

## CHAPTER IV

### FORCED - CHOICE TECHNIQUE

#### 4.1 INTRODUCTION

Travers<sup>1</sup> attributes the origin of the forced-choice technique to Paul Horst. The idea struck to him in the first instance was actually put into practice in the form of a personality inventory by Wherry. It was also used in the rating of the personnel in the American Army. The origin of this technique emanated due to the main drawback of the rating method - its subjectivity. In the self-ratings the problem of faking was serious enough to warrent consideration whether the personality inventories of the traditional type could be considered

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<sup>1</sup> R.M.W.Travers, "A Critical Review of the Validity and Rationale of the Forced-Choice Technique," Psychol. Bull., XLVII: 62-70, 1951.

at all for the purpose of personality measurement. The forced-choice technique was developed with a view to overcoming this drawback. It is of very recent origin. Kuder<sup>2</sup> made use of the idea in constructing his Preference Record, and later on Jurgensen<sup>3</sup> in his Classification Inventory. The technique was put to use in rating in the American Army during the Second World War.<sup>4</sup> Since then the technique has been put to various tests to examine its merits which it claimed to possess. But still there is a good deal of scope for examining this technique by putting it to use in the form of rating scales and personality inventories.

The present work was aimed primarily at constructing a personality inventory based on this technique, the value of which was tentatively

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2 G.Frederic Kuder, Kuder Preference Record (Chicago: Science Research Associates, 1939).

3 C.E.Jurgensen, Report on "The Classification Inventory: A Personality Test for Industrial use." J.appl.Psychol., XXVIII: 445-60, 1944.

4 Donald E.Susson, "Forced-Choice -The New Army Rating." Personnel Psychol., I, 3: 365-81, 1948.

established. The inventory might in turn help to examine the technique by its application and subsequent comparison with other measuring instruments. This technique as applied to the construction of a personality inventory consists in going through the following essential steps.<sup>5</sup>

- (1) A large number of items describing the area of behaviour being measured are collected.
- (2) These items are edited and the items having ambiguous meanings or vagueness are eliminated or modified.
- (3) These are assembled in the form of an inventory and administered to a random sample of the population for which the inventory is to be standardized.

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5 (a) R.W.Lanman and H.H.Remmers, "The Preference and Discrimination Indices in Forced-Choice Scales". Educ. psychol. Meas.,XIV, 3:541-51, 1954.

(b) Sisson, Op.Cit. pp.365-81.

(c) Travers, Op.Cit. pp. 62-70.

- (4) The data obtained are used to calculate two indices, viz. preference index and discrimination index for each of the items.
- (5) The items are arranged in pairs in such a way that the two items are of equal or almost equal preference values and differ in terms of their discriminative values. Actually, one is not at all discriminating, whereas the other one has a maximum possible discriminative value.
- (6) The pairs thus obtained are assembled in an inventory and it is administered to two groups of persons which stand at the opposite poles of the dimension being measured. These criterion groups are selected on the basis of independent measures such as ratings or clinical diagnosis.

- (7) Either each item is cross validated on the basis of the above data, or the inventory is cross validated as a whole. In the former case the pairs of items that are valid  $\pm$  on the basis of this data are retained in the final form.
- (8) The final form is administered to another large and random sample of the population.
- (9) The reliability and norms are determined.

The above procedure differs from the normal procedure of test construction in introducing two new concepts: preference index and discrimination index.

The preference index has been calculated by different people in different ways. But the idea underlying this is to match two items for their acceptability value. It is common criticism that in the personality inventories the subjects endorse the favourable statements as applicable to them and

reject those that are unfavourable. To overcome this drawback the items are arranged in pairs and the subject has to accept one which is more applicable to him than the other. Because the two items are matched for acceptance value the choice is based on facts. The subject chooses the one which is more true of him when they are equally favourable or unfavourable. In this way the factor of the social desirability of the items is controlled.

