1.1. Introduction, Need and Scope of the Study

Occupational Psychology has attracted new attention in the recent years. The need to study occupational Psychology is reflected in the statement of Super and Bohn (1971) that it is as relevant as finding one playing an appropriate role in society, as having an identity of one's own, as doing one's thing, as having a means of self-support, as getting and holding a job or as eventually retiring. The authors further add that it is as real as the sweat on one's brow, as meaningful as the mastery that comes with a difficult task well performed, as worthwhile as the object made or as the service rendered.

In the beginning it has been Differential Psychology that was applied to occupations, i.e., to occupational choice, selection, success and satisfaction. Occupational psychology later has become Developmental Psychology applied to vocations, to the process of developing Vocational Preferences, choosing and entering an occupation, succeeding in it, deriving satisfaction in it, and mobility from one position to another as the career unfolds. Occupational Psychology today is much more wider and intensive in fundamental ways than it was a generation or two ago.
The specific substance of occupational psychology may undergo changes with generations, although, due to various changes in economy and certain other aspects. But its psychological determinants will remain the same as long as men have verbal aesthetic values and the life-stage-structure will remain the same as long as men are born young, develop, mature and grow old. That is why the study of occupational psychology, of individual differences and career pattern will remain relevant and valid.

A greater part of an adult's life is devoted to his occupation and today everybody is convinced that the role of the occupation in the life of an individual has much wider psychological importance. In order to understand the role of the occupation in the life of an individual, it is necessary to have some knowledge and understanding of the individual and his needs. If the old concept of economic man, according to which men work as to make a living were true, as soon as food and shelter has been assured, work would stop and the civilizations would have not been built up.
Research on morale in industry and job satisfaction has identified that much more than a paycheck is involved in and expected of a job. Super (1957) opines that when earning a livelihood is difficult, the need for a livelihood is strongest, since survival needs are basic. Once the basic needs are met the relative importance of these needs varies with the psychological make-up of the individual and the subculture and circumstances in which he finds himself.

Thus, in addition to providing an economic basis for survival, occupation becomes entwined with individual's self-image and self-respect; it consumes a large extent of one's time and his physical and psychological energy, and it shapes major aspects of the individual's social existence, such as status, life style, friendships, place of residence and opinions, attitudes and values (Caplow, 1954; Super, 1957).

Cleaton (1949) has listed food, bodily wellbeing, activity, mating, sharing thoughts and feelings, dominance over people and Clements, self-determination, achievement, approbation and ideation as some of the important dimensions associated with an occupation. Vernon (1938) identified social conformity, altruism, activity, independence, power, superiority, social
admiration, pleasure and ease as drives which he found to influence university women in selecting an occupation. He also found that different drives can operate in different individuals to produce the choice of the same career and that the same or very similar drives could result in the choice of very different careers. Hendrick's (1943) work principle reveals that man seeks and finds primary pleasure in the efficient use of minds and hands and tools to control or alter his environment. Peerbolte (1949) has pointed out that labour which is only self-preservative in character is not satisfying but that every one needs to find some form of spiritual self-realization in his work.

These few but important references help to show that it is generally accepted that the occupation plays an immensely important role in the life of an individual. Though some points of agreement are found among these authors, none offers a systematic presentation of any basis for his assignment of drives and needs to occupation.

However, it is agreed upon by many that choosing a career goal, which plays a vital and prominent role in an individual's life, is one of the most important decisions one may ever have to make. The amount of
education received and career chosen by the individual go a long way toward determining many aspects of his future. Hence, carefully designed study in this area gives a basis for intelligently choosing a future work role that allows one to use his talents, develop his interests, enjoy making a contribution to society and move up a career ladder through continuous experience and learning. Once certain paths are taken with respect to commitment, training and experience it becomes increasingly difficult to change completely or sometimes even to mildly revise the course of things. The occupational choice often made at an early age may determine the life style and work environment for the rest of the individual's working years and even the lifetime.

Moreover, an occupational choice is not purely of personal importance, it is of importance to the society as well. Most modern societies are highly technological and urbanized requiring qualified people to occupy various roles. Because of the interdependence that characterises such an economy, a shortage of individuals to fill certain jobs can result in serious economic difficulties or inequities. Business, governmental, scientific, engineering and educational institutions, more specifically, need, personnel of particular quality to maintain their
efficiency and effectiveness. For instance, McClelland and Burnham (1975) found that entrepreneurial managers who created positive climate in their departments and led the employees to high productivity were high on power motive, low on affiliation motive and had high inhibition on self-control. They also scored high on psychosocial maturity measured by the Stewart Maturity Scale.

In a similar way it may be assumed that different occupational groups may depict different, but common to that particular group, motivational and personality patterns and maturity levels. This may be expected due to the differences in the tasks to be performed, relationships to be maintained and the other role expectations by the different occupations.

It will be interesting and useful to study the patterns of motivational and personality dimensions reflected by different occupational groups. These patterns would reveal what dimensions are being emphasized, stimulated and satisfied by the different fields.

The knowledge and utilisation of these patterns are helpful both for selection and placement of individuals in right positions, as well as for formulating plans for development programmes and to make people more effective in their services.
Besides some practical utility, its strength lies in bringing many issues to the surface, which otherwise remain dormant at commonsense level. An intensive and indepth investigation on these issues will be of a great significance and service to the individuals as well as to the organisations.

Such an important and crucial area of occupational psychology deserves much more attention than it has gained so far by researchers. Among those who tried to find out the psychological aspects of occupational groups, have dealt only with one or a few occupations and have limited their research to a few dimensions which vary from study to study. As a result of this many occupations which are crucial for the development and progress of nation remained unattended. Even the existing studies on occupations (Presented elsewhere in the study) have not covered many important psychological dimensions. In order to make up the lacuna of comprehensiveness of the studies in this area a great need for further research is increasingly felt. While undertaking such studies it should be kept in view that both the degree and the kinds of variation of the psychological dimensions are important to understand the psychology of occupations.
The present study being exploratory in nature is an attempt to investigate the motivational and personality profiles and the variations among the profiles of five occupations, namely, medicine, engineering, management, teaching and social work.

1.2 Objectives of the Study:

The overall objective of the present study is to gain insights into the psychological make-up of individuals in the fields of medicine, engineering, management, teaching and social work.

The following are the specific objectives of the Study:

1. To study the psychological profiles of final year students, with different educational specialisations, based on motivational and personality dimensions;

2. To study the psychological profiles of professionals in the fields of medicine, engineering, management, teaching and social work with regard to motivational and personality dimensions;

3. To examine the significant differences in the psychological profiles among the students with different educational specialisations, who are at the verge of completing their education and preparing to enter their respective occupations;
4. To examine the significant differences in the psychological profiles among the different occupational groups; and

5. To study the similarities and dissimilarities between the psychological profiles of students with different educational specialisations and that of their counterparts who are already in the job and gained some experience, and to determine the extent to which professional Socialization takes place during the educational training/preparation (i.e., during internship for doctors, teacher training course for teachers, and final year of education for the rest of occupational groups under the present study).

