CHAPTER II

REVIEW OF LITERATURE
Increasing speculation and research have been devoted to the various factors that underlie choice of an occupation. The various theoretical models of vocational choice lead us to conclude that vocational choice is the result of an interaction of the environmental and psychological factors. A complete understanding of the dynamics of vocational choice requires an analysis of the nature and effect of these factors. The systematic, organized and empirically established knowledge of various factors of vocational choice would also prove beneficial for vocational guidance purposes. The present research is an endeavour to study three major psychological correlates (Intelligence, Personality and Motives) of vocational choice. However, review will be made of studies regarding important environmental and psychological factors with special emphasis on the variables under study.

Environmental Factors

The effect of those factors which are extraneous to the individual, may be referred to as environmental factors. The different environmental factors influence the vocational decision making process. Some of the environmental factors, considered to be salient in the formation of vocational choice, are discussed below:
I. Culture: The rich cultural milieu in which an individual exists, affects his freedom to choose indirectly, by exerting the force of the existing social patterns. Various conditions and modes of living in different cultures, induce their members to take up jobs, in consonance with their prevailing systems and value structure. In some of the Asian cultures, middle and far east countries, there has been traditionally no freedom to choose an occupation. Russia and England serve as examples of such cultural restriction imposed on the freedom to choose an occupation. In Russia the State decides for the individual; the job he will do. The institution of school in England, decides the future higher educational programme (with the aid of series of tests) for each student, thereby imparting definite direction for his vocational choice.

The empirical findings reported on the impact of cultural milieu on vocational choice are few, but they clearly indicate the important role culture plays in forming vocational choices. (Chinoy, 1952; Emphey, 1956; Ross, 1957; Berman, 1972). Clark (1965) in his study on culturally disadvantaged children, indicated that 30% of boys and 85% of girls expressed choice for professional and white collar jobs. Sinha and Shankar (1970) in a comparative study on the Indian culturally disadvantaged and advantaged population reported that culturally disadvantaged population choose occupations leading to economic gains, involving less responsibility and those satisfying their immediate needs,
whereas culturally advantaged population opted for occupations which involved responsibility, power and authority. It may be observed that the pattern of vocational choice varies from culture to culture and also within one culture.

II. Social Class: Social class to which an individual belongs depends significantly on the socio-economic conditions of his family. The socio-economic status of an individual defines an individual's vocational choice in the following two ways:

1. By rendering various high level vocational goals either possible or impossible.

2. By determining the level of his vocational choice in accord with his social class. An individual is expected to either maintain his family's level of social class or to aspire for higher-level, by entering into better jobs than his parents.

The research efforts, exploring the relationship between different socio-economic levels and the nature of their corresponding vocational choice, have shown mixed trends. In a comparative study by Emphey (1956) it was indicated that upper class students aspired for occupational status, significantly higher, than the students belonging to the lower class. Similar results were indicated by Sahoo (1980) on Indian population. Cavalli (1978) reported that males preferred occupations on the basis of social class. Harvey and Kerin (1978)
reported that students from higher socio-economic stratum had higher educational goals and desire to obtain prestigious occupations. Students of lower socio-economic group had resigned themselves to lower educational goals and lower job status. Mohan & Banth (1975, 1977) studied the patterns of vocational choice, of students, belonging to upper socio-economic status. The vocational choice, of University students was restricted to the upper two levels only.

Sonlser (1970), Srivastva and Palo (1970), Rodman et al. (1974) and Goyal (1975) are some of the investigators reporting that individuals may aspire to more prestigious jobs than their family's social class. Kanter (1977) indicated in his study that subjects seeking jobs of higher socio-economic status than their family's social class, experienced special adjustment problems, in their new roles.

III. Family: Family influences vocational choice mainly in the form of (a) Father as a role model. (b) Interpersonal relationship with parents. (c) The place or order within the family.

Fathers as role-models, influences the choice phenomenon significantly. In two large scale studies of over three thousand college students Becker (1978) and Dewinne and others (1978) it was found that, student's' stated choices, tended to coincide with the occupations of their fathers more often than would be expected on a chance basis. Similar results
were obtained by Nelson (1939), Carter (1940), Dvorak (1947), Bordin (1943), Super (1953), Hicks (1978), Basow (1979), Bama (1978) surveyed 1200 male school students and found following sequence of different influences on their vocational choice:

- Self - Choice: 40%
- Father's influence: 34%
- Mother's influence: 12%
- Teacher's influence: 2%

Influence of family in form of inter-personal relationship with parents have also been studied by certain investigators. The essence of Roe's (1957) theory is, that parental attitude of acceptance or avoidance leads to formation of choice of person oriented and non-person-oriented jobs. In several studies (Crites, 1964; Siegelman, 1964; Green and Parker, 1965; Stinnett, 1971; Grewal, 1973), the hypothesis put forth by Roe was tested and found to be good. Unsatisfactory interpersonal relationships in the family leads to higher vocational goals (Dynes, Clark and Dints, 1965). Werts (1968) found that children with assertive or dominating parents may implicitly accept their parents plan for their vocational future.

