CHAPTER IV.

METHOD AND PROCEDURE.

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Design of the present study -

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METHOD AND PROCEDURE

Research Design:

The aim of this research is to compare the children of three different socio-economic classes (from the city of Baroda) on the variable of their sex role identification.

The IT SCALE by Brown (1956) is utilized as the instrument for obtaining data concerning sex role preferences.

During the year 1970-71, Parikh conducted a study on "sex role identification in pre-school children". This study was actually the pilot study for the present research. *Parikh used the tools from the studies conducted by Brown (1956) and Goodenough (1957).

Goodenough (1957) in her study "Interest in persons as an aspect of sex difference in the early years" had used the following tools:

A. WITH CHILDREN:

- (a) Mosaic technique for verbalization
- (b) Spontaneous drawings.
- (c) Developmental evaluation of children.
- B. WITH PARENTS: An open ended interview with six open ended questions related to the field of sex role were developed.

^{*} The investigator of the present study guided Parikh (1951) for conducting the pilot study.

- in young children " developed the IT SCALE for measuring sex differences in the sex role preferences of pre-school children. He standardised this test at the end of his study.
- C. 'Draw-a-man' technique was also included to obtain spontaneous labels given to the drawn figure.

In the pilot investigation, all the above mentioned tools were used except the developmental evaluation of children.

(A) Techniques used with children :

the projective technique devised by Lowenfeld of London in year 1954. C. Goodenough (1957) used Mosaic test not for its original purpose as described and used by its standardizer. C. Goodenough selected this tool because it was a new material and 'neutral' in that there is no a priori reason why it should have more interest for the boys than for the girls. The mosaic provides an identical material for the boys and the girls to explore. Their verbalization as they use the mosaic show whether, in a period of 10 minutes or less they maintained an interest in an object, the test, or shifted their attention to an interest in persons.

Mosaic Technique was adopted by cutting a '1'x '1'deep blue stiff plastic sheet into 60 peices of different geometrical shapes. This provided the necessary neutral stimulus required for studying interest in persons.

Procedure for Using Mosaic Technique: In the testing

presented with a box of mosaic pieces and the sky blue summika, tray to arrange the mosaic pieces. The examiner puts a few pieces on the board at random while talking with the child about anything to illustrate what she meant and altered the standard verbalization to "You can make a design". Then she put back all the prieces in the box. The child was allowed to do whetever he liked and no directions were given. Investigator made no comment except to repeat a child's words or to say "Yes", "that's the way", or "that's good". As the child put the mosaics on the board the investigator recorded everything the child said, did or expressed. The time limit given was 10 minutes.

(II). Children's Spontaneous Drawing :- The purpose for using this technique was to obtain spontaneous verbalized responses of the child on his/her drawing.

Procedure: - During the testing, the child was given a paper and a red crayon. After the child marked the paper, if no spontaneous verbalization came, the examiner asked, "what did you make"?. At no times the child was given any suggestion as to what he should draw or any help with his drawing. If the child made several different drawings, only the first one was used for the study.

(b) <u>Draw-s-men Technique</u>: Considering some of the practical difficulties in scoring the spontaneous verbalized responses of children, this technique was included in the later part of the pilot study.

The purpose of using this technique was not to measure the I.Q. of the child, but to look for any evidence of sex differences through the label given to the drawn figure.

Procedure: In the testing room each child was given a paper (of standardized size) with a pencil. The child was instructed to 'Draw-a-man'. As soon as the child completed the task, the child was asked "What have you drawn"? If the child failed to enswer, he was suggested different possible alternatives (e.g. Man, Woman, Boy, Girl) by the tester and child's response was recorded.

(III) The IT Scale for Children (ITSC):

This standardized projective technique to measure sex role preferences of children is developed by Brown in the year 1956. ITSC consists of a series of small cards (3" x 4") each presenting one or more line drawings in black ink. There are 12 sets of picture cards. The selection of items included in the scale is based on the contrasting behavior patterns socially identified with male or female roles. The logic and validity of the scale rests primarily on the assumption that what is socially regarded as and actually associated with, mesculine or feminine behavior is an adequate basis for defining sex role patterns. The things and activities that one sex shows an interest in and liking for, in contrast to the other sex, would appear to be valid criteria for defining sex-role behaviour (Brown 1956).