1.3. Review of the Literature:

In India though a number of researchers have studied a variety of personality variables, both as independent and dependent variables, they more often have concentrated on pre-school children, delinquents, college students and university students and are more frequently confined to applying and verifying theories of Rosenweig (1934, 1944), Allport (1937), Murray (1938), Maslow (1942, 1952), Cattell (1946, 1950), Eysenck (1947) and McClelland (1951) and less often have concentrated on occupational groups.
The existing studies which have attempted to explore the personality patterns or characteristics of occupational groups have limited their concern to a few occupations and also in the extent or depth of exploration of psychological make-up of a particular occupation. Some of the selected studies on different occupations have been reviewed below:

Studies on medical groups:—Pal (1967) using TAT found that medical students had higher scores on abasement and nurturance.

Pal (1968) in another study, employing Saxena's adjustment inventory reported the superiority of medical students on general adjustment as well as on social adjustment. There was no difference found between engineering students and this group on other areas of adjustment namely, home, health, emotional and college.

Pal (1968), while studying the personality needs of engineering, law, medical and teacher training students with the help of TAT, indicated that medical students have yielded higher scores on abasement and nurturance.

Pal (1968) has also explored the personality patterns of engineering, law, medical and teacher training students using Rorschach Ink Blot Test. It has been revealed in this study that medical
students along with teacher training and law students were ruled more by immediate needs for gratification than by long range goals.

Pal (1969) used Allport- vernon Scale of Values (adopted by Ray-Chowdury), Sexena's adjustment inventory, Rorschach and Thematic Apperception Test to study the personality of engineering, law, medical and teacher training students. The results of this study revealed that medical students were superior on creative potential while engineering students on intellect. Medical students have also been found to be superior in imagination and theoretical value has emerged as the highest. Teaching students have indicated better interpersonal relations than the engineering and medical students. Srivastava (1969) reported that medical students had more modern transition values.

Rao (1974) studied the work value patterns of medical students from different Indian Medical Colleges. The findings of this study suggested that an average Indian Medical student has a work value pattern dominated by independence, social, creative and status values. This student also looks for work in which he can have freedom to do what he wants, work where he can serve people and be creative and which brings him status. He values working in academic areas most and in the rural areas the least. He is also not
concerned so much about security in relation to other values. Inter institutional variations with regard to work value dimensions have also been drawn in the study.

Reddy and Parameswaran (1966) using Allport-Vernon-Lindzey scale studied the value patterns of students from different academic institutions like engineering, arts, science and medical colleges. The results indicated that engineering, medical and science students were high on theoretical values, whereas the arts students were high on social and aesthetic values.

Studies on engineering groups: Mishra (1962) studied the differential ideal self image of engineering students. It was found in his study that 19 out of 45 traits were rated differently by the two groups—high achievers and low achievers. The differences indicated that the high achievers differed in their concepts of ideal figure from the low achievers and that the difference in these concepts lay more in the traits of personality and academic type. The differences suggested that the concept of ideals were determined not only by the individual personal factors, but also by the social factors.

Pal (1967) found that engineering students had higher scores on achievement and autonomy.
Pal's (1968 C) study on engineering students revealed that they have superior intelligence, creativity, good impulse control, high level of aspiration, practical mindedness, goal orientation, emotional stability and a tendency towards introversion.

Another study by Pal (1968 d) on engineering students using the Thematic Appereception Test revealed that these students are high on achievement and nurturance needs.

In a study of personality adjustment of engineering and medical students it was observed by Pal (1968) that there was no marked difference between these two groups on some areas of adjustment namely, home, health, emotional and college, whereas the medical students were found to be superior on general adjustment and social adjustment.

While studying the personality needs of engineering, law, medical and teacher training students, Pal (1968) indicated that engineering students had higher scores on achievement, autonomy and counteraction.

In two more studies Pal (1968, 1969) studied the personality patterns of engineering students along with law, medical and teacher training students. Engineering students have been found to be intellectually superior and had high level of aspiration with
ambition outstripping the creative resource. The tendency towards introversion was more pronounced among these students. In terms of general adjustment, they were the best adjusted. Economic value emerged as the highest for these people. Teacher training students have been found to be superior to this group in interpersonal relations.

Rao (1966) employing Maudsley Personality Inventory to the students of arts, science, law, medicine and agriculture faculties as well as to four professional groups namely, clerks, engineers, nurses and teachers, brought out the salient personality differences among the different groups. The study reported that the engineering and science students were the least neurotic groups.

The study by Reddy and Parameswaram (1966) has reported that engineering students along with medical and science students were high on theoretical values.

Shanthamani and Hafeez (1968) used a sentence completion test and 20 item neurotic inventory to study engineering, arts and commerce students in their final year. This study revealed a significant difference between engineering and arts and commerce students with regard to their achievement motivation. Engineering students have obtained the higher nAch score and there was a tendency towards negative relationship between need for achievement and neuroticism.
Hafeez and Shantamani (1975) have developed a 41 item personality inventory to discriminate the relatively emotionally disturbed people from the emotionally stable ones. This inventory was administered to various groups like engineering students, employed and unemployed engineers, managerial groups etc. It was found that the inventory was discriminative in finding out the emotionally disturbed from the emotionally stable ones and also the personality traits.

Studies on management groups: Dwivedi (1970) attempted to assess, through a questionnaire, the most important personality characteristics as viewed by both the public and private sector managers. This study suggested co-operativeness, intelligence, energy, sociability, self-control and flexibility as the highest ranking personality traits for success in one's own managerial positions. Whereas aggressiveness, dominance and confirming are considered as hindrances in managerial positions.

Ryckman and Malikiosi (1974) found that professionals, including managers, perceived a greater influence of powerful others. This perception is understandable considering that managers work in the context of an organisation and bureaucracy where they are surrounded by overt reminders of powerful others.
Reichard's study (1975) of 45 first level managers, i.e., foremen and supervisors, in large organizations, found that changes in the direction of internality are achieved as a result of the training workshop. Their perceived influence of powerful others decreased following the training workshop.

Saiyadain's (1975) study titled "Towards understanding the values of Future Managers", investigated the values and attitudes of 319 students enrolled in the two-year post graduate programme in business administration. A questionnaire has been used to measure the values of the students in five broad areas. The results of this study have indicated that (a) by and large these students would be motivated by challenge in job and would not involve their families in deciding for a career; (b) students with commerce background would rather be more concerned with maintaining good relations on the job rather than having freedom to make their own decision; (c) all of them believe that hard work always pays, self sufficiency should be honoured and reactions like others always show off should be brushed aside as the least important area to worry about; (d) they defined success as the sense of satisfaction in whatever they do; and (e) they perceive their generation
optimistic about future, self-centered, fearful of financial insecurity, compromising with things they do not like, trusting and trustworthy, tolerant and respectful to people in authority.

Ganesh and Malhotra (1975) in their study of work values of Indian managers observed many interesting similarities and some differences in the values of managers from the private sector, the public sector and the government organisations.

McClelland and Burnham (1976) in their article "Power is the great motivator" described the better managers as those with high power motivation, low affiliation motive, and high inhibition. The concern for power by these managers gets socialized—controlled so that the institution as a whole, not only the individual, benefits i.e., they care about institutional power and use it to stimulate their employees to be more productive.

The AIM A study (1976) described the young Indian manager as neither traditional nor modern, but a fascinating mixture of the two. The study suggested that it is in the national interest to encourage and exploit these two trends.

