Chapter-II

REVIEW OF RELATED LITERATURE

The key to the vast storehouse of published literature may open doors to sources of significant problems and explanatory hypothesis, and provide helpful orientation for definition of the problem background for selection of procedure and comparative data for interpretation of results.

The history of human thought indicates its pendulum during one segment of swinging towards the study of nature and during another course of time towards the study of man.

"Practically all human knowledge can be found in books and libraries. Unlike other animals that must start a new with each generation, a man builds upon the accumulated and recorded knowledge of the past".

John. W. Best, 1965

A summary of the writings of recognised authorities and of previous research provides evidence that the researcher is familiar with what is already known and what is still unknown and untested. Since effective research is based upon past knowledge, this step helps to eliminate the duplication of what has been done and provides useful hypotheses and helpful suggestions for significant investigation. It also
develops the idea that contribute to the over all rational and interpretation of data. These purposes can only be accomplished by a systematic and thorough study of the available literature.

“The orientation provided by survey of related literature is helpful in making a straight forward statement of need for investigation and of avoiding two extremes of apologetic attitudes and exaggerated claims”.

*C.V. Good, 1941*

“The research for reference material”, Best observes, “is a time consuming but fruitful phase of investigation. A familiarity with the literature on any problem area helps the investigator to discover what is already known what others have attempted to find out, what methods of attack have been promising or disappointing and what problems remained to be solved”. In other words, the related literature is worthwhile for an effective piece of research.

According to Goods, Barr and Scates (1941), survey of literature serves the following purposes:

1. to show whether the evidence already available solve the problem adequately without further investigation and thus to avoid the risk of duplication;
2. to provide ideal, theories, explanation or hypotheses valuable in formulating the problem,
3. to suggest methods of research appropriate to the problem,
4. to locate comparative data useful in interpretation of results; and
5. to contribute to the general scholarship of the investigator.

Keeping in view the need of survey or related literature, the investigator has put up his best efforts to review the related literature. The references of research literature enlisted in this chapter are mostly based on search of available sources of literature including books, research abstracts, periodicals, journals and the proceeding of various conferences at Kurukshetra University Library, Delhi University Central Library, NIS Library Patiala, Punjab University Central & Department Library Chandigarh.

The review of related literature jotted down from various quarters has been reproduced here in the following ways and presented in this chapter:

1. Review of related literature with reference to Anxiety.
2. Review of related literature with reference to Neuroticism and Extroversion.
3. Review of related literature with reference to Adjustment.
REVIEW OF LITERATURE WITH REFERENCE TO ANXIETY:

An experimental study conducted by Watson and Reyner (1920) produced behavioural disturbances in an eleven-month-old child, which were very similar to that observed in individuals who have considerable anxiety. Later on Mary Cover Jones (1924) reconditioned a three year old child having a conditioned fear of rats. Pavlov developed a procedure by which he was able to produce ‘experimental neurosis’. The process, in which the dog’s discrimination abilities had completely broken down, due to more and more similarities in figures.

In a later study, Morris et.al., (1974) investigated the effects of therapeutic modelling on the cognitive and emotionality components of anxiety. They found that although worry scores decrease significantly more for the modelling than for the control group, there were no differential changes in the emotionality component as a function of therapeutic intervention. They suggest that the choice of therapeutic treatment should relate to therapeutic goals of the reduction of worry or emotionality since a particular treatment approach can have differential effects on these two components. In a final study representative of the research to separate out different components of anxiety, Blum and Wohl (1971) trained individuals in a hypnotic trance to experience separately
cognitive and somatic components of anxiety. They found the cognitive component of anxiety to be more disrupting.

Singh, Janak G. and Basu C.K. (1982) conducted a study of anxiety components and related problem areas among medical students. An anxiety scale and the money problem checklist were administered on medical students. Results confirm a significant positive relationship between anxiety and problems related to (1) poor health and physique (2) social and recreational activities (3) social, personal and psychological relations (4) Home and family (5) moral and religious and (6) college work adjustment.

Slough et. al. (1984), in a study administered two scales used to assess repression-sensitization (RS) and 3 standard measures of anxiety, including the State-Trait Anxiety Inventory (STAI) and Eysenck Personality Inventory (EPI) Neuroticism scale to 105 psychological clients to investigate the relationships between RS and anxiety measures. Multiple correlation analysis showed that the RS scale of correlated with the composite of STAI Trait and EPI Neuroticism scale. It is concluded that the RS scale is a measure of trait anxiety.

Wise et al. (1985) in a study examined the effects of character style, locus of control, and seriousness of medical illness on the
magnitude of depression and anxiety experienced by 85 patients (mean age 39.5 years) seen in a psychiatric consultation-liaison service. Subjects completed the Hysteroid Obsessoid Questionnaire: Personality and Personal Illness Questionnaire; a health-retarted locus of control inventory; the seriousness of illness Rating Scale; and visual analog scales that assessed depression, anxiety, and pain. Results indicate that obsessive subjects and subjects in pain reported significantly more depression and anxiety than their hysterical counterparts. The presence of pain was also correlated with an external locus of control. Severity of illness did not correlate with greater dysphoria. Findings also indicate that consultants significantly underestimated or dismissed subject’s objective experience of pain. Implications were discussed as they are related to patient’s personality style and the experience of illness and hospitalization.

Agyajit Singh (1986) made an attempt to compare the competitive A - traits of the top level Indian athletics and hockey players. The purpose was to know whether the players of individual events or team games have more competitive anxiety. It was also the aim of this study to find out sex difference of A-trait of the Indian players. The hypothesis of the study was that the players of the individual events have more competitive
anxiety than those of the team game; with no sex differences. In order to rest these hypotheses, 123 track and field players (78 males and 45 females) and 71 hockey players (45 males and 26 females, who were selected by their respective Federations for training before their participation in the international competitions. All the them were administered Marten's Sports competition Anxiety Test to measure their competitive A-trait.

The result of the study indicate that the track and field players have more A-trait as compared to the hockey players; whether males or females. In case of sex differences on competitive anxiety, it was found that the females whether of individual events or of team games have more A-trait than their counterparts especially in the track and field events. The study also revealed that in case of track and field events, short distance runners and jumpers had more A-trait as compared to middle and long distance runners and throwers. In case of hockey players, those playing at the forward positions had more A-trait than those playing in the defence.

Dubey (1986) studied light-exposure time-interval judgments of 18 subjects from a pool of 80 students (aged 18-21 years), who had been categorized into 3 groups based on anxiety level. Focus was on examining the principle of Central Tendency Judgement and the related
law. Anxiety levels and personality traits were determined by administering the Personal Information Proforma by Dubey (1978) and the Manifest Anxiety Scale developed by Taylor. Data from light-exposure time-interval judgment tests were reduced to ratio-estimates and subjected to a 4-way analysis of variance (ANOVA). Results indicate that Vierordt's law and Hallingworth's Principle remain unchanged under different levels of anxiety, complexity, and familiarity; and for different sexes. Several other factors relating to time-interval judgments are discussed.

