# C H A P T E R  IV

## PROBLEM AND PROCEDURE

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### 4.1. Introduction

Laymen and general readers of psychology may be surprised to note that the workers in clinical psychology and personality are now-a-days more attached to the formal study of perception. There has been a viewpoint among the clinical psychologists that what people see or perceive in the given stimulus is not determined by the stimulus properties alone, but the final percept depends also on the characteristics of the perceiver. This has been accepted not only by psychologists, but also by philosophers like Nietzsche who considered that all concepts were inspired by needs and by artists who pointed out that no two artists would paint identical properties of the same individual.

Most of the psychological experiments in perception were, until recently, stimulus-centered rather than

individual centered. The stimulus-centered method is usually called sensory research, whereas the subject-centered method goes under the name of personality reseafch. There was no clear cut method of arriving at an overall conclusion about personality - perception relationship. However, eminent researchers tried to study or to establish the relationship between personality and perception from various angles. The result was that an innumerable research articles appeared in various psychological journals. As pointed out in the preceding chapters, the perception-personality relationship was first studied by L.L.Thurstone(139) in the year 1938. Soon after the works of Postman, Bruner and McGinnies(124), Brunswik(30) . Witkin et al(158), Klein et al.(82,83,84), M.D. Vernon(147), Vernon Hamilton(146) and some others were remarkable. From all these researches, it was clear that the study of both, that is, perception and personality, cannot be completed without taking the account of both. In other words, perception can be understood completely while taking into account personality factors and vice versa.

The author of the present investigation also has undertaken to study the relationship between perception (specific perceptual tasks) and specific traits of personality; and has thereby tried to add more information to the findings of the previous studies under different setting. All the studies on perception - personality relationship published in journals have been conducted in western countries.

In India, very few studies have been undertaken to investigate the perception-personality relationship in the light of issues raised earlier. This is an attempt in this direction.

4.2. Aim of the Investigation

The general aim of this investigation is to examine further the relation between perception and personality. More specifically, the investigation aims at studying the relation between certain personality variables with specific perceptual tasks.

4.3. Objectives and Hypotheses

The main aim of the present investigation has been to study relationship between perception and personality. The exact problem of present investigation runs thus : ' A STUDY OF SOME PERCEPTUAL CHARACTERISTICS AS RELATED TO PERSONALITY.' The author of this study intends to relate certain perceptual characteristics to some of the personality characteristic. No specific hypothesis has been developed; but the following relevant questions dealing with the relationship between perceptual and personality characteristics have been raised and studied :

1. What is the relation between an individual's characteristic way of perceiving and his general personality organization ?
   (a) Are perceptual characteristics related to some specific personality traits ? The specific personality traits studied here are the fourteen traits covered

in the Personality Assessment Scale (PAS) standardized by Dr.A.S.Patel in Gujarati.

The perceptual characteristics investigated are :

1. Length discrimination test.
2. Size constancy test.
3. Reversible figures test.
4. Emotionally toned word test.
5. Form and Colour dominant test.
6. Embedded figure test.

(b) Does the perception-personality relation show any change as a result of sex, age or educational level and area of habitation or area in which the subject lives ?

2. Are there any differences in perceptual characteristics due to age or level of education, sex and area of habitation ? The area of habitation refers here to the urban and the rural area.

The primary objective of the present investigation has been to test the relation between some perceptual factors and personality traits. However, the inclusion of subjects of both the sexes from different levels of education or age and areas of habitation enabled the investigator to study at the same time the differences in these perceptual functions as a result of these three variables viz. age or education, sex and area of habitation,and also to collect data if any trend or change in extent of correlations between perception and personality as a result of these three variables.

4.4. Sample

The work has been mainly an experimental investigation carried out on subjects tested individually in a laboratory situation. While selecting of the sample, the investigator has kept a few points in his mind. They include : availability of the subjects, nature of personality and perceptual test, and the situations where the present testing was conducted.