The 1st set of cards, consists of one card of child figure drawing and it is referred as " IT ". IT figure is

unstructured and belongs to no sex category, enabling each child to make choice for IT card. Set 2 and 3 consist of four sets of toy pictures in each set. Four of the cards are thought to represent masculine oriented toys, while the remaining four represent feminine oriented toys. Set 2 and 3 are called "Toy pictures". The sets from four to eleven are comprised of two paired cards each. One card depicting masculine type object or activities, the other feminine type object or activities. The twelfth set comprises of four child figures - boy, girl, girlish boy and boyish girl. (Appendix I).

Procedure: The instructions given in the test manual by Brown (1956) were followed to administer the ITSC. All the instructions were translated in Gujarati. Some of the pictures (e.g. High chair, Earth mover, Red Indian Chief) were unfamiliar to many of the Indian children, due to the cultural differences. As this test may have cultural influences, care was taken to explain the unfamiliar picture cards.

- (B) Technique Used with Parents: This technique is used preference by Goodenough (1957) for studying parents views on sex-role per ed.

 28. The tool consists of six open-end, questions to be asked in open end, interview session. These six questions are :-
 - 1. Describe your child's personality.
 - 2. Is your child more masculine or more feminine in personality? Give examples of what you mean by your reply.
 - 3. What do you consider are the differences between

masculinity and feminity in adults ?

- 4. For your first child did you prefer a girl or a boy and why ?
- 5. Would you be disturbed if a child showed an excess of characteristics of his opposite sex ?
- 6. If you knew all you know new, and could determine your sex, would you yourself rather be a male or a female?

Procedure: A tape recorder was used in order to record the parents' responses during the pilot study.

The purpose of this technique was to get each parent's views regarding sex-role independently and so parents were requested to co-operate and respond to questions separately. This was done because the dissimilarity in cultural and educational background of the parents might result into the father dominating over the mother. This might result in not getting a clear picture of the mother's independent views on sex-role per sex preference.

Selection of Subjects and Procedure : The objectives of the pilot study were as follows :-

- (a) To explore the sex-role preference of pre-school children and to investigate whether there exists any difference between preferences of young boys and girls with respect to activities and objects.
- (b) Toe explore the differences existing in attitudes and concepts regarding sex roles in adults and children.

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The total number of 24 children attending the 105 kindergarten and older group of the Chetan Balwadi, Laboratory nursery school, Faculty of Home Science, M.S. University of Baroda, were selected as the sample for the pilot study.

24 children from these two groups were selected on criteria of (a) age \div 32 to 42 years (b) Sex - 12 boys and 12 girls. Children were selected at random.

Testing of children was done individually in a separate testing room by the investigator. The initial period of few minutes were spent to build friendly rapport with the child. During this period the child was encouraged to talk with the tester. In the first testing all the children were given Mosaic test which was followed by spontaneous drawing test. In the second testing all the children were tested on ITSC. The third testing session was with the 'Draw-a-men' test for all the children.

Interviews of the parents were conducted at their home, in the eveningsby appointment. Both parents were interviewed separately on the same day.

Parikh (1971), it was observed that the <u>Mosaic test</u> and parents' interviews were impractical. (a) The mosaic test was not revealing the verbalization in children as it was assumed, (b) Some of the picture cards in ITSC seem to be very unfamiliar in the Indian culture.

(c) Some of the familiar cards (e.g. cradle, knife)

seem to have some ambiguity in its outlines e.g. Boat was reconfided as Cup by few children, while knife was considered as bird and crow by some children. Baby Bath Tub appeared like a table to most of the children. (d) The set 3 to 11 of ITSC are the sex related activities and objects cards. The set of pictures of foot wear, Red Indians, mechanical and household tools - needed to be replaced by more familiar and sex type related objects pictures.

The investigator was in the process of developing adaptations of ITSC cards to suit Indian environment, when she came across the Indian version of ITSC, prepared by Terabai, S.V. University, Tirupati 1971. For the present research this Indian version of ITSC is used.