K. K. Verma (1986) conducted a study to determine anxiety differences within the sports group of women and with those of non-sports women. A sample of 150 sportsmen and 150 non-sportsmen was taken. Sports women groups was further divided into five games. Athletics, cricket, volleyball and hockey, 30 players in each game. Sinha Anxiety scale was used to investigate the level of anxiety. Significant differences at .01 level of significance were found between athletics V/S volley ball athletics V/S basket ball athletics V/S hockey cricket V/S basket ball and cricket V/S hockey. Significant difference at .05 level were also found within the groups of athletics cricket and volleyball Vs basketball no significant differences were found between volleyball Vs
basketball no significant differences were found between volleyball Vs hockey and basketball Vs hockey significant differences at .01 level were found between sports women Vs non-sportswomen women. Anxiety level was found highest within sportsmen group of basket ball followed by hockey, volleyball, athletics, non sports women and lowest in cricket.

N.S. Mann et. al. (1986) conducted a study to assess the competitive anxiety level of team sports; football, basketball and volleyball. 44 male Punjab University players: FB=16, VB=14, BB=-14 were selected for this study. The differences in level of competitive anxiety in three main situations: Ego Threat, Physical? Defeat Threat and Aspiration Threat and four main mode of responses; Visceral, Muscular, Cognitive and Anger of football, basket ball and volleyball groups were compared. Criterion measure used for the study was Hann's scale of competitive anxiety based on Endler's model; Person X situation X mode of response. The data were statistically analysed to find out the inter-group differences Analysis of variance technique was applied. Footballers were found higher on all the three situations in comparison to other groups. In the first three main mode of response, Visceral, Muscular and congestive, differences were not found statistically significant. However,
in the fourth mode of response i.e. Anger, Footballers were found higher than other groups. The difference is statistically significant.

Rajender Singh (1986) "selected sixty four male and sixty five female Judo players who participated in the National games held at Delhi during November, 1985. Judo competitions were played on knock out basis and those who secured 1st, 2nd and 3rd position in their respective weight category were considered as champions, and those who lost in each weight category were considered as non champions, and for selecting non champions from each weight category a random method of selection was followed. Finally twenty four non champion male Judo players of National level were selected as subjects for the study.

Similarly 18 champion and non-champion female judo players of National level were selected as subjects from the total group of sixty. He concluded that:

Male champions, Judo players of National level were found to have low level of sports competition anxiety in comparison to non champions male Judo players of National level.

Champion and non champion female Judo players of National level did not differ on sport competition anxiety level with each other.
Abraham and Abraham (1986) examined the relationship between personality dimensions (extraversion and neuroticism) and the adjustment areas (home, health, social and emotional). They found significant negative correlations between neuroticism above four areas of adjustment. Extraversion was correlated positively to social adjustment alone.

Jones and Page (1986) in a study investigated the relationship between locus of control, assertiveness, and anxiety on the one hand and headache frequency and severity on the other. 222 undergraduates completed questionnaires that included Rotter’s Internal-external Locus of Control Scale, the Sixteen Personality Factor Questionnaire (16 PF) and a headache questionnaire. A significant correlation was found between anxiety and headache, but it was weaker than expected. Perceived internal locus of control and assertiveness were shown to suppress reported anxiety, but only to a minor extent. Unassertiveness was shown to be significantly related to headache severity only for those subjects with weekly headaches. The discrepancy between reported anxiety and physiological anxiety is discussed, and the utility of current self-report measures in headache research is questioned.
Vaughn et al. (1987) conducted a study to confirm the earlier results. They have reported that in several recent reports, the Carey Infant Temperament Questionnaire has been criticized as a measure of infant temperament. Instead, the dimensions of temperament and the diagnostic categories (i.e., “easy” vs. “difficult” temperament) derived from maternal responses to the questionnaire items have been associated with maternal demographic and personality characteristics and with maternal child-rearing attitudes assessed before the birth of the infant. In this article, results of previous research are reconsidered in light of suggestions and criticisms offered by several temperament researchers. In two new studies the revision of the Infant Temperament Questionnaire (ITQ) was used to assess infant temperament and personality and/or attitudinal data from the mother were obtained parentally. Results were consistent across all studies. Parentally assessed characteristics of the mother, especially anxiety, significantly distinguish mothers whose responses to the ITO items result in diagnosis of temperamental difficulty for their infants from those whose infants are diagnosed as temperamentally easy during the first 8 months of life. The data suggest that both the original and revised Carey infant temperament scales fail
discriminate validity tests and are, therefore, of only limited use in identifying temperamentally difficult infants.

Awaritefe et al. (1989) examined the relationship of anxiety to time perception among 90 male Nigerian college students. Subjects were divided into 2 groups of 45 (high and low anxiety) based on their responses to the Maudsley Personality Inventory, the State-Trait Anxiety Inventory, and the Security-Insecurity Inventory. Subjects were then subjected to 1 of 3 levels of stress during which they were required to carry out tasks measuring judgment of temporal interval. Duration experience was reported as larger by high anxiety subjects. Stress conditions shortened duration experience, suggesting stress can both lengthen and shorten duration experiences, depending on the type of stress and the inability of Nigerian subjects to appreciate time in seconds and minutes.

McClelland et al. (1991) in a study examined, among 20 male undergraduates, the effects of nicotine on an avoidance task in 2 groups of smokers varying in terms of self-reported manifest anxiety (high or low anxiety). To control the known psychotropic effects of cigarette smoking and to determine whether possible differences are due primarily to the actions of nicotine, nicotine was administered by means of chewing
gum. Smokers completed 3 versions of a Go/No Go avoidance or
discrimination paradigm. Comparison of the smokers' placebo and
discrimination Go and No Go contingent negative variations (CNVs) with
those of non-smokers' avoidance and discrimination results reveal that
the differences in CNV amplitudes for both the groups of high and low-
anxiety subjects were consistent. Data indicate that differences between
both the groups of high and low-anxiety, subjects were due primarily to
task and personality factors regardless of smoking disposition.

Balada et al. (1992) in a study explored the relationships among a
number of personality measures (i.e., the sensation seeking scale (SSS),
the State-Trait Anxiety Inventory, and a susceptibility to punishment
scale) and some parameters of the pituitary – thyroid axis in 37 physically
and mentally fit female volunteers (mean age 30.7 years). Data indicate a
significant negative relationship between the SSS score and plasma basal
levels of thyroxin (Tu) and thyroid-stimulating hormone (TSH).
Interaction between Tu and TSH levels with trait anxiety was also
observed.

Cetinguc (1992) in a study assessed Pilots' anxiety and depression
level. The State-Trait Personality Inventory and Zung's Depression Scale
were administered to 345 active-duty Turkish Air Force pilots and 70
nonflying Air Force Officers. The fliers recorded lower scores than the non-fliers. Possible explanations were offered, including the higher motivation and job satisfaction of fliers, which could increase the ability to cope with stressful conditions.