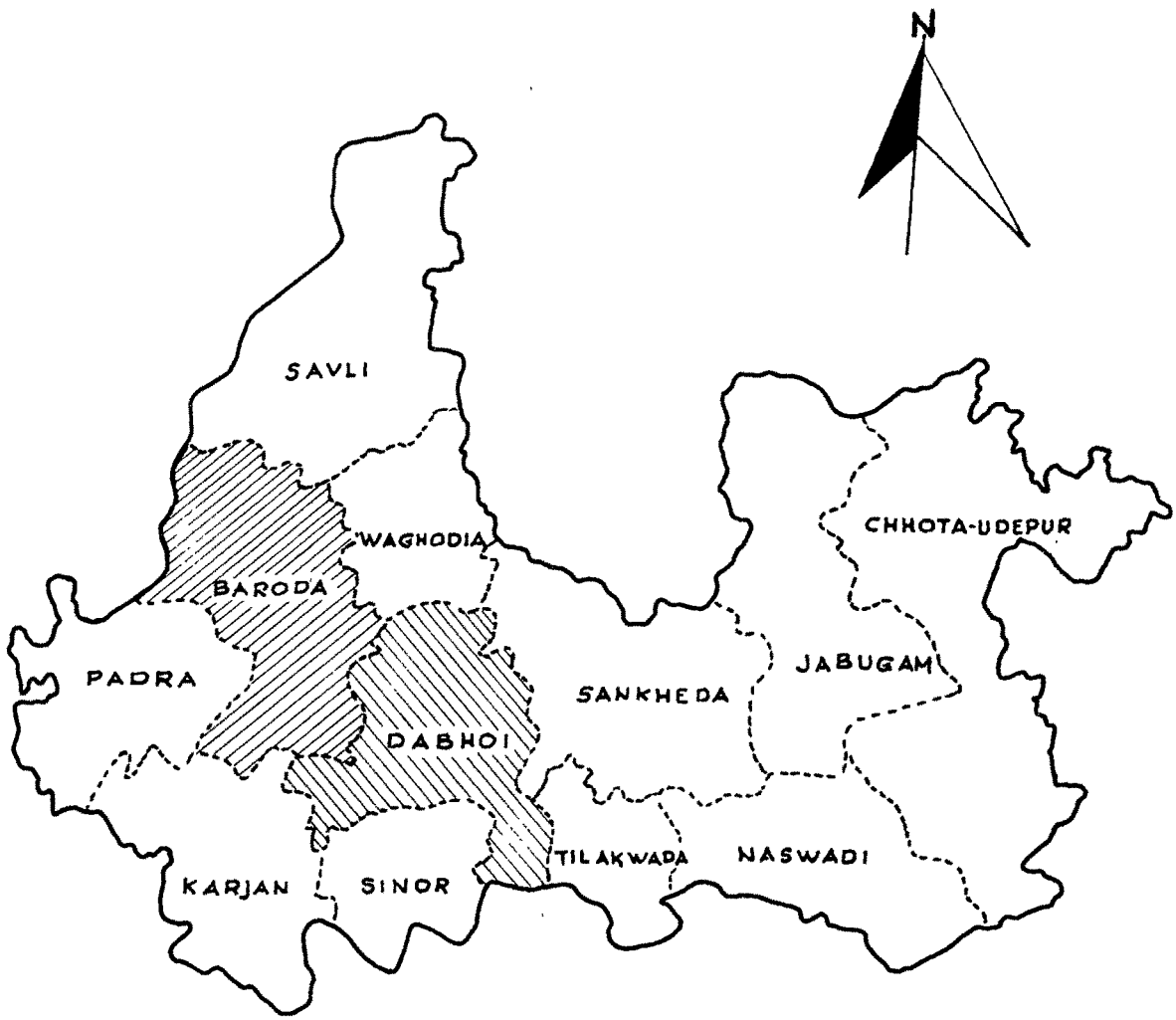
The total sample consisted of 400 boys and girls of Dabhoi town. They were all studying in the high schools and the colleges. In order to ensure the representativeness of the sample, the following procedures were adopted.

First, the author obtained information from school and college about the number of grades and the number of students in each class. In Dabhoi, there are six high schools and three colleges. The name of the schools and colleges from which the sample was chosen are shown in the following Table 1.

Table 1 : The Names of the Schools and Colleges from which the Sample was chosen

| Sr.No. | Name of the School/College | Sample taken |
|---|---|---|
| 1. | Vibhag High School, Dabhoi | 40 |
| 2. | M.H.Dayaram Sharda Mandir, Dabhoi | 40 |
| 3. | The New English High School, Dabhoi | 40 |
| 4. | N.K. Modi Girls' High School,Dabhoi | 40 |
| 5. | Shree Vitthal Vidya Mandir, Dabhoi | 40 |
| 6. | Arts and Science College, Dabhoi | 150 |
| 7. | Commerce College, Dabhoi | 50 |

Dabhoi is the main town of Dabhoi taluka and it is near Baroda city. The Baroda district has twelve talukas as shown in Map. Subjects selected from the schools as well as colleges of Dabhoi town belong to both urban and the rural areas. The students who used to come from their villages to study during school and college hours were considered as rural and the students who resided in and studied at Dabhoi were considered as urban. Urban areas are distinguished from rural areas in terms of the facilities and comforts provided in an area, the layout, the construction, marketing possibilities, recreation hours, parks and public places, club and community bodies, hospitals and health and health resources, telegraph and telephones, bus and railway facilities, its proximity, density of population, the way of life etc. All these facilities are likely to assert a considerable influence on the local persons. Accordingly, Dabhoi belonged to the urban area. Those students who come just to attend the school and college from different villages surrounding Dabhoi are said to belong to rural area. After the school and college hours, they go back to their respective villages. The students coming from village and returning back after study are considered as rural sample. Thus, the rural-urban dichotomy has been presented here in terms of the major likely influence of the said factors on the subject. The schools and colleges of Dabhoi are actually located in urban area and students studying there cannot be considered as forming the urban sample, unless




TALUKAS OF BARODA DISTRICT

they are subjected to the influence of these factors in their day to day living. The crucial factors which govern their interests, thoughts, conversations and activities are actually those which are to be found in their respective places from where they come.

