport involvement. However, the investigator indicated a positive shift in self-concept, though not significant, as a result of students participation in sport. The researcher asserted that a significant correlation might have been found if a longer time frame had been used. In a related investigation, Weishaupt (1978) observed "Competitive Basketball experience does not appear to significantly affect the self-concepts of school players". In a recent study, Stair (1983) also reported similar findings in case of college Basketball players.

Investigations revealing no relationship between self-concept and sport participation have also been reported. In one such study Bash (1972), using TSCS, observed that an individual's self-concept and coaches
subjective evaluation of the individual's Baseball playing ability are not significantly related. Berger (1977), Cerrato (1977), Floyd (1973) and Tyler (1973) did not find significant relationship between participation in a competition or physical performance and self-concept of college students. Cone (1979) remarked that physical fitness, motor ability performances and physical characteristics were only minimally related to self-concept.

In multiple discriminant analysis, Darden (1972) compared the self-concepts of sportsmen belonging to team-sports, individual-sports and team-individual sports. The investigator found significant differences about self-concept among the team-sports and individual sports but not between the combined team-sports and the combined individual-sports. The results of Dowd's (1980) investigation indicated no significant differences in the total self-concept scores of women intercollegiate athletes classified according to sports, playing status, year in school and age.

Anderson (1979) reported no significant differences in the self-concepts of the Boxing group when compared with the Gymnastics group. Breedlove (1977) has indicated a significant correlation between gymnastics ability and self-concept in his study conducted on female collegiate gymnasts.

Jeffery (1981) conducted a study to investigate the possible relationship between prior-scholastic athletic
process and current measures of self-concept. Investigations revealed little in the way of significant differences (.05 level) between former superior, average and non-athletes in terms of currently measurable levels of self-concept and life adjustment.

In a general way, research studies reviewed in this section fall in three categories: First, there are some studies which support the view that self-concept and sports participation are positively related. Second, some studies do not support the above contention and demonstrate a trend that there are no differences in self-concept of the athletes and non-athletes. Third, there are studies which have demonstrated a negative relationship of self-concept with sports participation.

Adjustment Differentials

Scymon (1956) studied the emotional health of Basketball players and reported that boys participating in little league competitions maintained their emotional health better than the non-participants.

Bosco (1972) administered Cattell's Sixteen Personality Factor Questionnaire to 8 champion gymnasts and 9 college students of comparable age. In his study, the gymnasts scored higher in emotional stability and maturity, confidence and seriousness than the college students. Similar findings have been noticed by Rushall (1967) who conducted a study on
athletes and non-athletes. By employing t-test, he found that sportsmen were emotionally more stable than the non-sportsmen.

By using 16 P.F. Werner and Gottheil (1966) compared 340 athletic cadets and 116 non-athletes after they had entered U.S. military academy and before they had graduated. Athletes were found more social, group dependent, sophisticated and conservative than non-athletes. But even after the regular practice of four years in athletic participation, the non-athletes did not change in personality structure. It appears that these traits may lead to better adjustment in various spheres.

Koening (1969) in his study on high school basketball players found that personality differences existed between athletes and non-athletes with respect to sociability, group-orientation and emotional control. Both university team members and intramural players had higher self-concept than non-participants with respect to sportsmanship, degree of femininity and family influence.

The general trend in findings on personality differentials between non-sportsmen and sportsmen is supported by Cooper (1969), Kane (1968), Ogilvie (1968). On the basis of a review of the available literature they concluded that although there was not a definite hierarchy, certain personality traits like emotional stability, aggressiveness, tough mindedness and self-confidence went well with superior sport performance. In addition to traits, Kane also stressed lack
of anxiety and drive whereas Ogilvie asserted that conscientiousness, self-control, self-discipline, trustworthiness and low-tension level should also be emphasised. 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.