Ireland et al. (1992) in a study investigated the relationship between personality characteristics and colour preference of 49 women and 14 men, 30 individuals scoring above the mean on an anxiety scale preferred significantly less saturated colours than 36 individuals scoring below the mean.

Chaudhury et al. (1993) in their study compared anxiety levels in 25 male patients with duodenal ulcer with those of 25 normal controls, 25 patients with non-ulcer dyspepsia, and 25 patients with neurosis. All the groups were matched on age and sex. Results reveal that duodenal ulcer patients have high levels of anxiety not secondary to their diseased state. The anxiety in duodenal ulcer patients may be a personality trait as it is in neurotic patients.

Theriault (1994) investigated whether the work-to-retirement process meets the requirements inherent in the Psychosocial Transitions Model (Theriault, 1996). 17 male members of the experimental group (aged 65 years) took the IPAT Anxiety Scale Questionnaire, the
Satisfaction Index, and clinical interviews evaluations at pre-, intra-, and postretirement measurement times. The 22 age-matched male controls, used to verify the test-retest effect, took these evaluations only at the postretirement session. The retirement transition triggered observable changes in anxiety level. A Posteriori analysis (HELMERT) showed that these operated significantly between the pre- and intra-retirement times. The content analysis of interviews showed, at a qualitative level, observable changes in pre-postretirement preoccupations. Results support the requirements of the Model.

Cheung et al. (1997) investigated the differential of acts of social support on the Psychological well-being of sociotropic and autonomous individuals. Using a 2-way prospective design, 75 college students responded to the Chinese Sociotropy-Autonomy Scale (SAS), Index of well-being, the Chinese General Health Questionnaire, the Chinese State Anxiety Inventory, and the Inventory of Socially Supportive Behaviours at the beginning and the end of a 14-week semester. Data were analyzed by means of multiple regression analysis controlling for Psychological outcome variables at Time 1. Moderating effects of Sociotropy-autonomy were investigated by examining the significance of the interactions of SAS and social support. The results showed that whereas perceived
availability of social support contributes to the prediction of psychological well-being of the sociotropic individuals, the availability is not significant or even inimical to those autonomous individual. The effect holds regardless of the nature of social support (i.e., whether they are emotion-focused or problem-focused). The findings further suggest the importance of the sociotropy-autonomy personality dimensions. Implications for social support intervention are discussed.

Lillenfeld (1997) viewed that the relation of anxiety sensitivity (AS) to personality dimensions has received little attention. In this study, 4 as index were administered along with measures of personality, fears and panic attacks to 220 undergraduates. At the higher order level. As was positively correlated with negative emotionality (NE) but was largely unrelated to either positive emotionality or constraint. At the lower order level. As was positively correlated with absorption and NE indexes. Most of these correlations were significant even among participants with no panic attack history. As exhibited incremental validity above and beyond a number of personality variables, including absorption and trait anxiety, in the prediction of fears and panic attack history. These findings are consistent with the hypothesis that a propensity towards immersion in sensory experiences is a diathesis for panic attacks.
Egan et al. (1998) conducted a study on 55 men (mean age 63.5 years) undergoing cardiac bypass surgery, who completed the state measure of Spielberger’s State-Trait Anxiety Inventory (STAI-S) and an anxiety-investigating personal questionnaire (PQ) to test the sensitivity of the PQ method to surgery-related anxiety. Of the 55 subjects tested at baseline, 29 were seen immediately before surgery and 51 post-operatively; 48 were followed up 8 weeks later. PQs were not more sensitive to anxiety than the STAI-S, when made comparable, both were similar in their sensitivity to anxiety. The Psychometric properties of the PQ and the STAI-S were very similar. Concurrent personality assessment at the first and final test sessions using the revised, abridged Eysenck Personality Questionnaire found all 4 sub-scales of the PQ highly reliable over time; the only subscale to show a significant change was a slight reduction in self-reported Psychoticism at follow up. Despite a significant reduction in state anxiety after life-transforming, radically health-improving cardiac bypass surgery, the major traits of personality remained essentially stable.

Merikangas et al. (1998) reported the results of a high-risk study of 7-18 years old children of parents who served as probands in a family study of co-morbidity of substance abuse and anxiety disorders, in order
to examine: (1) the specificity of transmission of anxiety disorders and substance abuse in parents and children, (2) age and sex differences in the expression of psychopathology in the offspring; and (3) the role of Psychiatric disorders in the co-parent in the development of psychopathology in offspring. Results showed a strong degree of specificity of familial aggregation of both the anxiety disorders and substance dis-orders. Rates of conduct disorder and depression were elevated among offspring of all affected parents. Inclusion of co-parent disorders in the evaluation of familial trans-mission in the present study strengthened the findings regarding the specificity of transmission of the anxiety disorders and the links between both parental substance abuse and antisocial personality with child conduct disorder.

**REVIEW OF LITERATURE WITH REFERENCE TO NEUROTICISM AND EXTRAVERSION**

A note on the subject of personality correlates of divergent thinking is introduced by Rim (1954) in a study which attempted to establish a differential diagnostic criterion for hysterics (neurotic, extraverts) and dysthymics (neurotic, introverts). Rim did not find any significant difference between these clinical groups in verbal fluency.
Divergent thinking varies as a function of personality typology in normal individuals. Several aspects of intellectual capacity and sex differences which may be relevant in this area have not been accounted for in the design of many studies. Divergent thinking, as measured by word fluency and word originally is a function of personality variable of extraversion-introversion and neuroticism-stability when the influence of general verbal intelligence has been accounted for extraverts are predicted to be more fluent and original then introverts. Measures of the relationship of Neuroticism-Stability to divergent thinking are included in order to assess further possible interactions of personality types in modes of thinking.

There are experimental evidences (Cameron & Myers, 1966) that extraverts are less cautious than introverts. It is possible that the superior short-term retention of extraverts is attributed to their greater readiness to produce responses of whose correctness they are uncertain. The most obvious deduction from this hypothesis is that extraverts should produce more changes and errors than introverts. McLaughlin and Kary (1972) found that extraverts made more correct responses and more errors on a recognition test than introverts. Forrest (1963) asked subjects to recall a series of drawings, and described those who tented to produce
exaggerated descriptions of the drawings as 'sharpeners'. He found that the sharpeners were highly significantly more extraverted than the 'levellers' (i.e. those who did not produce extraverted than the 'levellers' (i.e. those who did not produce exaggerated descriptions).

Weiner (1966) and Weiner and Schneider (1973) have argued that experiments frequently involve a confounding of task difficulty level with subjective feelings of success and failure. It is possible that performance on a difficult task results in a feeling of failure due to the relatively slow rate of learning, whereas performance on an easy task produces success feelings because of the speed of mastery. In support of this hypothesis, Tennyson and Wooley (1971) found that the mean level of state anxiety was significantly higher following a difficult task than following an easy task. While Weiner and Schneider investigated the personality variable of anxiety rather than extraversion, they uncompounded the factors of task difficulty and success failure, and obtained evidence that the subjective feelings of success or failure were more related to the performance of different personality groups than was task difficulty.