Dabhoi town is situated 30 KM away from Baroda city. It is connected to Baroda by bus and railway routes. Baroda is a densely populated city. It has rapid communication systems. The economic system is very complex.The influence of the city transcends its boundary. Thus, taluka towns are more susceptible to such influences than villages of the talukas. Dabhoi is enjoying the second rank in Baroda district. Eventhough the villages (rural area) cannot be completely free from influence of the town, the point here is that the influence is not very effective in bringing about a rapid change in rural life. It is this point which forms the basis for regarding subjects, returning to their respective villages after the school and college hours, as those from the rural area. Villages are in rural area; and Dabhoi town itself is in the urban area.(11)(65).

The subjects were selected from six high schools and three colleges ( Arts, Science and Commerce ) of Dabhoi town considering the rural and the urban area subjects. In terms of actual figures, out of the total 400 subjects, 200 each were selected from the rural and the urban areas out of the

total 200 subjects from each area, 100 subjects were boys and the remaining were girls. Fifty subjects from each sex level belonged to schools and the rest belonged to colleges. Thus, the study was conducted with an experimental factorial design 2 x 2 x 2, with the number of subjects, as shown below in Table 2.

Table 2 : Experimental Design

| | Urban | | Rural | | Total |
|---|---|---|---|---|---|
| | Male | Female | Male | Female | |
| School-going | 50 | 50 | 50 | 50 | 200 |
| College-going | 50 | 50 | 50 | 50 | 200 |
| Total | 100 | 100 | 100 | 100 | 400 |

The level of education was the same as the age variables. The school subjects covered the age from 10 to 16 years. The mean age of the school going subjects was 13.8 years. They were all studying in the grades from VIII to XI. The age range in case of the college subjects was from 15 to 20 years. The mean age of the college subjects was 19.6 years. All the college subjects were spread over from the pre-university class to the final year of the three years degree course. The inclusion of age, sex and area of residence in a factorial design made it possible to study the main effects as well as interaction effects, if any, of these variables on perceptual and personality characteristics.

## 4.5. Selection of Tools

The present investigator has tried to study the relationship between some perceptual characteristics and some personality traits. To study the perceptual characteristics, there should be some perceptual tests which would measure different aspects of individual's perception; and similarity, there should be some personality traits which measure different aspects of individual's personality. Perception and personality has been widely studied in psychology. Perception has been studied by almost all the psychologists from various angles. Particularly, the work of Gestalt psychologists has been remarkable and wonderful. They have referred to a number of situations in which an individual's perception can be studied. While going through the literature of psychology of perception, a number of perception tests are found to be used by researchers, such as, length discrimination test, weight discrimination test, brightness discrimination, apparent movement, autokinetic movement, size discrimination, block sorting, various ambiguous situation test, reversible figures, emotionally and neutral toned words, Form-colour dominance test. Various perceptual constancy; size, shape, colour, form etc. and still many other tests.

In the present investigation, six perceptual tests were selected. These tests measure some perceptual characteristics of the individual. The following perceptual tests have been used here in order to study their relationship with some personality traits assessed with personality inventory :

(i) Length discrimination test.
(ii) Size Constancy test
(iii) Reversible Figures test
(iv) Emotionally toned word test
(v) Form and colour dominant test
(vi) Embedded figure test

All tests were administered as described in the pilot study. Similarly, to study the personality of the individual, there are many tests available. Personality assessment can be done by projective techniques, personality interviews, case history and biographical data and some other means. At present, a number of standard and widely used tests are available for diagnostic purposes also. They are : Rorchach ink-blot, Thematic Apperception test (TAT), Word-Association, Sentence Completion test, Draw-a-Man test, Various personalities inventories viz. N.M.P.I., 16 P.F., Brunruter (BERNREUTER) inventory, Bell-adjustment inventory, Edward Preference Personal Schedule (EPPS) and many others are constructed and standardized also in regional languages in India. In the present investigation, the personality inventory constructed and standardized in Gujarati by Dr.A.S.Patel at the Department of Psychology of M.S. University of Baroda, Baroda, was used to study the personality traits of the Gujarati

subjects under study. This inventory attempted to measure the following fourteen personality characteristics :

(i) Happy-go-lucky nature / seriousness
(ii) Self-sufficiency / dependency
(iii) Dominance-submission
(iv) Leadership
(v) Introversion-Extraversion
(vi) Radicalism-conservatism
(vii) Neuroticism
(viii) Hostility or aggresiveness
(ix) Emotional stability
(x) Honesty
(xi) Masculinity-feminity
(xii) Sex interests
(xiii) Rigidity-flexibility
(ivx) Suggestibility

The reliability co-efficient of the inventory studied by at different times ranges from .78 to .91. The validity coefficient as determined by comparison with similar standard test in English administered to college population has been found to range from .58 to .76.