Individual's position in the family plays an important role in determining certain patterns of vocational development and choice. Bossard and Ball (1955) Dimund and Hans (1967); Hall and Barger (1964); McArthur (1956) Schacter (1964); Singer (1964); Stotland and Walsh (1965) have indicated that
first born prefers activities which involve direction, control
and supervision of others, whereas later borns prefer sociable,
empathic and sympathetic activities. Mehta and Juneja (1963)
reported that later born females expressed preference for
occupations involving a parent surrogate role more frequently
than first born females. Stone (1963) ascertained that the
early borns as compared to later-borns, preferred traditionally
favoured technical vocational curriculum such as engineering.
Altus (1967) indicated that first born preferred majors of
technological nature e.g., Physics, Mathematics and Engineering.
He also noted that among females later borns elected less
intellectually oriented activities, such as, Art and Music.
Very and Prull (1970) and Gerald (1974) indicated that lawyers
are more from the first born category.

IV. School : Individual's interests, value systems, social
behavior patterns, educational and vocational goals depend
largely on the scholastic environment. Walia (1976) reported
that students from Government school gave maximum preference
to "Social Science" group followed by 'Business contact'
whereas Randhawa (1977) found children from Public School
preferring "Arts and Entertainment" group of occupation. It
has also been reported that students from low socio-economic
class, who attend middle class school, show an upward trend in
their vocational choices (Boyle, 1960).

Faculty members of an institution are believed to affect
students personality development, as well as their career
development. Various studies have reported that students' vocational choice is influenced by their teachers (Belin, 1956; Wilson, 1959; Turner, 1960; Bell, 1963; Day, 1966; Carlin, 1966, Conyne and Cockron, 1973). Carlon (1960) reported that approximately 40% of students chose careers corresponding to subject taught by their favourite teachers.

**Ecological Factors**

Rural and urban background plays an important role in the formation of vocational choice. Influence of educated parents, better educational opportunities and availability of sources of vocational information are the few factors that lead to basic differences in patterns of vocational choice among rural and urban students.

In a study by Bell (1938) it was reported that rural youth opted more for trades and craft occupations, whereas their urban counterpart preferred professional, business and secretarial jobs. Sisson (1941) reported that urban boys chose engineering more often, whereas rural boys always selected an agricultural occupation. Middleton and Grigg (1959) indicated that 64% of the rural and 77% of the urban residents aspired for white collar occupations.

**Sex Differences:** Sex difference in vocational choice is more often governed by the social environment and sex role projection. Women are traditionally expected to marry and do
household chores. Their vocational entry tends to be more tentative than that of men. Grottielb and Ramsey (1964) reported that women went only to prepare for an occupation in which they can work for a limited time, before and after the marriage (in case of loss of their husbands).

Significant sex differences in vocational choice patterns have been observed. Lehman and Witty (1936) reported that these different vocational orientations are apparent in very young boys and girls. Girls frequently selected occupations involving teaching and personal service, whereas boys more frequently chose those involving travel, physical danger and power. Singer and Stefflre (1954) compared vocational choices of 17 and 18 years males and females. The boys were prone to select jobs offering power, profit and independence, while girls were more inclined towards jobs involving interesting experiences and public service. Rosenberg (1957) noted that one-half of the men planned to enter law, engineering, farming or business, on the other hand, half of the women selected teaching, social work, secretarial work, art, journalism and drama.

The era of women emancipation and liberation has changed the scene of women's vocational choice to a considerable amount. The gap caused by sex difference in vocational choice has narrowed down. Women are increasingly taking advantage of the full range of occupations, and choose from those occupations which were previously considered as male oriented (Rice, 1974; Dryer, 1975; Paul, 1978 and Basow, 1979).
The above mentioned review of literature indicates that environmental factors are important variables in the process of vocational choice. Besides these external factors there are some factors within the individual, which influence his vocational choice. During childhood, the external factors (family, school, social class, culture, ecological factors) are more operative in the formation of career preferences, whereas in adolescence and adulthood such influences are less operative the latent vocational predispositions (abilities, interests, personality) come actively to the fore and to a large extent determine ultimate vocational choice (Ausubel, 1977). The ensuing discussion reviews certain psychological variables of vocational choice.

Psychological Factors in Vocational Choice

Unlike the environmental factors, psychological factors may be more directly measured and interpreted by the use of psychometric instruments. It is difficult to enumerate and review a thorough list of these factors because scientific research in this area is still not complete. However, a review of some of the empirically established determiners of vocational choice which have relevance to the present work, are discussed below:

1. **Intelligence and Vocational Choice**: Level of intelligence operates as a selective factor in guiding brighter individuals
towards vocations that demand more intelligence and in
directing the vocational choices of duller individuals towards
less intellectually demanding occupations.

