CHAPTER II
PROBLEMS AND HYPOTHESES

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2.1 PROBLEMS: THEIR STATEMENTS:

While posing a problem, one should keep in mind that the problems should be solvable or empirically testable. It means that it may be possible to advance a suitable hypothesis as a tentative solution for it (McGuigan, 1990) and the researcher can answer especially in yes/no or true/false manner for the questions raised in the problem. Generally, through a problem, a researcher wants to find out the relationship existed between two or more variables. In order to plan his study, he has to formulate some tentative ideas or answers about the problem and then empirically tests the texability of the answers.

According to Kerlinger (1986), “A problem is an interrogative sentence or statement that asks: what relation exists between two or more variables.” Therefore, framing the problem in the question form has additional advantages in the scientific research (Kerlinger, 1966).

To meet this end, an attempt has been made here to frame the statement of problems of the present study in interrogative manner.
STATEMENT OF PROBLEM :-

(i) Is cognitive differentiation of career capable of creating differential variance in vocational aspiration?

(ii) Can personality dimensions (extraversion and neuroticism) generate differential variance on vocational aspiration?

(iii) Are personality dimensions and cognitive differentiation of career in a position to influence jointly or in interaction with each other the variance of vocational aspiration?

Considering the above mentioned statements of the problem, it is clear that there exists one dependent variable that is vocational aspiration and three independent variables namely cognitive differentiation, extraversion and neuroticism.

Several research methodologists and behavioural scientists like Kerlinger (1978, 86), Goode and Hatt (1981) and many others have pointed out that the best way to obtain a scientific solution for a researchworthy problem is to formulate coherent researchworthy hypothesis, where the variables concerned with the problem should be operationally specified through a logical deductive system. Hence, in the following steps, an attempt has been made to operationally specify the nature of variables involved in the present study, as far as possible.
2.2 VARIABLES OF INTERESTS: THEIR SPECIFICATIONS:

In the present study, there exists one dependent variable, i.e. vocational aspiration and three independent variables namely, extraversion, neuroticism and cognitive differentiation. The extraversion and neuroticism are independent dimensions of personality and hence, jointly named as personality dimensions in the present research.

(A) Dependent Variable:

A dependent variable reflects any effect associated with the manipulation of the independent variable(s). The selection of an appropriate dependent variable should be based on theoretical and practical considerations, which is determined by a consideration of the sensitivity; reliability, distribution and practicality of the possible dependent variable. The dependent variable should be reliable and maximally sensitive to the phenomenon under investigation because behavioural researches generally involve a single investment in time and material resources. Thus the selection of a dependent variable that possess these two characteristics may minimize the amount of research effort required to investigate a research hypothesis.

Generally, in most of the researches one dependent variable (univariate procedure) is used because it is generally impossible to measure more than a limited number of dependent variables and those that can be measured are often found to be highly correlated. In selecting a dependent variable, it should also be noted that the observations within each treatment
level (or combination of treatment levels) are normally distributed (Kirk, 1969). Here, in the present piece of work vocational aspiration is a dependent variable.

**Conceptual and operational definition :-**

The term vocational aspiration is special instance of the concept level of aspiration. Its special nature consists only in the continuum of difficulty. This continuum of difficulty is the occupational hierarchy that can be operationally determined on the basis of rank ordering of representative occupations representing all levels from day to day behaviour to top executives. Thus, social standing of each profession can be different.

Vocational aspiration has been defined as orientation towards vocational goal (Haller and Miller, 1967).

It has been considered as a concept which is logical, a special instance of the concept level of aspiration. According to Sewell (1957), the term "Level of vocational aspiration" and the "Level of educational aspiration" are both the special instances of the concept of level of aspiration.

Level of aspiration is defined as orientation towards a goal, so level of occupational aspiration indicates orientation towards vocational goal.
Idealistic and Realistic Vocational Aspiration:

As it has been pointed out that the level of aspiration presupposed a goal, viz., ideal goal. This ideal goal is the inner structure of the level of aspiration. The ideal goal may be too easy for the person to achieve or may be too difficult for him, knowing the ideal goal, the goal seeker may set his goal at a place for the next action, this goal is actually the realistic goal.