4.6. Pilot Study

Before finalizing, the perceptual tests were given to one hundred respondents of various groups. First, the length discrimination test was given to the subjects. To study the length discrimination, Müller-lyer illusion test was used. The subject was asked to make the line equal to the standard line. Their judgments were recorded. It was observed that it was essential to give trials to the subject in ascending and of descending series

randomly. This point was kept in mind while testing the subjects. The constant error was found for all the subjects. After the length discrimination test was used the size constancy test. In this Thurstone's triangle test was used. Subjects were asked to give the judgment when they found the triangle equal to the standard one. In all, five trials were given starting from larger (L) triangle to the equal and five trials were given starting from smaller (s) triangle to the equal. In all ten trials were given at 5', 10', 15' and 20' distance from the object. All the forty judgments were recorded on record sheet, and constant error was calculated for each subject. The third consisted of three reversible figures. Figures were : face and flower pot, telephone and cat face, and book and window. First of all, face and flower pot figure was presented before the subject for one minute. He was asked to see the figure as it appeared to him ( as if with a neutral attitude ) and if there was fluctuation from face to flower pot or from flower pot to the face, he should mark one line or put one dot on paper. So during one minute total number of frequency or fluctuation was counted for neutral attitude. Similarly, the same procedure was used for positive and negative attitude. Positive attitude means he has to deliberately change his attention from one figure to another as many time as he can during one minute and negative attitude means he has

deliberately not to change his attention from one figure to another. After the fluctuations with three attitudes were recorded for face and flower-pot figure, the second and the third figures were presented, using the same procedure mentioned above and the frequencies or fluctuations for all the three attitudes were recorded. The fourth perceptual test was emotionally-toned word list. The list of emotionally toned words was prepared by the present investigator. While preparing the list of the emotionally toned words, including also the neutral toned words, the procedure adopted was as follows :

First an English version of Jung's Word-Association test was translated into Gujarati language by five experts of the same language. Then the test was given to one hundred students. The subjects for the pilot study and those tested for the construction of the list were not the same. These hundred students were taken from schools and colleges. The subject was asked to hear the word spoken and immediately to respond with whatever reaction it be. Their responses and reaction time for each stimuli were recorded. It was assumed that the high reaction time and less frequency of responses of one stimulus were considered as an index of an emotionally toned word. Similarly, for neutral words, the lowest reaction-time and larger number of frequency of the responses of one stimulus were

considered as neutral words. From one hundred words, five emotionally toned and five neutral toned words were selected by using the above mentioned procedure. Following is the list of emotionally and neutral toned words : લમણા (Decorum) (E), પુસ્તક (Book) (N), પેન્સિલ (Pencil) (N), ગંદકી (Dirty) (E), પહાડ (Mountain) (N), ગર્વ (Pride)(E), માંદગી (Sick) (E), કુતરો (Dog) (N), પ્યાલો (Glass)(N), નસીબ (Luck)(E). Thus, the list consisted of randomly arranged five emotionally toned (E) and five neutral toned (N) words. Then, this list was presented before each subject on the electrically run memory drum. The subject was asked to see through the window of the memory drum, the words which appeared one by one and try to remember as many words as he could. After each complete trial, he was asked to recall the words. Until, the subject recalled all the words upto a criterion of one correct, errorless trial, the procedure was continued. After half an hour, he was asked to recall the words. The percentage of correctly recalled emotionally toned words and neutral words was recorded for each subject.

The fifth test was the form and colour dominate test. This test consisted of 10 cards and on each card, there were four different figures, each in different colour e.g. Blue

circle, Red triangle, Yellow arrow and Green star. These were shown one by one to the subject and he was asked to recall form and colour figure. If he failed to recall the form and colour figure of each card, then he could tell either form or colour whatever he could. All the responses were recorded. Form (F) and colour (C) scores were calculated.

The sixth test was embedded figure test. For the present study, a modified embedded figure test was used. The subject was asked to find out the simple figure from complex figures. The time taken by the subject for each test was noted. Modified embedded figure test consisted of five parts; and each part had two figures, excepting the first part, which consisted of ten figures.

The scores of all the six perceptual tests were analysed and the results of this pilot study encouraged the investigator for the further study. All the six tests mentioned above measure different perceptual characteristics of the individual. Before finalising the batter of the perceptual tests, some modifications either in the test material or in the instructions were made.

## 4.7. Description of the Perceptual Tests and Personality Assessment Scale (PAS)

### (i) Battery of Perceptual Tests :

All the perceptual tests measure different characteristics of individual's perception. Through the perceptual test, one can study the personal determinants of perception. It has been noted that not only the object and the environment, or stimulus characteristics, but also the personal characteristics of the perceiver do play an important part in perception. In the present study, the investigator has tried to study individual's perception through a battery of perceptual tests and has related them to the traits of the perceiver.

(A) The Length Descrimination Test : Various situations were used to measure the discrimination of length. What we observe is never in exact correspondance with the physical situation. Some aspects are omitted, some added, and some distroted. Here, for measuring length discrimination, Müller-Lyer illusion test was used. An illusion exists when observations made with the aid of physical instruments yield different results from those made without such instrument.

Apparatus : A standard Müller-Lyer figure was used with an arrangement for varying the length between the feature-head points. The standard was the arrow-head, line length 16 mm. The

standard line and the variable line were mounted on a card board. The apparatus was portable and could be easily moved from left side to the right side. At the back of the cardboard, the line was marked in milimeter, and it was visible only to the experimenter. From the backside, the experimenter got the judgment of the subject on each trial.