Byrns (1939) analyzed the scores on a test of mental
ability of 42,479 girls and 34,472 boys expressing various
vocational preferences. Boys indicating a preference for being
a writer or journalist had the highest median percentile scores
(87.9), those expressing a preference for being a chemical
engineer were next 82.2. The lowest median percentile scores
were obtained by boys preferring to be barber (31.0) and
dairying (30.0). Similarly girls preferring the occupation
of journalism had the highest median percentile scores (84.4
and 84.3), while those preferring to be a retail clerk or to
work in beauty culture obtained the lowest scores (34.0 and
33.5). Livesay (1941) obtained similar results in a study of
high school students. Those preferring occupations at the
professional level had the highest intelligence scores while
those preferring the unskilled jobs had the lowest. Teaching,
business, semi-professional occupations and agriculture,
in that order, were intermediate between the two extremes.

The relationship of mental ability to vocational
preference was investigated by Porter (1954). Boys with
higher mental ability tended to select occupations that were
high on prestige level. Perrone (1964) also studied the
relationship between high school boys occupational preference
and mental ability. He used an occupational preference
A questionnaire based on Roe's eight occupational groups, Social service, Business contact, Organisation, Technology, Outdoor, Science, General culture and Arts and Entertainment. 192 school students were classified into Roe's system in terms of their vocational preference, and their mental ability was tested by verbal and non-verbal tests. In general the non-person occupational choices, e.g., Science, Technology and Organization were made significantly more by intelligent group than the person-centered groups, e.g., Service and Business contact.

Gribbons, and Lohnes (1966) observed that the higher IQ groups 115 and above preferred professional and other high level occupations. The middle range 105-115 IQ preferred lower level of occupations. Welsh (1971) indicated positive relationship between nonverbal intelligence scores and scientific interests. Business interests particularly in sales and occupation of personal and social contacts showed negative relationship with non-verbal intelligence scores. Interests in professional, biological sciences showed positive relationship to verbal intelligence scores while intelligence and business interest is negatively related.

Some empirical trends give evidence that intelligence is significantly related to vocational choice. However, few efforts are traceable to depict a factor analytic picture of this relationship and more so to denote intelligence as potential predictor of vocational choice. Thus an attempt
Personality and Vocational Choice: Personality has been recognised as a very important determmier of human behavior. Since total personality often appears too complex for measurement, much effort has been devoted in breaking it up, into components (traits), and to study them conclusively. A trait is a mental structure, an inference that is made from observed behavior to account for regularity or consistency in one's behavior (Cattell, 1956). In actual practice most studies of personality and vocational behavior have either explicitly stated or implicitly assumed that personality is made up of constellation of traits, more or less integrated into a functional units (Schaffer and Shoben, 1956).

Since 1950, Cattell's long continued and widely documented research into personality factors represents the single most monumental effort to operationalise those sources of individual differences often referred to as 'temperament' or personality traits into vocational terms (Howarthly, 1976). It is assumed that because of the inherent differences in the roles that occupations require people to play, the ideal and personal characteristics of members of various occupational groups vary. At the same time it is accepted that nature and degree of specific personality characteristics determine one's adjustment to the occupational environment. It is assumed that adjustment is to a considerable extent, a matter of the degree to which various traits of one's personality are
integrated. In a well integrated personality the various internal needs and reactions to the various external pressures are harmonious and such person is vocationally impelled, driven or attracted in one general direction and able to function thereon effectively (Super, 1968).

Gabhart and Holy (1958) reported that students expressing a choice for engineering courses were high on endurance, whereas the choice for arts and science majors scored higher on dominance. Astin (1958) indicated that students with high scores on aggressiveness and need to dominate showed their liking for sales, managerial and persuasive professions, whereas lower scores preferred the occupations of farmers and engineers. Nikore, Singh and Despande (1965) found that science students were high on need of achievement, intercession, dominance, endurance and aggression. Arts students were high on need for affiliation, succorance, hetero-sexuality and aggression, commerce students were high on need for affiliation and hetero sexuality.

Palo (1969) also studied differences of personality of students from Engineering, Law, Medical and Teacher Training along with other differences in personality he found that majority of groups differentiated in the need achievement, assessment, autonomy and nurturance.

The relevance of personality factor in Vocational choice
has been further established by empirical findings based on the theories proposed by Roe, (1956); Super (1957); Tiedeman and O'Hara, (1963) and Holland (1962). A detailed review of all these studies would not be worthwhile since in the present investigation personality is being studied in Eysenckian framework. Hence Eysenckian personality model along with few reported findings of its relationship to vocational choice is discussed in details.