The realistic goal is the goal for which the goal seeker is sure to achieve. Contrary to it is the realistic goal has which has been defined as the goal for which the individual is free to choose but is not sure of getting it achieved.

Haller and Miller (1967) indicated that idealistic occupational level of aspiration level of aspiration is the job for which one would choose if he/she is free to choose. Whereas, realistic level the vocational aspiration is the goal for which the individual is really sure that he/she can get it.

Thus, the idealistic vocational aspiration refers to that aspiration which the individual considers best for him/her if he or she is free to choose any vocation. Realistic vocational aspiration is that vocational aspiration for which the individual is sure to getting it without any difficulty.

In the present study two types of vocational aspiration, viz.

1. Idealistic vocational aspiration
2. Realistic vocational aspirations were used.
Idealistic vocational aspiration refers to that aspiration which the individual considers best for him/her if he is free to choose any vocation.

Realistic vocational aspiration is the aspiration for which the individual is sure to getting without difficulty.

(B) Independent variables and their levels:

The selection of an appropriate independent variable and its levels should be based on results of previous experiments on theoretical and designing considerations. The some research areas, it may be helpful to carry out a small pilot study to select treatments level prior to the main experiment. If the independent variable is quantitative in nature, its treatment levels should be chosen so as to cover a sufficiently wide range to detect effects of the independent variable if real effects exist and the number and spacing of the levels should be sufficient to define the shape of the function relating the independent and dependent variable. The level of quantitative independent variable should also be selected randomly from a population of treatment level so that an investigator can extrapolate from the results of his experiment to treatment levels that are not included in the experiment. If the treatment levels are not randomly selected, the results of an investigation are applicable only to the specific levels included in the investigation. The specific levels of a qualitative independent variable employed in an experiment are generally of direct interest to an experimenter. The levels chosen are usually dictated by the nature of the research hypothesis (Kirk, 1969).
In the present study, personality dimensions and cognitive differentiation are taken as independent variables. There are two independent dimensions of personality known as extraversion and neuroticism. Thus, three independent variables, namely, extraversion, neuroticism and cognitive differentiation are employed in the present study.

I. COGNITIVE DIFFERENTIATION :-

Cognitive differentiation pertaining to different careers has been defined as the ability to differentiate among job titles on the basis of vocationally relevant variables.

In measuring cognitive differentiation any content can be used. In the typical measurement task, the subject focuses on judging a set of elements, (e.g.- occupational titles or personal relationships ) according to a set of constructs (e.g.- occupational characteristics or personal attributes). In the present study, the construct of cognitive differentiation has been operationalized and ascertained through the Cognitive Differentiation Grid developed by Manchanda and Hasan (1998). It is based on Kelly's Repertory Grid Techniques (1995). In the grid 12 occupational titles (e.g.- teacher, beautician, new-photographer, sales -marketing -executive, interior-decorator, librarian, general merchant, tailor, insurance-agent, computer-operator, architect, bank-clerk) across the top of the grid and 12 vocationally relevant variables /constructs (e.g. income, power, peace, respect, satisfaction, orderliness, travel, interest, social importance, creativity, future, education) along the side of the grid have
been used. Subjects rated each occupation on the basis of each vocational construct utilizing a 6-point Likert Scale.

The vocationally relevant variables/constructs (Job values) used in the grid were obtained from the list of 80 job values suitable under Indian conditions. Because of sharp cultural divergence, 12 vocationally relevant variables were selected from the list through the method of cluster analysis and obtained Beta coefficient. Occupational titles were obtained from National Classification of Occupations published by Ministry of Labour, Employment and Rehabilitation, Govt. of India (1968).

