CHAPTER THREE

PLAN AND PROCEDURE

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The earlier discussion stresses the importance of the study of the problem to investigate the contribution if any, of the ordinal status of birth to the intellectual and personality traits of the growing individuals in the family of varied sizes. The author of this thesis has planned an investigation to study the nature of relation between these two variables, viz. the birth order on one hand and measures of intellectual and personality characteristics on the other, which form the independent and dependent variables respectively in the study. The main study has been carried out separately with respect to boys and girls and in families of various sizes with children ranging from one to six, thus the sex and the size of the family constituting the constant variables or parameters in the main study. The age range of the individuals studies varied from 14 to 18, i.e. forming an adolescent groups of high-school going pupils. This age group has been selected with a specific two-fold purpose, viz. it was thought that (i) the characteristics studied

would be much more differentiated among children at this age
for the study, and that (ii) this group would be more amenable
to and understanding and expressive of the types of responses
to the tools used in this study, viz. questionnaire, test
inventories and interview resorted to in the main normative
survey or field method employed to investigate the problem.
The details of the plan and procedure are described below.

SAMPLE

In this present investigation four main groups of
children have been selected for study, viz.

(1) First-born (including only child)

(2) Second-born

(3) Middle-born (consisting of third-born and onwards
except the last)

(4) Last-born (youngest).

All these groups were drawn from a vast number of families
of different sizes, and finally the sample available for the
actual study consisted of varied number of individuals from
families of various sizes described as shown below.

1. <u>Details of the First-born with varied Family Sizes</u> :

	Boys	Girls
First-born : Only Child in Families	50	50

First-born in Families of Children
of Mixed Sex :

	Boys	Girls
Family of two	50	50
Family of three	25	25
Family of four	25	25
Family of five	25	25
Family of six	25	25

First-born in Family of Children
of Same Sex :

	Boys	Girls
Family of two	10	10
Family of three	10	10
Family of four	10	10
Family of five	10	10
Family of six	10	10
Total First-born : 500 =	250	250

2. <u>Details of the Second-born with Varied Family Sizes</u>

Second-born in Family of Children of Mixed Sex	Boys	Girls
Family of three	31	41
Family of four	31	31
Family of five	27	26
Family of six	25	24

Second-born in Family of Children of Same Sex		
Family of four	36	36
Total Second-born:308 =	150	158

3. Details of Middle-born with Varied Family Sizes

Family of	Ordinal Position	Boys	Girls
Four children	3	30	30
Five children	3	25	20
Five children	4	30	20
Six children	3	25	20
Six children	4	22	20
Six children	5	45	45
Total Middle-born : 332 =		177	155

4. Details of Last-born (youngest) with Varied Family Sizes

	Boys	Girls
Family of two	32	31
Family of three	27	21
Family of four	25	24
Family of five	42	31
Family of six	32	31
Total Last-born: 396 =	158	138

In short, the sample represented the four main groups
thus :

Group	Subjects	Boys	Girls	Total
I	First-born	250	250	500
II	Second-born	150	158	308
III	Middle-born	177	155	332
IV	Last-born	158	138	296
	Total	735	701	1436

The term 'middle-born' is used here as exclusive of
second-born. It is possible that second and third groups
can be combined as one group of middle-born, but these have
been kept separately exclusive groups for study of differential
characteristics even at that level if any. Further, these
four main groups have been divided into a number of subgroups
of different family sizes and sex for comparative study of
differential characteristics observed amongst these subgroups
as suggested later in the sexwise and ordinal statuswise
classifications.

To have the maximally wide and representative sample,
subjects for the study were sampled from the twenty-five
schools of Baroda city. All types of schools including girls',
boys', and mixed schools were selected, so that the sample
would be more representative. Subjects for the study were
sampled from the following schools of Baroda city :

A - <u>Boys' High Schools</u>

1. Shri Sayaji Boys' High School
2. Shri Ladharam Sind Hindu High School
3. Shri H. J. Parikh High School
4. Shri J. M. Junior High School
5. Shri D. H. Parikh High School
6. M. E. S. High School
7. New Era Boys' High School
8. Shri H. V. Shroff Memorial High School
9. Shri Narayan Vidyalaya
10. Bharti Vidyalaya

B - <u>Girls' High Schools</u>

1. Shri Sayaji Girls' High School
2. Maharani High School for Girls
3. Jayshree Kanya Vidyalaya
4. New Era Girls' High School

C - <u>Co-educational (Mixed) Schools</u>

1. Experimental High School
2. Sardar Vidyalaya
3. Jeevan Sadhana
4. Maharani Chimnabai High School
5. Sharda Mandir High School
6. Hill Memorial High School
7. Convent of Jesus and Mary
8. Alembic Vidyalaya
9. Rosary High School
10. Shri M. K. High School
11. Shri Pratap High School

VARIABLES STUDIED

The dependent variables studied were some intellectual and personality characteristics of these adolescents classified sexwise and ordinal statuswise, sex and birth order forming the independent variables of study. Thus, the following sub-groups were compared to study the differences among the groups in the said characteristics as related to sex and birth order status. The groups based on these variables of study are given below.