**Eysenck's Personality Theory** : The personality theory, developed and modified by Eysenck over the years (1947, 1957, 1960, 1963, 1970, 1972) posits four major dimensions of personality. Extraversion/Introversion, Neuroticism (stability, psychoticism and intelligence which are by and large uncorrected. By dimension, Eysenck (1960) means a continuum for a type which in turn is defined "as a group of correlated traits...."

Out of these four dimensions of personality, the dimensions of Extraversion/Introversion (E/I) and Neuroticism/stability have considerable theoretical and statistical evidence in literature (Mohan,1966; Eysenck,1971; Malhotra,1974; and Mohan,1976). Intelligence is a cognitive dimension and psychoticism has been used by Eysenck and Eysenck (1970) for differentiating the normal from the abnormal. For the present study, only the dimensions of E/I and N were used to find their relationship with vocational choices.
Extraversion/Introversion (E/I)

According to Eysenck and Eysenck (1968,1975)
Extraversion refers to impulsive, sociable tendencies and Introversion implies controlled and responsible behavior. The factorial studies of Extraversion have resulted in a picture of typical Extravert, who is sociable, likes parties, has many friends, needs to have people to talk and does not like reading or studying by himself. He craves for excitement, takes chances, often sticks his neck out, acts on spur of the moment and generally is an impulsive individual. He is fond of practical jokes, always has a ready answer and generally likes change. He is carefree, easy going, optimistic and likes to laugh and be merry. He prefers to keep moving and doing things, tends to be aggressive and lose his temper quickly. His feelings are not kept under tight control and he is not always a reliable person.

In contrast to this a typical Introvert is a quiet retiring sort, introspective, fond of books, rather than people, reserved and distant except to very intimate friends. He tends to plan ahead "looks before he leaps" and distrusts the impulses. He does not like excitement, takes matters of life with appropriate seriousness and adopts a well ordered mode of life. He keeps his feelings under close control, seldom behaves in an agressive manner and does not lose his temper easily. He is reliable, somewhat pessimistic and places great value on ethical standards (Eysenck and Eysenck, 1968).
On the genotypic level Eysenck (1957) attempted to relate differences in E/I to hypothetical inherited differences in the functioning of nervous system. For this purpose Eysenck refers to Pavlovian (1927) concept of excitation and inhibition. He stated that individuals in whom excitatory potentials generated are relatively weak and are predisposed to develop extraverted patterns of behaviour. Individuals in whom excitatory potential is quickly generated there is a strong predisposition to develop introverted patterns of behaviour.

The causation of E/I was further elaborated in terms of Hull's (1943) sub-molar principles of reactive-inhibition (Ir.) Eysenck stated that individuals in whom reactive inhibition is developed quickly and is of a strong nature and dissipates slowly are predisposed to develop extraverted patterns of behavior. Conversely, individuals in whom reactive inhibition dissipates quickly are thereby predisposed to develop introverted patterns of behavior (Eysenck, 1957, 1963).

The physiological basis of E/I is assumed to be due to differences in the threshold of arousal of ARAS. Introverts are assumed to have lower thresholds of reticular arousal than extroverts. Thus Eysenck theory asserts that introverts have inherited a nervous system which permits them to form learned connections between stimuli and responses more rapidly, than Extraverts. The genotypic variations along
with neurological bio-chemical lines, interact with the Environmental patterns of behaviour.

E/I and Vocational Choice

An extravert would prefer occupations which are people oriented, exciting and outgoing types and those involving less task-persistence e.g., outdoor occupations, business contacts and sales, services. Introverts on the other hand would prefer occupations which are task-oriented, involves planning concentration and responsibility e.g., Science, Technology and General culture.

There is a relative paucity of experimental evidence relating E/I with vocational choice. The trait dimensional approach has also been used sparsely in the research of vocational choice. The traceable efforts include the relationship of E/I to different groups of occupations, individual enrolled in different training programmes and vocational preferences. The review of all these studies is being undertaken simply for the reason that entry into different occupations and training programs indirectly reflects vocational choice. Moreover, Roe (1956), Holland (1966), Super et al. (1967), Crites (1969) and Campbell & Holland (1972), have also suggested that the history of person's educational training, vocational interest and choice, and occupational membership have continuity and lawfulness rather than disjunctiveness and randomness.
Bendig (1963) found that introverts tend to prefer theoretical and scientific professions such as architecture, journalism and teaching of mathematics while extraverts prefer people oriented jobs. Kumar (1970) found successful business executives to be challenging stimulating, task-oriented, creative and achievement-oriented, the traits which are usually associated with introverts.

Kanekar and Sahu (1970) found that there was no significant differences on extraversion among medical, law, English and commerce students. Henney (1975) indicated that particular sample of managers tend to show significant above average scores on Extraversion. Coker (1975) reported that total sample of students from technology was introverted.