Administration of the Test : The subject was asked to sit, nearby experimenter on a chair and adjust the variable line so as to equal it to the standard line, thus being tested on length discrimination. In the length discrimination test, eight trials were given to all the subjects in the same order. A complete counter-balancing of space (right and left) and movement (outward and inward) was obtained through trials, that is, RO, RI, LO, LI. The order of presentation was random. In all, eight chits were prepared, two for each of RO, RI, LO and LI presentation. All the chits were shuffled and one by one each chit was drawn for the presentation of test. While using this procedure, the following sequence of order was developed: LO, RO, RI, RI, LO, LI, RO, LI, All the subjects were tested in this order.(78)

Procedure : The subject was brought into testing laboratory room.The apparatus was set up. First of all, one

practice trial was given to the subject, and according to the order of presentation, all trials were then given. On each trial, the experimenter recorded the measurement of the variable line. The instructions for this test were the same for all subjects.

Instructions : Look here, I will show you a game of judgment. You may consider the game as a test. The purpose of the test is to determine how well you can adjust the variable line equal to the standard line. Here, your task is to make the variable line equal to the given standard. You have to judge whether the variable line was equal or not. Try to make the variable line equal to the standard one. You should not worry about your judgment. There is nothing right or wrong in your judgment.

Score : Average of the constant error in all trials constituted the score for each subject. Lower score indicates better length discrimination.

(B) Size Constancy Test :

When a piece of black paper is brought from a dark corner of the room into the direct sunlight by a window, the intensity of the radiant energy being reflected from its surface increases manyfold; yet the paper still appears 'black'.This is but one of the many forms of constancy, viz. brightness,

shape, size, colour etc.

The problem of the perception of distance and of the perception of size are closely related with each other.They are linked together by the law of 'the visual angle'. This law would say that an object must become smaller and smaller as it recedes from the eye; and that these decreases in size must be proportionate to the distance. Since the object remains constant in physical size, the retinal image of it must continually decrease with distance. The failure of the perceived size to decrease in proportion to the distance is known as size constancy(125).

A large number of experiments on size constancy are available in the literature. The work of E.S.Brunswik was remarkable. For the present investigation, Thurstone's triangle was used.

Apparatus : Thurstone's triangle test measures the size constancy given by the subject. Two triangles were used, and both were mounted on an iron stand. Out of these two triangles, one was standard equilateral triangle of 5" and the other was variable triangle of 12".The variable triangle was to be adjusted in ascending as well as in descending order to equal the standafd triangle as in Müller-Lyer illusion. The experimenter noted the judgments of the subjects on each trian from the back side of the variable triangle, since the line indicated the size of the judged triangle.

Administration of the Test : The subject was asked to sit nearby the experimenter on the chair. For measuring the size

constancy of the subjects, ten trials were given;and these ten trials consisted of five ascending series and five descending series, at a distance of 5', 10', 15' and 20'. In other words, 10 judgments were taken at a distance of 5' from the object, then at 10', 15' and 20'. Thus, in all 40 judgments were recorded by the experimenter on record-sheet. The order of presentation of the variable triangle was randomized for ten trials. The sequence for ten presentations was as under : L, L, L, S, S, L, S, S, L, S. ( L means longer size in the beginning and S means small size in the beginning ).

Procedure : The subject was brought into the testing laboratory room. The apparatus was set.The experimenter marked the distance of 5', 10', 15' and 20' from the object or standard triangle. He recorded all the judgments given by the subject. The instructions for this test were the same for all subjects.

Instructions : I will show you two triangles. (Pointing to the triangles). The left hand side triangle is considered as standard triangle and the right hand side triangle as variable. Now look here, I will start adjusting the variable triangle, either longer to smaller or smaller to longer, slowly and steadily till you say that both are equal. Your task is to tell me your judgment when you can judge the variable triangle to be equal to the standard triangle. You may say 'yes' when you find both to be equal.

Score : The average of the constant error constituted for each subject. Higher score shows poorer size constancy.

(C) Reversible Figures Test :

As we look around, the objects ( which we are aware of) stand out as figures against a ground. The book stands out against the table on which it rests, words stand out against the page. There seems to be no immutable physical reason why objects should stand against their background. The organization of the environment into figure-ground relations is a feat of the nervous system.

Various situations have been used to study the ambiguity by reversible figures. E.S.Brunswik(30), M.D.Vernon(147) and others used reversible figures to study some characteristics of individual perception.

Apparatus : Three famous situations for studying the ambiguity through reversible figures were selected for the present study. They were : face and flower pot, telephone and cat face and book and window. All the three pictures were mounted on cardboard. The size of the pictures were 8" x 8". Figures were painted in black and white.

Administration of the Test : The subject was asked to sit near the experimenter on the chair. All the three reversible figures were presented to the subject one by one for one minute and the subject was asked to give responses. First of all, the experimenter told the subject that he would show him a picture, say that of face and flower pot for one minute. His task was to

see the picture according to the instruction given by the experimenter. In all three types of attitudes were resumed by the subject, viz. neutral attitude, positive attitude and negative attitude. Neutral attitude meant that the subject looked at the figure naturally; and if there was any shifting from face to flower pot or from flower pot to face, one short line or dot had to be put ( by the subject ) on the paper for each shifting or fluctuation. This was to be continued till one complete minute. Similarly for positive attitude, the subject had to shift his attention from one figure (face or flower pot) to the other figure as many time as he could and for negative attitude the subject hand to concentrate to only one figure or to restrict attention to only one figure ( eight face or flower pot ).

