

CHAPTER II

Methodology

2.1. Issues and objectives

Any research starts with certain queries about a phenomenon or a set of phenomena, and systematic attempts are made to investigate the issue in question through appropriate conceptual and methodological tools.

The present investigation focused on the effect of age, sex, sex roles and social class on ego identity, purpose-in-life and present and future self-concept of the adolescents.

As an exploratory study, the present investigation focused on the following queries and issues:

- (1) What is the effect of age on ego identity of the adolescents?
- (2) What is the effect of age on purpose-in-life of the adolescents?
- (3) What is relationship between age and present and future self-concept of the adolescents?

- (4) Do adolescent boys and girls differ from each other in their ego identity?
- (5) Do boys and girls differ from each other in their purpose-in-life?
- (6) Do boys and girls differ from each other in their present and future self-concept?
- (7) What is the effect of sex roles on ego identity?
- (8) What is the effect of sex roles on purpose-in-life?
- (9) What is the relationship between sex roles and present and future self-concepts?
- (10) What is the effect of social class on ego identity?
- (11) What is the effect of social class on purpose-in-life of the adolescents?
- (12) What is the relationship between social class and present and future self-concept of the adolescents?
- (13) What is the effect of the interaction between age, sex, sex roles and social class on ego identity?
- (14) What is the effect of the interaction between age, sex, sex roles and social class on purpose-in-life?

2.2. Specific problem under investigation

The main purpose of the present investigation was to study the effects of age, sex, sex roles and social class on ego identity, purpose-in-life and present and future self-concept of the adolescents.

2.3. Hypotheses

From the queries, issues and problem stated above, the following hypotheses were generated, each followed by the statement of the specific null-hypothesis to be tested in the present investigation:

- (1) The nature of ego identity is a function of age i.e. younger subjects differ from older subjects in their ego identity. Therefore, the null-hypothesis is: younger subjects do not differ from older subjects in their ego identity.
- (2) The nature of purpose-in-life is a function of age i.e. younger subjects differ from older subjects in their purpose-in-life. Therefore the null-hypothesis is: younger subjects do not differ from older subjects in their purpose-in-life.
- (3) The nature of present and future self-concept is a function of age i.e. younger subjects differ from older subjects in their present and future self- concept. Therefore, the null-hypothesis is: younger subjects do not differ from older subjects in their present and future self-concept.
- (4) The nature of ego identity is a function of the sex differences i.e. girls differ from boys in their ego

identity. Therefore, the null-hypothesis is: girls do not differ from boys in their ego identity.

(5) The nature of purpose-in-life is a function of the sex differences i.e. the girls differ from boys in their purpose-in-life. Therefore, the null-hypothesis is: girls do not differ from boys in their purpose-in-life.

(6) The nature of present and future self-concept is a function of sex differences i.e. girls differ from boys in their present and future self-concept. Therefore, the null-hypothesis is: girls do not differ from boys in their present and future self-concept.

(7) The nature of ego identity is a function of the sex roles i.e. subjects belonging to different sex role categories differ in their ego identity. Therefore, the null-hypothesis is: subjects belonging to different sex role categories do not differ in their ego identity.

(8) The nature of purpose-in-life is a function the sex roles i.e. subjects belonging to different sex role categories differ in their purpose-in-life. Therefore, the null-hypothesis is: subjects belonging to different sex role categories do not differ in their purpose-in-life.

- (9) The nature of present and future self-concept is a function of sex roles i.e. subjects belonging to different sex role categories differ in their present and future self-concept. Therefore, the null-hypothesis is: subjects belonging to different sex role categories do not differ in their present and future self-concept.
- (10) The nature of ego identity is a function of the social class i.e. subjects belonging to different social class differ in their ego identity. Therefore, the null-hypothesis is: subjects belonging to different social class do not differ in their ego identity.
- (11) The nature of purpose-in-life is a function of the social class i.e. subjects belonging to different social class differ in their purpose-in-life. Therefore, the null-hypothesis is: subjects belonging to different social class do not differ in their purpose-in-life.
- (12) The nature of present and future self-concept is a function of social class i.e. subjects belonging to different social class differ in their ego identity. Therefore, the null hypothesis is: subjects belonging to different social class do not differ in their ego identity.

- (13) The nature of ego identity achievement is a function of the interactive effect of age, sex, sex role and social class i.e. younger and older girls and boys belonging to different sex role categories and different social class differ in their ego identity. Therefore, the null-hypothesis is: younger and older girls and boys belonging to different sex role and social class categories do not differ in their ego identity.
- (14) The nature of purpose-in-life is a function of the interactive effect of age, sex, sex roles and social class i.e. younger and older girls and boys belonging to different sex role different social class differ in their purpose-in-life. Therefore, the null- hypothesis is: younger and older boys and girls belonging to different sex role categories and different social class do not differ in their purpose-in-life.