Dhar (1965) found commerce students to rank prestige and independence as the most important values.
The study of Patil and Manerikar (1976), using MMPI, revealed that the group of executives appear to be active and ambitious, relaxed in social relations, rational, self confident, somewhat depressed and anxious.

Dutt (1966) found that there was no relationship between anxiety and socio-economic level among executive and administrative job holders.

**Studies on teaching groups:** It was found by Kundu and Banerjee (1961) in a study of Psychological aspects of college teachers' personality that teachers are characterised by arguing the company of 'bossy' colleagues, intolerance towards lack of discipline on the part of the students. Outside the college situation they have been found to reveal intolerance of dominance by others and tolerance to older and respectable persons. With respect to personal feelings and attitudes towards common things, the results emerging from the responses of the teachers were: The sharing responsibility, temperamental stability, sensitivity, boldness to face trouble, and initiative at taking decisions. The feelings and attitudes were also characterised by the absence of vexation over ordinary things, complaint against peace of life, cowardly action and contamination of domestic bitterness with job situations.
Ramo Dr.vi (1960) and Banerjee (1961) have demonstrated that teachers have some special traits of personality.

The study of personality traits of effective teachers by Koul (1973) indicated that the effective teachers are more intelligent, emotionally stable, conscientious, tender minded, apprehensive, experimenting, controlled and tense. On the contrary non-effective teachers are significantly less intelligent, affected by feelings, expedient, tough minded, placid, conservative with undisciplined self-concept and relaxed.

Studies on Scientists: Thadke (1968) using 16 PF questionnaire explored the personality profile of 45 Indian scientists from ATRA, Ahmedabad. This study could not reveal reliable findings due to the very low equivalence reliability coefficients obtained, rather it suggested that '6 PF test would require considerable modification in order to adopt it to our socio-cultural conditions.

Laharia's (1978) study examined the influence of organisational climate and certain personality variables on the productivity of 130 farm scientists in a leading agricultural university in India. The comparison of high and low performers revealed that high performers have more favourable attitude towards
research, high achievement and power motivation, low level of aspiration and they are comparatively non-conformists.

**Studies on Defence services:** On defence services, so far, no other research is available with regard to exploration of personality except for two researches, one study by Tyagi (1965) and another Profile model suggested by Pareek (1976). Pareek suggested for possible research that the pattern of needs for effective roles in defence services is a combination of high needs for achievement, extension and rigour. These needs seem to be crucial and important for defence services.

Tyagi (1965) studied the importance of Personality development and intelligence in the selection of candidates for the National Defense Academy employing a list of 15 qualities that were considered essential in a service office, a six point rating scale for each quality, and a battery of intelligence tests, verbal and nonverbal or drawing test. The results of this study indicated that the development of each quality was significantly higher in the successful candidates. Candidates from higher income families and from Mission and Public schools were rated significantly higher on all the qualities. And also candidates who
scored high intelligence grades had higher chances of success. The ratings on power of expression were highly significant among the various groups.

There have been also a few studies conducted on some other occupations such as administration, Journalism, nursing, bus conductors, Pharmaceutical salesmanship, biologists, physicists etc.

Sharma (1969) found that extraverts preferred administrative jobs. In another study Roy (1969) reported the personality variables such as self preference, academic proficiency and special tendencies, habits and instincts of combat, egoism and altruism and self-assertion to be the decisive factors in the choice of journalism.

Row (1964) has reported a study which showed a correlation between level of intelligence and amount of education, although it is far from perfect. In another study Clark and Gist (1938) proved the relationship between intelligence and occupation.

The need for knowing and understanding seem to be expressed and satisfied most fully in the learned occupations. In the studies of scientists by Row (1951) it was clear that one of the important aspects of their selection and devotion to science was an imperative curiosity, a need to know.
The work of McClelland and his associates (McClelland, 1951; McClelland, 1975; McClelland and winter, 1969) has interesting implications for motivational profiles of various occupational groups.

Comparative studies on occupations: The following are some of the studies which have concentrated in exploring and comparing the psychological aspects of two or more different occupational groups.

Roe (1951, 1953) found biologists and physicists not high in masculinity, but better adjusted to life than the artists. Psychologists appear to be able to exercise the rational controls common in the other scientists, but less inclined to do so in their daily living. Clinical psychologists are more concerned with persons than are other specialists in psychology, but the inter-especiality differences are slight. Anthropologists were found to be very much like psychologists in their personality pattern, but more extreme in their differences from the other scientific groups. They are more hostile towards authority, more concerned with interpersonal relations, but apparently less concerned with helping people than are psychologists.
Small, Sweat and Von Arnold (1955) studied the personality characteristics of advertising art, retail merchandising, dental hygiene, and mechanical technology students in a two-year technical institute.

In another study Kaback (1946) used Rorschach test on students and employed accountants and also for students and working Pharmacists.

The above two studies could not provide any valid data, instead suggested a need for carefully designed studies to bring out the personality modalities in student occupational groups.

Ghosh's (1956) study revealed that personality traits played no less important a role than intelligence and aptitudes in influencing the success of vocation. This has become an established fact that different personality traits or temperaments are suitable for different vocations. The author has also provided some suggestions for measuring personality patterns for some vocations especially engineering and medicine.

Pandey's study (1969) identified the personality determinants of the choice of a job in a sample of undergraduate students representing different faculties. This study reported significant differences in ranking of the jobs by the high and low extraversion groups as well as by high and low neuroticism groups.
Personality dimensions and measurement:

Summerising the different studies on occupations, it may be found that these studies have covered a variety of occupations, such as, medical, engineering, management, teaching, entrepreneurship, law, nursing, farming, clerical, bus conductor's, pharmaceutical salesmanship, scientific research, Journalism, advertising art and accountancy.

From these studies, it may also be noted that the following dimensions have been studied for different occupations with the help of various instruments:

Needs, values, personality patterns and personality adjustment are some of the dimensions studied among engineering, law, medical and teacher training students using TAT, Rorschach Test, Allport - Vernon - Lindzey scale of values (adapted by Ray Chowdhury), Saxena's adjustment inventory etc.

Personality traits of engineers and doctors have been studied using a battery prepared with the tests and inventories widely used in the country.

The importance of traits such as co-operativeness, intelligence, energy, aggressiveness, dominance and conforming, influence of powerful others; values
and motivations are some of the dimensions that have been studied to understand managers. Self prepared questionnaires, a 13-item questionnaire developed by Heller and Porter, Locus of control inventory and T.T have been employed to study this group.

Masculinity - femininity, job satisfaction, neuroticism, emotional difficulties and authoritarianism were the dimensions studied among teachers. The instruments used for this purpose were masculinity - femininity test, adjective check-list, Eysenck's neuroticism scale, 4 rating scales, 2C item questionnaire and California F-Scale.

Using 16PF scales textile research scientists' personality has been explored while for farm scientists level of aspiration, achievement and power motives and attitude towards research have been investigated.

Expressed motives of entrepreneurs (industrialists and potential entrepreneurs) in starting an industry were explored with the use of paired comparison method to assess the relative importance of 10 selected reasons.

Using adopted Guilford-Zimmerman Temperament Survey and MI-I the personality of nursing students has been studied.
Concept of happy family life, change proneness, values and communication behaviour were investigated among farmers. For this purpose a projective technique measure of change proneness, Conservatism - Liberalism, and Fatalism - Scienticism scales (developed by Pareek and Chattopadhyay), Projective technique drawing free expression, and five value scales (economic motivation, scientific orientation, mental activity, independence and risk preference) developed using Thurstone - cum - Likert method, were used.