Procedure : The subject was brought into the testing laboratory.First of all the subject was asked to give responses as clearly as he could. Then the experimenter explained the meaning of the neutral or natural attitude (Na), positive attitude (Po) and negative attitude (Ne). The subject was asked to do the work according to the instructions given. The instructions for this test were the same for all subjects. The purpose of the test was to determine how well the subject could do the work on reversible figures. Following were the instructions :

Instructions : Look here, I will show you this figure (pointing to the figure) for one minute. Your task is to see the figure with natural attitude (na), positive attitude (Po) negative attitude (Ne) (as explained earlier). You have to mark either a dot or a line on the paper if at all there is change from one figure to another. Mind one point; while marking dot or line on paper, you have to look at the figure, not at the paper. Your total fluctuations will be considered as your attitudes. First you have to see the figure with natural attitude for one minute. Secondly, you have to see the figure with positive attitude and then lastly with negative attitude (as explained earlier ).

Thus the experiment was conducted under three attitudes for face and flower pot figure; then for telephone and cat-face figure and finally for the book and window figure. Thus, three figures were shown to each subject; and on each figure, three minutes testing was done. In all nine minutes testing was done on reversible figures.

Score : At total of all the three (positive, negative and neutral) attitudes of all the three figures was obtained. The score was obtained into three groups as mentioned earlier viz. Positive Attitude (Pa), Neutral attitude (Ne) and Negative attitude (Na). The formulae run like this:

Positive Attitude Shifts - Neutral Attitude Shifts
= Positive Attitude Score

Negative Attitude Shifts - Neutral Attitude Shifts
= Negative Attitude score.

(D) Emotionally toned Word Test :

The experimental work of Postman, Bruner and McGinnies[124] suggest that the greater the dominance of a value in the person, the more rapidly he would recognize words representing that area. Postman, Bruner and McGinnies[124], McGinnies[102], and Lazarus and McCleary[92] studied recognition threshold through neutral and emotionally toned materials. Postman and Bruner administered a word association test to their subjects and then subsequently studied the tachistoscopic duration necessary for the recognition of words with long, medium and short association times. They found that for some subjects, word with long association times indicating emotional distance, required much longer time for recognition than words with medium and short association times. They found that for some subjects word with long association times indicating emotional disturbance required much longer duration for recognition than words with medium and short association times. For the present investigation, a list of emotionally toned words was prepared as noted earlier. This list consisted of five emotionally toned words (E) and five neutral toned words (N). This list was used to study the differences in recalling both the types of words. The words of the list were in Gujarati language, since the subjects belonged to the Gujarat region.

Apparatus : For the emotionally toned words test, a standard electric memory drum was used. Here, time and space was controlled by memory drum.

Administration of the Test : The subject was asked to sit on the chair, and the memory drum was placed in front of the subject. Through the memory drum a list of emotionally toned and neutral toned words was presented to the subject. The subject was asked to recall all the words, ( not in the given order,) which he remembered after completion of each trial. Procedure was continued till one correct errorless trial.

Procedure : The subject was brought into the testing laboratory room. The apparatus was set-up and checked whether it worked properly or not. The experimenter told the subject to look at the window of the memory drum and remember the words. After this preliminary information, he switched on the memory drum. After each complete trial, he was asked to recall the words in the list. When he recalled all the words i.e. without any error, the testing was finished. With an half-hour interval he was asked to recall the words which he has learned. The instruction for this test were the same for all subjects.

Instructions : Look here, I will present a list of words through this memory drum (pointing to the memory drum). Your

task is to see a word from the window of the memory drum and try to remember as many as words you can. You have to recall all the words after each trial. The procedure continued till one correct errorless trial. It is not necessary for you to recall the words in the same order. Don't worry about your remembering. This is not your examination, but a test for study purpose.

Score : Percentage of only emotionally toned words recalled formed the score for each subject neutral words not taken into account for analysis. Lower score shows more of emotional stability.

(E) Form and Colour Dominant Test :

The psychological literature on temperamental types makes frequent reference to four dominance and form dominance in visual perception. The tests which are used for making the differentiation are sometimes in the nature of immediate memory tasks in which the subject has the opportunity to remember the forms as well as colours and in which his performance is rated on the relative proportions of form and colours that are recalled when he has the opportunity to attend to both. To study the form and colour dominance a test of form-colour dominant was selected.

Apparatus : Form and colour dominant test consisted of 10 cards. The size of the card was 6" x 6". Each card had

four different designs. The designs were of different forms and colours. The colour of the designs and the names by which the forms were identified are shown in the Table No.3.

Table 3 : Description of Form and Colour Designs

| Card No. | | Coloured Designs |
|---|---|---|
| 1 | : | Green , yellow square, blue heart, red triangle. |
| 2 | : | Red cross, yellow arrow, blue triangle, green lines. |
| 3 | : | Yellow square, green heart, green cross, blue crescent. |
| 4 | : | Green star, blue circle, yellow diamond, green ring. |
| 5 | : | Green arrow, green ring, red square, blue heart. |
| 6 | : | Yellow triangle, red crescent, green circle, blue diamond. |
| 7 | : | Yellow heart, blue , red circle, red star. |
| 8 | : | Red arrow, yellow lines, blue cross, green diamond. |
| 9 | : | Blue lines, green crescent, yellow ring, red |
| 10 | : | Red arrow, yellow triangle, red crescent, blue star. |

Apart from the ten cards, a cardboard of 1' x 1½' was prepared, on which each of the twelve forms included in the test had been drawn in black ink.