2.4. The sample

The final sample for the present study comprised 1200 adolescent boys and girls between the ages of 15 to 18 years. About 240 cases had to be eliminated due to incomplete and wrongly filled answers, or exactly similar (copied) answers. All the adolescents were residents of Baroda city and came from English medium schools. The subjects were classified in terms of

age, sex, sex roles and social class (see table 3).

Table 3

Distribution of the Sample in Terms of Age, Sex, Sex Roles and Social Class (N = 1200)

SEX ROLE	AGE	SOCIAL CLASS					
		Upper		Middle		Lower	
		Boys	Girls	Boys	Girls	Boys	Girls
Androgynous	15-16 years	22	49	26	36	25	26
	17-18 years	35	34	35	33	35	32
Masculine	15-16 years	46	6	30	12	25	4
	17-18 years	29	13	37	8	24	7
Feminine	15-16 years	11	25	8	35	6	24
	17-18 years	6	38	6	42	8	32
Undifferentiated	15-16 years	21	20	36	18	43	46
	17-18 years	30	15	21	17	34	29

2.5. The variables

The meaning and psychological relevance of the major independent and dependent variables under investigation have been discussed in the previous chapter. In the present section the variables are defined operationally in terms of their levels, types and functions.

2.5.A. Independent variables. The four independent variables in the present study were:

- A. Age.
- B. Sex Differences.
- C. Sex Roles.
- D. Social Class.

A. Age: Society expects different kinds of behaviour from people of different age groups. Different thoughts, feelings and behaviours characterize different ages. Since achieving a stable sense of identity is a major "developmental" task facing adolescents, in the present study chronological age was taken as an independent variable. The two age groups in the present study were 15 to 16 years and 17 to 18 years.

B. Sex differences: Differences in the anatomy and working of hormones in the two sexes affect the behaviour of individuals differently. These biological differences between

the two sexes affect the development of particular psychological dispositions and reaction trends. Since differences between boys and girls become more marked during adolescence, the biological sex of the subjects was taken as an independent variable.

C. Sex roles: Sex role is the sum of socially designated behaviour for men and women. Studying sex roles is highly significant because it influences the way an individual relates to himself and to others in the society. For the purpose of the present study, as suggested by Spence and Helmreich (1979), four sex role categories were formed based on the median split of masculine (M) and feminine (F) scores by combining male and female data into a single continuum. The four sex role categories were thus designated as follows:

Androgynous	- High masculine, High feminine (HMHF)
Masculine	- High masculine, Low feminine (HMLF)
Feminine	- Low masculine, High feminine (LMHF)
Undifferentiated	- Low masculine, low feminine (LMLF)

D. Social class: All developments, whether biological or psychological, occur in a social framework. The pattern of family life differs from one social class to another, and each social class to a greater or lesser extent has its own set of ideology, aspirations, values, and characteristic patterns of

behaviour. Individuals start becoming aware of social class distinctions at an early age and this awareness increases as they grow older. Since social class determines the prevailing norms and standards of behavior, social class has been taken as an independent variable in the present study. The three social classes in the present study i.e. lower, middle and upper class were defined in terms of the occupation, education and income levels of the father and the mother using Kuppuswamy's socio-economic status scale.

2.5.B. Dependent variables. The three dependent variables in the present study were:

- A. Ego Identity.
- B. Purpose-in-Life.
- C. Present and Future Self-Concept.

A. Ego identity: The adolescent's primary developmental task is to achieve a sense of ego identity or to risk identity confusion. In the present study, ego identity was taken as a dependent variable and constituted the following two levels: (1) ego identity achievement wherein a unique sense of personal identity has been successfully fashioned; and (2) ego identity diffusion where there is no commitment to or search for values.

B. Purpose-in-life: Individuals differ from each other with regard to the degree of meaning each finds in his or her

personal existential condition, and vary along a continuum ranging from an extremely low purpose-in-life to high purpose-in-life. One of the predominant anxiety of today is that of the "inner void" which simply put means meaninglessness or purposelessness. A widespread pathological syndrome whose chief symptom is lack of purpose has been found to be extensively prevalent among persons seeking psychological counseling today. Hence, in the present study the degree of purposefulness or purposelessness that an individual perceives or experiences in his or her daily life was taken as a dependent variable.