In one study Buck (1971) selected the Pollock Health Behaviour Inventory test to measure health behaviour (health knowledge, attitudes, and practices) and the California test of Personality to measure personal, social and total adjustment of selected high school seniors. The study revealed, other things being equal, (1) a person who is well adjusted tends to have good health behaviour; (2) a person with good health behaviour will tend to be well adjusted; and (3) The relatively high relationship between low health behaviour and low total adjustment, and relatively high correlation between personal and social adjustment suggest that the two types of adjustment could be measured by a single test. Female students scored higher than male students in every test on health behaviour and adjustment.

A similar trend in findings is indicated by Arvil (1966) who administered the Washborne social adjustment
inventory to 244 male and female college freshmen enrolled in activity courses at College of the Ozarks M. in 1964. The mean gains were then compared to determine if there was a difference in gains made in social adjustment of co-educational class over segregated classes. The 't'-test for difference between independent means was the statistical tool used to make the comparison. The following conclusions were made:

(1) Co-educational classes and segregated in physical education do not differ significantly in contributing to social adjustment of college freshman.

(2) In the segregated classes, males and females do not differ significantly in gains made in social adjustment.

(3) In co-educational classes, male and females do not differ significantly in gains made in social adjustment.

Rider (1974) conducted a study on male senior physical education majors and normative population. He concluded that physical education majors were emotionally more stable than the normative population.

Rana (1981) administered '16 P.F.' questionnaire to sportsmen and non-sportsmen of Jivaji University, Gwalior and concluded that sportsmen differed from non-sportsmen
in personality characteristics of emotional stability and realism about life, cheerfulness and frankness, tender-mindedness and had greater control over emotions and greater regards for self-respect and social reputation than the others. Similar findings have been noticed by Dilip K. Dureha (1986) compared the personality characteristics of sportsmen and non-sportsmen. He found that the sportsmen and non-sportsmen differed in their personality characteristics on the factors of emotional stability and realism about life, cheerfulness and frankness, tendermindedness and practicability and greater control over emotions and greater regards for self-respect and social reputation. On the contrary, Werner and Gottheil (1966) found no evidence to support the view that college athletes significantly influenced personality structure.

Sharma and Shukla (1986) conducted a study on individual athletes and team athletes by using Cattell's (1963) High School Personality Questionnaire (HSPQ). He found that athletes in various sports specialities tend to be outgoing, socially confident, emotionally stable, happy-go-lucky, conscientious (rules bound) and venturesome, self-reliant, vigorous, confident, self-sufficient, controlled and relaxed. On the other hand, the non-athletes are reserved, less intelligent, affected by feelings of weak, super-ego, shy, tender-minded, suspicious, doubting, indisciplined and tense. The above findings have been supported by Bidulph (1954), Werner et al (1966), Singer (1969), Kane (1978), Bhushan
Jitendra Mohan, Joginder and Subina Seth (1983) conducted a study on a group of 50 Karate players to find out the sports special ability of athletes by using the Revised Adjustment Inventory (RAI), Kumar (1983), found that 40% to 46% of Karate players had very good, good and average adjustment respectively. 76%, 24% of Karate players were having moderate and no risk tendencies respectively.

Antonelli and Masciulli (1973) carried out a study on 351 top Halian athletes using the Bell Adjustment Inventory Adult Form. They found that the male athletes had better adjustment than the female ones. Sports where participants have good adjustment are: athletics, volleyball, sailing, and fencing. Inferior adjustment is found in cycling, swimming, rowing and gymnastics.

Webb (1969) reported individual women athletes to be more introvert, self-absorbed, independent-minded and self-assured than team sports women. The team sports women were neither self-absorbed nor introvert. They tended to be realistic, emotionally disciplined, steady and practical. Socially both groups tended to be more cool and aloof than the norm.

Cowell and Ismail (1960) have observed that the boys who do well in physical ability tests are likely to have leadership potentialities to be accepted for close personal
contacts by their associates and to be well-adjusted socially.

Anderson (1965) reported that highly skilled women were more independent and had better social ranking than others, but that the women ranking low in physical performance had neurotic tendencies, were shy and had little social competence.