Administration of the Test : The subject was asked to sit on the chair. First of all the cardboard was presented to

the subject and subject was instructed to name the different forms. It was made certain that he would differentiate properly between the forms that were called 'X' and 'Cross', respectively and that he could make the proper differentiation between the 'circle' and the 'ring'. The distance between the subject and experimenter was 2'. The subject was told that he would be given a very brief time i.e. 3 seconds only for each card and that he should try to see all figures. He was also shown the order in which he was expected to repeat them. The order was from left to right on successive lines, as in reading and as shown in table of colours and forms.

Procedure : The subject was brought into the testing laboratory room. A cardboard having twelve figures was shown to the subject. After this, a set of ten cards was shown to the subject one by one, each card for 3 secs. only. After showing each card, immediately the subject's responses were recorded. The subject was asked to recall as many of these figures as possible. This procedure was continued till the tenth card. The instructions for this test were the same for all subjects.

Instructions : Look here, I will show you a game which you will enjoy. I will show you a set of ten cards. Each card has

four different figures. Try to remember all the figures. You have to recall figure as many as you can.

Score : Form and colour responses were recorded and these formed the F score and C - Score. Higher score shows more of form dominance and higher score shows more of colour dominance.

(F) Embedded Figure Test :

To determine whether a given degree of ability to deal with an item independently of its surroundings is a pervasive characteristics of a person's perception, the embedded figure test was designed. This situation, which makes use of figures developed by Gollschaldt[88] for his study of the role of past experience in perception, does require the subject to separate an item from field in which it is incorporated. This is a paper and pencil test which requires the subject to find a particular simple figure embedded within a larger complex figure. The simple figures are 'hidden' to a greater or less extent, by being incorporated into the pattern of larger figures.

Apparatus : Embedded figure is a paper and pencil test. Originally this test has five parts and all five parts have about 24 figures. In other words the standard test makes use of a series of 24 complex figures, and in each of which a simple

figure is to be located. For the present investigation, a modified embedded Figure Test was used. In all 12 figures were used into five different parts as originally proposed by Gottschulde.

Administration of the Test :

The subject was asked to sit nearby the experimenter on the chair. After that a modified embedded figure test was given to him and asked to find out the simple figure from complex figure.The experimenter recorded the time taken by the subject for finding out the figures.

Procedure :

The subject was brought into the testing laboratory room. Embedded figure test was given to him and asked to find out the simple figure from complex one. The subject was first shown the complex figures than a copy of the simple figure that it contained and finally the complex figure again; with the instruction to locate the simple figure in it. Simple and complex figures were never shown simultaneously. To familiarize the subject with the procedure, a practice trial was given at the beginning of the test.

Instructions : I will show you some figures in two parts, that is, one simple and another complex. Your task is to find out with the help of pencil the simple figure from the complex figure. You have to mark a line of simple figure on complex figure.

When the subject started the marking, the experimenter started the stop-clock and stopped it when the subject finished the marking figure. Total time taken by each subject for each parts were recorded. All the embedded figures were presented into five parts one by one. The instructions for this test were the same for all subjects.

Score : Time taken formed the score.Lower time shows more of field independency. All these six perceptual tests are exhibited in figures 1- 7 in the Appendix D.

(II) Personality Test :

To study personality dynamics of the individual, the personality Assessment Scale (PAS) was used. This cale was constructed and standardized in Gujarati by Dr.A.S. Patel, Department of Psychology, M.S.University of Baroda.This scale (PAS) is in Gujarati language and consists 240 statements measuring fourteen different personality traits. The fourteen traits of personality are as follows : Happy-go-lucky, self-sufficiency, dominance-submission, leadership, introversion-extraversion, radicalism-conservatism, neuroticism,

Hostility (different aspects of aggression: SC, SA, SR, UH, AH, IPH). Emotional stability, Honesty, Masculinity-feminity, sex interests, Rigidity-flexibility and suggestibility. Each trait is covered by a minimum 10 statements to maximum 35 statements (as shown in the Appendix A).

Administration of the Personality Assessment Scale : This inventory can be given either in the group situation or individual situation as it is convenient. In the present investigation personality inventory was given individually to all the subjects after half-an-hour interval of perception testing. General instructions for the subjects has been given on the inventory. There is no special instruction. However, it was ensured that the subject would answer the statement by marking either 'Yes' or 'No' after each statement, as it was applicable to him or her. This inventory takes maximum 90 minutes for completion.

Score : A Standard key for scoring prepared by the author was used for scoring purpose. Each statement carried one mark. Scoring was done for each trait in the same way and the scores for all the subjects were obtained on each trait and part of it in same cases.

4.8. Administration of the Tests for the Present Study

After the experience gained from the pilot study, the investigator administers all these tests to the same of 400

subjects as described earlier. First of all, the subject was asked to sit near experimenter. Attempt was made by experimenter to establish rapport with the subject. In the beginning the primary information on age, sex, native place, grade, interest etc. was collected. After establishing rapport, the perceptual tests were given one by one to all the subjects in the following sequence. The length discrimination test was given first, followed by the size constancy test. The third test was the Reversible figures test followed by Emotionally touched word test. The fifth test was Form and Colour dominance test and the final one was Embedded Figure Test.