Much of the behavioural evidence suggesting that introverts are functionally more aroused than extraverts has been reviewed by H.J. Eysenck (1967). He reported supportive data from the fields of
motivation, conditioning perception, psychopharmacology, vigilance, and learning. He interpreted the results as indicating that an intermediate level of arousal was both optimal for performance and was actively preferred by subjects. A relatively direct test of this hypothesis is to give subjects the opportunity to increase or decrease the amount of arousal – inducing stimulation which they receive. Since, theoretically introverts are more aroused then extraverts, it is more likely that introverts will want to decrease the level of stimulation, whereas extraverts are more likely to seek increase in the level of stimulation.

Regarding neuroticism, Eysenck (1967) concluded that it is not likely to play a significant role in performance until the experimental situation is not perceived as anxiety provoking by the subject. Recently, Gabrys (1983), has also concluded that cortical arousal features (which is related to introversion-extraversion) are more important in understanding memory processes that the autonomic responsively (which is related to neuroticism). Eysenck, in his recent book, 'A model for personality (1981) also suggests that the extraversion-introversion dimension may serve as a model for personality in many experimental tasks, since it has a better theoretical substructure and more links with genetics and physiology.
H.J. Eysenck (1967) combined Walker's action decrement theory with the notion that introverts are chronically more aroused than extraverts, and deduced that the short-term retention of extraverts would exceed that of introverts, but that the position would be reversed for long-term retention. Modest support for this hypothesis derives from several of the studies already discussed, in which extraverts usually performed better than introverts at the short-retention intervals used.

A number of studies have been concerned with personality differences in learning (Howarth & Eysenck 1968, Howarth 1968). It appears from these studies that extraverts are superior to introverts in short term recall a finding which confirms an earlier finding of Howarth (1963). Who used a modified Wechsler digit-repetition task.

Elliott (1971) suggested that each individual has an optimal or preferred level of stimulation, and there are individual reactions to sensory stimulation.

Eysenck (1973) accounted for this interaction by extending the action-decrement theory of Walker (1958). According to Walker's theory, high arousal produces a longer lasting active memory trace, leading to enhanced consolidation in long-term memory. However, during the consolidation period there is a temporary inhibition of retrieval (called
'action-decrement') which protects the trace from disruption. Since there is more pronounced action-decrement at high levels of arousal, short-term retention is inversely related to the level of arousal on the assumption that introverts are more cortically aroused than extraverts (Eysenck 1973) it follows that extraverts should outperform introverts at short retention intervals but that there should be a reversal at longer retention intervals.

Walker's theory is unsatisfactory for a number of reasons, the main one being that some of the available data are inconsistent with it. For example, while high arousal does typically impair short-term retention impaired associated learning, it actually must be concluded that no satisfactory explanation of interaction between introversion-extraversion and the length of the retention has yet been offered (cf. Eysenck 1982). Some research in this regard shows that high arousal typically impairs immediate retention in paired associate learning, other findings indicate that high arousal enhances immediate free-recall and recognition.

There is an interpretative problem with much of the literature on introversion-extraversion and memory, since it is usually unclear whether the observed differences in retention are due to effects at the time of initial perception, attention, rehearsal consolidation, retrieval and response emission, (Eysenck, 1982) emphasizes conducting research with
the single aspect of processing. It was consistently found in a variety of paradigms that introverts were primarily inferior to extraverts when retrieving relatively inaccessible information had to be retrieved. (Eysenck, 1976) concludes that high arousal biases the person’s search process information more than is the case with lower levels of arousal. He demonstrated that high activation introverts produced the lowest amount of correct recall and the greatest amount of distortion. A part of the reason for this way be that high arousal causes cognitive masking and reduces parallel or shared processing (Walley and Weiden, 1973).

Eysenck (1974) argued that there was a methodological problem in the studies of personality differences in semantic memory, since it is probable that subjects search through their previous emissions in order to avoid repeating responses. The greater cautiousness of introverts (Cameron and Myers, 1966) may mean that they perform more re-check than extraverts, and thus have less effective time available for retrieval from semantic memory. In order to obviate this difficulty, Eysenck (1974) used semantic memory tasks requiring only a single response on any given trial. On recall trials, subjects produced a word from a specified category beginning with a designated letter (e.g. article of furniture T) and on recognition trials they decided whether or not a word belonged to
a specified category. Extraverts responded considerably faster than introverts on recall trials, but there was no difference between them on recognition trials. Fuller analysis of the results involved dividing both recall and recognition trials into those involving easy or high dominance items and those using difficult or low dominance items. The optimal level of subject arousal varied inversely with the difficulty of the retrieval task. In a subsequent study, using the same recall and recognition tasks, but manipulating arousal by means of general activation and while noise, Eysenck (1975) obtained comparable results.

Several alternative hypotheses can be proposed to account for various findings.

(a) It is possible that introverts retrieve information as rapidly as extraverts, but they take longer to decide whether the retrieved information is correct, due to their greater cautiousness. However, the recognition memory task used by Eysenck (1974) revealed no difference in response latencies between introverts and extraverts, showing that undue cautiousness does not always slow the responding of introverts. Further more, analysis of the error scores on the recall and recognition tasks used by Eysenck (1974)
indicated that, while introverts tended to produce fewer errors than extraverts, the difference was not significant.

(b) The simplest hypothesis is that the frequent inferiority of introverts in retrieval from semantic memory is due to introverts searching more slowly than extraverts through semantic memory. However, this hypothesis would need elaboration to account for the significant three way interaction of extraversion, activation, and item dominance on recall trials observed by Eysenck (1974) in which intermediate levels of arousal produced the greatest response speeds with high-dominance items, whereas subject arousal was negatively related to speed with low-dominance items. Furthermore, Eysenck (1974) used a long retrieval period in a fluency task (12 minutes) and subjects apparently recalled as many items as they could in view of the generally small number of items recalled during the last two or three minutes of the retrieval period. Inspite of the sample time available for retrieval, extraverts recalled many more words than introverts. Finally, the rapid initial retrieval rate of introverts in that experiment suggested that they do not necessarily have a slower search rate than extraverts.
(c) It has been suggested (Bieri, 1970) that cognitive complexity is greater in introverts than in extraverts, and this difference in complexity might be reflected in difference in semantic memory organisation. It might for example, be the case that it is more difficult to search for information that is organized complexly, and that introverts organize information in a more complex manner than extraverts. It is true that it is difficult to unconfined storage and retrieval factors in studies of semantic memory, since we have to infer the storage characteristics of semantic memory on the basis of retrieval measures. However, it seems improbable that storage differences could explain all the findings since the effects of white noise and of general activation on performance in semantic memory tasks are presumably on search and retrieval process.