Gupta (1977) reported that those scoring high on E/I preferred outward oriented jobs --- salesman, commerce trade, press, correspondent, army and foreign services. Wankowski (1976) indicated that introverts gravitate towards the hard sciences while extraverts seem more at home in the Arts and Social sciences. Kokosh (1976) using MMPI found that physics and Zoology majors were more introverted than social science students such as sociology and history.

Mohan (1977) reported that Extraversion mean scores of I.A.S. officers was (9.00), Police officers (10.00), Bank officers (14.15), M.B.A's (10.96) and University students (11.00). Eysenck and Eysenck (1977) reported that professional students scored higher on E/I than arts students.
Raxier and Buckley (1977) reported that medical students were more introverted than pharmacy students, occupational therapist students, physical therapists and dietetics. Vohra (1977) indicated in his study on Polytechnic students that the score on E/I of polytechnic students was lower than that of students from other professional and general academic courses.

In a study conducted by Singh (1979) on successful farmers it was found that individuals from this occupational group were high on E/I.

**Neuroticism (N)**

Neuroticism, by which Eysenck implies drive levels complements the E/I in explaining various behavioral patterns. By neuroticism, Eysenck (1953, 1957) refers to the 'Emotional lability or over responsiveness of a person and likelihood of breakdown under stress. The general nature of neuroticism is assessed as instability, unadaptability, depressive moods, weak dependable attitude, narrow interests, symptoms of nervous breakdown.

The basis of neuroticism is taken to be neurophysiological and elaborated from the Hullian theory of drive. Neuroticism is thus, considered as a general factor in motivation or striving (Hall and Lindzey, 1962). Eysenck (1963) is of the view that "differences between people in emotionality or neuroticism are mediated by inherited differences in the
lability and excitability of the autonomic nervous system (ANS)\textsuperscript{a}.

Brody (1972) states, emotionality is thought by Eysenck to be dependent upon the arousal of visceral brain. The arousal of the visceral brain is assumed to lead to arousal of reticular activation system but not the converse. Neurotics are assumed to have low threshold of such activation.

**Neuroticism and Vocational Choice**

Eysenck (1953, 1957) described Neuroticism as instable, unadaptable, anxious and dependent individuals. Neuroticism is equated with an autonomic drive (Eysenck, 1967; and Mohan, 1976) the optimum drive or \( N \) for easier tasks is expected to be higher than difficult tasks. Thus, subjects high on \( N \), because of their general qualities and drive level, are likely to make unstable vocational choices, they would not be able to function smoothly in occupations demanding persistence, hard-work and going through details, e.g., 'Science' and 'Technology'.

The results so far on the relation of \( N \) and vocational choice have been scanty and inconclusive. Some indirect evidence comes from the studies which have used neuroticism in relation to different occupations and training programs. These evidences can be used indirectly for an insight into neuroticism in relation to vocational choice.

Rao (1966) reported that nurses, teachers and medical students show comparatively high scores on neuroticism,
while engineering and science group showed low score on Neuroticism.

Jessup, Gilbert and Helen (1971) reported that trainees at a pilot training programme who could not successfully complete the course in time or failed were high on N dimension than the successful trainees. Hornet et al. (1975) reported that as compared to engineering students, social scientists scored high on N scale. He further emphasized that high N is a female characteristics and social sciences are more often chosen by females than males.

Luthra (1976) in his work on industrial workers indicated that this group was very high on N scale of EPI. Eysenck (1967) found that Executives in general business org. score high on N. Mohan (1977) reported that I.A.S. officers mean score on N was 10.55, while M.B.A. students had a mean score of 7.04 on N. Mohan (1977) also indicated that executives in general business organization were high on N (EPI). Eysenck and Eysenck (1978) found that Arts students scored highest on N, whereas professional students had the least N scores. Vohra (1978) reported that the correlation between N and choice for technology groups levels 1, 2 and 3 (Roe's classification) is very low. Bhanot (1980) reported that individuals from technical occupations were low on N scores. Ummat (1982) similarly reported that Engineers were low on N.

A perusal of related research studies in the field of
personality and vocational choice reveals that although considerable research has been carried out in this area of investigation, yet as far as the relationship between Eysenckian personality model and vocational choice is concerned evidence appears to be very scanty and inconclusive, and warrants further investigation.

3. Motives and Vocational Choice

The term motive has been used to refer to the disposition within the person to strive or approach a certain class of positive incentives (goals) or to avoid a certain class of negative incentives (threats) (Atkinson, 1956). Motives are supposed to drive, direct or select behavior. Winter (1973) has provided an exceptionally lucid analysis of the concept of motive. He suggested that modern concept of motive involves five related points:

1. The concept of motive is invoked to explain changes in behavior.
2. A motive-based explanation typically connects a specific behavior to more general disposition.
3. A motive explanation behavior usually implies a goal and the possession of knowledge about certain means-ends relationship.
4. The motive explanation gives rise to predictions of how the person will behave in other situations.
5. Motive explanation enables us to anticipate an entire sequence of behavior.