Massive literature has been published concerning the personality differences among athletes of differing ability levels. In one of the studies Kane and Callaghan (1965) studied international tennis players and concluded that they were high on sociability (Factor A+), emotionally stable (Factor C+), Venturesome (Factor H+), self-sufficient (Factor Q_2+) and less anxious than the average players.

Analysing the influence of various types of interpersonal behaviour on the effectiveness of sport groups, Slepicka (1975) observed that the successful players were more cooperative, emotionally stable and aggressive than the unsuccessful players. Successful Basketball players were found to be more trusting (Factor I-) than the unsuccessful players (Evans and Quarterman, 1983). Whereas Maxeiner (1983) reported that successful volleyball players were more emotionally stable (Factor C+) than the lower level players.

Evans and Quarterman (1983) and Maxeiner (1983) conducted a study on successful Basketball players and
unsuccessful basketball players or successful volleyball players and unsuccessful volleyball players respectively. They found that successful basketball players were found to be more trusting than the unsuccessful players and successful volleyball players were more emotionally stable than the lower level players.

Widdop and Widdop (1972) reported their study conducted on women trainees to be classroom teachers and those training to be physical education teachers. The multiple discriminant analysis indicated significant differences in personality between the groups. Separate personality components revealed the student classroom teachers to be high on order, affiliation and patience and the student physical education teacher to be high on warm-heartedness, mental capacity, enthusiasm, perseverance, venturesomeness, imagination, shrewdness, self-sufficiency, self-image, exhibitions in dominance and social presence.

Layman (1968, 1972) has also conducted an extensive review of the literature that focuses on emotional development as a consequence of sport and motor development. She has concluded that physical fitness and sport do have a positive influence on emotional well-being.

Mehta and Velayudhan (1972) of Baroda, Department of Child Development, have summarised the studies made in the department on personal and social adjustment and on self-concept, achievement motivation and academic achievement
of adolescents.

With respect to menarcheal and problems of adjustment, the studies show that the Menarcheal age does not have any impact on the total adjustment problems and anxiety scores.

One of the earlier investigators to demonstrate that athletes differ from non-athletes on selected psychological traits was Heunser (1952). By using the 16 PF questionnaire, he found athletes to be more emotionally stable (Factor C+), dominant (Factor E+), venturesome (Factor H+) and self-confident (Factor O-) than the non-athletes. Chadwick (1972) and Pestonjee et al. (1981) also used the 16 PF Questionnaire and reported athletes to be less intelligent (Factor B-), practical (Factor M-) and group dependent (Factor Q_-) than the non-athletes. The female athletes in Chadwick's investigation were also characterized as tough-minded (Factor I-) whereas athletes in the Pestonjee et al.'s study were found to be more outgoing (Factor A+), serene (Factor O-) and socially-precise (Factor Q_-) than the non-athletes. By using the Cattell's 16 Personality Factor Questionnaire, Mushier (1972) and Rusch (1972) however, found adult female athletes to be more reserve (Factor A-) and tough-minded (Factor I-) than the non-athletes. In addition to these factors, athletes in Mushier's study were characterized as more intelligent (Factor B+), aggressive (Factor E+) and happy-go-lucky (Factor F+) than the non-athletes.

Cooper (1969) after contrasting athletes and
Non-athletes, describes athlete's profile as more outstanding and socially confident, more outgoing and socially aggressive, dominant and leading, better socially adjusted, higher in prestige, social status, self-confidence and competitiveness; less impulsive, less compulsive, tolerance of physical pain, having more masculine interests and less feminine ones.

Numerous researches when summarized indicate that there are some personality differences between athletes and non-athletes, but there is no agreement on specific differences. It was concluded that sportsmen are stable or settled in their emotions, and are more objective and cooperative. They are also better in social adjustment. Research studies reviewed in this section support the view that adjustment and sports participation are positively related.

Creative Thinking Differentials

It has been observed that performance on the IQ tasks has relatively little relation to performance on creativity tasks. Necioy and Meier (1941), and Thurstone (1950) on the basis of investigations supported the above view. Thurstone (1950) stated that creative talent was not the same as intelligence, although there was undoubtedly a positive correlation.