Personality characteristics such as emotionality, depression, neuroticism, anxiety, ambitions and social status of clerks have been investigated with the help of TAT, Eysenck's personality inventory and Osgood's semantic differential method. Neuroticism and problem behaviour among bus conductors have been explored with the use of Raven's standard progressive matrices, Malayalam adaptation of MPI, personal data questionnaire and a social intelligence test. Neuroticism, self sufficiency, introversion - extroversion, dominance - submission and confidence were the traits studied to assess the personality pattern of Pharmaceutical salesmen.
Some personality variables like self preference, egoism and altruism and self assertion along with academic proficiency were studied to find out their influence in choosing journalism as the occupation.

**Psychological patterns of occupations:**

An attempt has been made here to examine the psychological patterns of different occupations emerging from the past research to gain more insights regarding the need and scope of the study and the psychology of occupations. The following patterns may be drawn for some of the occupations basing on the literature surveyed:

1. Medical students are high on abasement and nurturance and are superior to engineering students on general and social adjustment, high on creative potential and imagination. The work value pattern of Indian medical student is dominated by independence, social, creative and status values. He values working in academic areas more and in the rural areas the least.

2. Engineering students are high on achievement, autonomy and counter action. They are intellectually superior to law medical and teacher training students and have high level of aspiration with ambition outstripping the creative resources. They also have tendency towards introversiveness, but are better adjusted.
The economic value is the highest for them.

3. The future managers (management students) are found to believe that hard work always pays, self-sufficiency should be honoured and reactions like others always show off should be brushed aside as the least important area to worry about. They are the people who perceive their generation optimistic about future, self-centered, fearful of financial insecurity, compromising with things they do not like, trusting and trustworthy, tolerant and respectful to people in authority.

4. A better manager is one who has high need for power, high inhibition and low need for affiliation.

The young manager is neither traditional nor modern but a fascinating mixture of the two. The managers tend to perceive a greater influence of powerful others. They view co-operativeness, intelligence, energy, sociability, self control and flexibility as the highest ranking personality traits for success and aggressiveness, dominance and confirming are the hindering factors in managerial positions.

5. Teacher training students are significantly higher on abasement and nurturance needs as compared to medical, engineering and law students. They are
superior on language. They are ruled more by immediate needs for gratification than by long range goals. They are high on political value. In terms of general adjustment they are normal.

6. The teachers are characterised by (a) intolerance towards lack of discipline on the part of students and outside the teaching situation intolerance of dominance by others and tolerance to older and respectable persons; (b) sharing responsibility; (c) boldness to face trouble; (d) temperamental stability; (e) sensitivity and (f) initiative at taking decisions. Their feelings and attitudes are also characterised by the absence of vexation over ordinary things, complaint against peace of life, cowardly action and contamination of domestic bitterness with job situation.

7. Pharmaceutical salesman are found to be self sufficient, emotionally stable, markedly dominant, sufficiently self confident and extraverted in nature.

The following observations could be made from the above studies on occupations:

1. Most of the researchers investigating the psychological aspects of occupations have concentrated their work often on occupations such as medical, engineering, management, teaching and entrepreneurship;
2. Even among these few occupations, the studies have mostly centered round student populations;

3. There is also lack of comprehensiveness and indepth exploration of the psychology of the occupations; and

4. There is also incompleteness in some of the studies in the sense that they could neither suggest any thing concrete to the understanding of occupations nor there was further investigation undertaken in the suggested lines by the same or other studies. For instance studies by Small, Sweat and Von Arnold, 1955; Kaback, 1946 and Fhadke, 1968.

Acknowledging the contributions of the earlier studies and with a realisation of some of the limitations observed in them an attempt has been made in the present study to investigate, indepth, the psychological aspects of five occupational groups namely, medical, engineering, management, teaching and social work which are some of the crucial and important occupations that influence the development of a nation in many ways.
1.4. The Variables:

Description of personality in terms of joint interactions of several motives within the individual has been suggested by many thinkers long ago. Murray (1938), for example, has pointed to certain kinds of actions which can be explained in terms of "fusions" of several motives. In his thesis Groesbeck (1956) has attempted to obtain new insights in the description of personality by considering 4 groups of subjects with distinguished achievement and affiliation motive strengths (High achievement-High affiliation; High achievement-low affiliation; low achievement-High affiliation; and low achievement and low affiliation). He found interesting differences by comparing one group to other three groups combined on the basis of several personality measures. However, explaining effectiveness in occupational roles in terms of combination of motives is of recent interest. An entrepreneur has been described as an individual with a high need for achievement, low need for affiliation and moderate risk taking behaviour. McClelland and Burnham (1976) described better managers as individuals with high need for power, low need for affiliation and high inhibition. Pareek (1976) has suggested a model pattern of needs for effective roles in defence services for possible research. He proposed that a combination of high needs for achievement and
extension and rigour seem to be important for defence services.

Following these few but inspiring studies the present research is oriented to arrive at similar patterns in terms of motive strengths for the five selected occupations namely, medical, engineering, management, teaching and social work. These patterns should enable us to understand the occupations individually as well as in comparison with other occupations in terms of the relative strengths of the motives.

While needs being what they are, the manifestation of them are governed by other related and relevant socio-psychological factors. Among them the individual's level of psycho-social maturity, his orientation towards the use of others for personal gains as epitomised in the concept of machiavellianism, towards attributing success or failure to one's own actions and capabilities Vs. influence from outside, and the swing the individual experiences between the two poles namely, the hope of success and fear of failure seem to have a great impact on individuals.

The behaviour of persons with high and low mach scores (scores on machiavellianism) and of individuals with high and low scores on the dimensions of locus of control have been intensively studied. But there is lack of research attributing effectiveness in the
occupational roles to these dimensions. Even the extent of emphasis for these dimensions by different occupations has yet to be explored. The measure of psychosocial Maturity as measured by Stewart Maturity Scale (1976) is new but promising one. A beginning has just been made by a few researchers such as McClelland and Burnham (1975) and Rao and Vijayasree (1976) to explore this measure in the direction of occupations. Much more research evidence needs to be established to understand the psycho-social maturity and different dominant orientations among the individuals in different occupational pursuits.

In view of the paucity of research and importance, the following eight major psychological dimensions have been chosen to study the individual occupational profiles, as well as their variations among the five selected occupations:

1.4.1 Need for Achievement
1.4.2 Need for Affiliation
1.4.3 Need for power
1.4.4 Need for Extension
1.4.5 Hope of success and Fear of Failure
1.4.6 Psychosocial Maturity
1.4.7 Machiavellianism
1.4.8 Locus of control
The selection of these dimensions for the present study has also been influenced by the works of Adler (1928), Murray (1938), Rotter (1954, 1966), Christie and Geis (1968), McClelland (1961, 1975), McClelland and Winter (1969), Winter (1973) McClelland and Burnham (1976), Pareek (1968, 1976), Pareek and Dixit (1976), Stewart (1975, 1976) and Rao and Stewart (1976). The results of these studies are not only indicative of the importance of the above dimensions to the psychological make-up of an individual in relating to one's occupational or work behaviour, but also have a striking impact on the possible further research.