Motives are the roots of human thoughts and actions, which are manifested in different surface effects. Dispositional psychologists (McClelland, Atkinson, Clark and Lowell, 1953; and Winter, 1973) have explained the relationship of motives to both action and thought in terms of needs. In their view the needs which people have differ in both kind and amount and these differences motivate people to think and act in diverse ways. Thus, needs supply motives, which in turn lead to need related thoughts and need satisfying actions.

One of the most popular theories of human motivation has been put forth by McClelland (1961, 1975, 1976, 1979). He has tried to explain different types of behaviors in terms of trichotomy of needs - need for Achievement (nAch), Need for Affiliation (nAff) and need for Power (nPow). McClelland theory became popular in the early 1960's, probably because of his pioneering work correlating (nAch) with the levels of achievement or progress in several cultures. Most of the researchers in this area, to date, has been concentrated in the field of entrepreneurial behavior and business management.

Atkinson and McClelland (1961) have shown that motives are an integral part of personality, and that workers select their jobs because they see potentialities for the satisfaction of their needs. Vroom (1964) in his effort to explain the
relationship of motives to vocational choice commented that it has been typically assumed by several researches that people's vocational choices are determined by their motives. This hypothetical relationship is based on the assumption, that different jobs have potentialities of satisfying different needs, and individuals choose occupations in accordance to their needs pattern.

Since in the present research endeavor, the three motives (nAch, nAff, nPow) are studied in relation to vocational choice in the following section. We will review separately the theoretical orientation of each motive and the research evidence bearing on the relationship between each motive and vocational choice.

Achievement Motive (nAch) and Vocational Choice

Murray (1938) defines need for achievement as "the desire or tendency to do things as rapidly and/or as well possible". It also includes the desire to accomplish something difficult, to master manipulate and organize physical objects, human beings or ideas, to overcome obstacles and attain a high standard, to excel one's self, to rival and surpass others, and to increase self-regard by successful exercise of talents.

McClelland et al. (1953) regarded nAch as a social motive and equated it to an inner concern with achievement, a disposition to engage in activities in which doing well, competing with a standard of excellence was important.
More recently McClelland (1963, 1975, 1979) regarded nAch as a desire for excellence not for the sake of social recognition, but to attain an inner feeling of personal accomplishment.

Attempts to differentiate approach motives involving anticipating of reward, and avoidance motive involving anticipation of punishment have been made. The tendency to achieve (Hope of Success, HS) and tendency to avoid failure (Fear of failure, FF) have been recognized as two aspects of nAch. (Clark, 1948; Atkinson, 1953; McClelland and Liberman, 1949; McArthur, 1953; Clark, Teevan and Ricciuti, 1956).

There are certain groups of occupations where the potentiality for the satisfaction of nAch is comparatively higher such as science, and technology. To provide some direction in the formulation of related hypothesis review of nAch in relation to educational courses (which ultimately lead to vocational choice) along with vocational choice are presented in the ensuing discussion.

McClelland (1955) reported a study of freshmen with various achievement motive scores who were asked to state their choice on 100 different occupations. The top 20 per cent on nAch were found to express more often the choice on six occupations: stockbroker, office-manager, sales manager, factory
Buyer of merchandise, real estate salesman, factory managers. Apparently, a high level of nAch tends to be associated with a choice for business occupations. The above finding was in support of previous reported findings by McClelland, Atkinson, Clark and Lowell (1953) and Ricciuti (1959). They indicated that students with high nAch were interested in business occupations. McClelland (1961) indicated that boys with high nAch from upper social status preferred to become research scientists while the middle status high nAch boys preferred to become factory managers. He suggested that vocational choice is a multiplicative function of nAch and Social class.

Tamhankar (1968) in an investigation on Indian population reported that young adolescent boys and girls choosing big business as their vocation, were very low on nAch scores. Students whose expressed preference was for salaried job, had a relatively higher level of nAch. This finding is contrary to the findings of McClelland et al. (1953, 1954, 1955) as reported above. Tamhankar further reported that students preferring theoretical occupations have highest mean nAch, whereas those preferring occupations related to aesthetic values have lowest nAch scores. Krishna and Ansari (1975) have reported somewhat similar findings of high nAch students preferring jobs in teaching, social welfare and judicial sphere, whereas low nAch students preferred business, agriculture and social work jobs.
Bayes (1975) investigated nAch as determinant of occupational choice of black college seniors. He reported that black students choosing non-traditional occupations (professional, technical and hindered) were high on nAch, than the students who expressed choice for traditional occupations. Harrel and Stahl (1981) with a new approach for measuring nAch directed individuals to weigh the role of three needs (nAch, nAff, nPow), in the formation of their job choice. The sample consisted of graduate students, scientists and engineers and management executives. Multiple regression analysis was used to determine the weight of each need in arriving at his or her job choice decision. The results indicated that nAch plays the dominant role in the formation of the vocational choice for scientists, engineers and graduate students.