(d) A different hypothesis which may be applicable to the verbal fluency data is that introverts are more likely man extroverts to experience problems associated with sampling with replacement when retrieving information from semantic memory. Several pieces of evidence indicate that retrieval of an item of information increases its strength, and enhances the probability of its subsequent recall (Roediger, 1973, 1974). It retrieval increases the
strength of retrieved information more for introverts man extraverts, then introverts would be more susceptible to re-retrieval of items. An alternative mechanism by which introverts might experience repeated retrievals of items is through their relative failure to discriminate between previously retrieved and non-retrieved items. In the verbal fluency situation, the rapid initial recall rate of introverts followed by their marked reduction in recall rate follows from the hypotheses, since problems of sampling with replacement will increase during the course of the retrieval period. The finding that introverts had recalled half of what they would finally recall earlier in the retrieval period than extraverts is also consistent with the hypothesis.

Harinder Mohan Singh (1974) conducted a study, “A cross sectional study of anxiety, neuroticism and extroversion. This study shows that the interaction between place of residence and sex on anxiety scores is statistically significant at .01 level. Again interaction between place of residence and sex on neuroticism score is statistically significant at .01 level. The differences as found by the investigator, may not be attributed to chance factor alone.
Hukum Singh (1974) “A study of extroversion introversion and neuroticism – stability among High caste and Scheduled caste adolescence”. This study shows that the scheduled caste boys are more neurotic in comparison to scheduled caste girls. The high caste girls are more neurotic than scheduled caste girls.

Eysenck (1975) discovered that the poor performance of introverts on paired associate lists involving response competition was largely attributable to their slow retrieval of the relevant information. He argued that high arousal increased the tendency to retrieve readily accessible information, which is counter-productive when there are very assessable but incorrect responses available (e.g. in conditions of response competition).

Eysenck (1975) argued that an important difference between introverts and extraverts might be in the speed of retrieval of emembered information. He recorded the recall speed of subjects learning easy and difficult lists of paired associates, and noticed that those subjects having intermediate levels of arousal (high activation extraverts and low activation introverts) had faster response latencies then those of low (low activation extraverts) or high (high activation introverts) levels of arousal. He concluded that previous studies had confounded storage and retrieval
effects. The generally superior performance of extraverts to introverts in other studies, usually involving short retrieval periods, may be due both to the slower speed of retrieval of introverts and to the better learning of extraverts.

Schwartz (1975) claimed that arousal facilitates recall based on the actual physical properties of the stimuli but adversely affects memory for semantic features. Eysenck and Eysenck (1979) claimed that the introverts experience greater difficulty in retrieving deep or semantic information from long-term stores, but there is no effect of introversion-extra version on the retrieval of shallow physical information.

Eysenck, (1976) in his study pointed out that high arousal typically impairs short-term retention in paired associate learning, it actually 'enhances' short-term free recall and recognition. Most robust findings in the research on arousal and memory is that high arousal impairs short-term retention (upto approximately 20 minutes after acquisition) but facilitates long-term retention. This pattern of performance has been found several times when arousal has been manipulated by means of white noise or time of day (Eysenck, 1981). It has also been obtained when the effects of retention interval on the memory of introverts and extraverts have been assessed. The model
finding is that the extraverts have a better short-term recall than the introverts but that this is reversed at longer retention intervals. This crossover in recall occurred after five minutes (Howorth and Eysenck, 1968, Mclean 1968; Skantha Kumari 1965). It is worth noting, however, that there are some studies in which there was no introversion-extroversion and retention interval was obtained (Berlyne and Carey, 1968; McLaughlin and Kary, 1972; Schneller and Garske, 1976). But in a study of memory for information in prose, it was found that short-term memory performance was not related to extraversion - introversion, but long-term memory performance declined as extraversion increased.

In an interesting study, M.C. Eysenck (1979) investigated the incidental learning of attribute information. The subjects were instructed to process the material either phonemically or semantically, and were than unexpectedly given a recognition test involving synonym pairs and homophone pairs. Incidental learning, in the sense of learning other than that specified in the instructions, is necessary to select the appropriate synonym after semantic instructions or to select the appropriate homophone after phonemic instructions. As expected, introverts showed less incidental learning than extraverts, presumably because they processed a smaller number of word attributes than extraverts. However,
while this finding accords with Easterbrook's hypothesis, there is some question as to whether the results should be interpreted in arousal terms, since activation as measured by Thayer's ADACL was unrelated to performance. If subsequent work confirms, the view that introverts process fewer attributes or features than extraverts, this would provide a potential explanation for the frequent superiority of extraverts in short-term recall.

As far as the relationship between personality traits and well being is concerned, Costa and McCrae (1980) posited that extraversion influences positive affect, whereas neuroticism influence negative affect. Since then, the personality traits have been studied in relation to well being, and the traits that have been received the most theoretical and empirical attention in relations to well-being are extraversion and neuroticism.

Gillespie and Eysenck, M.W. (1980) found in a continuous recognition memory task that the introverts adopted a significantly more stringent response criterion that the extraverts. However, there was no effect of introversion-extraversion on sensitivity end.

Bean and Army (1983) pointed out in their study that relationships between field independence and extroversion. H.J. Eysenck' contention
that the two variables are significantly related to an extent justifying the use of causal hypothesis based on extroversion theory.

Dahi (1983) in his study examined the relationship between the personality dimensions of neuroticism, extroversion and psychoticism from the Eysenck Personality Questionnaires (EPQ) and self-actualization as measured by the personal Orientation Inventory (POI) for 212 undergraduates. The 2 major scales of the (POI) time competence and inner directed, both separately and as a combined measure of self-actualization were correlated with the scores obtained on the (EPQ) results shows the hypothesized significant positive relationship between extroversion and self-actualization. Contrary to the hypothesis no relationship between psychoticism and self-actualization only indicates the lack of a neurotic tendency and not the lack of a psychotic one.

Pearce and Porter (1983) in their study found that neuroticism was significantly correlated with expectations of pain intensity, but extroversion was not significantly correlated with expectations of engaging in pain behaviour. Results are discussed in the context of current debates about the role of personality variables in the development of chronic pain states.
Humphreys and William (1984) conducted a study, "A Theory of the relationship between individual differences and information processing" found that empirical generalizations about task components in a structural model are combined and testable predictions differentiate alternative motivational hypothesis.

Malik (1984) in a study divided 90 male students into three groups (preadolescent, adolescent and post-adolescent) based on age (9-12, 13-16 and 17-20 years, respectively). The personality factors of introversion, extraversion, anxiety, and emotional stability were measured with the Children's Personality Questionnaire, the High School Personality Questionnaire, and the 16PF, Skin-conductance Orienting Response (OR) was measured with a physiological recorder. Findings reveal that in the adolescent group, low-anxious subjects showed a higher magnitude of OR than that shown by the high-anxious group.

Tanwar and Kumar (1986), conducted a study entitled, "An experimental study of distracter and probe techniques in short-term memory as a function of extraversion and levels of intelligence". In this study the children of 8th and 9th grade were selected on the basis of these scores on junior personality inventory and general mental ability test. In this way four groups i.e. introvert high intelligent, introvert average
intelligent, extrovert high intelligent and extravert average intelligent subjects were tested on Distracter and Probe technique of STM. To find out the effect of personality and intelligence on STM a 2x2x6 repeated measure analysis of variance for distracter technique and 2x2 experimental design for probe technique were used. Results of this study indicate that in distracter technique the F-ratios for personality and intelligence were non-significant but significant on sets and interactions. While in probe technique performance between introvert and extravert were found significantly different. Extraverts performed better than introverts.