(II) Personality Dimensions:-

Eysenck (1947) has argued that personality is hierarchically organized. At the lowest level of hierarchy, people have specific responses or individual acts that may or may not be characteristic of them. People have habitual responses or characteristic patterns of behaviour that are repeated in similar situations. These are at the second level of the hierarchy. At the third level of hierarchy, "an observed constellation of individual action tendencies are found. These are interrelated sets of habitual responses known as traits. At the most general level "an observed constellation of traits, called as type" is found. Traits that are related to each other combine to make up a type. By type, Eysenck means a broad dimensions of personality, not a kind of person.

Eysenck’s definition of personality revolves around four behaviour patterns: the cognitive (intelligence), the conative (character), the affective
(temperament) and the somatic (constitution). Thus personality is "the sum total of the actual or potential behaviour-patterns of the organism, as determined by heredity and environment; it originates and develops through the functional interaction of the above four main sectors in to which these behaviour patterns are organized..." (Dimensions of Personality, 1947, p. 25)

Thus according to Eysenck, "personality is the relatively stable organization of a person's motivational dispositions arising from the interaction between biological drives, social and physical environment". (Eysenck, 1970)

Eysenck has proposed four broader dimensions of personality: extraversion, neuroticism, psychoticism and intelligence, which have been discussed in following pages.

1. **Extraversion :-**

One of the major personality dimension described by Eysenck is Extraversion-introversion (E-I). The typical extravert is sociable, exuberant, like parties and craves excitement, thus characterized by tough mindedness, frequently impulsive, tendency to be out going, desire for novelty, preference for vocations involving contact with other people, tolerance for pain, prefer people oriented jobs (e.g., sales and social work), higher arousal level in the evening, prefer quicker; less accurate work approach, and under socialized super ego.
The typical introvert is shy, self controlled, quiet, introspective and inhibited rather than impulsive. Thus characterized by tender mindedness, seriousness, performance interfered with by excitement, easily aroused but restrained, preference for solitary vocations, sensitivity to pain, more reliable, conscientious and punctual, higher arousal level in the morning prefer slower, more accurate work approach, prefer theoretical and scientific careers (e.g. engineering, chemistry, teaching math etc.) and over socialized super ego.

Eysenck specifies a physiological basis for this personality dimension. 'He has found that there is a strong genetic component to extraversion- introversion dimension. Identical twins score much more similarly on tests of extraversion than do fraternal twins. He has indicated that extraverts and introverts differ in their characteristic levels of arousal (Eysenck 1970). Specifically, Eysenck (1982) specifies that the ascending reticular activating system in the brain stem is responsible for controlling the differences in response to stimulation between introverted and extraverted subjects. Examination of levels of arousal in the reticular formation indicates that extraverts have lower level of arousal and tend to seek out stimulation, as well as more responsive to rewards, whereas introverts have higher levels of arousal and tends to avoid external stimulation. Introverts are more readily aroused by external events and are more responsive to punishment (Nichols & Newman, 1986). Eysenck (1982) uses the term “arousal” to denote as continuum of excitation, ranging from a lower extreme to an upper
that introverts are assumed to have a “weak” nervous system whereas extraverts have a “strong nervous system”. Subjects who are lower on decisiveness scored low on Extraversion. (Haraburda, 1996).

(ii) Neuroticism:

The second major dimension of Eysenck’s personality model is Neuroticism-Stability. Eysenck assumes that neuroticism is a trait continuum ranging from normal to neurotic end. Points near to the plus end of hypothetical continuum represent well integrated, emotionally stable, non-neurotic personalities; points towards the minus end of the hypothetical continuum represent poorly integrated, emotionally unstable, neurotic personalities (Eysenck 1962, p-52).

The personality of characteristics of neurotic person can be described as emotionally unstable, easily aroused, worrisome, frequently complain about anxieties and bodily aches, showing dependency, low energy, narrow interests and usually does not belong to groups, anxious, restless, have poor sensory acuity and little frustration tolerance. At the other and of the scale is the emotionally stable persons who are characterized as cheerful, reliable, calm and even-tempered, less easily aroused, carefree, reliable and normal peoples.

