CHAPTER-3
PLANNING AND PROCEDURES

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3.1 INTRODUCTION

Although aptitude is responsible for the capacity of a person to show expertise in a certain field, it is the interest that guides him into activity. Without interest, he cannot develop his aptitudes to the highest level. Keeping these facts in mind, psychologists started working in this field during the present century. Still, comparatively less work is being done in the field of interest. A few developmental psychologists have paid some attention to the development of play interests. Different methods are used to study these interests; psychologists like Vernon and Allport in 1931 and Thorndike in 1955 have studied a few interests using different methods.

Besides these psychologists, Strong has done a lot of pioneering work and has made interesting and useful researches. The interests of men in a given occupation, for example, engineering, were different from those of men-in-general.

Then, Thurstone studied various interest factors applying factor analysis to 18 occupational scales of Strong Vocational Interest Blank.

Kuder is also considered to have contributed a lot to this branch of educational testing.

All these studies have indicated that interest-patterns mature and become stable at the age of 15. Generally they
do not change after this age. This implies that if a pupil of 15+ has a particular type of interest, then, he would prefer to choose such a vocation which would suit his interest.

The interest patterns cannot be measured by using techniques used for measuring intelligence. It has to be identified and factorised by using interest inventories.

3.2 NEED FOR THE STUDY

In Gujarat alone, about 20,00,000 boys and girls appear at the Secondary and Higher Secondary School Certificate Examinations every year and the number is ever increasing. A vast majority of those who get through the examination, longs for admission to the Preparatory Courses, such as arts, science, commerce etcetera. After secondary education (that is, after passing grade X), some of them go to polytechnic and other technical courses. The selection of a particular course is seldom based on any systematic procedure. Parents, peer groups, student's own whims affect
the choice in most of the cases. This has been observed by the present investigator while working in the guidance centre. Many students approached her with questions of what way to go when they were at cross-roads. But the work was greatly hampered due to lack of suitable devices for measuring various interests of individuals. The motivation to prepare an instrument to measure major interest areas actually stemmed from these perennial questions. To meet this felt need for a device to measure interest, the investigator undertook this study to standardize an interest inventory for secondary and higher secondary pupils.

Much less work has been done in this field in Gujarat. As per Jyoti Desai's quotations in her dissertation, Patel (1967) studied recreational, socio-cultural, intellectual and occupational interests of high-school pupils. In another study, Parikh (1971) constructed and standardized an interest inventory for SSC pupils of Gujarat State. Their detailed account has already been given in chapter 2.

Interest can be measured by different techniques, which are discussed in chapter 1. The construction and standardization of the interest inventory was preferred to other techniques on the grounds of its scientific basis, economy, large scale applicability, saving of time and better reliability and validity. Even in the hands of those who do not claim to be expert psychologists, inventories yield meaningful data. In India, there is a dearth of trained personnel in the field of guidance and counselling,
who can use complicated devices. Simple paper and pencil tests which do not involve much complications in the process of administration and interpretation have to be preferred for the time-being.

In such work, restrictions have to be imposed in terms of population, purpose, and even on the number of aspects to be measured. The present investigator decided to restrict the applicability of the inventory to the final grade students of secondary and higher secondary school going population. This restriction was imposed because the primary purpose was to use it with the Xth and XIIth grade high-school students in schools. This final grade is very important for the students as they have to decide at this stage what they want to choose for further studies and what type of vocations they would like to prefer in future. Moreover, these students in schools do know the local regional language, as the medium of instruction in schools is the local regional language. Therefore, it was thought desirable to use the Gujarati language for the inventory as it would suit all of them better than that in English language.

Moreover, most of the students were found to express their problems, such as, selection of subjects in the Xth and XIIth classes, selection of the courses after the secondary and higher secondary examinations, their opinions about their future career. As a result of this, it was felt that some sort of measure of areas of interest would be
directly useful in the counselling work. Taking all these aspects into consideration the planning of the study was done accordingly.

3.3 OBJECTIVES OF THE STUDY

In view of the immense possibilities for explorations on interests, in the present study two main objectives were pinpointed:

(i) To construct a vocational interest inventory for pupils of secondary and higher secondary schools

(ii) To standardize it on the Gujarati pupils

- to establish percentile norms as well as stanines of various groups (sexwise and areawise) and
- to estimate its reliability and validity of different types

3.4 HYPOTHESES OF THE STUDY

The following hypotheses were built in before undertaking the study to decide whether area wise norms would be established or not:

(a) There would not be any significant difference in the interest patterns of areawise (urban-semi urban) boys and girls of grades IX - X, at 0.05 level.

(b) There would not be any significant difference in the interest patterns of areawise (urban - semiurban) boys and girls of grades XI - XII, at 0.05 level.
3.5 DEFINITIONS OF KEY-TERMS

It is necessary to clarify the meaning of key-terms used in the present work.

