CHAPTER II

THEORETICAL ORIENTATION: CONCEPTS OF ACHIEVEMENT, ANXIETY, INTELLIGENCE, SOCIAL CLASS, AND VOCATIONAL ASPIRATIONS
n Achievement

Achievement motivation, also referred to as the need for achievement (and abbreviated n Achievement), is a wish to do well. It refers to the behaviour of an individual who strives to accomplish something, to do his best to excel others in performance. This involves competition with a particular standard of excellence of performance. Concerning the characteristics of achievement motivation which distinguish it from other motives, McClelland and his colleagues state: "Clearly the expectations are built out of universal experiences with problem solving — with learning to walk, talk, hunt or read, write, sew, perform chores and so forth. The expectations also involve standards of excellence with respect to such tasks. The tasks can be done quickly and efficiently or clumsily and slowly. They can be done better or faster than someone else.... The child must begin to perceive performance in terms of standards of excellence so that discrepancies of various sorts from this perceptual frame of reference ... can produce positive or negative affect. The surest sign of such a frame of reference is evaluation of a performance... e.g., 'the boy has done a good job.'... What then becomes crucial ... For achievement motivation is detecting affect in connection with evaluation" (McClelland, et al., 1953, pp. 78-79).
The concept of n Achievement was put forth by Murray (1938), but it is through the hard labour of McClelland and his co-workers that this topic has assumed practical importance in education and other fields. It has been well recognised by psychologists that achievement motivation is a specific personality dimension. As such, its study is of great importance for counsellors in an increasingly performance-oriented culture. If the counsellor understands the connection between personality characteristics and vocational choice, he may then be of greater use to his client by helping him to understand and accept himself as well as by helping him to discover more effective and attractive ways of satisfying his needs. Level of occupational aspiration which has recently come into fairly wide use as a variable, presumably important in the social mobility behaviour of the youth, has also been studied in relation to n Achievement. The study of possible relationship between n Achievement and academic performance has remained a topic of great concern for psychologists. It is related as a determinant to an individual's as well as to a nation's achievement in various fields. McClelland's (1961) study of its relationship to entrepreneurial behaviour has indicated that economic growth in any society is dependent on the existence of a high level of need for achievement among people in that society. Such findings have raised the interest of economists, historians, and others concerned with economic development, in the study of n Achievement.
As pointed out earlier, the concept of n Achievement was introduced by Murray. He describes personality in terms of psychogenic needs and n Achievement is one of them. Murray distinguished between primary or viscerogenic and secondary or psychogenic needs. As stated by him, "The former are engendered and stilled by characteristic periodic bodily events, whereas the latter have no subjectively localizable bodily origins...." The psychogenic needs are stated to be "... occasioned by regnant tensions, with or without emotion, that are closely dependent upon certain external conditions or upon images depicting these conditions" (Murray, 1938, pp.76-77).

Murray argues, psychogenic needs are important in understanding human behaviour and experience. Historically, the most important theories which influenced Murray's view regarding how behaviour should be explained are those of Freud, Tolman, and Lewin. These theories are transitional between the traditional rationalistic approach to human behaviour and modern behaviour theory.

According to traditional rationalist doctrine, there are reasons for actions of different persons. It is implied in the doctrine that emotion or habit or instinct may instigate behaviour but the reasons for actions are intellectual in nature (Bolles, 1967).

William James is the last among the traditional psychologists. Within the framework of James' (1890) mentalistic psychology, motivation dealt with springs of actions which could be traced in the conscious awareness of the person who was acting. Voluntary behaviour was thought to be regulated by consciously felt goals and ends. The theories of Freud, Lewin, and Tolman which have a
historical significance for Murray's concept of need are reviewed in brief in the succeeding sections.

Freud's exhaustive work on the unconscious mind led to a significant change in thinking about motivation. As a result of this change, consciousness was no more regarded as a determinant of human actions. Freud emphasized the underlying basis of motivation. He denied the importance of superficial motives, particularly those which the individual cites in explanation of his own behaviour. He could demonstrate from clinical observations that all behaviour, no matter how slight or apparently insignificant, was at least, in part, unconsciously motivated. As stated by him, the unconscious part of the mind is not accessible to introspection. He introduced indirect methods to study its functioning. For him the unconscious was the true psychic reality.