For the clear understanding of the dimensions a brief description of each of them is given below:

1.4.1. Need for Achievement:

Murray (1938) played a dual role in the history of achievement research, on one hand by calling attention to a need for achievement by including this disposition among his list of 20 manifest psychogenic needs and on the other hand by the development of an instrument, the Thematic Apperception Test (TAT), that supposedly revealed "Covert and unconscious Complexes" (Murray 1938, P. 530).
In Murray's (1938) view, the desired and effects of achievement needs are: To accomplish something difficult; to master, manipulate or organise physical objects, human beings, or ideas; to do this as rapidly and as independently as possible; to overcome obstacles and attain a high standard; to increase self-regard by the successful exercise of talent (P. 164). Murray (1938) further states that these desires are accompanied by the following actions: To make intense, prolonged and repeated efforts to accomplish something difficult; to work with singleness of purpose towards a high and distant goal; to have the determination to win, to try to do everything well; to be stimulated to excel by the presence of others; to exert will power; to overcome boredom and fatigue (P. 164). The next person of historical significance in the history of achievement motivation research is David McClelland.

The need for achievement has been well defined and researched by McClelland et al. (1953), McClelland (1955, 1961) and McClelland and Winter (1969). The need to achieve has been defined by McClelland et al. as "concern over competition with a standard of excellence." Actual success or failure of the respondent in goal attainment was not conceived as relevant indicator of the need or motive to seek that goal. Thus it may be understood that this
motive is reflected by the concern an individual has for excellence - revealed in competition with his own previous standards of excellence as well as with others; for accomplishing something unique; and for investing effort in long term gains.

A number of researches have reported relationships between achievement need and various other variables as well as the characteristics of high achievers. Some of the studies indicated that individuals highly motivated to achieve have been characterised as "realistic" and have occupational goals that are congruent with their abilities (Mahone, 1960; Morris, 1966). High achievers have been reported to have preference for business occupations, where feedback (Profits) is evident (McClelland, 1961; Meyer, Walker and Litwin, 1961). They have also been found to be persons capable to delay gratification (Mischel, 1961) and attain better grades in school if the grades are instrumental to longterm goals (Raynor, 1970). Finally, they are the people who take personal responsibility for success and generally perceive themselves as high in ability. The self-attribution for success increases their pride in accomplishment and accounts for evidence that they willingly undertake achievement oriented activities when the opportunity arises (Atkinson, 1953; Green, 1963). Weiner (1978) opines that self perception of high ability in part may
account for the positive self-concept among persons high in achievement needs that some investigators found (Mukherjee and Sinha, 1970).

Many other studies have also demonstrated linkages to achievement needs. For example, achievement needs have been reported to exhibit positive correlation with resistance to social influence, field independence, preference for particular colours (blue), aesthetic tastes, lowered recognition thresholds for success-related words, selective retention of incompleted tasks, forms of graphic expression, and so on. All these relations though increase the "relational fertility" of the need for achievement construct, the lasting significance of many of the relationships is questionable because of the absence of clear theoretical relevance (Weiner, 1978).

In India more work on need for achievement is done in relation to understanding school pupils and entrepreneurs on this motive. A number of training programmes have been conducted to develop and increase achievement motivation, more often among entrepreneurs and occasionally among other occupational groups.

McClelland and his associates have devoted a great deal of their efforts to increase achievement motivation through training courses based on the assumption that achievement is a learned motive.
Burris (1958) presented the first data which indicated that achievement counselling of college underachievers improved their grades.

Kock (1965) demonstrated that achievement along with npower (veroff measure) was related to managerial success among executives of factories.

Kolb (1965) conducted the first full-scale achievement motivation training programme for 57 underachieving high school boys. He randomly selected 20 boys out of them, and he played a counsellor's role on the floor of a dormitory. At the end of the programme, the trained students had significantly improved their grades. This effect was especially true for those who had low need for achievement.

The results of the SIET Experiment (1964-'65) to develop entrepreneurial behaviour in 78 businessmen revealed that the businessmen trained in achievement showed greater degree of business activity, started working longer hours, made more unsuccessful attempts and obtained more success in starting a new business after the course compared to what they had done before and also greater than that of the control group of businessmen.

Arnoff and Litwin (1966) conducted an achievement training course with 16 middle level executives in business. The authors devised an advancement
score for the two-year period before the training and after the course. The men trained in achievement motivation showed significantly greater advancement than the men who took part in the corporation course.

In 1963, thirty four businessmen from Bombay (India) attended a training course. Data collected on 30 of the trained and 11 untrained men from two years before and after the training showed that the training group had significantly increased their activity and that they were sufficiently more active than the untrained group.

Mehta (1966) conducted an achievement motivation training programme for teachers from Jaipur (India) in 1965. The results revealed that the training had developed achievement motivation in teachers which, in turn, made the individual teacher, a better teacher with better pupil image. He also hoped for better pupil performance. Pupils also showed a gain in achievement, their sense of responsibility has improved and tendency to work hard was perceived. Thus, the programme promoted mutually satisfying interactions for teachers and students.

Mehta (1969) has observed that when the teachers achievement was increased it resulted in better performance of the pupil. Mehta (1970) found that achievement motivation development Courses are more benc-
ficial in long range rather than in a short range period.

The findings of the above studies show that achievement motivation helps in increasing the performance of teachers, students, entrepreneurs, executives and also the behaviour of a person.

1.4.2. Need for Affiliation:

The need for affiliation has been studied more in combination with some other variables — preferably other motives — by several psychologists. This need is reflected in the concern an individual has for establishing, maintaining and / or restoring relationship with others which is personally meaningful.

Experiments have demonstrated that people affiliate with others when they are uncertain about the appropriateness of their emotional reactions (Gerard & Rabbi, 1961; Gerard, 1963; Rabbi, 1963); about the validity of their opinions (Radloff, 1961; Festinger, Riecken, and schachter, 1956); or about the level of their abilities (Singer & Shockley, 1965).

These affiliative tendencies are mediated by needs to evaluate those emotions, opinions, or abilities. When self-evaluative needs are aroused there is a desire to join with others who are experienced as similar to oneself but not with dissimilar others.
1.4.3. The Need for Power:

The recognition of the role of power in human affairs traces its origin at least since Plato described the decline of the ideal state and the rise of the despot. In later ages, thinkers such as Machiavelli, Hobbes, Nietzsche and Adler concluded that man's nature and the origins of human society could be explained by the striving for power. Power and related words are some of the very important concepts in modern social sciences.

The word 'Power' has acquired many different and conflicting meanings. As a result the concept has not only much used but also misused and misunderstood.

This concept has also developed a negative valence which lead to situation where individuals never say that their actions are motivated by a desire for power; instead, they talk of idealistic abstractions such as "service", "duty", "responsibility", or "legitimate power". Today power strivings are repressed and achieve only disguised expression through defence mechanisms such as distortion, displacement, projection and rationalization (Schmuch, 1965).

The literature on power is full of discussion about the differences between power and other related concepts such as influence, leadership, authority, dominance, force and control. Same concept has been
used by different authors by different words and sometimes same work has been used for different concepts.

Russel (1938) differentiated priestly power, kingly power, naked power, revolutionary power, and economic power.