Parents' interview method :

1. Studying the responses of parents, it was evident that these responses were missing a good deal of information regarding sex role concepts, which can be revealed, otherwise by paskings some leading questions on the whole this method although useful, proved to be very time consuming and not very practical considering the fact that the investigator had to move from house to house with a tape recorder. For the present investigation, it was decided not to use the parents' interview method. Instead, it the following changes were made in the use of tools and procedure.

THE PRESENT STUDY:

II. <u>Kethod and Procedure</u> :-

Research Design :- The design of the present study includes testing children from three different socio-economic levels,

upper middle socio-economic group, middle socio-economic group, lower middle socio-economic group. The children (169) are between chronological ages of 3-0 to 5-0 years and include both males (109) and females (60). Any child declared as emotionally retarded by the agency contacted was not included in the study. Also the vocabulary items from the revised Stanford Binet tests of intelligence was used to exclude any child who might not have had enough language ability to be able to follow instructions. In order to observe the spontaneous responses of children, when asked to 'Draw-a-man', Pathak's (1966)'Draw-a-man test' was used.

This spontaneous response to 'what have you drawn, is it a boy or a girl', should give another opportunity to locate the verbal responses in relation to sex-role preferences.

To facilitate the statistical treatment of data, an attempt was made to obtain within each sub-groups - a sample of not less than ten subjects as far as was possible.

 \mathbf{x}^2 , analysis of variance, and a correlation analysis were employed for the statistical treatment of the data.

Subjects: The total number of subjects was 169, divided as follows among three different socio-sconomic levels.

Kuppuswamy's Scale of socio-economic status*(1962) was used in order to divide the sample in the 3 socio-economic levels.

^{*} Manual of Socio-economic status Scale (Urban).
T. Kuppuswamy; Mansayan 1962.

Subjects attending the Jeevan Sadhana Pre-school and Jeevan Mangalya Pre-school located within the Municipal limits of the city of Baroda were selected as a sample for data collection of the present research.

The distribution of the sample from these two agencies was as follows :-

C.	Jeevan	Sadhana.	<u>Jeevan</u>	Mangalya.
	B.	G.	B.	G.
Upper Middle Class	16	4	5	3
Middle Class	22	15	35	24
Lower Middle Class	9	5	22	9
	47	24	62	36
Total Boys 109	Total		Total	
Girls 60		Sadhene.		
Total Sample 169.	7	71.	9	8.

For the present study, the sample was divided on the following range of scores as analysed by Kupuswamy's scale.

Kuppuswamy's Scale.

Scores.	Socie-economic Class.		
26 - 29 ····· I.	Upper Middle.		
16 - 25II.	Middle.		
11 - 15 III.	Lower Middle.		

The children in all the groups ranged between 3-0 to 5-0 years. The population in each group was comprised of all the children in the class group, excluding those who were termed as

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mentally retarded, slow learners or emotionally disturbed by their class teachers. The sample was selected by utilizing the information on the Secio-economic status of the children. For analysing the secio-economic status of the sample, Kuppuswamy's Scale (1962) of secio-economic status was used. The sample obtained was thus divided into upper middle, middle, lower middle secio-economic class.

Instruments :- I. Vocabulary items (Revised Stanford Binet test of intelligence), Terman and Merrill 1937). This test consists of 50 vocabulary items. Examples of illustrations of these items are given in the following table.

Age range 2-0 to 6-0 years.

Items.	Age, Year.	Item No.	Ref. Page.
Identifying objects by name	II	2	75
Identifying objects by use	11-6	1	78
Naming objects	n	3	79
Picture Vocabulary (Naming Pictures)	#	4	79
Comprehension	111-6	. 6	85
Pictorial identification	IV	4	87
Comprehension II	IV	6	88
Materials	IV-6	4	90
		30.	à

The detailed instructions and explanations on these items is given in appendix No. 2

. The vocabulary items from revised Stanford Binet's 110 test of intelligence were used as they measure: the child's status in language development. These items should help in excluding any child who might not have had enough language ability to be able to follow instructions.