Springs of action in James' psychology were explained with the help of the concept of instincts by Freud. In his system, instincts are the true motive forces. He referred to instincts as stimuli from within and distinguished them from external stimuli. According to his essay "Instincts and their vicissitudes," written in 1915, the instincts can be characterized by their impetus, aim, object, and source. The term 'impetus' of an instinct implies its motor element, the amount of force or the measure of the demand upon energy which it represents. The aim implies satisfaction. The object of an instinct is that in or through which an instinct can achieve its
aim. By the source of an instinct is meant that somatic process in an organ or part of the body from which there results a stimulus represented in mental life by an instinct.

Tolman's conception of purposive characteristics of behaviour was put forth, when introspection had been discarded from psychology and Pavlov and Thorndike tried to find explanation for human behaviour in stimulus-response relationship. The thinking and arguments of purposivists had a considerable effect on Tolman's view about the nature of behaviour but their mentalistic orientation did not affect his approach to the explaining of behaviour. To meet the inadequacies and criticism of mentalistic teleology, he recommended behavioural teleology, according to which behaviour is to be understood in its own terms, by its own ends.

In Tolman's later formulation of motivation presented in 1951, behaviour is stated to be a function of three independent or initiating variables— the stimulus situation, states of drive arousal and/or satiation and individual difference variables. Of these independent variables, drive is of especial interest in a theory of motivation. Drive may be identified by means of consummatory behaviours, but "the real definition of drives... lies... in precise statements concerning the states of the underlying organs and tissues themselves" (Tolman, 1951, p.280). The need which results from the initiating drive is "a readiness to get to and to manipulate in consummatory fashion (or to get from) certain other types of object" (p.288). He classified needs in three classes— Primary needs, Secondary
According to Lewin, all behaviour, or at least all intentional behaviour, is motivated. In his view, behaviour is driven by tensions, moved by forces, directed by valences, and addressed to goals (Bolles, 1967). He made an attempt to formulate a principle which could explain an action in terms of the combined influence of a number of inter-dependent and contemporaneous factors. Lewin's dynamic psychology takes account of the individual in relation to his perceived environment.

The life space is the basic concept in Lewin's theory. It represents the totality of the person and his environment. By environment, Lewin means psychological rather than physical environment, including both what the individual perceives and other environmental influences of which the individual may not be aware of. Behaviour is stated to be a function of the person and his psychological environment and thus the function of the life space. Motivational constructs of Lewin's theory are force, tension, valance, and need. The concept of force explains which of the possible locomotions will occur at a given moment. Valence represents the attraction or repulsive quality of an object or activity for a person. Intention to perform some act or activation of a need gives rise to tension in the organism. The magnitude of tension is related to the strength of the need. The need may be a physiological condition such as hunger, thirst, or sex, it may be a desire for undertaking something such as a job or it may be an intention to do something as completing a task.
Lewin was concerned with dynamics of individual motivation. One of the directions in which studies were given impetus and confectional framework by his concern with dynamics of motivation, was level of aspiration. Lewin and his students were the first to study experimentally the properties of human achievement aspirations. The early research on level of aspiration indicated that the experience of success or failure depends upon person's aspirations rather than on some objective standard of performance. There was clear indication that the motivation for success or achievement of individuals leads them to set levels of aspirations that do not guarantee easy success. This line of inquiry has been the basis for much of the current advanced theoretical work on achievement motivation. Atkinson states, a theory of achievement motivation "... has much in common with the earlier formulations of Tolman and Lewin, whose ideas soon began to provide the most useful guides in experimental and conceptual analysis of achievement-oriented behaviour" (Atkinson, 1964, p.240).

Reviewing the status accorded to achievement in the personality theories, Crandall (1963) pointed out, that Alfred Adler made much of achievement as a central need in his system. As stated by him, Adler's concept of inferiority feelings and compensation, 'masculine protest' and 'striving for superiority', all refer to achievement accomplishments as basic and essential for feelings of satisfaction and security in human experiences. Adler wrote, we all strive to attain a
goal which will make us feel strong, superior, and perfect. According to him, striving for superiority is a basic urge in man. It is a great 'upward drive' which pushes the ego for greater and greater accomplishments. Angers (1961) has also reported similarities between the recent achievement motivation approach to human behaviour and that of Adler's individual psychology. The similarities have been seen with respect to the importance of feeling of individual success, conditions of personal standards, emphasis on early training in independence, treatment of the motive as related to the entire style of life, understanding an individual in terms of his own goals and a unified individualisation of personality.