C. Present and future self-concept: For a healthy personality to develop, it is important that one perceives the self as an individual, distinct from others, but at the same time also integrated so that there is continuity between past, present and the future self. Since adolescence is a transitional period marked by a reworking of the past and an acceptance of the future, it is important to study the present and future self-concept of the adolescent. In the present study the present self-concept referred to responses relating to the present self-image i.e. to questions like 'who am I' and the future self-concept referred to responses relating to the self in the future i.e. to questions such as 'who will I be.'

2.6. The tools

In the present study, the following tools were used for measuring the independent variables:

- (A) Kuppuswamy's scale of socioeconomic status, URBAN (1983).
- (B) Sex role inventory (Patel & Gon, 1987).

2.6.A. Kuppuswamy's scale of socioeconomic status 1982. In the present study, the subjects' socioeconomic status was determined by Kuppuswamy's scale which was developed in 1962 and revised in 1981. The scale includes three categories namely Education, Occupation and Income (see Appendix A). Under each category there are specific items i.e. education has qualifications ranging from M.A. to illiterate; occupation ranges from professionals to unemployed; and income ranges from Rs. 3000 and above to below Rs. 150 per month. For the present study, the classifications in the income category were updated to the 1988 income levels on the basis of the inflation rate as measured by the Consumer Price Index from 1982 to 1988. Each item carries a weight. These weights are added to get a final score and based on this score, the person is placed in any one of the three social classes. The final judgement of the subjects' social class was based on the occupational, educational, and income levels of both parents.

2.6.B. Sex role inventory. The sex role inventory contains 32 personality characteristics (see Appendix B). Out of these, 16 characteristics are stereotypically masculine (e.g. adventurous, independent) and 16 characteristics are stereotypically feminine (e.g. adaptable, sensitive to others' needs). The scale range is from 1 (never or almost never true) to 7 (always or almost always true) and hence, the individual's score also ranges from 1 to 7. The sex role inventory is essentially self-administering and may be given to the individuals as well as to large groups. It takes about 10 - 15 minutes to respond to the scale. Individuals were categorized into one of the following four sex roles based on the median split of the masculinity and femininity scores:
(1) androgynous, (2) masculine, (3) feminine, and (4) undifferentiated.

Construction of the sex role inventory. The construction of the sex role inventory was based on the same principle as that of the BSRI (Bem's Sex Role Inventory, 1981). Like the BSRI, it also includes provisions for the following: (a) separate masculinity and femininity score; (b) items selected on the basis of sex typed desirability in Indian context; and (c) items with positive context.

The sex role inventory was constructed in the following four phases:

Phase I: As a preliminary to item selection for the sex role inventory, 50 high school students, 25 girls and 25 boys, between the age of 14 to 18 plus were asked to write down ten "most desirable characteristics for a man" and ten "most desirable characteristics for a woman." Research literature was surveyed and traits and characteristics that were rated as highly masculine and/or feminine were also included. A list was compiled of 120 characteristics (see Appendix G) which appeared to be not only positive in value but also either masculine or feminine in tone.

Phase II: The alphabetized list containing the 120 characteristics was then administered to 400 high school students (200 boys and 200 girls), between the ages of 14 years to 18 plus. Half the subjects i.e. 100 girls and 100 boys rated the desirability of all the 120 personality characteristics "for a man" and the remaining half rated the characteristics "for a woman." In the instructions it was emphasized that the subjects should rate the characteristics from the point of view of the Indian society i.e. how Indian society would evaluate these characteristics. The scale ranged from 1 ("not at all desirable") to 7 (extremely desirable).

Phase III: A two-tailed 't' test was conducted for all the 120 characteristics. As in Bem (1981), a personality characteristic qualified as feminine if it was independently judged by both boys and girls to be significantly more desirable for a woman than for a man ($p < .05$, two-tailed). Similarly, a personality characteristic qualified as masculine if it was independently judged by both boys and girls to be significantly more desirable for a man than for a woman ($p < .05$, two-tailed). From the 52 characteristics that satisfied the above criteria, 16 items (see Appendix F) with the highest means were selected for the feminine scale and 16 items (see Appendix F) with the highest means were selected for the masculine scale.

Phase IV: In order to establish the internal consistency of the inventory, Cronbach's Coefficient Alpha (α) was computed separately for the masculine and feminine items. The coefficient alpha for masculinity is 0.79 and for femininity is 0.85. To compute this test of internal consistency, the following formula was used (Cronbach, L.J. Essentials of Psychological Testing, 3rd ed. Harper, Row, London, p.161, 1970).

$$\alpha_k = \frac{k}{k-1} \left(1 - \frac{\text{Sum } s^2_{x_i}}{s^2_{x_t}} \right)$$

where s^2x_i is the variance of part scores x_i for each part in turn and s^2x_t is the variance of sum of k part scores.