Independent Variables Studied

A - Sexwise Classification

    1. All boys   vs   All girls

    2. All first-born boys   vs   All first-born girls

    3. Second-born boys   vs   Second-born girls

    4. Middle-born boys   vs   Middle-born girls

    5. Last-born boys   vs   Last-born girls

    6. Only children Boys   vs   Only children Girls

B - Ordinal Statuswise Classification

    7. All first-born   vs   All later-born

    8. First-born   vs   Second-born

    9. First-born   vs   Middle-born

    10. First-born   vs   Last-born

    11. Only children   vs   All others

    12. Only children   vs   Other first-born

    13. Only child (boys)   vs   First-born (boys)

    14. Only child (girls)   vs   First-born (girls)

15. First-born of later-siblings of mixed sex   vs   First-born of later-siblings with same sex

16. Only children   vs   Last-born

17. Only children   vs   All later-born

18. Second-born   vs   Middle-born

19. Second-born   vs   Last-born

20. Middle-born   vs   Last born

21. Last-born   vs   Second and Middle-born

These and number of other minor sub-groups for sizes of family are possible for comparative study of the characteristics under investigation. However, main four groups of ordinal status sexwise and important sub-groups from above have been selected for discussion in later part of the study.

CHARACTERISTICS STUDIED
(Dependent Variables)

A - Intellectual

(i) Academic performance in the class

(ii) Study habits

(iii) Reading habits

B - Personality

(i) General personality characteristics

(ii) Adjustments

(iii) Anxiety level

(iv) Introvert-Extrovert nature

(v) Reformist-Conservative mind

TOOLS

The investigation undertakes to study the individual pupils with respect to these intellectual traits and personality characteristics. It also includes the study of their family, home, school and study conditions as far as possible. With this view, the following procedure was designed to identify the intellectual and personality characteristics of the first-born in relation to those of other groups in the families of varied sizes. Each of the individual was administered the necessary tools standardized to obtain information needed.

The following tools were used to collect data for each child chosen for the study.

(1) Test scales or Inventories

(2) Questionnaire

(3) Interview

(1) Test Scales or Inventories

The special inventories were used to know some of the mental traits, such as extrovert-introvert nature, reformist and conservative mind, anxiety and other personality traits in general.

The following inventories standardized by Professor A. S. Patel in Gujarati were used to collect data :

1. Personality Inventory

2. Introvert-Extrovert Scale

3. Reformist-Conservative Scale

4. Anxiety Scale

5. Adjustment Inventory (Personal and Social)

6. Family Adjustment Inventory

(2) Questionnaire

Following tools in Gujarati specially constructed at the Department of Psychology, M.S. University of Baroda, were borrowed for use :

    (1) Study Habits

    (2) Reading Habits

Besides, a general questionnaire in Gujarati was also devised to suit the purpose for obtaining background and general information.

A questionnaire given to an adequate sample is the most common method for the study of a large number of pupils. If the questionnaire is carefully planned and efficiently administered, it provides a good opportunity to get a peep into the life and attitudes of the respondents. This method is comparatively easy for handling, so it was decided to use this method of collecting data on a large sample in the present study.

(3) Interview

Interview technique was also used to get clarification of certain data and also to collect data which were not available by the above tools. It is a sort of oral questionnaire through which the investigator gathers his data directly from others by face-to-face contacts. It is a two-way method where exchange of ideas and information is facilitated. This method was also used to understand the difficulties in the progress of the children. The parents and teachers were also interviewed whenever necessary.

PROCEDURE

It was found difficult to gather the pupils during outside school hours. So the investigator met the principal of each school and fixed the date and time which was convenient to the pupils, so they may not have to suffer in their study work.

The selected students were seated in a separate room where all the facilities were available. The pupils were allowed to keep only pen or pencil with them. The investigator explained the necessary instructions to be given to the pupils after distributing the questionnaires and inventories, taking all precautions necessary during the administration.

It was decided that -

1. Not more than thirty pupils should be given the question-
   naire at a time.

2. The pupils should be properly seated so that they might
   not be able to copy, certain responses from their
   neighbours.

3. No pupils should be given to take the inventories at
   home for filling them up.

After seeing that the instructions were grasped clearly,
they were allowed to write on the inventory. The students
were also allowed to ask their difficulties while filling up
the inventory given first (viz. Personality Inventory). When
they completed the first inventory, the second inventory
(Introvert-Extrovert Scale) and then the third inventory
(Reformist-Conservative Scale) were given one by one. There
was no fixed time for giving the answers. But the majority
of the students were completing three inventories between 35
and 45 minutes. Those who completed their work were allowed
to go. As far as possible, care was taken to see that work
was completed with ease, without fatigue or boredom.

After a period of about 15 days, other three inventories
(Anxiety Scale, Adjustment Inventory, and Study Habits) were
similarly administered to the same students in the same manner
as the first three were given. The same procedure after a
period of about other two weeks was followed for remaining

tools (viz. Family Adjustment Inventory, and Reading Habits).
Pupils, on the whole, were found to be sincere and
co-operative.

SCORING AND ANALYSIS

After collecting the test sheets and questionnaire
sheets, all responses were scored as per procedure specified
for each test. The separate total scores were obtained for
each subject and these were tabulated for each main or sub-
group under study. All these data were subjected to adequate
statistical techniques for analysis and interpretation.
Following statistical tests were used to study the significance
of difference between the groups :

(1) Technique of Analysis of Variance was used and F-Test was
    employed to find out overall significant difference among
    the conditions studied.

(2) Sometimes, further related tests, such as Tukey Gap Test,
    were used to study the differences between each pair of
    groups.

(3) At times, chi-square test was also used to study the
    trend when data were presented in terms of frequency
    rather than scores satisfying the needed level of
    measurement.

The results obtained after such analysis have been
presented and discussed in the next chapter.