Next, the perception tests were followed tests of personality measurement. Personality assessment of each subject was done by using Dr.A.S.Patel's Personality Assessment Scale (PAS). This personality inventory consists of 14 personality factors as mentioned earlier. It was assumed that these traits might be related to various perceptual characteristics. Interval between perception test and personality inventory was 30 minutes. Briefly speaking each subject was tested first on perception and soon after tested on personality inventory. The total testing procedure was conducted in the psychology laboratory and took about 140 minutes.

4.9. Scoring

It should be noted now that the subjects were tested on six perceptual tests, yielding eight scores, as well as on

different aspects with a possible maximum as shown below.

| Test | Maximum Score | Meaning of the Score |
|---|---|---|
| A : Perceptual Task | | |
| 1. Length discrimination test | Average (mm) of 10 trials | Lower score indicates better length discrimination |
| 2. Size Constancy Test | Average (inch) of 40 trials | Higher scores shows poorer size constancy |
| 3. Reversible Figure Test | Frequency of fluctuations | Higher (more) fluctuations show positive attitude |
| | Frequency of fluctuations | Lower (lesser) fluctuations show negative attitude |
| 4. Emotionally Toned Words Test | Recall percentage of emotionally toned words | Lower score shows more of emotional stability |
| 5. Form-Colour Dominance Test | Frequency of Form-dominant | Higher score shows more of form dominance |
| | Frequency of colour dominant | Higher score shows more of colour dominance |
| 6. Embedded Figure Test | Total time taken (in second) for five parts | Lower time shows more or field independence |
| B : Personality Assessment Scale | | |
| 1. Happy-go-lucky Vs. seriousness scale | 10 Happy-go-lucky | Higher score shows being more of happy-go-lucky in nature |
| 2. Self-sufficiency / Dependency Scale | 10 Self-sufficiency | Higher score shows greater self sufficiency |
| 3. Dominance-Submission Scale | 10 Dominance | Higher score shows being more dominant in nature. |
| 4. Leadership inventory | 10 Leadership | Higher score shows more of leadership qualities |

(continued)

| Test | Maximum Score | Meaning of the Score |
|---|---|---|
| 5. Introversion-extraversion scale | 20 Introversion | Higher score shows being more of introvert in nature |
| 6. Radicalism-conservatism scale | 20 Radicalism | Higher score shows more of radicalism |
| 7. Neuroticism scale | 25 Neuroticism | Higher score shows more of neuroticism |
| 8. Hostility or Aggressigeness Scale : | | |
| SC - Self-criticism or lack of confidence | 5 Self criticism | Higher score shows greater self criticism or greater lack of self confidence |
| SA - Self-abasement or self-humiliation or lowering of self-general guilt feeling - Self fault finding | 5 Self abasement | Higher score means greater self abasement |
| SR - Self reproachment or self-remorse (severe guilt feeling) | 5 Self reproachment | Higher score means greater self reproachment |
| IH - Impunitive hostility - passive, condoned type of hostility directed to others. | 5 Impunity hostility | Higher score means greater impunitive hostility |
| AH - Acute and active hostility directed to others | 5 Acute hostility | Higher score means greater acute hostility |
| PH - Paranoid hostility -delusional hostility directed to others - he feels that others attack or after him | 5 Paranoid hostility | Higher score means greater paranoid hostility |

(continued)

| Test | Maximum Score | Meaning of the Score |
|---|---|---|
| 9. Emotional stability scale | 10 Emotional stability | Higher score shows more of emotional stability |
| 10. Honesty scale | 10 Honesty | Higher score shows more of honesty |
| 11. Masculinity-Feminity scale | 20 Masculinity | Higher score shows more of masculinity |
| 12. Sex-interest inventory | 10 Sex interest | Higher score shows greater interest in sex |
| 13. Rigidity-flexibility scale | 35 Rigidity | Higher score shows greater rigidity |
| 14. Suggestibility Scale | 20 Suggestibility | Higher score shows greater suggestibility |

After collecting these data on perceptual tests and personality traits, all the raw scores were converted into T scores, using the formula $T = 50 + 10 ( X - \bar{X} ) / S D$ for each group separately. This was done to ensure normal distribution among such scores that need normalization. Thus scores on eight perceptual characteristics and nineteen personality traits were transformed into T-score. These scores were used for statistical analysis of data in order to study the contribution of different factors to perception as well on their relation to different personality traits.

## 4.10. Statistical Analysis of Data

To study the effect of sex, age and habitation (urban and rural area), a statistical technique called an

analysis of variance technique was used. Analysis of variance on each of 8 perceptual characteristics in 2 x 2 x 2 factorial design was done, so in all 8 anova tables of statistical operations were calculated.

The product-moment coefficient of correlation between each of eight perceptual characteristics and each of 19 personality traits that is 8 x 19 = 152 correlations were calculated. These coefficient of correlation were separately calculated for each of the 8 groups. Thus, in all 1368 coefficient correlation were calculated. All statistical analysis was performed with the help of IBM processing available at Physical Research Laboratory, Ahmedabad.

All the results obtained have been presented and discussed in the next chapter.