This revised version of Stanford Binet's Test of intelligence utilizes the assumptions, methods and principles of the age scale as conceived in the original version. This gives a method of standardized interview which is highly interesting to the subject and calls forth his natural responses to an extraordinary variety of situations (Later inagental Land in Berrill 1937). The arrangement of the tests in year groups makes the exemination more interesting to the exeminer by enabling him to grasp the evidence as it comes in.

In the following discription a detailed classification from Revised Stanford Binet's test of intelligence (1937) is given.

T (b)。 Identifying Objects by Name :

Materials: Card with toy cat, button, thimble, cup, engine, and spoon attached. [Photograph Pf. 220]

Procedure: Show S. the card with the six small object ettached and say, "Show me what" or "Which one " or "Show me the one that".

I(c) I dentifying objects by use

(Photograph ***** we drink out of ". (a) " PP. 220) ****** goes on our feet". (b) we buy candy with". we can cut with".

.... we ride in". we use to iron clothes".

Comprehension I.

Procedure : Ask.

- (a) "What must you do when you are thirsty"?
- (b) "Why do we have stoves?".

If there is no response, repeat the question, asking "What must you do when you are thirsty"?

Pictorial Identification:

Material : Card with pictures of objects.

Show the card end say, "Show me" or "Which one " or "Show me the one Procedure: that

> "..... we cook on ". "..... We carry when it is raining". "..... gives us milk".
> "..... has the longest ears".
> "..... shines in the sky at night". (d)

"..... catches mice".

If S. names the object without pointing to it, ask him to point.

Comprehension II.

Precedure: Ask.

(a) "Why do we have books?".

Sey, "What is a chair made of ?" Procedure : same for dress and shoe.

II. ITSC. (The IT Scale for children).

The ITSC consists of a series of small cards $(3^n \times 4^n)$.

Each presenting one or more line drawings in black ink. There are 12 sets of picture cards. Some sets have eight pictures, each e.g. Set 2 and set 3. In these sets four of the cards are thought to represent mesculine oriented toys while the remaining four represent feminine oriented toys.

The majority of the 12 sets of cards are comprised of two paired cards, each card depicting masculine type objects or activities; the other, feminine type objects and activities. For the present study, the revised adaptation of IT Scale by Tarabai (1971) was used. The enlargements of then-pictures - size 12.5 cm. by 17 cm. were used, refer (Appendix.... I). All the test items were drawn and painted to be easily recognised in the Indian Culture.

Scoring: Score values assigned to the sub test preferences are as follows:

No score value is assigned to the illustration printed in set 1. In sets. 2 and 3, the child is directed to indicate which four of the eight pictured objects 'IT' would prefer to play with. Each masculine toy preference is assigned score value of one, each feminine toy preference a score value of Zero. Thus the total score for set 2 and 3 each ranges between zero and four. The value assigned to sets 4 through 11 are determined as follows; a masculine activity or article preference is assigned a score value of eight; a feminine preference, zero. The range of the total score for the

combination of was paired pictures in sets 4 through 11 is from 113 0 to 64.

In set 12, the available responses are assigned the . following score values, response a, value 0' b, 4' c,8' and d, 12.

The total score is obtained by adding all the different scores for the subparts of the ITSC for each child.

The following table gives a summary of the score distribution on IT Scale.

•	IT Scale	Brown 1956.
IT Test.	No. of Pictures.	Score.
Part I. A. Toy pictures.	16	1 point for each choice of masculine toy.
Part II. B. Paired pictures.	. 8	Offor each choice of feminine toys. 8 point for each choice male preference. 0 for each female preference.
Part III. C. Children wearing Boys'/Girls' elothing.	4 1 Card.	Preference for Boy - 12 points. Girlish Boy - 8 points. Boyish Girl - 4 points. Girl - 0 points.

III. Draw-s-man technique:

Considering some of the practical difficulties in scoring the spontaneous verbalized responses of children, this technique was included in the study, The purpose of using this technique was to study the sex differences through the label given to the drawn figure (Boy/Girl).