Weber (1947) analysed power according to the way in which it was legitimized among followers: by appeal to rationality, by tradition, or by transcendent claims of charisma.

French and Raven (1959) distinguished five different kinds of power according to their bases: reward, service, legitimate, referent and expert power.

In his list of needs Murray (1938) included dominance, aggression and autonomy as presumed distinct concepts.

Lasswell and Kaplan (1950) considered both the base and the goal of influence in order to generate 64 different forms of the influence process.

However, more clear understanding of the concept which also enables us to measure the power motive has been presented by Winter (1973). He considers it as social power and defines it as the ability or capacity of 'O' to produce (consciously or unconsciously) intended effects on the behaviour or emotions of another person P.
Winter thinks of this definition of social power as a semantic space in which are located all of the power concepts discussed and classified by other writers, and many other concepts that are not so obviously power-related, such as respect, cooperation and loyalty. He describes this semantic space as three-dimensional; these dimensions are:

1) being relative inequality of status or strength of "O" and "P";

2) location of the action sequence in a moral nexus, where the orientation to the observer becomes especially important; and

3) resistance of "P" (Ibid).

The origin/interpretation of Power: Another controversy regarding power is the interpretation of power - Is power a property of persons or of situations?

The easy and natural way is to attribute power to people by saying 'is powerful' or 'B has forced x committee to pass his bill' etc.

This is because we usually perceive power through the effects of specific persons on other persons. This is called the personal or 'psychological' interpretation of power.
The other interpretation, opposed to the personal interpretation, is the situational interpretation of power. According to this view situation holds power than the person. Leaders have power because they are in the right position, or because they happen to have abilities that are required by the situation at that moment.

The Need for Power: Winter (1973) considered the power motive as one key personal variable that is important for understanding power behaviour or strive for certain kinds of goals, or to be affected by certain kinds of incentives; people who have the power motive, or who strive for power, are trying to bring about a certain state of affairs - they want to feel "power" or "more powerful than ..... ". The need for power is shown by the concern an individual has to influence others and get things done by them.

This need has been studied more intensely in recent years and has acquired great importance. Very significant studies have been done recently on this need (Winter, 1975; McClelland, 1976).

Winter (1973) stated that the status of having power is the goal of the motive. "Over time it is to be expected that (other things being equal), those high in the power motive, would tend to move into
positions of power, and that those low in the motive, may move out of positions of power that they have inherited or that they occupy by accident".

It is, then, in the interest of the progress of research which leads one to better understanding, to explore the positions which require people to be powerful or dominant on power motive.

Considering occupation or career as a source of power a lot of important data can be used to determine which occupations attract persons who are high in npower.

One Study conducted with Wisleyan students (reported in Winter 1973) revealed a tendency for students with high npower to prefer to be teachers, psychologists, and clergymen. Another interesting finding of this study was that students with high npower were not especially drawn to law, medicine, or government and politics.

Another longitudinal study was conducted at Harvard during the period 1960 to 1969. The students who had been tested as freshmen in the year 1960 had come to some definite career choice at the time of this study. The biographical and career information of these students were analysed and compared with wesleyan study. The hypotheses derived from the wesleyan data are all confirmed with the longitudinal Harvard data.
The Harvard data suggested that teachers and business managers were very significantly higher than average in nPow, and Psychologists and Clergymen were higher than average, however the significance level was not so great.

The findings of the above two studies also confirmed with another longitudinal study at the university of Oxford. The students who volunteered for this study took TATs in the year 1961 and in 1970 they were asked to give a brief description of their career history and present job. The results showed that teachers, business managers and clergymen are higher in npower than those in other careers.

These studies conclude that nPower leads to teaching, Clergy, Journalism, psychology and business management; it does not particularly attract law, medicine, or politics and the civil service.

Further more Kock (1965) demonstrated through his thesis that nAchievement and nPower were related to managerial success in factory executives.

Lennerlof (1967) found that prior nPower scores correlated highly with subsequent rated success in supervisory positions in a small size sample of Swedish management trainees.
Evidence from India also supports the conclusion that people high in n power are adept at using social situations to expand their network of "Contacts" or allies. Fifty six Indian businessmen who had attended Achievement Motivation Development Courses at a Government Sponsored Institute were asked to list the names of those other participants whom they had known before the course, and the names of those whom they had come to know after the course (McClelland and Winter, 1969).

What is common to each of the careers which are associated with high n power seem to be the opportunity or duty through the institutional structure to direct in an immediate way the behaviour of individual other persons in accordance with some preconceived plan to use positive and negative sanctions on that behaviour. Thus the business executive in the capitalist or socialist structure of industrial and economic organization directs and controls the behaviour of subordinate workers; the teacher within formal institution of education directs and sanctions the learning behaviour of students; the clergy exhort and sanction within the framework of organized religion; the psychologist operates within the loose structure of "mental health or the "helping professions" at a minimum (often within the structure of a university, clinic or hospital).
directing and sanctioning of the behaviour of their elements. The task of Journalists is not only to sanction others' behaviour in an editorial way but to transmit significant information to all of us which is the very essence of power. Thus, power motivation predicts careers that involve direct and legitimate interpersonal power (Stewart) careers such as science, law, politics when power is probably involved but often in an indirect and abstract way, are not associated with the power motive.

1.4.4. Need for Extension:

The need for extension has been proposed by Pareek (1968, 1969). This motive is reflected in the concern an individual has for others, the need to extend self or the ego and relate to a larger group and its goals.

Increasingly more research is being done on altruism which is very close to the need for extension. Altruism is unselfish behaviour. It is a collective term for all modes of behaviour directed to the advantage of others and not to one's own profit. The conditions for the occurrence and acquisition of altruism have been investigated in recent years. Positive Correlations between various tests for unselfishness would seem to indicate the existence of a general personality trait that would accord with the above definition.
McCelland (1966) acknowledged the importance of this motive, what he calls the "concern for the common welfare of all" for economic growth.

Extension motivation is reflected (Fareek, 1968, 1976) in regard for other persons, co-operation with others in achieving a common goal, an involvement in goals which concern not only oneself but large groups, like the community and the country as well. Various dimensions of extension motivation may be helping, collaborating, empathy, risking one's safety and even one's own life for other, sacrifice, patriotism, etc. Two short measures of this need have been discussed by Fareek (1976). Research in this area is more in progress.

1.4.5. Hope of Success and Fear of failure:

Research by McClelland and his associates (1953) on a group Thematic apperception measure of need for achievement yielded evidence suggesting that this measure involves two recognizable aspects of achievement motivation, hope of success (HS) and fear of failure (FF).

Hope of success is an approach motive involving anticipation of reward, while Fear of failure is an avoidance motive involving anticipation of punishment.
The major source of evidence for this differentiation consists of the repeated finding that individuals with moderate or low achievement scores appear fearful or defensively oriented whereas persons with high scores appear hopeful.

Clarification of these suggested relationships requires measurement of fear of failure and hope of success, and several attempts have been made to arrive at such measures. One such attempt that led to success was made by Heckhausen (1959). Heckhausen has developed a scoring system for measuring the two aspects and tendencies of the achievement motive "Hope of success" and "Fear of failure", based on the Thematic Apperception Test method.