In McClelland et al., generic definition of achievement motivation, it has been defined in terms of achievement goal. "By achievement goal is meant success in competition with some standard of excellence. That is, the goal of some individual in the story is to be successful in terms of competition with some standard of excellence. The individual may fail to achieve this goal, but the concern over competition with a standard of excellence still enables one to identify the goal sought as an achievement goal" (McClelland et al., 1953, pp.110-111).

Murray defines achievement motivation as follows: "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 excel one's self. To rival and surpass others. To increase self-regard by the
successful exercise of talent" (Murray, 1938, p.164).

Achievement motivation has been defined by Heckhausen as "... the striving to increase, or keep as high as possible, one's own capability in all activities in which a standard of excellence is thought to apply and where the execution of such activities can, therefore, either succeed or fail" (Heckhausen, 1967, p.4). As pointed out by Heckhausen, the standard of excellence may be task-related, self-related, or other-related. When it is task-related, the person tries to attain a high 'degree of perfection' as the result of his performance. When it is self-related, the person compares his achievements with his own previous achievements. When it is other-related, the person compares his achievements with those of others. He further states that whether the standard of excellence is task-related, self-related, or other-related, it consists of two parts - one signifying success and the other signifying failure.

Crandall, and his associates (1969a) have defined achievement behaviour. According to them, achievement behaviour is any behaviour which is directed towards the attainment of approval or the avoidance of disapproval for competence of performance in situations where standards of excellence are applied. In Atkinson's words: "Achievement motivation...is an important determinant of aspiration, effort and persistence when an individual expects that his performance will be evaluated in relation to some standard of excellence. Such behavior is called achievement-oriented" (Atkinson, 1968, p.27).
Findings obtained in studies by McClelland, et al. (1955), Winterbottom (1958), McClelland and Friedman (1952) indicate that achievement motivation is developed in the early relationship between a child and his parents. In the early few years of his life if the growing child receives a good amount of recognition, praise, and reward for his accomplishments, he develops some feeling of personal worth, some sense of recognition, some sense of achievement. It is important for the development of achievement motivation that the child is exposed to a high standard of excellence and is encouraged for his performance and independent efforts. For the child to internalize standards as his own, this should not happen too early or too late in his childhood (McClelland, 1961). An opportunity to practise self-reliant behaviour and to exercise talents without being dominated by their fathers is also important for the development of achievement in children. Equally important is an opportunity for practice in mechanical and constructional activities. In Kagan and Moss's (1962) view, this provides early practice in independent mastery.

However, Heckhausen (1967), who has given a review of good many studies regarding development of achievement, refers to child-rearing practices as special conditions of development of achievement motivation. To quote him "... they influence the accentuation of achievement motivation in an individual within the schema typical of a given stage; however, strictly speaking they have nothing to do with the origin or the existence of
achievement motivation per se" (Heckhausen, 1967, p.150). He holds the opinion that achievement motivation presupposes a level of cognitive maturation, which enables the child to refer to the outcome of his performance back to the self and thus to be viewed as an effect of his own competence. This becomes possible for the child between 3 and 3½ years. The first appearance of achievement motivation as the result of cognitive maturation was shown in a research on competitive behaviour among imbeciles by Heckhausen and Wasna (in Heckhausen, 1967). In a comparison of 3- and of 4-year old children, after failure in an activity, Zurich (1964) observed that the 4-year old children show stronger reactions to failure; they no longer give up easily and ask for help from an adult more rarely than do 3-year old children. Heckhausen states that achievement motivation is a universal fact of life, it follows a general course of development. Social approval and disapproval, according to him, are important only so far as they provide a measure of success and a measure of failure.