McCral and Costa (1991) correlated self-reports and spouse ratings on the NEO personality inventory with 3 measures of well beings in a sample of 429 subjects (aged 24-87 years). This inventory measured 5 factors viz. neuroticism, extraversion, openness of experience, agreeableness and conscientiousness. Consistent with previous research, neuroticism was negatively and extraversion was positively related to well-beings. Both agreeableness and conscientiousness were also significant independent predictors of well being.

Chaudhary and Sinha (1992) examined the effect of extraversion and neuroticism on four areas of adjustment (home, health, social and
emotional) for college students. High extroverts were better adjusted socially than the low extraverts. High and low on neuroticism subjects differed substantially in all four areas of adjustment. High and low extraverts substantially in all four areas of adjustment. High and low extraverts did not differ significantly in home, health, and emotional adjustment.

Diener, Suh, Lucas, and Smith (1999) in another study reported that although extraversion and neuroticism are extensively studied traits in relation to well-being, but those clearly not the only traits that relate to well-beings. For example, Wilson (1967) concluded that self-esteem and optimism are related to well-being and happiness. It is also interesting to note that personality traits exhibit some of the strangest selection with well being, and it appears that genes may be partly responsible for those relations. Most important to note is that they admit, "we are unsure how many additional personality traits are needed to provide a complete picture of the happy individuals. In an extensive science of the three decades of progress in the field of well being. Diener, Suh, Lucas and Smith (1999) suggest four directions. First, the causal direction of the correlates of happiness must be examined through more sophisticated methodologies. Second, researchers must focus greater attention on the
interaction between internal factors (such as personality traits) external circumstances. Third researcher must strive to understand the processes underlying adaptation.

Sharma (1999) conducted a factor analytic study of anxiety in relation to personality, self-concept and self-efficacy in 140 female secondary school students. The sample was administered with 16 PF, ASQ, Self-concept Inventory and Self-Efficacy Scale. The factor analysis yielded eleven factors. Factors Q₄, O, Q₃, C, E and L emerged as significant personality correlates of anxiety. ‘Self-ideal discrepancy’ and the ideal-self also loaded, significantly with the measures of anxiety on the same factor. The study provided the relevant information about the personality and self-related cognitive correlates of anxiety.

Two major hypotheses relating the dimension of introversion — extraversion and verbal learning has been examined experimentally. The first hypothesis is that extraverts will show faster learning then introverts in tasks which are ‘difficult’ or which involve response competition, but that this disadvantage will be attenuated in tasks which are ‘easy’ or which involve little or no response competition. The second hypothesis is H.J. Eysenck’s (1967) modification of Walker’s (1958). The hypothesis states that the period of consolidation is larger for introverts than for extraverts, with the results that the short-term retention.
Diener and Lucas (2000) in their study found that it is worth important to note two conclusions drawn by the research in the field of personality and well being: first, suggested that the researchers must be aware about the varied pattern of relationship between personality and well being across cultures. Secondly Diener, Suh and Oishi (1997) admit, “what is not yet clear is whether extraversion predicts pleasant affect to the same extent in different cultures such as in India and Nepal”. Also in an extensive survey of the literature, the present research did not find any representative work conducted in India on the relationship between personality and well beings. All this background in sufficient in itself to realize the necessity of filling in the gaps in knowledge and conducting an exhaustive research study on the relationship between personality and well beings in India.

Diener and Lucas (2000) conclude that a number of Wilson’s (1967) conclusion have stood the test of time. Most significantly, Wilson was correct about (and probably underestimated) the importance of personality. Researchers consistently find that the personality traits of extraversion, neuroticism, optimism, and self-esteem corrected with measures of well being. However, they further suggest that we must caution that the pattern of relations may vary across cultures.
REVIEW OF LITERATURE WITH REFERENCE TO ADJUSTMENT

The modern physical educators and coaches realized that the development of personality and the achievement of desirable social, emotional and personal adjustments have been major objectives of physical education and games programmes. Some of the studies show that athletes participating in various activities of Physical Education and games or sports in general depict unique type of adjustment. Available research evidence to this effect is briefly examined in the following pages.

Kushlen and Lees (1939) designed a study to determine the relationship of the social acceptability with participation in games among boys. They found that to be active in games was important for social acceptability (recognition).

Carter and Shanon (1940) found high school athletes were socially adjusted than non-athletes.

Spearling (1942) conducted a study on “The relationship between personality adjustment and achievement in physical education activities”. This study was undertaken in order to furnish experimental data which might clarify the issue and enable one to say with greater assurance that
exists at present that athletic achievement is or is not associated with more favourable personality development.

Sperling (1942) compared no athletes to varsity and intramural athletes and found the athletes scored higher in personality adjustments, ascendance, and extroversion and lower in aesthetic appreciation and theoretical orientation. He also found significant differences in social adjustments in favour of athletes.

Alexandra (1946) obtained data on leadership in adolescence and compared them to personality adjustment. She found that leaders were significantly better adjusted than non-leaders.

Powell (1947) found high and significant relationship among adjustment in various fields of life and health practices to performance of physical education activities.

Rurich and McLece (1949) studied twenty third grade children who exhibited extreme level of achievement on motor proficiency tests. He found that third grade children who attained a high level of motor proficiency tended to be more frequently well adjusted in school environment and personal relationship.
Brownell (1951) maintains that physical education makes a contribution to general adjustment and well being that can be obtained from no other source.

One of the earlier investigations to demonstrate that athletes differ from non-athletes on selected psychological traits was Heunser (1952). By using the 16 P.F. 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.

Ondrus (1953) used sociometric techniques and analysed that effect of football activities on interpersonal relationship. He reported that participation inter-personal (social) relationship/social adjustment. He added that participants had high social status than boys who were not able to participate.

Signorella (1953) in a study of social adjustment and athletic participation, found that participants are well socially adjusted as compared to non-participants.

William (1953) found that the process of social integration in college football squad was positive (favourable) and continued throughout all the three periods of the football season.
Biddulph (1954) conducted a study on “Athletic achievement and the personal and social adjustment of ranking high school boys” and concluded that students ranking high in athletic achievement demonstrated a significantly greater degree of personal and social adjustment than the students ranking low in the athletic achievement; Because of this significant relationship it was concluded that it is important for develop more ability.

It seemed desirable to consider athletic achievement as represented in the typical high school boys rather then in trained, experienced athletes because of the varied and complex factors which seems to greatly influence the personal and social adjustment to the trained athlete, experienced as he is in competitive play. Unnatural popularity, which may athlete enjoy, is often a distinguishing influence rather than a stabilizing influence upon their personalities.