The present scale also treats masculinity and femininity as two independent dimensions rather than as two ends of a single dimension, thereby enabling a person to indicate whether he or she is high on both dimensions (androgynous), low on both dimensions (undifferentiated), or high on one dimension but low on the other (either 'masculine' or 'feminine').

The following tools were used to measure the dependent variables:

- (C) An Indian adaptation of a short measure of Eriksonian ego identity (Srivastava, 1982).
- (D) Purpose-in-life scale (Crumbaugh, 1968).
- (E) Coleman's sentence completion test of self-concepts (Coleman, Herzberg & Morris, 1977).

2.6.C. A short measure of Eriksonian ego identity. Ego identity was measured by a short measure of Eriksonian ego identity scale (Tan, Kendis, Fine and Porac, 1977) adapted to the Indian situation by Srivastava (1982). It is a 12 item, self-administering scale with forced choice format and takes about 20 minutes to complete (see Appendix C). Each item consists of two statements, one indicating ego identity achievement and the other

indicating ego identity diffusion. A person's ego identity score is simply the total number of identity items he or she selects, and hence the score ranges from 0 to 12. The larger the score, the greater is the degree of ego identity achieved. The split half reliability of the scale is 0.66, the test-retest reliability is 0.64, and the validity is 0.61.

2.6.D. Purpose-in-life scale (PIL). The purpose-in-life scale developed by Crumbaugh (1968) was used to measure the degree to which a person experiences a sense of meaning and purpose in his or her daily life. The PIL scale is a 20-item, 7 point likert-type scale extending from one extreme feeling to its opposite kind of feeling (see Appendix E). The subjects are instructed to read each item carefully and then respond on the 7 point scale. The total scores therefore, range from 20 (low PIL) to 140 (high PIL). Numerically higher scores reflect increased purposefulness. The scale is self-administering in nature and it takes about 10 minutes to respond to the items. The PIL scale correlates significantly with the depression scale of the MMPI ($r = -.65$). The correlation with the Srole Anomia Scale is 0.40. The split-half reliability of the scale is 0.85.

2.6.E. Sentence completion test of self-concepts. The present and future self-concept of the adolescent was assessed by Coleman, Herzberg & Morris's (1977) sentence completion test of

self-concept. It is an open-ended test, containing 16 items (see Appendix D). For the present study however, only items (six items) which related to the present and future self-concept of the adolescent were taken. The items were scored according to whether the responses reflected a positive or negative self-image. A neutral response category was also included.

In order to make the tests more comprehensible to the Indian adolescents, they were translated by professional translators into the Gujarati language.

2.7. Procedure of data collection

The present study was conducted in the following three phases:

Phase I: A pilot study was conducted on a representative sample of 30 subjects to test the suitability, applicability and reliability of the tools used in the present study.

Phase II: Principals of the different schools were contacted personally and the time and place for testing was fixed according to the convenience of the Principals and classroom teachers.

Phase III: For the purpose of the actual study, the investigator met the students in small groups in their classrooms. The booklet containing the five scales (SES scale, sex role inventory, short measure Eriksonian ego identity, purpose-in-life and sentence completion test of self- concept scale) was distributed among the subjects after initial rapport was established. The subjects were asked not to discuss the tests amongst themselves, and the need for "individual opinion" was stressed. The subjects were assured that their responses would be treated as confidential. After collecting the booklets, they were closely scrutinized. Incomplete, wrongly filled or copied answers were eliminated from the collected data.

2.8. Design and analysis of the data

The following statistical techniques were used to analyse the data:

1. To study the effects of different independent variables (age, sex differences, sex roles and social class) and their interactions on the dependent variables (ego identity and purpose-in-life), means, standard deviations, and 2 x 2 x 4 x 3 analysis of variance were computed. The 2 x 2 x 4 x 3 analysis of variance took into consideration two age groups (15 - 16 years,

and 17 - 18 years), two sexes (girls and boys), four levels of sex roles (androgynous, masculine, feminine and undifferentiated), and three social classes (upper, middle and lower). Hence, two ANOVAS were computed, one for ego identity and one for purpose-in-life.

2. The test of least significant difference ('t') was computed to find out significant differences between the means.

3. The relationship between the dependent variable (present and future self-concept) and each of the independent variables (age, sex, sex roles and social class) was assessed through item-wise Chi-square analysis. Since the category-wise distributions were in terms of frequencies and not raw scores, Chi-square was the most relevant technique.