The available literature concerning the development of achievement supports the view point of Heckhausen that achievement appears along with the cognitive step in maturation as well as the viewpoint of McClelland, et al. (1965) that in child-rearing practices, early emphasis on self-reliant mastery, promotes the development of achievement. However in spite of Heckhausen's skepticism of the role of child-rearing practices, the development of achievement, the age at which parental
demands are made as important conditions for the development of
Achievement in the child, are currently serving as important
focuses of attention for many studies of achievement motivation.

anxiety

Freud, who first attempted to lay open the meaning of
anxiety in the context of psychological theory, placed great
emphasis on the importance of anxiety in problems of personality.
According to him, anxiety was one of the most important deter-
minants of personality development and in understanding how
personality functioned. As stated by Mandler, in Freud's early
theory of anxiety, it "... was defined as transformed libido.
The transformation occurs as a result of repression, which
distorts, displaces, or generally damps up the libido associated
with instinctual impulses." He further stated that in Freud's
second theory, the possibility that repression occurs because
of the experience of anxiety was added. "In this context
anxiety becomes a signal from the ego. Whenever real or
potential danger is detected by the ego, this perception gives
rise to anxiety and in turn mobilizes the defensive apparatus,
including, of course, repression" (Mandler, 1968, p.353). The
three attributes of anxiety as discussed by Freud (1958, p.70)
are "(i) a specific unpleasantable quality, (ii) effete or
discharge phenomena, and (iii) perception of these."

Freud's notion of anxiety is mirrored in neo-Freudians'
concept of anxiety. For example, Sullivan and Horney's defini-
tions of anxiety conform to Freud's view that anxiety is brought
about when the ego receives those external or internal cues that signal helplessness or inability to deal with environmental or intrapsychic threats. For Sullivan (1953), anxiety is an intensely unpleasant state of tension arising from experiencing disapproval in interpersonal relations. It develops as an inevitable consequence of child's relationship with his mother (or other significant adults). Horney defines basic anxiety "... as a feeling of helplessness toward a potentially hostile world." "It", she holds "... contends that the environment is dreaded as a whole because it is felt to be unreliable, mandacious, unappreciative, unfair, unjust, begrudging and merciless" (Horney, 1954, pp.74-75).

Though anxiety is a central concept in theories of personality development, it is in no way easy to settle on criteria of anxiety because there does not seem to be a consensus of opinion. To quote Mandler (1956, p.366) "There is no single problem of anxiety. Different theorists and different experimental investigators have tackled various aspects of a broad complex of phenomena, all of them summarized under the unifying conceptual category of anxiety. Anxiety has variously been considered as a phenomenal state of the human organism, as a physiological syndrome, and as a theoretical construct invoked to account for defensive behavior, the avoidance of noxious stimuli, and neurotic symptoms." As reported by Mandler, among these various theoretical views of anxiety, there is a consensus that it is a mediating experiential phenomenon. It is related
to the perception of impending threat or over stimulation or unmanageable demands. It is accompanied by a discharge in the sympathetic nervous system.

Some investigators have conceived anxiety as chronic or general while other researchers have focused attention on specific situational anxieties, such as test anxiety, aggression anxiety, and dependency anxiety. Cameron's clinical definition of chronic anxiety "... characterizes anxiety as a diffuse and chronic condition of psychological and somatic tension, restlessness, distractibility, fatigue, irritability, predisposition to anxiety, attacks on slight provocation, and the like" (in Rusbush, 1963, p.475). Specific situational anxiety refers to disposition to become anxious in certain situations specified by the theory. As pointed out by Aiken (1962), general and specific anxieties do not represent qualitative differences in kinds. Rather, empirically they represent the differences in sources of anxiety. He further states that the only logical difference between general and specific anxiety is the number and type of situations which produce anxiety reactions in a child. In Daughman and Walsh's (1962) view, the study of specific situational anxiety is important. According to them, measuring anxiety as a trait is valuable, but the study of specific situational anxieties, if they could be measured by tests specifically designed for the purpose, may serve as pointers to the origin and effects of anxiety in other situations, as well as the common anxiety-arousing aspects of these situations. The most intensively studied of the specific situational anxieties, it seems, is test anxiety. Carson, Davidson,
Lighthall, Waite and Rubush (1960) have done extensive work on it. According to Sarason and his coterie, achievement situations are mostly testing situations which have an evaluative or assessment purpose. It is important to do well, no matter in what manner 'well' might be defined by test-giving and test-taking persons.