The exact statement of the problem read: "Construction and Standardization of Vocational Interest Inventory for Secondary and Higher Secondary Pupils of Gujarat" The main terms in the problem were as under:

1. Construction
2. Standardization
3. Vocational
4. Interest
5. Inventory
6. Secondary and higher secondary pupils

1. Construction:
The word 'Construction' in the present work meant selection of the areas of interest, coining new items for these areas of interest whenever necessary and adapting the original items used in other inventories, especially Kuder Preference Record - Vocational, with some changes according to Indian environment.

2. Standardization:
The fundamental purposes of standardizing a psychological test are to establish norms as well as establish its reliability and validity at as high level as possible. An index of validity shows the degree to which a test measures what it purports to measure, when
compared with accepted criteria. The construction and use of a test imply that the instrument has been evaluated against criteria regarded by experts as the best evidence of the traits to be measured by the test. Selection of satisfactory validation criteria and demonstration of an appropriate degree of validity are fundamental in psychological and educational testing. Different group norms are established as per requirement taking into consideration the significant statistical differences among various groups.

3. Vocational:
As per Kuder, vocational interests, in general, tell you what kind of duties you like to perform. Thus, interests pertaining to vocations are called vocational interests, like interest in social service, business, industry, agricultural and so on.

4. Interest:
(i) a subjective - objective attitude, concern, or condition involving a precept or an idea in attention and a combination of intellectual and feeling consciousness; may be temporary or permanent, based on native curiosity, conditioned by experience; (ii) any preference displayed when choices are available.

5. Inventory:
As per Cronbach, "the Inventory is a means of helping the person confront what he already knows about himself. For who else can say what his interests are?" In the present study, the operational definition of an inventory runs as "a five-point
self-rating scale in which there are no right or wrong answers of the items. The respondent shows the degree of his liking or disliking by making a cross (X) on an appropriate alphabet a, b, c, d, or e.

6. Secondary and higher secondary pupils:

It means the pupils studying regularly in the secondary (IXth and the Xth grades) and higher secondary (XIth and XIIth) schools. This population includes all the regular pupils who are in the secondary and higher secondary classes from IX to XII, in the secondary and higher secondary schools of Ahmedabad District of Gujarat. The population includes boys and girls as well. As the inventory is constructed in Gujarati language, the sample is restricted only to Gujarati medium schools.

3.6 SCOPE OF THE STUDY

As suggested in the title of the thesis, the inventory was meant for the grades IX, X, XI and XII of the secondary and higher secondary sections of the schools. The pupils of above mentioned classes of Gujarati medium schools of Ahmedabad city (urban) and semi urban (Jetalpur, Sanand, Dholka) were chosen as the population. Pupils of these classes of four schools of Ahmedabad city (urban) and one school from Jetalpur, one from Sanand, and one from Dholka were taken as subjects for the study. Thus, only Ahmedabad district was used as a target population from the whole Gujarat State.
3.7 DELIMITATIONS OF THE STUDY

The inventory has been standardized for the secondary and higher secondary school pupils of the urban and semi urban area of Ahmedabad district only. These pupils are regular students who are expected to attend school regularly. Therefore, it can be given only to regular students studying in the secondary and higher secondary classes of the secondary and higher secondary schools of Ahmedabad district. As such, Ahmedabad city is a cosmopolitan city having persons from all the states of India. However, only Gujarati medium schools were taken up for drawing a necessary sample. This sample consisted of Gujaratis, originally inhabitants of all the different parts of Gujarat - from Banaskantha in North to Valsad in South and from Panchmahals in East to Kutch in West. Thus, Ahmedabad population might be considered as a representative sample of whole Gujarat. But it being an urban area, people here enjoy special privileges. Therefore, semi-urban area of the district was also sampled by the drawing pupils of three different towns - Sanand, Dholka and Jetalpur. Of course, the present investigator is totally aware of not including rural population in the sample, at all. It can, then, be taken up as a post-doctoral study to establish rural area norms.

3.8 AN OUTLINE OF THE WORK

3.8.1 Procedure:

In 1989-90, Rajul shah, the M.Ed. student at the department of education, Gujarat University,
Ahmedabad undertook the study for her dissertation entitled, "A tryout of Vocational Interest Inventory on pupils of grades IX to XII of Ahmedabad City", under the supervision of J.H. Shah. She used Kuder Preference Record - Vocational, form CP revised in April 1981 (Recorder No.7 - 298), modifying some obvious items and tried out individually on four pupils each 'one drawn from grades IX, X, XI and XII. Taking into consideration the personal experience she had, she modified some items, deleted some items and added some items from the interest inventories of J.C. Parikh, Jyoti Desai and Macanhaus. She converted the original triad system into a five point rating scale, having categories (a) likes the most (b) likes it (c) indifferent (d) dislikes it and (e) dislikes the most. In her final tryout, she used vocational interest inventory consisting of 440 items, with a separate answersheet, in Gujarati version.