Eysenck opined the physiological basis of N-dimension through autonomic nervous system reactivity. He suggests that the person whose autonomic nervous system is highly reactive, is likely to develop a neurotic disorder. Specifically, he links this dimension with the limbic system, which
influences motivation and emotional behaviour. Persons high on neuroticism tend to react more quickly to painful, novel, disturbing, or other stimuli than do more stable persons. Such persons also exhibit a more persistent reaction than do highly stable persons.

Eysenck (1952) found that these two major personality dimensions labeled as Extraversion-introversion and Neuroticism-Stability are statistically independent of each other. Accordingly, it is possible to separate people into four groups, each being a combination of low or high on one type of dimension, together with low or high on the other type of dimension. A combination of introversion and neuroticism tends to create a more anxious, pessimistic and reserved quality in behaviour. The combined qualities of extraversion and neuroticism tend to be aggressive, impulsive and excitable behaviour. People who are both introverted and stable tend to be controlled, careful, and thoughtful in their action. The combined qualities of extraversion and stability introduce a carefree, easy going and sociable quality into behaviour.

Thus, these two major personality dimensions have been incorporated as two independent variables in the present study.

Although the dimensions of psychoticism and intelligence have not been incorporated in the present study due to certain reasons discussed later in this thesis, their details are as follows:

(iii) Psychoticism :-

Eysenck (1976) has added a third dimension of personality, called as psychoticism- super ego strength. People high on this personality dimension tend to be egocentric, impulsive, insensitive to others, opposed
to social customs, poor concentration, poor memory, cruel, disregard for danger and convention, liking for unusual things, and considered peculiar for others. These people are often seen as trouble some, as lack of caring for others and as intentionally upsetting other people. Eysenck regards it as a personality continuum along which all people can be located and as being more common in men than in women.

Eysenck has made an attempt to identify the physiological basis of this third dimension, psychoticism. Eysenck has found that men score higher on psychoticism scale than women do and suggested that psychoticism is related to male sex hormone or maleness. It was also found that psychoticism is significant correlated with serotonin metabolites. Because of its biological and developmental reason psychoticism is not properly and normally developed in the adolescent population group and thus it is very difficult to find out such a sample of adolescents who are high on psychoticism scale. The other reason, for which psychoticism is not incorporated in the present study, is the non-availability of suitable personality inventory which could measure the psychoticism dimension of adolescent subjects.

4. Intelligence :-

The fourth dimension of Eysenck’s personality model is known as intelligence, which denotes a mental condition or a complex of conditions for specific performances or achievements. It is defined as the ability to overcome difficulties in new situations (proposed by E. Clapared and W. Stern in Eysenck et.al. 1972). In general, intelligence is considered today
as a characteristics aspect or dimension of personality. It was found that there is significant correlation between personality scores and intelligence test scores. Thus we can say that intelligence test scores may be influenced by motivation, anxiety and certain other personality characteristics. There seems to be correlation between personality types and forms of intelligence.

In the area of intelligence, Eysenck (1973) has suggested a hierarchal model like that assumed by his British predecessors. There are “Primary factors” such as numerical ability, verbal ability, spatial ability, word fluency, rote memory and reasoning which are correlated together to form a general factor of intelligence. Analyzing the IQ test scores, Eysenck (1973) broke it into three aspects, which vary independently to some extent:

1. the speed of mental functioning,
2. accuracy presumed to be a function of an error-checking mechanism, and
3. persistence defined in terms of reluctance to give up on difficult problems.

Standard IQ scores represent an extremely useful coalescence of these three components, despite the fact that in some populations they have been found to be completely uncorrelated. Some connections have also been found between these components of intellect and personality. Neurotics have lower value for the speed factor than stable subjects. Introverted neurotics were slower than extroverted neurotics, but
extroverted neurotics were less accurate than introverted neurotics. Persistence did not differentiate the personality groups nor did it play any part in the observed speed and accuracy differences between extroverts and introverts.