In general the correlation between intelligence test scores and creativity appears to be positive but low. Yamamoto (1962) mentioned, "All available research results
support the conclusion that the correlation between the measures of creativity and intelligence is low (.20 to .40) in general unselected population and practically zero in the selected population”.

Researchers such as Guilford (1950), Torrance (1960), Guilford and Merrifield (1960), Pathak (1961), Getzel and Jackson (1962), Crop ley (1965), Wallach and Kogan (1965), Hasan and Butcher (1960), and Passi (1972) made an attempt to find out the relationship between creativity and intelligence by one way or the other. The general conclusion was that a certain degree of intelligence was required if one is to be creative, but beyond being more or less intelligent does not determine the level of a person's creativeness. The level of intelligence required for being creative varies from field to field. Much depends upon the type of the sample, research design and tools used. Torrance, when questioned at the 1962 National Education Association presented that correlation between intelligence and creativity was contingent upon the population under investigation and could vary from no correlation to a fairly high relationship.

Ward (1968) and Clark and Mirch (1970) found creativity scores to be related to one another but not to intelligence.

The most important question before every researcher in creativity is: “Do highly creative subjects perform better than low creative ones, on standard achievement tests when the effects of intelligence are held constant
or are partialed out?" In recent years, a number of investigations have been carried out to seek the role of creative thinking in school achievement. Getzel and Jackson (1969) found that such high school students as scoring in the top 20 per cent on intelligence tests (but not in the top 20 per cent on a battery of tests of creative thinking) and those scoring in the top 20 per cent on intelligence have comparable performance on standard achievement tests, in-spite of more than 20 points difference in mean intelligence quotients between these two groups. Gakhar and Wahi (1979) arrived at the same result.

Many persons expressed their doubts on the generalisation of the results obtained in the above study because of the lack of representativeness of subjects since they used a selected population which had a mean IQ of 132. Torrance (1968) conducted eight partial replicatory studies which avoided some of the Getzels and Jackson's shortcomings. In four out of six studies conducted in elementary schools he found no significant difference in overall academic achievement between high IQ group and high creative group and he made similar findings in the case of both studies on University students.

Yamamoto (1964b) found that when effects of intelligence are fixed, highly creative students perform better than low creative students on standard achievement tests, regardless of the subject matter involved. Torrance
(1969) also found significant correlation coefficients (.37 + .53) between a total score on a creativity battery and standard achievement measure, among the students of IV to VI grade. Mehdi (1973) found a significant relationship between creativity and school achievement.

Paramesh (1971) tried to determine the relationship between creativity and achievement in school subjects, controlling effect of intelligence. He found that there was no significant relationship between them.

The general conclusion from the above studies is that academic performance is related to creativity significantly, though the co-efficient of correlation is low.

Torrance (1962) reported that creative thinking ability contributed importantly to the acquisition of information and various educational skills. Rambo (1964) and Altenhaus (1964) worked with two groups of highly creative and highly intelligence subjects and demonstrated that the achievements of the first group were better than those of the second group. Kamlesh (198X) conducted a study on high and low performers in athletics. 191 inter-university Indian athletes were the subjects. By using t-test of significance, he reported that athletic performance does not seem to have any relationship with intellectual performance. Almost no study reports a negative correlation between intelligence and ability to learn motor skills.
It seems reasonable, therefore, to assume that within the IQ ranges in most sports situations, there is no more than slight relationship between intelligence and ability to learn motor skills.

Windholz (1968) attempted to study the relationship of creativity with certain personality traits by using Guilford's test of creativity. His results revealed that higher level of creativity was related to greater social participation, interest in helping others and valuing of people. He found higher level of creativity to go more with higher level of literary and musical interests, aesthetic experience and less appreciation of mechanical gadgets.