1.4.6. Psychosocial maturity:

Taking the Freudian theory of Psycho-sexual development as starting point, the theory of Psycho-social development / maturity has been developed as an expansion of theories proposed by Sullivan (1953) and Erikson (1950).

Stewart (1975) proposed that the Freudian stages may, in one sense, be "enough". That is the four stages initially proposed by Freud, later elaborated by Jones (1918), Abraham (1921, 1924, 1925) and
P. eich (1928) are in fact all of the stage that could explain the psychological development of individuals. However, she diverges from this tradition while suggesting that the individual progresses through these stages negotiates the issues associated with them - not once, but several times in the course of the life cycle.

Thus, the human being may negotiate the issues of receiving and getting, taking and giving, etc. on one plane as an infant, and may be required by the events of life to renegotiate these issues repeatedly at different levels throughout life.

To be more precise, the initial experience that throws us all into the first negotiation of the stages of birth-can be operationally defined as the sudden and enormous increase in stimuli to be mastered, an onslaught of sensation or experience to be assimilated. It is possible, then that later, similarly radical increases in new stimuli to be mastered will force the individual into repeated preoccupation possibly on a different plane - with these issues again.

Experiences which commonly may precipitate these re-negotiations of the stage-related issues may be changes in schools, moves, marriage, new jobs, retirement, etc. Individuals no doubt differ in the number and kinds of experiences like these which occur in their lives. In all of them, however,
they must re-orient their emotional relationship to the external environment -- an external environment which has dramatically altered.

In order to test this theory Stewart (1975) empirically derived a scoring system for assessing psychological characteristics of individuals who showed behavioural evidence of preoccupation with the issues associated with the Freudian oral, and phallic and genital psycho-sexual stages.

The scoring system assesses an individual's orientation to the external environment along four dimensions: relationships with authority figures, relationships with other people, inner feelings, and orientation to action.

Briefly, the first stage reflects, across these dimensions, preoccupation with receiving (taking in, getting, incorporating), the second with autonomy (holding on, maintaining, hanging on), the third with assertion (expanding, reaching out, intruding), and the fourth with integration (relating, committing, connecting).

As the Stewart's system has started, only recently, passing through the experimental stage, there are only a few researches using the system. These few researches have offered both intrusting and encouraging results.
A preliminary research study at Harvard has suggested:

1. Successful business men are more likely to be genital than less successful ones;
2. Genitality among college females is associated with academic achievement;
3. Orality among college students is associated with eating and smoking, as well as telephone use;
4. Anality among college students is associated with retuualistic work behaviour, and detailed style in recounting facts;
5. Phallic college students report that they drink liquor, talk louder than others, prefer the idea of having several simultaneous relationships rather than just one, and cut classes, and often late;
6. Genital college students report that they like to debate issues with their friends, spend time with the opposite sex at parties (rather than same sex), and like to give gifts to people and social causes.

In addition, in a pilot research Stewart (1975) found evidence that there may be stage-related change in college. In two samples, a significant difference was found in mean stage level between freshmen and seniors—with freshmen lower and seniors higher.
Another study conducted at IIM by Rao and Vijayasree (1976) studied both management students (105), using several measures of psychological needs and personality orientations along with the TAT measure of psychosocial maturity and different occupational groups whose scores on maturity scale were analysed. An intensive analysis was done for the students sample (see Rao & Vijayasree, 1976).

The results of the occupational groups indicate that high percentage of senior managers, medical officers and entrepreneurs fall in Stage IV. Comparatively a high percentage of sales officers, top management in a large company and Public school headmasters had Stage I as modal stage. Stage II was relatively more frequent in senior managers, medical mission sisters and Public School headmasters. Stage III was most frequent in public school head masters.

Sarabhai (1976) surveyed the psychosocial maturity patterns of 11, 13, 15, 17 and 19 years olds and observed the following age based trends:

1. The 11 year old is likely to fall in modal Stage IV with his greatest concern centering round work scheduling.

2. The 13 year old is similar to the 11 year old with more tendencies to be in modal stage II.
3. The 15 year old is likely to be facing crises as he/she is at a crossroad of education and is likely to have a lower modal stage.

4. The 17 year old is likely to move up from the earlier modal stages. While his concerns for work continue, his concerns about other categories are also likely to increase.

5. The 19 year old tends to fall in stage I, as he is at another crossroad of education.

1.4.7. Machiavellianism:

Machiavellianism is a tendency on the part of an individual to influence or manipulate other people to do what he wishes them to do.

Machiavellian is defined by Christie and Geis (1970) as "one who views and evaluates others impersonally and amorally in terms of their usefulness for his own purposes". Machiavellianism is, therefore "a perceptual and attitudinal personality disposition."

Agger, Finner and Christie (1965) were the first to look at the manipulators from a psychological point of view. According to them the manipulator or operator, in terms of a hypothetical role model, is one who owns the following characteristics (Christie & Geis, 1970):
1. A relative lack of affect in interpersonal relationships: Generally, it is viewed that the success in getting things done by others is enhanced by looking at others as objects to be manipulated rather than as individuals. Empathy and emotional involvement are the two aspects of personality due to the occurrence of which it becomes difficult to influence others to do things they may not want to.

2. A lack of concern with conventional morality: Most people believe that lying, cheating, and other forms of deceit, though common, are conventionally immoral. Manipulators, on the contrary, have utilitarian rather than a moral view of their interactions with others.

3. A lack of gross psychopathology: The manipulator was hypothesized as taking an instrumental or rational view of others. It was also proposed that their contact with at least the more objective aspects of reality would have to be, almost by definition, within the normal range.
4. Low ideological commitment: The supreme importance for successful manipulation is a focus upon getting things done rather than a focus upon long-range ideological goals. Although manipulators might be found in organizations of diverse ideologies, they should be more involved in tactics for achieving possible ends in an inflexible striving for an ultimate idealistic goal.

That means successful "manipulators" are lacking in interpersonal affect, low in concern with conventional morality, devoid of gross psychopathology, and possess low ideological commitment.

The primary difference between those with high machiavellianism and those with low machiavellian tendencies is that high machs are characterised by cool detachment as compared to the low machs' openness to emotional involvement. That is Low machs get carried away with each other when they interact. High machs stand off from others, maintaining psychological distance and keeping their minds on the situation as a whole in terms of their own private goals. The experimental evidence also shows that high machs are less likely to become emotionally involved with other people, with saving face in emberracing situations. They seem to be thick skinned enough to withstand the enticements or
dangers of interpersonal involvements which might influence with task achievement.

High machs also show a tendency to manipulate more, win more. They are persuaded less, persuade others more. They differ markedly from low machs in situations in which subjects interact face to face with others, when the situation provided latitude for improvisation and the subject must initiate responses as he can or will, and in situations in which affective involvement with details irrelevant to winning distracts low machs.

High machs, moreover, have a tendency to focus on explicit, cognitive definitions of the situation and concentrate on strategies for winning, while lows get carried away in the direction proposed or imposed by the highs.

High machs initiate and control the social structure of mixed - machs groups. They are preferred as partners and identified as leaders, judged as more persuasive, and appear to direct the tone, content of interaction and even the outcome. This is true only when high machs are intrinsically motivated by the situation where subjects have more freedom of choice of content and strategy.
Social Correlates of Machiavellianism:

It has been reported by Christie and Merton (1958) that older persons, in general, are high on machiavellianism than do college students. This may be due to the possibility that young adults are typically cynical and opportunistic and that as they grow older they find that society is more benevolent than it appears when one is beginning to find one's way. As a consequence of this the mach scores should decrease with increasing experience.