Nikore, Singh and Deshpande (1985) in an investigation on Indian students from different training courses reported that students with science and medicine as their chosen field of education were high on nAch as compared to arts and commerce students. Pal (1969) in a study on engineering, law, medical and teacher training students, indicated that nAch scores of engineering and medical students were higher than law and teacher training students. Bose and Gupta (1979) also studied nAch scores of engineering and non-engineering students, the results indicated that engineering subjects score on nAch was higher than non-engineering students.
Few studies illustrating the relationship of nAch to level of vocational choice are also reported. Minor and Neel (1958) indicated that the higher the achievement score, the higher the prestige level of individual's chosen occupation. Veroff; Atkinson, Feld and Gurin (1960) reported that strength of nAch was positively related to the status of chosen occupations. Burnstein (1963) reported that subjects with lower nAch but high fear of failure scores, chose occupations with low prestige level.

The role of nAch in vocational choice as related to sex differences has been reported in several investigations. Horner (1972) theorized that women in achievement oriented situations faces anxiety about success and which may be one of the major factors underlying the sex differences reported in research on achievement motivation. Oliver (1974) reported that achievement motivation in career-oriented and home-making-oriented courses did not show any significant difference. Martin (1975) indicated that women in a typically male non-traditional academic major were high on nAch scores than women in traditional academic majors.

Sid and Lindgren (1981) studied the sex differences in achievement motivation among graduates majoring in different academic fields. They reported that male marketing majors scored highest in nAch than male students in other majors, whereas females in education and nursing majors scored lowest in Ach. Males had higher nAch scores if they were in business
majors and low if in psychological majors. Females were high on nAch if in psychological majors and low if in business majors.

With the available research in this field, it is difficult to point out findings and consistent trends of nAch in relation to vocational choices. Hence to draw conclusions, an attempt into exploration of vocational choices and nAch relationship is worthwhile.

Affiliation Motivation and Vocational Choice

Affiliation motivation or need for affiliation (nAff) is a concern in an individual over establishing, maintaining or restoring a positive affective relationship with another person. This relationship is most adequately described by the word ‘friendship’ (Haynes, Veroff and Atkinson, 1966). It is a drive to relate to people. The affiliative motive is generally assumed to be either a means to an end or an end in itself. Individuals may socialise simply because they enjoy it regardless of whether anything but company was apparently gained thereby (Schater, 1959). The affiliative concern becomes apparent in the reaction of an individual to separation or some disruption of interpersonal relationship, and is inferred from the desire to be liked or accepted or forgiven. It is expressed in the sorrow in parting, shame or grief over some action that has led to separation, or similar instances implying the desire to restore to affiliative
relationship of the past.

Individuals with need for affiliation as their dominant motive would possess certain personality traits which may influence the individual's vocational choice. The traceable research efforts attempting to relate these concepts directly are scanty. Though, indirect inferences for the concept of vocational choice could be drawn from several other studies relating need for affiliation to different groups of occupations and to students enrolled in different training programmes. The review of all these research evidences is presented to gain insight into the possible relationship of the two concepts.

Vlkor, Nath, Singh and Deshpande (1965) examined the relative strength of different needs of students under different training programmes. Vocational choice in this study would be indirectly inferred by the choice of educational training programme. Different needs were measured by using Edward's scale for measuring different needs (EPPS). The results showed that need for affiliation is highly loaded in the group of students opting for Commerce and Arts as their educational training programme. Whereas, science and medicine students were negatively correlated with the need for affiliation. Pal (1969) in a somewhat similar personality study of engineering, Law, Medical and Teacher Training students, indicated that these different educational training groups did not differ significantly on the need for affiliation. Bernadette (1971) studied the needs pattern
of different occupational choice in the para-medical field. Four groups were taken – Registered Nurse, Licensed Vocational Nurse, Medical Assistants and Dental Assistants and their need pattern was studied through questionnaire by Edward (EPPS). The results indicated that only dental assistants from the para-medical field have high need to give and to receive from others at effective level i.e., they were high on the need for affiliation.

Sid and Lindgren (1961) studied affiliation motive among graduates majoring in different academic fields. The results indicated that females majoring in education and nursing majors were high on need for affiliation than other female subjects. Male students majoring in psychological majors were comparatively high on need for affiliation than males from business and marketing majors.