The discrimination index refers to the validity index of the item. It is the extent to which the item discriminates between those high and those low on the dimension being measured.<sup>6</sup> In a pair one item is most discriminative and the other is not. The result is that when the subject endorses an item which is favourable and discriminating he gets a positive score and when he endorses one which is unfavourable and discriminating he gets a negative score. Similarly, if the item left out is undesirable and discriminating he gets a positive score,

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<sup>6</sup> Lanman and Remmers, Op.Cit. pp.541-51.

and a negative score if it is desirable and discriminating one.<sup>7</sup>

#### 4.2 THE POINTS OF DEPARTURE FROM THE TRADITIONAL PROCEDURE

The new feature in the procedure of the forced-choice scale construction is the inclusion of the concept of preference value. In the traditional inventories the subject was free to reject all the unfavourable statements as not applicable to him. In this way he could deceive the examiner. In the forced-choice scale, however, the subject must choose one of the two statements as more applicable to him than the other, whether they are favourable or unfavourable. Under such forced condition the subject is likely to be offended a little but the choice he will be making will correspond more to the real situation, because, while choosing from two unfavourable statements he is more likely to choose the one which is true of him rather than the one which is not. This is true whether the forced-choice

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7 Sisson, Op.Cit. pp. 365-81.

instrument is a personality inventory for self-rating or a rating scale for the rating by others.

The arrangement of items is done in different ways. Though pairs only were mentioned so far for the sake of simplicity and clarity, there can be any where from two to five items in a unit.<sup>8</sup>

Kuder<sup>9</sup> used a unit of three for his Preference Records. Sisson<sup>10</sup> has described a unit of four as being used in the army ratings. Gordon<sup>11</sup> also used a unit of four in his Personal Profile. Edwards<sup>12</sup> used a unit of two in his Personal Preference Schedule. The principle involved in scoring any such groupings, is that the subject, under proper directions, chooses an item or items in terms

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8 Ibid.

9 Kuder, Op.Cit.

10 Sisson, Op.Cit. pp.365-81.

11 L.V.Gordon, Gordon Personal Profile (New York: World Book Co., 1953).

12 A.L.Edwards, Edwards Personal Preference Schedule (New York: Psychological Corporation, 1959).



of their applicability or non-applicability to his own behaviour or the behaviour of the ratee he is rating, as the case may be. Suppose, for example, in the unit of two, the subject chooses one as the more applicable, the other is automatically decided as the non-applicable or less applicable. In units of three the subject chooses one that is most applicable and also one that is least applicable. The item left out has a middle rank. In tetrads, i.e. the unit of four, there are two favourable statements and two unfavourable ones. The subject chooses one which is most characteristic of him and one which is least characteristic. Scoring keys are based on the validity of the individual items and their favourableness or unfavourableness with regard to certain traits.

For example, in the tetrad, given below:

- a. temperamentally cool
- b. mixing type
- c. lacking dash
- d. physically weak,

items a and b are favourable items, whereas the c and d are unfavourable ones. Each of the two pairs

contains one discriminating item and one non-discriminating one. But the members of each pair are equal in preference value, i.e. their apparent or face value. "One of the two favourable items checked as most characteristic gives plus credit; selecting the other gives no credit. In the same way picking one of the two unfavourable items as least characteristic adds credit whereas the other adds nothing."<sup>13</sup> Also choosing a favourable and discriminating item as least characteristic or an unfavourable and discriminating item as most characteristic add negative credits. The process becomes a little more complicated here..

The relative value of these different groupings has been studied but still the results are far from conclusive. Where the subjects are not sophisticated and not used to tests, the simplest form of two items in a group should prove most favourable. In the present study the two-item unit is chosen for the same reason. Moreover, it does not mean any

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<sup>13</sup> Sisson, Op.Cit. pp. 365-81.

sacrifice of the value of the inventory as a measuring instrument.

#### 4.3 THE PREFERENCE AND DISCRIMINATION INDICES

Forced-choice technique found its application, in the standardization of rating procedures, the rating by others as well as self-ratings. Its chief merit lies in its capacity to overcome bias in the ratings. First of all, much more thought needs to be given while answering a forced-choice item than a simple item of the rating scale or personality inventory. When the item is to be endorsed as applicable or not, there is a latitude for an individual to take into account various degrees of applicability while endorsing the statements and one often uses different degrees with different items. In case of the forced-choice item one has to choose a statement as more or less applicable than the other, and thus the response is more controlled and the subjectivity of judgment is reduced.