In their conception of a test anxious response, Sarason and his associates were influenced by psychoanalytic theory. As pointed out by this group, for a test anxious child, test-like situations are unpleasant, tinged with more or less vague feelings of uneasiness and bodily tensions. The test anxious child can relate his affective experiences to certain external objects and events. He is unaware that his reaction signifies the concurrent strength of certain unconscious ideas, motivations, and anticipations. The unconscious significance of the test anxious reaction concerns the child's experiences in test-like situations in the family. These test-like situations, for the most part, antedate the beginning of formal schooling. The behaviour of every child is continually and explicitly evaluated by parents as adequate or inadequate, good or bad. Such situations, where judgements are passed by parents regarding the child's adequacy are perceived by the child as evaluating situations. Those evaluations of a child's performance elicit in him hostility which cannot be satisfactorily expressed. The result is that he develops a derogatory attitude towards his personal worth and adequacy. He anticipates failure in the testing
situation. He thinks that he will not come up to the standard of performance of others or of his own, leading him to a feeling of anxiety and consequently to experience the situation as unpleasant. Test anxiety essentially interferes with problem-solving in test and test-like situations.

Test anxiety has been conceived as a motive to avoid failure in the theory of achievement motivation (Atkinson, 1957). This theory suggests that all behaviour is the result of the cumulation of motivational tendencies for a specific situation. In achievement situations where performance is evaluated in terms of standard of excellence, two types of motives—motive to achieve success and motive to avoid failure—are aroused. Both of these motives are relatively stable and early acquired characteristics of basic personality structure. The motive to achieve success is considered a disposition to derive satisfaction from success and the motive to avoid failure is considered an independent disposition to experience a negative affect as the result of failure. The motive to achieve success is produced by praise for success and reward for independent actions from parents and motive to avoid failure is produced by parental punishment for failure. However, persons with these two types of experiences behave in somewhat different ways. "Those punished for failure may be thought of as motivated not by achievement, but rather by a fear of failure. They compete with standards of excellence not because this produces some positive rewards, but rather because if they did not compete they might fail and this is associated with fear and anxiety" (Gordon, 1963, p.334).
The resultant motivation which determines the direction, magnitude, and persistence of behaviour in any achievement-oriented activity is the algebraic sum of these two positive and negative motives (Atkinson, 1967).

Intelligence

In a general way, every one knows what the term 'intelligence' implies. It refers to something unobservable, not to what a person does but to his capacity or ability. It can be understood as a complex characteristic of human performance. Different aspects of problem solving process are emphasized in various definitions of intelligence. The basic concept of intelligence is that it is the ability to adjust adequately to new and different situations. We consider that behaviour to be intelligent which is able to handle and control in an efficient manner, a situation faced by an individual. An intelligent person meets the situation in its novelty, complexity, and abstractness.

There has been little difficulty in understanding the meaning and implication of the term intelligence at a common-sense level. But so far as a precise and satisfactory definition of intelligence in verbal terms is concerned, psychologists have always faced some difficulty. Different writers have emphasized different aspects of intelligent behaviour - one has emphasized its dependence on ability to learn, another its close relationship to abstract thinking, another its dependence on judgement and reasoning, and yet another its concern with perception and
formulations of relationships. All these different emphases seem to be supplementary because they all point to different aspects of intelligent behaviour. Intelligence is, thus, a descriptive concept which can vary from a very low to a very high score.

Social Class

Concern with social class can be traced back to social thought. As stated by Barber (1957), social class refers to social stratification. Social stratification indicates that both individuals and group of individuals are conceived as forming lower and higher differentiation strata or classes on the basis of some specific or generalised characteristics. The dimensions of social stratification are power, occupation, prestige, income or wealth, education, family and ethnic group, position, local community status etc. The social class of a person represents that group of individuals with whom he associates himself on more or less intimate basis. He shares common ideas, values, attitudes, and ways of conduct with them. Cronbach (1954, p.131) records, "Social structure is a pyramid, with a few families having the privileges that go with high social status and a great many families in the undistinguished and unprivileged lower classes."