The present investigator considered Shah's study as a first tryout and as per the latter's suggestions, she deleted those items having more than 25 percentages of frequencies in 'indifferent' as well as 'dislikes the most' categories. She also simplified some words and phrases in Gujarati version. She, herself, coined 139 new items and developed vocational interest...
inventory consisting of 400 items, in all, thus having 40 items each in ten different areas of interest utilised by Kuder. In the second tryout, she administered the newly developed interest inventory to 50 boys and 50 girls of grade IX only. She computed weighted mean score for each item (statement), imparting raw scores, from (5) to (1) to five different categories mentioned above. She selected first 30 items in each area having higher weighted mean score, the cut-off score being 3.00. In 'musical' area of interest, she had to satisfy herself with 25 items only instead of having 30 items. Thus, in the third tryout, the inventory comprised of 295 items and was administered to 200 pupils of grades IX and X drawn from two schools one from the urban area and the other from the semi urban area. Pupils were selected by a systematic sampling method from different divisions of grades IX and X. It was predecided to have two different forms A and B of interest inventory, each having 12 items in each area of interest, thus, total number of items being one hundred twenty. It was done so for the ease of administration and two forms could be given in two different sessions of 35-40 minutes, on the same day. Thus, two forms A and B were evolved for the final run of the standardization.
Thus, the final form of inventory consisted of 120 items (statements) regarding various activities categorized into ten different vocational areas of interest which were as under:

1. Outdoor
2. Mechanical
3. Computational
4. Scientific
5. Persuasive
6. Artistic
7. Literary
8. Musical
9. Clerical
10. Social Service

3.8.2 Selection of the Sample:

The standardized sample was selected by applying stratified cluster sampling method.

The final test was administered to 643 secondary and higher secondary pupils of the urban area (Ahmedabad city), and 620 secondary and higher secondary pupils of the semi-urban area (Jetalpur, Dholka and Sanand). Thus, the total sample in the final run consisted of 1263 pupils (576 boys and 687 girls). Wherever there were more than one division in any grade, any one division was taken up, at random, as a full cluster. Answersheets of those subjects who did not respond whole heartedly or just made cross marks as per response sets were totally discarded. Thus, 26 subjects were deleted and the standardized sample consisted of 1237 pupils in all.
3.3.3 The standardisation of VII:

Norms: The mean and the standard deviation for each variable (area) were computed sex-wise, area-wise for secondary school pupils, as well as stream-wise (Science, Arts, Commerce) for higher secondary school pupils. (Streamwise variable was added during the study). By using t-test, the differences between means were tested for their significance, streamwise and areawise. Percentiles and stanines were established for secondary and higher secondary pupils wherever the difference between means was found significant at 0.05 level. Thus, there were 10 groups for which different norm tables were prepared. Really speaking as there were ten areas in each group, 10x10 = 100 ogives were drawn to establish percentile norms. Stanines were also established looking to its more usefulness.

3.8.4 Reliability and Validity:

3.8.4.1 The reliability of the VII was computed by all the four methods.

(a) Test-Retest method: (N=167)

Range: for boys - from 0.56 to 0.80
     for girls - from 0.51 to 0.66

(b) Parallel forms method: (N=100)

Though the standardisation of VII consisting of 120 statements had been carried out, one more form of 120 statements was also developed for the final run. If both the forms were standardised in this study, it could have exerted more energy, time and
finance from the present investigator. It was decided that Form B would be used as a post-doctoral study. However, it has been used to estimate coefficient of equivalence by parallel forms method on 100 subjects selected at random from the sample. The range of coefficient of equivalence has been found to be from 0.60 to 0.96.

(c) **Split half method**:
Here, the VII was halved into two parts as: (i) items 1,11,21, 31, 41, 51 and (ii) 61, 71, 81, 91, 101, 111. In the same fashion, all the ten areas were halved into two and the product moment r was found out; Spearman - Brown Prophecy formula was used and the range for the corrected coefficient of Internal consistency was found to be 0.62 to 0.88.

(d) As VII was a five point scale inventory, usual formula of Kuder Richardson could not be utilised. Hence, Cronbach alpha Coefficients were found for ten areas, the range being 0.71 to 0.89.

3.8.4.2 **Validity**:
So far as validity of VII is concerned, the face validity, the content validity, the construct validity and the importance of measurement of interest in vocational counseling have been discussed.
Liking of any three activities of pupils tick marked by the teacher (teacher-rating) was compared with first three highest percentiles achieved by pupils \((N=100)\). The coefficient of contingency was found to be 0.66. It threw some light on construct validity.

Lastly, studies that might now be taken up were also enlisted in the last chapter 'Compendium'.
REFERENCES