Kurtzman (1967) in his study found that more creative individuals tended to be more adventurous, have greater tolerance for ambiguity, more extrovert than those who are less creative. Creative boys were found to be more self-confident and mature than the less creative boys. Girls do not differ on these two traits. More creative boys received greater acceptance from their peers but more creative girls were found to be less accepted by their peers. More creative individuals have strong ego-strength and self. No difference between high and low creatives was found for boys on intelligence but highly creative girls were more intelligent than less creative girls.
Hammer (1969) studied the personalities of gifted adolescent artists. He made an attempt to contrast the personalities of the genuinely creative with non-creative personalities. He found that the truly "Creatives" differed from the 'Merely faciles' as they exhibited deeper feelings, greater original responsiveness, preference for the observer role over the participant role, stronger determination and ambitions, independence, rebelliousness and self-awareness, stronger needs for self-expression, greater tolerance for discomfort, and a fuller range of emotional expression.

Weisberg and Springer (1969) conducted a study of 32 highly creative children. The rating of highly creative children when compared with those of less creative ones showed that highly creative were significantly higher on strength of self-image, ease of early recall, humor and uneven ego development.

Raina (1980) in his doctoral thesis compared highly creative and low creative students on the measures of cognition, personality and socio-economic status using Torrance's Test. The highly creative students exhibited greater achievement, autonomy, dominance, change and endurance than the low creative subjects. Highly creative females were higher in change and endurance than the low creative males, but the latter were higher in heterosexuality. The high creative males showed greater achievement, autonomy, dominance, change, endurance and aggression than
the low creative males. The highly creative females were significantly higher than the low creative females on achievement, autonomy, dominance, change and endurance but the latter were characterised by difference, order, affiliation, succurance and heterosexuality traits. The low creative males showed greater exhibition, affiliation and heterosexuality and low creative females scored significantly higher than the low creative males on achievement, dominance, change and endurance. Low creative groups gave evidence of significantly greater anxiety than high creative group. Significant differences were found between high creative and low creative on the socio-economic status.

Torrance (1961, 1963, 1965) found a number of differences between the two sexes on his measures of creative thinking. In general, girls excelled boys in all verbal tests. Boys have generally excelled girls on figural originality. Price (1962), Tayler and Makean (1963), Torrance and Atiotti (1966), Trembly (1964) indicated superiority of females over males.

Raina (1970) found no significant sex differences in creative thinking ability as far as verbal creativity was concerned. Males scored significantly higher on the originality dimension of creativity of non-verbal form of creativity tests instruments and except this dimension there were no significant sex differences on non-verbal form
of creativity tests.

Gakhar (1974) reported the superiority of X class females over the males on the fluency dimension of creativity while on the other dimensions of creativity no significant differences were observed between the two sexes.

Thorat (1977) could not find any significant differences among college males and females on any of the component of creativity. On the Torrance test of creativity, Bedi (1974) reported the superiority of IX Class females over males, but on the same test, Lal (1977) could not observe any difference among male and female teacher-trainees on any of the dimension of creativity. Passi (1972) found significant sex differences on his creativity test scores. Girls were superior to boys in non-verbal creativity and boys superior to girls in verbal creativity.

Rawat and Agarwal (1977) in a study of creative thinking with a reference to age, sex, communities and income groups of students of Class VIII and IXth found that boys score high on creative thinking as compared to girls in all samples.

Tiwari and Sharma (1978) in a study of sex difference in creative thinking of VIII grade students have noticed that girls show greater variations in fluency and flexibility components of creativity as compared to boys but boys and girls do not differ significantly in any of three components.
of creative thinking namely, flexibility and originality. A creative person appears to be intelligent, yet there is far from perfect correlation between intelligence and creativity. In several professional groups e.g. architects, research scientists etc., the correlation is essentially zero.

Khire (1971) administered a battery of tests and some non-cognitive measures on 1054 boys of grade VII through XI of a single school and his findings suggested that high academic performance was related to high creativity.