Another contrasting argument would be that younger generation has been subjected to social influences such as increasing urbanization and cosmopolitanism which are conducive to manipulative orientations. The lower scores among older adults reflect a clinging to values common when they were growing to maturity. In addition, within the adult group a very significant negative relationship was observed between age and mach scores (Christie & Geis, 1968).

The above findings suggest that mach scores of adults are more closely related to preadult influences than to experiences after attaining maturity.

In another study (Luz Oksenberg, 1967) the hypothesis that differences in mach scores are related to a traditional versus cosmopolitan orientation was supported significantly among
secondary school students from two schools with different orientations.

In both the representative national sample and college sample there were no significant relationships found between the father's reported occupational status or education and the respondent's mach scores. And if there is any relationship it is so slight that direction becomes elusive with the measures of status and machiavellianism used so far.

Several field studies and surveys which provided data on students from the fifth grade through professional school and other adult respondents indicated that there is a striking lack of major relationships between mach scores and many demographic variables such as race, religion and social status.

Individual differences in machiavellianism exist as early as ten years of age, and have been found to be significantly related to manipulative behaviour in experimental situations at this age level (Christie & Geis, 1970).

There are no evidential data revealing the causes of individual differences in machiavellianism, but they are clearly not related to the social status of parents nor do they arise from the modeling of parental behaviour.
Some manipulative behaviours may be learnt at an early age by being rewarded accidentally by parents and by early exposure to nonfamilial socializing agents like peers and mass media.

Remarkable individual differences in manipulative behaviours are attributable to a complex social learning process, the parameters of which are yet to be clearly identified (Christie & Geis, 1970).

It has been noted by Christie and Geis (1968) that agreement with mach statements increases from the age of 10 or so through the age of 16 or 17 and then decreases gradually after the age of 40.

1.4.8 Locus of Control:

The locus of control construct derives from Rotter's Social learning theory (1954). Locus of control has been defined, following Rotter (1966), as the tendency in the individual to attribute the outcomes in his life, whether it may be a success or a failure, to external factors very much within his control.

Thus, there are two ends for this dimension, one representing an external control depicting an orientation in the individual to believe in external factors such as powerful others, fate and luck for things that happen to him and the second representing an internal control depicting an orientation in the
individual to believe in his own ability to shape his environment and attributing success, rewards, punishment, failure as events of one's own make.

The popularity of Rotter's construct is due to its strengths in generalizability and wide application. There have been a number of researches in the past on the behaviour patterns of externals and internals. Some of the literature on locus of control construct has been summarized below:

The construct has been related to achievement behaviour (Coleman et al., 1960; McGhee and Crandell, 1968; Harrison, 1968; Bartel, 1969), birth control practices (Bauman andurdy, 1972; Mac Donald, 1970; Keller et al., 1970), reaction to disability (Lipp et al., 1968; Land and Vineberg, 1965; Koelle, 1971), conformity (Odell, 1959; McDonold, 1972), psychopathology (Smith et al., 1971), rioting (Berkowitz, 1972; Crawford and Naditch, 1970) and minority group status (Battle and Rolter, 1963; Lefcourt, 1966).

Attention has been, considerably, given to the apojestion of externality even to industrial settings. Ducette and Wolk (1972) found that externally oriented individuals are more apt to express unrealistic occupational aspirations.
Ihara (1968) found externals less able to cope with demands of reality. A person's locus of control affects behaviour on the job.

Tseng (1970) found that internals take better care of equipment, indicate more satisfaction with job training, rate higher in work tolerance, are more cooperative, self reliant and knowledgeable about their work.

Tiffany et al. (1970) studied job seeking behaviours of unemployed individuals. Internals revealed more self direction, accepted more responsibility for their welfare and once employed, take more responsibility for their career development.

Hjelle (1973) found that internals were more likely to use coercive power and threats when they served as supervisors to a fictitious worker presenting a supervisory problem. This indicates that the difference in their perceived expectancy of successful influence.

Ryckmann and Sherman (1973) observed that internals were more likely to pick people with superior or equal ability as partners to complete a task. Externals were more likely to pick inferior ability partners. They were less confident of the outcome when relinquishing their personal control, since
their fate is perceived as largely influenced by powerful others.

In another study Coleman (1966) found that control over the environment was a greater factor in the achievement of children in school than the resources of the school itself.

Rollo May (1972) confirmed William James' views by observing that a common characteristic of patients in mental hospitals is their sense of powerlessness and with it a constant anxiety which is both cause and effect of their impotence.

Hall and Schneider (1973) opined that people who do not perceive themselves as being able to act upon their environment do not experience the psychological success which enables them to feel satisfied or successful in their work. He specified, self-esteem and control over the environment, as the two components constituting the model for psychological success in work.

Some studies on locus of control have been concentrated in exploring the individual characteristics of internals and externals. For example, Hersch and Scheibe (1967) found that internality was positively associated with indices of social adjustment and personal adjustment.
The results of some studies revealed that internals, in contrast to externals are more achievement oriented (Rotter, 1966), less anxious (Feather, 1967), less dogmatic (Joe, 1971), more trusting and less suspicious of others (Hamsher, et al., 1968; Rotter and Hochreich, 1970), less apt to use sensitizing modes of defenses and more self confident and insightful (Joe, 1971).

In another study by Igares, Wilson and Klyver (1971), internals were found to resort to more self-blaming behaviour than externals. This is logical as externals do not perceive outcomes as being a result of their actions; and consequently, they assume less responsibility or blame. In a betting situation, Liverant and Scodel (1960) found internals to be more cautious and conservative than externals in an attempt to control events.

A person's locus of control mediates his perception of authority figures. Ferguson and Kennelly (1974) found that internals, more than externals, perceive authority:

a) as more encouraging of constructive environmental manipulations,

b) as more supportive when difficulty was encountered,
c) as more positively reinforcing,
d) as having more predictable standards,
e) as acting more upon issue-oriented reason.

In general, internals perceived authority figures in a more positive light.

While all these researches suggest that people are somehow handicapped by an external orientation and that a tendency of increased internal control is positively related to a wide variety of competence manipulative and adjustment behaviours, Rotter (1966) views that theoretically one would expect some relationship between internality and good adjustment in our culture, but such a relationship might not hold for extreme internal scores. This may be due to the reason that, by character, the extreme internal person might well be self-flagellating in blaming himself for the outcomes while the extreme external person may use factors outside himself as defenses against real inadequacies.

From the above account several issues may be raised which need explanation from research. Two such issues that arouse curiosity in the present investigator are:

1. Does it mean, then, that internal locus of control is an ever and any where desirable construct or postive value?
2 (a) If the answer to the above query is yes, does it hold true with all the individuals in various occupations who are required to perform very different tasks, establish and maintain a vast array of differing relationships and so on.

(b) If the answer to the above query is no, to what extent these tendencies are existing and helpful in achieving success in one's job or even for adjustment and satisfaction in the job?

There is hardly any evidential research data to answer the above queries. Hence, it was thought that exploring the external and internal tendencies among the five different occupational groups under study would offer some basic knowledge regarding these issues.