Laplace (1954) using MMPI reported significant differences between major and minor league baseball players on personality traits like anxiety, self analysis, self criticism and social adjustment. He found that major league baseball players were socially well adjusted than minor league players.
Elvera (1956) used various types of peer status evaluations and teacher judgements were utilized as criteria of social adjustment. In general, the results showed a relationship between these criterion and physique type, body size, muscular strength, motor performance and athletic ability.

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

Seymour (1956) designed a comparative study of certain behaviour characteristics of participants and non-participants boys little league baseball. He found that participants in baseball tended to be more frequently well adjusted in school and personal relationship as compared to non-participants.

Skubic (1956) conducted studies of little league and middle league baseball on school population and found no conclusive evidence that participation in the games was harmful, rather than useful for all purposes and development of certain desirable adjustment like social acceptance.

Cowell (1960) studied the relationship of social students to physical ability. He used self-constructed rating scale to measure
adjustment ratings either by teacher of by classmates were positively and significantly related to physical education ability.

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.

Clarke and Clarke (1961) designed a study to find out the social status as related to the maturity. Structural and strength characteristics of students. They employed both techniques sociometric questionnaires and inventories to find social status and adjustment. They found positive relationships between peer status adjustment and body sizes, and peer status adjustment and muscular strength.

Cowell and Ismail (1962) studied interrelationships between personal distance (degree of personal acceptance), motor fitness and athletic aptitude using 83 boys in the 10 to 20 years of age range. The relationship of athletic aptitude to leadership was studied in the same group. Another group of 75 boys of junior high school age was used to study the interrelationships between social adjustment, motor fitness and athletic aptitude. Instead another group of 45 freshmen varsity football squad members, the relation of personal distance sports to football ability
as judged on a man to man rating bases on some items, was studied. All the relationships were found to be positive, moderate and significant at the .01 level of confidence.

Coleman et.al. (1963) in a study of relationship between motor performance and social adjustment among boys experiencing serious learning difficulties found a strong relationship between motor performance and social adjustment of the subjects.

Robert (1964) examined the physical fitness and adjustment of students on the college campus. By administrating AAPHER Physical fitness test and Washburne social adjustment inventory. He found appreciable differences in the scores of football and basketball group on Washburne social adjustment inventory.

Gottheil and Warner (1966) using 16 P.F. compared 340 athletes cadets and 116 non-athletes after they had entered 4.5 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 tracts may lead to better adjustment in various spheres.
Ogilvie (1967) confirmed Cooper’s conclusions besides pointing out other aspects of the male athletes personality. Ruth Ralph (1971) has conducted a study on “the effects of general semantics on the personality adjustment of elementary school children”. This study describes experimental projects that have evaluated the effects of general semantics may contribute to personal and social adjustment and the scientific methods of objectives evaluation should be used to investigate this.

Rushall (1967) administered Cattell’s 16 PF Questionnaire to athletes and non-athletes; by employing t-test he found that sportsmen were emotionally more stable, matured and more socially adjusted than the non-sportsmen.

Cooper et al. (1969) on the basis of 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, trust worthiness 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 interest and higher muscular ones.

Koening (1969) in his study on high school girls 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 family and family influence.

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.

Mary (1970) measured physical fitness by AAPHER youth fitness test, attitude towards physical education by attitude inventory form A and personal social adjustment through California test of personality second form AA. It was concluded that there was significant relationships among the factors when the tests were conducted on high school girls. It is further added that socio-economic status has relations with adjustment.
Buck (1971) selected Pollock Health Behaviour inventory test to measure health, behaviour of high school seniors (boys and girls) the main findings were

(1) other things being equal, a person who is well adjusted tends to have goods health behaviour;

(2) other things being equal, a person with good health, behaviour will tend to be well adjusted;

(3) the relatively high relationship between low health, behaviour and low total adjustment and relatively high correlation between personal and social adjustment suggested that the two types of adjustments could be measured by a single test. Female students scored higher than male students on every test of health, behaviour and adjustment.

Betty, Ruth, Muntz & Ryygor (1972) understood a study on “a fine year follow up study comparing the school achievement and school adjustments of children retained in Kindergarten and children placed in a transition class,” and the results of the study suggest that retention in kindergarten was effective in ameliorating learning deficiencies to the point where the retained children were able to make satisfactory progress in school achievement and school adjustment through the third grade.
Chadwicks (1972) did investigation on female athletes and characterized them as tough minded (factor I-) whereas athletes in Pestonjee’s et. al study were found to be more outgoing (factor A+), serene (factor O-) and socially precise (factor Q+) than non-athletes. By using the Cattell’s 16 personality factor questionnaire, Mushier (1972) and Ruseh (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.

Mehta and Velayudhan (1972) of Baroda, Dept. of Child Development have summarized the studies made on the department on personal and emotional adjustments and on self concept, achievement motivation and academic achievement of adolescents. With respect to monarchal and problems of adjustment, the studies show that the monarchal age does not have any impact on the total adjustments problems and anxiety scores.

Mushier and Rusch (1972) found adult female athletes to be more reserve (Factor A–) and tough mind (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. Athletes in Rusch's study were found to be more adjustive than the non-athletes.

Antonelli and Mascellani (1973) carried out a study on 351 top Italian athletes using the Bell's adjustment inventory adult form. They found that the male athletes had better adjustment than the female ones. Sports where participants have good adjustment are: athletic, volleyball, sailing and fencing. Inferior adjustment is found in cycling, swimming, rowing and gymnastics.

Edwards (1973) concluded that core value of the sports is that individual achievements and satisfaction through competition in sports activities, which help the individual to be adjusted in various fields of life.

Bhullar (1974) compared the personality adjustment of sportsmen and non-sportsmen as measured by Bell's adjustment inventory. It was concluded that sportsmen and non-sportsmen show marked difference on adjustment.

Subhash (1974) conducted a study on 50 students participating in 800 meters race and found that better performance of participants in 800 mt. Races brings health, social and emotional adjustment. To measure
adjustment in various fields of life, the Bell’s adjustment inventory was used, and the performance in 800 mt. Race was recorded while the subjects were participating in college and university’s athletic functions.

Singh (1975) conducted a study on 50 male participants in 5000 meters race and found that better the social adjustment the better the performance in 5000 meters race. He concluded that social adjustment is the significant detriment of the running performance in 5000 mts. race.

Supereitzer and Snyder (1975) sought to identify the social definitions of sports in the contact of value orientations by asking people what they felt were the functions are consequences of sports. They found that most people defined sport as having positive functions for both society and the individual participants. It means sports helps in social and personal adjustment of a participant in physical education and games.

Dhillon (1981) conducted a study on 800 sportsmen, sportswomen and non-sportsmen, non-sportswomen to know their school adjustment. To measure school adjustment Bhagia’s school adjustment inventory was used. She found that sports men/women were significantly better adjusted as compared to non-sportsmen/women.

Jeffery (1981) conducted a study to investigate possible relationship between prior-scholastic athletic process and current measure
of self concept. Investigations revealed little in 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.