Attitudes, creativity, self-concept and motor skills were measured by Paul (1983) to determine the influence of decision-making on elementary children. Three groups of children (N=208) were tested, one group was taught with the teacher dominating all classroom decisions, another group was encouraged to share in the decision-making and a third group served as a control. Data were collected immediately before and after an eight-week instructional period. MANCOVA indicated that the two treatment groups had significantly higher scores than did the control group, and the shared decision-making group scored significantly higher than the teacher dominated group on measures of creativity, motor skills and self-concept. A 2 (treatment) X 2 (Sex) X 5 (grade) ANOVA revealed significantly more positive attitude score for children allowed to make decisions regarding their learning. Further, Pearson-Product Moment
Correlation showed the tested variables to be independent measures of a child's development.

A study of Myden (1976) on non-creative matched with creative group on the basis of some socio-economic status revealed the picture of creative person as of superior intelligence, intellectually oriented towards outer world with richer-inner life and a strong sense of his role in life, healthy non-conforming, interested in achievement and sexually more ambivalent.

Generally, research studies reviewed in this section are the first studies which support the view that creative thinking and sport participation are positively related and secondly some studies do not support the contention.

Analysis of Review

The review of related literature presented in the first section leads to the emergence of some general trends in findings such as self-concept differentials exist between sportsmen and non-sportsmen and the sportsmen seem to possess a higher positive self-concept compared with the non-sportsmen. Sportsmen belonging to specific sports groups and non-sportsmen also differ on self-concept and sportsmen appear to be positively higher on this variable than the non-sportsmen. However, the review of available literature reveals that few studies have been conducted in this context. Self-concept differentials exist among
sportsmen from various sportsgroups. But very few studies have been carried out on sports girls and non-sportsgirls with regard to self-concept differentials.

Though a variety of adjustment tests have been used in the studies reviewed in the second section, some general trends in findings do emerge pointing out that sportsmen and non-sportsmen differ on personality traits. Sportsmen are likely to be emotionally stable, assertive and aggressive, conscientious, toughminded, poised, controlled, relaxed and have a high need for achievement as compared with the non-sportsmen and sportsmen are also characterised as practical, shrewd and experimenting, happy-go-lucky than the non-sportsmen, however, the differences observed on these factors are not consistent. Adjustment differentials also exist between sportsmen and non-sportsmen belonging to a specific sports group but the differences are not very consistent in various sports.

Only a few studies have been conducted pertaining to inter-sport adjustment differentials of sportswomen and non-sportswomen and the results are not consistent.

The general trend in findings on adjustment differentials between sportsmen and non-sportsmen is supported by Ogilvie (1963), Kane (1968), Cooper (1969). On the basis of a review of literature in this area, they concluded that although there was not a definite hierarchy,
certain traits like emotional stability, aggressiveness, tough-mindedness and self-confidence went well with superior sports performance. Cooper's analysis of literature also revealed the athletes to be outgoing, socially adjusted, higher in prestige and social status, stronger competitor, less impulsive, having greater tolerance for pain, lower feminine interests and higher masculine ones.

Some general trends are reflected on the basis of a review of related literature in the third section on Creativity differentials of sportsmen and non-sportsmen. They stress that generally sportsmen and non-sportsmen differ on creativity and the differences are in favour of non-sportsmen. Among individual sport, team-sport and non-sportsmen, the first seem to be more intelligent than the other two. Inter-sports creativity differentials also exist, the differences being inconsistent. However, there is a dearth of literature available in this area and no available study reveals a negative correlation between creativity and sports performance. Higher creativity appears to be a plus point in the learning of motor skills and sports performance.

Therefore, due to unavailability and contradictory literature and having conflicting findings regarding the differences in characteristics like self-concept, emotional, social and educational adjustments, and creative thinking
between participants and non-participants in sports, especially in case of female participants, it is very difficult to form a definite opinion. Hence, more scientific information with regard to above factors i.e. differences between female participants and non-participants in sports activities is desirable. Realising the importance and need of the study, the present investigator has undertaken the project to study self-concept, adjustments, and creative thinking of sports and non-sports girls.