Social classes which are formed in terms of indices such as occupation, income, or education or some combination thereof, have their class culture. As reported by Warner (in Cronbach, 1954), the upper-class is an established aristocratic group, including the oldest families and those who have been
distinguished in the community for generations. It consists of a relatively small group of families with inherited wealth and position and they have close contact with each other. The upper-class takes special pride in family and tradition and are not concerned with accomplishments and contribution to society. The members of this class practise a graceful style of living that sets them apart from other classes. Aahl (1957) opines that a working-class man cannot expect much promotion or increment in his pay. He had little commitment to his job and more commitment to outside interests. He has little money and holds a job which requires little training and moves from job to job as opportunity offers. He does not seek distinction as an individual or as family. Miller and Riesman (1961) state, stability and security, traditionalism, self-centeredness, pragmatism and anti-intellectualism are the characteristics of working-class subculture. Characteristics attributed to the middle-class are concerned with individual development, acquiring wealth and property, deferred gratification, occupational success, morality, and advancement. Gans (1962) characterizes a middle-class subculture as emphasizing the importance of the nuclear family, child-rearing, the husband’s career, and education in terms of contribution to career advancement. Cronbach (1954) reports, that the striking difference among upper, middle and low-class groups is in their value system. He further states these values refer to general tendencies and not to rigid characteristics of upper, middle, and low-class groups.
Vocational Aspirations

Vocational aspiration refers to that point in the vocational prestige hierarchy which an individual views as a goal. In Super's (1957) words: "The choice of an occupation is one of the points in life at which a young person is called upon to state rather explicitly his concept of himself, to any definitely 'I am this or that kind of person.'"

Ginzberg, Ginsburg, Axelrad, and Herma (in Hoppock, 1967) report: "First, occupational choice is a process which takes place over a minimum of six or seven years, and more typically, over ten years or more. Secondly, since each decision during adolescence is related to one's experience up to that point, and in turn has an influence on the future, the process of decision-making is basically irreversible. Finally, since occupational choice involves the balancing of a series of subjective elements with the opportunities and limitations of reality, the crystallization of occupational choice inevitably has the quality of a compromise." According to Miller and Form's (1964) social causation theory of career pattern, social background, native ability, historical circumstances and acquired personality traits are stated to be the determinants of an individual's career pattern. In Forer's (1953) view, selection of a vocation, like the expression of other interests, is a personal process, a culmination of the individual's unique psychological development. Roe (in Hoppock, 1967) is of the opinion that job is a source of satisfaction of many needs.
SOME MEASURES OF n ACHIEVEMENT

The most commonly used measure in studies of achievement motivation is a projective method of assessing achievement developed by McClelland, et al. (1953). In this measure four to six TAT-type pictures are shown to the subjects, one by one for 20 seconds each and they are asked to make up stories about them. The stories are composed of answers to four questions: What is happening? What has led up to the situation? What are the people thinking? What will happen?. A method for scoring the stories determines which statements are to be scored for various content categories. The points for various categories are summed to provide a final score for all the stories written by a subject.

Similar to the thematic apperceptive measure of achievement is French "Test of Insight" (FTI) (French, 1955b, 1958). It is a measure of complex motivation. It has been developed by combining items similar to those of Sherriffs' "Intuition Questionnaire" (1948) with a system of scoring responses, as used by McClelland, et al. The subject is presented with a set of items. Each item describes behaviour that is characteristic of a man. The subject is then asked to give a likely reason, why he behaves as he does. These statements are scored in terms of achievement. Agreement between TAT n Achievement measure and French Test of Insight has been confirmed by French and Thomas (1958) and Atkinson and Litwin (1960).
The "Iowa Picture Interpretation Test" (IPIT; Hurley, 1955) represents a combination of projective technique with a multiple-choice test. In this test the subject is presented with one TAT picture at a time and is asked to rank four alternative statements given with each picture. One alternative depicts achievement and the other: insecurity, blandness, and hostility. The measure of subject's motives is the sum of his ranks for each kind of statement for all the ten TAT pictures. Correlation between the scores of TAT n.achievement and this test is low and insignificant. It makes it questionable, whether results of different studies in which these methods are used are comparable.

Aronson (1958) developed "Graphic Expression" test of n.achievement. This is a non-verbal measure and is mainly used with children's population. This measure is based on distinctions in graphic expression of some scribble patterns.

Edward Personal Preference Schedule (1964) and California Psychological Inventory (1957) are the subjective report measures of n.achievement. Both have been used for research on achievement with adult college students and adolescents. TAT n.achievement score and achievement scores from the EPPS are not found to be correlated (Atkinson and Litwin, 1960; Bendig, 1958; Melikian, 1958).

Knapp (1958) found that certain colour preferences could measure n.achievement in the subjects.