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Procedure: Principals of the Jeevan Mangalya High School and Jeevan Sadhana High School were contacted through auspices of the department of child development, The Faculty of Home Science, M.S. University of Baroda, Baroda-2, as sources from which to obtain the sample of children. This initial approach; was madeby personally contacting some one who worked in the agency. After getting an appointment, the investigator visited the personnel-in-charge. The visit consisted of explaining about the purpose as well as the actual administration of the tests to the agency authorities. It was explained clearly as to what would be asked of the children during the data collection and what the procedure would be. The authorities were also explained about the total research design which included the purpose, the instruments to be used, the subjects and the procedure involved in the present investigation.

The investigator tested the children in their schools.

Prior to the testing a couple of days were spent by the investigator in the children's class room, in order to get acquainted with the children and to senable the children to feel relatively comfortable "playing a game" slone with a stranger. During tituls sime the children as a group, were told that the visitor was there to play a game with each of the children in a quiet room and that all the children would have their turns one by one.

Bach child was tested alone in a quiet area which was slightly removed from the rest of the children. Privacy was insured by allowing no one else in the room and by shutting the doors to avoid the noise of people passing by the hall ways.

In one of the schools, where no separate room was available, a screen like partition was made in the large play room to separate a smaller area for testing.

The room was furnished with no more than a small table and two small carpets proportioned to the child's size. (actually borrowed from EA: deceplay room). Arrangements were made so that toys on the shelves and pictures on the walls would not distract the child.

"Play the new game" only when the child agreed to come to play and did not have any objections against playing the game. The child was seated on one of the small carpets and the investigator sat across the little table and in front of the child. A little bit of informal conversation was carried on to put the child at his ease as the investigator wrote the child's name and age on the record sheet. The testing began by administering the vocabulary items for the purpose of screening out these children who had not advanced enough in their language development to understand the instructions given and the questions and tasks presented to the investigator.

The ITSC was given soon after the vocabulary test items was complete. By then, the child's initial nervousness and discomfort were sufficiently reduced so as not to interfere with further testing. After the vocabulary/items, which had achievement oriented presentation, the ITSC seemed to come as a game. Since the drawing of the ITSC IT figure has been criticized for representing

a figure more mesculine than neutral, the Indian adaptation had a more neutral looking figure of the IT.

said to the child, we are going to play a little game with this child. Let us name this child as 'IT'. Now hold the 'IT'. Now let us set the pictures here. All the instructions were given in Gujerati. (To check on the Gujerati translation of IT Scale and to measure roughly the time needed for administering the tests, 15 children, 5 each from older, younger and kindergarten group of the Chetan Balwadi, the laboratory nursery school attached to the Child Development Department, Faculty of Home Science was selected. After checking on the translation and the time needed for administ ration of the tests, these instructions were finally used).

1. Toy Pictures: Here are some toys. They are all nice toys, are they not? Now let us play like 'IT' could play with all of these toys; which toy would 'IT' like the best? Put your finger on the toy. (Repeated until eight choices were made), now we are going to see some other pictures.

2. Eight paired pictures :

- (a) Here are pictures of <u>King</u> and <u>Queen</u>. Let's play like 'IT' could play. Put your finger on the picture IT would rather be with.
- (b) Clothes: Here are pictures of clothes. Let us play like 'IT' could have any clothes IT wanted. Put your finger on the clothes IT would like to have.

- (c) Sewing parts, air plane parts: Here are pictures of things to use in making an air plane and things to make a handkerchief, which would rather IT make, an air plane or kerchief? Put your finger on the picture IT would want to have.
- (d) <u>Face articles</u>: Here are pictures of things to use on our face. Put your finger on the picture 'IT' would play with.
- (e) Mechanical toys and house hold objects: Here are some pictures of some objects to use in washing and ironing and some objects to use in fixing things that are broken. Let us play like IT had all of these things to work with. Put your finger on one picture that IT would rather work with.
- (f) Shoes: Here are pictures of shoes. Put your finger on the shoes IT could have.
- (g) <u>Children's playing</u>: Here are pictures of children playing. Let us play like IT could be in one of these pictures too. Put your finger on the pictures IT would rather be in.
- (h) Building tools and cooking articles: Here are pictures to cook with and things to build with. Let us play like IT could work with all of these things. Put your finger on the picture IT rather work with.
- 3. Four child figures: Here are pictures of some children. Let us play like IT could be any one of these IT wanted to be. Put your finger on the one 'IT' would rather be.