Rana (1981) administered '16 P.F.' questionnaire to sportsmen and
non-sportsmen of Jiwaji 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 Dalip K. Dureha (1986) who compared the
personality characteristics of sportsmen and non-sportsmen. He found
that sportsmen and non-sportsmen differed in their personality
characteristics on the factors of emotional stability and greater control
over emotions and greater regards for self respect and social reputations.
On the contrary, Calimer and Gotthell (1966) found no evidence to
support the view that college athletes significantly influenced personality
structure.

Dass (1983) did a study in which performance in track events was
related to school adjustments Bhagia's school adjustment inventory was
used on 400 school athletes. He found positive relationship between the failure and high performers. High performers were well adjusted athletes.

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

Sharma and Shukla (1986) conducted a study on athletes and non athletes by using Callell’s (1963) high school personality questionnaire (H.S.P.Q.). He found that athletes in various sports specialties tend to be out going, 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, effected by feelings of weak, super-ego, shy, tender minded, suspicious, doubling, undisciplined and tense. The above findings have been supported by Bidulph (1954), Werner et.al. (1966), Singer (1967), Kane (1968), Bhushan (1978) and Sharma and Shukla (1986).
Bhatti (1987) conducted a study on 290 college athletes and non-athletes. He found that athletes were significantly better than non-athletes in home adjustment. There could not be found any difference in their health adjustment, social adjustment and emotional adjustment.

Amra (1988) conducted a study on sports girls and non-sports girls by using Sinha and Singh (1984) adjustment Questionnaire (AISS) for school children. She found 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.

Nasib Singh (1988) conducted a study by administering Sinha and Singh Adjustment inventory for college students (S.S./AICS) to compare the individual and team athletes on selected psychological variables and concluded that individual and team athletes have not been found to be significantly different from one another on various areas of adjustment except educational adjustment, where the difference between the two has not been found to be significant. Marked inter sports differences have been found on all areas of adjustment. Basketball, boxing and handball groups have registered significantly better adjust bound adjustment whereas track and field and hockey groups being poor on adjustment have differed
considerably from other sports groups. Successful athletes differed significantly from unsuccessful athletes on all areas of adjustment.

Panda and Biswas (1989) conducted a study on 50 high achieving and 50 low achieving football players, graduate male of Orissa. They administered Maudsley personality Inventory by Eysenck (1964) and Psychoticism Scale by Eysenck and Eysenck (1968) in Ofiya version. They found significance of difference between all factors personality adjustment of High and low achieving football players.

Ohri and Dalip (1990) conducted study on 50 tribal and 50 non-tribal women by administrating Bells adjustment inventory (BAI) and Bems sex role inventory (BSRI). They found that due to the well defined feminine roles the tribal women shows better home and health adjustment than their non-tribal counterparts. The non-tribal women, on the other hand face the problem of role-conflict, role-overload and physical exhaustion, which account for their poor health adjustment. The non-tribal women also have to de-emphasize some aspects of their role in the family to emphasize other roles and this leads for their poor home adjustment in comparison to their tribal counterparts who have still not rejected their natural identities in the community.
Sharma (1990) conducted a study on 525 male intervarsity and Inter-college participants of Boxing, football, Gymnastics, Hockey, Volleyball and wrestling by administering Sinha & Singh Adjustment Inventory for College students. The results showed that:

1. **Home adjustment**: Football and Hockey players have better home adjustment than wrestling and gymnastics players and Inter University positioners are better than the participants of Inter College level.

2. **Health adjustment**: Athletes, Boxers, football, Hockey and Volleyball players have better health adjustment as compared to wrestlers and gymnastics players.

3. **Social adjustment**: Inter College participants have highest level of Social adjustment while Inter college participants have least.

4. **Emotional adjustment**: The position holders of Inventory and participants of Inter College have better emotional adjustment than the losers of intervarsity.

5. **Educational adjustment**: Athletes, Boxers, footballers, gymnasts and hockey players have better educational adjustment than the wrestlers.
Robert and Simpson (1991) support that examined mood states of non-scholarship college football players using the profile of *Mood States*. 

Results suggests that Ss did not confirm to the "iceberg profile" described for elite athletes, differing mains in the areas of tension and anger. Ss indicated more mood disturbances than a sample of scholarship football players studied by J.R. Nation and A.D. Leunes. Defensive players showed more negative affective moods than did offensive players.

Clarizie (1992) in his study pointed out that several controversies continue to surround the differentiation between the socially maladjusted (SM) and seriously emotionally disturbed (SED) central to the controversy is the interpretation of social maladjustment. At one extreme, some restrict the definition of SM to include the socialized aggressive and adjudicated delinquents. At the other extreme, SM is constructed broadly and includes:

(1) conduct disorder (group type solitary aggressive and undifferentiated)

(2) Oppositional defiant disorder, and

(3) anti social personality.

An intermediate position presented herein argues for the inclusion of the socialized aggressive and unsocialized aggressive under the rubric
of SM. Given that those in the anxious withdrawn dysphonic group are viewed as both SM and SED. They should be eligible for special education services assuming adverse educational impact is evident.

Sharma (1993) conducted a study on 240 male team players i.e. Basketball, football, Hockey, and handball. He observed relationship between the performance of dominant groups of football players with health adjustment. Hockey players with emotional and total adjustment whereas no relationship between the performance of submit group of all the four sports with any of the adjustment variables.

Agarwal and Sharma (1995) conducted study on the adjustment and aggression among wrestlers and boxers of 14-16 years age group. Through adjustment inventory of A.K.P. Sinha and R.P. Singh (AICS) and aggression questionnaire of G.C. Patti the results revealed that there were significant differences between the aggressive behaviour, total adjustment home, social, emotional and educational adjustment; whereas there was no significant differences found in health adjustment of boxers and wrestlers. While comparing the results, the boxers were found more aggressive and less adjustive whereas wrestlers were found less aggressive and more adjustive in total adjustment, home, social,
emotional and educational adjustment but both boxers and wrestlers were found equally adjustable in health adjustment.

Dutta (1998) in their study on “Social Adjustment of Adolescent” pointed out that no significant difference exists between boys and girls, and between the two age groups in the area of social adjustment high achievers had better level of adjustment in the social aspect of life.

Chemers (2001) conducted a longitudinal study of 1st year University students adjustment examined the effects of academic self efficacy and optimism on students, academic performance, stress, health and commitment to remain in school. Academic self-efficiency and optimism were strongly related to performance and adjustment, both directly on academic performance and indirectly through expectations and coping perception (challenges threat evaluation) on classroom performance, stress health and overall satisfaction and commitment to remain in school.

Perry et al (2002) conducted a study on academic control and action control in the achievement of college students. A longitudinal field study. The results indicate that achievement related cognition, emotions, motivation and final grades were measured at the end of the course. High academic control students exerted more effort, reported less boredom and
anxiety, were more motivated, used self monitoring strategies more often, felt more in control of their course assignments and of life in general, believed they performed better and obtained higher final grades. Failure pre-occupied students received higher final grades, which corroborated their self-reported performance of note, high control, high failure, pre-occupied students out-performed the other three group by 1 or 2 better grade.