The third personality dimension of Eysenck's model labeled as psychoticism, has not been included in the present study because it is related to the male sex hormones or maleness and it is very difficult to find out such a sample of adolescents which are high on psychoticism because of its biological and developmental reasons. Psychoticism is not properly and normally developed in the population of 14 to 17 years old adolescent subjects.

The fourth dimension of personality as labeled by Eysenck is intelligence. This dimension is also not included in the present study as the positive and sizeable relationship between vocational aspiration and intelligence has already been established (Super & Overstreet, 1960; Prenter & Stewart, 1972; Gaur & Mathew, 1974).

Since the dimensions of psychoticism and intelligence are not included in the Junior Eysenck's Personality Inventory (JEPI) which is the only personality inventory in Hindi for measuring the personality of adolescents subjects. The dimensions of psychoticism and intelligence of Eysenck's model have been excluded in the present study.

Keeping in view to the above mentioned facts only two independent personality dimensions of Eysenck's model viz., extraversion and neuroticism have been used as independent variable in the present study to examine their relationship with vocational aspiration.
2.3 HYPOTHESES: THEIR FORMULATIONS -

After the selection of a research problem, researcher formulates the testable propositions to obtain a tentative solution of the problem, which is technically known as hypothesis. According to McGuigan (1990), "A hypothesis is a testable statement of a potential relationship between two or more variables". It is a conjectural statement of the relation between two or more variables in declarative sentence form and relates either generally or specifically variables to variables (Kerlinger, 1986). A good research hypothesis should be conceptually clear, testable, parsimonious, logical, comprehensive, general and related to the existing body of theory and facts. It should provide maximum deductions and should be related to available scientific tests and apparatuses.

Keeping in mind to the above characteristics of the research hypothesis, researchers have suggested to frame a hypothesis in logically derived manner which is based on the previous findings obtained by other researchers and is directly or indirectly related to the present research problem.

HYPOTHESES:

Keeping in view the specifications of dependent and independent variables to be incorporated in this study, the following hypotheses are framed for putting to test:
**Differential Hypotheses :-**

(1) The Ss with high cognitive differentiation would show higher realistic vocational aspiration than the Ss with low cognitive differentiation.

(2) The Ss with high cognitive differentiation would show lower idealistic vocational aspiration than the Ss with low cognitive differentiation.

(3) Extravert Ss would show higher realistic vocational aspiration than the introvert Ss.

(4) Extravert Ss would show lower realistic vocational aspiration than the introvert Ss.

(5) Normal Ss would show higher realistic vocational aspiration than the neurotic Ss.

(6) Neurotic Ss would show higher idealistic vocational aspiration than the normal Ss.

**Two Factor Interactions :-**

(1) The extraverted and high cognitively differentiated Ss would show significantly higher realistic vocational aspiration than the introverted low cognitively differentiated Ss.

(2) The introverted low cognitively differentiated Ss would be significantly higher on idealistic vocational aspiration than the extraverted high cognitively differentiated Ss.
(3) The extraverted normal Ss would be significantly higher on realistic vocational aspiration than the introverted neurotic Ss.

(4) The introverted neurotic Ss would be significantly higher on idealistic vocational aspiration than the extraverted normal Ss.

(5) The normal and high cognitively differentiated Ss would show significantly higher realistic vocational aspiration than the neurotic and low cognitively differentiated Ss.

(6) The neurotic and low cognitively differentiated Ss would show significantly higher idealistic vocational aspiration than the normal and high cognitively differentiated Ss.

**Three Factor Interactions:**

(1) The extraverted, normal and high cognitively differentiated Ss would show significantly higher realistic vocational aspiration than the introverted neurotic and low cognitively differentiated Ss.

2. The extraverted, normal and high cognitively differentiated Ss would show significantly lower idealistic vocational aspiration than the introverted neurotic and low cognitively differentiated Ss.