It has been already mentioned that items in

pairs are matched for their preference values. Lanman and Remmers<sup>14</sup> have discussed the various ways in which preference indices are computed. Different people differ not only with regard to the way they compute this index, but also in actually what they measure. In connection with the present procedure, it might have been good to discuss these various indices and evaluate them for the purpose. But this is not possible in the absence of all the relevant data. Moreover, such a study is made by Lanman and Remmers.<sup>15</sup> According to them the best procedure is to follow Highland and Berkshire.<sup>16</sup> The procedure consists in getting "a separate rating for each statement indicating how favourable the statement appeared when used to describe the group being rated."<sup>17</sup> This implies that the two indices should

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14 Lanman and Remmers, Op.Cit. pp.541-51.

15 Ibid.

16 R.W.Highland and J.R.Berkshire, "A Methodological Study of Forced-Choice Performance Rating." Air Training Command, Human Resources Research Centre, Research Bull., 1951.

17 Lanman and Remmers, Op.Cit. pp.541-51.

be calculated from separate data. This increases the work in that both the indices cannot be computed from the same data. This procedure can be suitably adapted for use with the self-ratings also. The items assembled in an inventory should be administered to a random sample of the population. The value of favourableness of an item will be directly reflected in the endorsements the item receives.

The preference value or social desirability value as it is called by Edwards is in direct linear relationship with the endorsements by the subjects. The product-moment co-efficient of correlation between the social desirability value as judged by the method of successive intervals and the frequency of 'yes' responses was found to be .87.<sup>18</sup> The items may be grouped together on the basis of these favourability indices and the discriminative values may be found out subsequently. It is more logical and appropriate to calculate discriminative values or validity

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18 A. L. Edwards, "The Relationship between the Judged Desirability of a Trait and the Probability that the Trait Will be Endorsed." J.appl.Psychol., XXXVII: 90-93, 1953.

indices, when items are arranged in groups, because the items are going to function in combination only.

There are no controversies regarding the value of different discrimination indices used, and most of them serve the purpose. The basic idea underlying these is that the items should discriminate between the high and the low criterion groups.<sup>19</sup>

#### 4.4 THE PRESENT PLAN OF WORK

In the light of the foregoing discussion the following steps were planned in the construction and standardization of the present inventory:

The steps in the present work:

- (1) The items belonging to the three areas, viz. Introversion-extraversion, neuroticism and psychoticism, were collected.
- (2) They were edited and assembled in an inventory.

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<sup>19</sup> Lanman and Remmers, Op.Cit. pp.541-51.

- (3) The inventory was administered to a sample of the population for which the inventory was to be standardized.
- (4) Preference index was calculated for each item. Internal consistency values were also calculated to serve the tentative base for the discrimination index. The pairs of items were formed on the basis of equal preference values. It was also seen that each pair had a member with high internal consistency index and one with low index. The pairs were assembled into an inventory.
- (5) The inventory was administered to criterion groups in each area of measurement.
- (6) Discriminative index for each item was computed.
- (7) These pairs that had at least one discriminating item were retained in the final form.

- (8) The final form was administered to a large sample of the population.
- (9) The reliability and norms were found out.
- (10) The general evaluation of the inventory was made by considering the indices of validity, reliability, the distributions of scores and other observations.

#### 4.5 SUMMARY

Forced-choice technique is a new innovation in the technique of ratings. As applied to personality inventories, it reduces chances of the faking behaviour by the subjects. It is based on a key principle of controlling the social desirability factor in the responses to individual items. Generally, the subject has to choose one of the two items as more applicable to his own behaviour. These items are matched for their preference index or the social desirability value. Moreover, one of the two is a valid item with high discriminative value, while the



other is not. Keying of the items is done on the basis of the valid items only.

The present work is based on this technique, and the steps in the standardization procedure were planned along the requirements of this technique, In the subsequent chapters these are discussed in details.

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