As the child made the chices, the tester made a note of the child's choice in the score card.

The Draw-a-man Technique was introduced following the ITSC. Each child was given a paper (of standardized size) with a pencil. The child was instructed to 'Draw-a-man'. As soon as the child completed the task the child was asked "What have you drawn"? If the child failed to answer, he was suggested different possible alternatives (e.g. man, woman, boy, girl) by the tester and child's response was recorded.

It took between 35 to 40 minutes to administer all the three tests. The vocabulary items took a little longer for older children and also those children who were a little more talkative than others (they spontaneously began to relate their experiences with the objects of the different pictures).

The children seemed to enjoy their experience with the IT Scale very much as is evidenced by the fact that most of them requested to be allowed to come in and "play the game again".

Scoring :

Vocabulary items: The scoring system was followed from the revised Stanford Binet's test of intelligence. Each correct enswer was scored as 1 and each incorrect as 0. The following table shows the scoring procedure.

Vocabulary items scoring:

	Vocabulary items.	No. of Items.	Score.
A.	Identifing objects by name	6	6
B.	Naming objects	5	· 5
C.	Naming Pictures	18	18
D.	Identifing objects by use	6	6
E.	Comprehension	7	7
F.	Pictorial identification (by pointing to pictures)	6	6
G.	Materials	3	3
		51	51

TE Scale: The child gets one score if it selects a masculine card. He gets a Zero score for the preference of feminine card. (The detailed scoring system is described on page 1/3)

No score value is assigned for set 1. In sets 2 and 3 child is directed to indicate 8 preferences of toys. In would like to play with. Thus total score value for set 2 and 3 varies from 0 to 8.

The values assigned to sets 4 through 11 are determined by the mesculine activity or article preference or feminine activity or article preference. Each meaculine preference gets 8 score value. Thus the range of total score value for set 4 through 11 varies -

from 64 to 0.

In the set of 12, the variable responses are assigned the following score values:-

- a. Girl dressed as a girl ... Score value O.
- b. Girl dressed as a boy ... Score value 4.
- c. Boy dressed as a girl ... Score value 8.
- d. Boy dressed as a boy ... Score value 12.

Thus the score value varies from 0 to 12 on the set

The total score value on ITSC varies from 0 to 84.

Draw-a-man Technique: The child's responses to drawing of man figure was classified as of own sex or of the opposite sex. Count of one is given when child lables the drawn figure as belongting to his/her own sex. e.g. boy gets count of one if he labels the 'man' as boy or father, or and no count if labels the 'man' as girl mother.

The record sheets are in appendix No. II.

Statistical Analysis: Analysis of variance, test x^2 , correlation co-efficient, point biserial correlation and Item analysis of ITSC were computed. Details about the plan of analysis are given below:-

Plan of Analysis:

- I x²: Draw-a-man.
- 1. To see whether there is any significant difference between boys and girls while naming the sex on the drawing.

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2. To see whether there is any significant difference between children of various Socio-economic groups in naming the sex of the drawing.

II. Analysis of variance :

It is used to study the interaction between

- (a) Sex (B & G) and Socio-economic group on vocabulary item.
- (b)Sex (B & G) and Socio-economic group on Draw-s-man test.
- (c) Sex (B & G) and Socio-economic group on IT Scale.

III. t Test :

To see whether there is significant difference between the means scores of boys and girls on IT Scale.

IV. Correlation coeficient :-

- 1. Correlation between Vocabulary test scores and chronological age of children (Boys and Girls separately).
- 2. Correlation between Chronological age and IT Scale.

 Part II

 Part III

(Boys and Cirls separately).

3. Correlation between IT Scale sub parts,

Part D and Part II Part II and Part III Part I and Part III

(Boys and Girls separately).

4. To see whether there is a significant difference in scores of boys and girls on IT Scale sub parts I, II, III.

VI. Item enalysis of the IT Scale would further provide information relative to the differences between boys and girls in their sex role preference pattern.

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