Barrell and Stahl (1961) using McClelland's trichotomy of needs (nAch, nAff, nPow) on graduate students, scientists, engineers and management executives and used multiple regression analysis to determine the weights of the three needs in arriving at their job decision. The results indicated that graduate students and executives weighted need for affiliation more than the scientists and engineers, for arriving at their job choice.

The studies reported so far give indirect evidence of relationship between nAff and vocational choice. A few
direct studies of the relationship between the two concepts are available. Blank (1975), probed into the relationship of various needs and the stated vocational choice of female students enrolled in Psychology courses. Blank (1975) divided the world of work into two main categories i.e. male dominated occupations and female dominated occupations. His results indicated that women choosing female dominating career were high on the need for affiliation, whereas women choosing male dominating careers scored low on this need.

Harris (1977) studied the vocational choice and personality traits of students with counselling and non-counseling majors. The vocational choice was studied by using Strong-Campbell Inventory and the need pattern by using EPPS. The results indicated that students expressing choice for nature science, medical science writing, law/politics and merchandise were high on need for affiliation.

However, on the basis of research, available in the direction of direct relationship between these two concepts, it is difficult to identify consistent trends. Hence, the need for study to find the relationship between the need for affiliation and vocational choice of all different groups of occupations.

Power Motive

The systematic study of power motivation was begun by Veroff (1955, 1957) and has been continued by Winter (1967,
Winter (1973) defines power as the ability or capacity of one person to produce intended effects on the behavior or emotions of another person. The goal of power motive is the status of having power. The power motive becomes apparent in strong, vigorous actions expressing power, actions that produce strong, emotional reactions in others and in statements expressing explicit concern about a person's reputation or position. The person high on need for power is an individual who acquires or displays the trappings of prestige, power and potency. These adornments are satisfying for them, because of the effects they have on the behavior or reactions of others. The central concern of person motivated by power is control of people, possessions and situations. Such control may be gained through force, prestige, possessions or embellishment of one's products (Winter, 1973).

Individuals with power motive possess personality characteristics which make them seek prestige, power and potency. Hence, such individuals would only choose those occupations where the fulfilment of above needs are evident. The research efforts in the realm of these two concepts are scanty. Hence certain studies indicating relationship between need for power and different occupation groups are also reviewed simply for their indirect bearing (as entry into different occupations reflects vocational choice) in developing insight.
into possible relationship of these two concepts and provide some direction in the formulation of related hypothesis.

Veroff (1957) administered vocational goals inventory to subjects with high need for power and low need for power (TAT). The inventory consisted of dimensions with three types of vocational goals — a job where you could be leader, a job where you could be boss, and a job where you could be looked upon very highly by fellow men. The results indicated that high nPower scorers differed significantly from low nPower scorers on vocational goal of obtaining recognition from their fellows.

Veroff, Atkinson, Feld and Gurin (1960) used thematic apperception method to obtain scores on need for power on a national sample of men employed in different occupations. The results indicated that the managers and proprietors and the semi-skilled workers obtained relatively high scores on the need for power, while the professionals and clerical workers had relatively low scores. Meyer et al. (1961) obtained scores on need for power on a group of managers and a group of specialists employed by the same organization. No significant differences were obtained on nPow in these two groups of occupations. Singh and Kaur (1976) with the help of TAT found the need for power scores of teachers working at different levels, i.e., primary, secondary and college. They found the need for power was highest in college teachers (9.5), followed by primary teachers (8.6). The secondary teachers had the lowest score of (7.8) for need for power.
Eggleton (1978) used thematic apperception method to obtain nPow scores of a group of administrative personnel, non-administrative and staff specialists employed at college and university library. The results indicated that the above three groups of employees did not differ significantly on the need for power.

Barrell and Stahl (1981) in an attempt to develop a new approach for measuring McClelland's trichotomy of needs instructed his subjects to relatively weight the role of three needs (nAch, nAff, nPow) at arriving job choice decisions. The subjects were graduates, scientists, engineers and management executives. The results indicated that executive placed highest weight on the need for power in arriving at their vocational choice. The scientists and engineers placed comparatively less weight on the need for power for arriving at their vocational choice.

A study of need for power in relation to educational training programmes (an indirect indicator of vocational choice) has also been reported. Armstrong (1979) studied need for power along with other needs, of graduates majoring in education, social work and business administration (MBA). The need for power was assessed by thematic imagery test. The results of the study indicated that there were neither gender nor group significant differences on the scores of need for power, though the male students of education and social work were higher on need for power than the rest of the sample.
The review of literature on need for power in relation to vocational choice indicates that there is hardly any direct study available indicating the relationship between the two concepts. Thus, an attempt in this direction based on correlation, factor analysis and regressional approaches will be worthwhile. Though empirical trends are evident and have led to visualize that need for power may be significantly related to some of the vocational choices.