

CHAPTER - II

METHODOLOGY

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2.1. Introduction : Issues and Objectives:

Research begins with curiosity and questions about a given phenomenon or a set of phenomena. To get a satisfactory reply to these questions, attempts are made to understand and investigate the issues under question through appropriate tools. The goal of research, often, depends upon the process of data collection and the technique used in data analysis. Clinical study emphasizes individual responses and focuses on the uniqueness of the person and the particular problem he is facing.

The present investigation focused on a clinical issue, namely, adjustment patterns of Bangladesh adolescents. The main objectives have emerged from the need to evaluate the degree of adjustment problems experienced by the adolescent boys and girls in Bangladesh.

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

- i) Assuming that Bangladesh adolescents vary in their degree of adjustment, what is the pattern or trend of their adjustment?

- ii) Does the adjustment pattern of Bangladesh adolescent girls differ from that of adolescent boys?
- iii) What is the relationship between sex difference and adjustment patterns among Bangladesh adolescents?
- iv) Assuming that Bangladesh adolescents vary in their belief on 'internal' and 'external' locus of control, what is the trend of their belief? Are they oriented towards internality or externality?
- v) Does the adjustment pattern of internally oriented Bangladesh adolescents differ from their externally oriented counterparts?
- vi) Do the Bangladesh adolescents, with different degrees of purpose-in-life (PIL), vary in their adjustment patterns?
- vii) Assuming that Bangladesh adolescents vary in their degree of purpose-in-life, what is the trend of their purpose-in-life? Do they show trend towards high or low purpose-in-life?
- viii) What are the factors responsible for the presence of the particular pattern of the locus of control and purpose-in-life (PIL) amongst Bangladesh adolescent boys and girls?

- ix) What steps could be taken toward reducing the adjustment problems and towards bringing about a meaningful and healthy life amongst the Bangladesh adolescents?
- x) What further conceptual and empirical work could be planned and carried out in order to improve the understanding of the patterns, dynamics as well as the preventive aspects of the problems of adjustment among the Bangladesh adolescents?

2.2. Specific Problem Under Investigation :

The main purpose of the present investigation was to study the effects of sex difference, internal-external locus of control, and the degree of purpose-in-life experienced on the adjustment patterns of the Bangladesh adolescents.

2.3. The Hypotheses:

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

- i) The nature and pattern of adjustment is a function of the sex of the adolescent i.e., the adolescent girls differ from the adolescent boys in their adjustment patterns (e.g. to home, health, society, emotion, education, as well as ~~their~~ total adjustment).

Therefore, the null-hypothesis to be tested would be:
In Bangladesh, the adolescent boys do not differ from girls with regard to their adjustment patterns in different areas in life.

- ii) The nature and pattern of adjustment is a function of adolescents' belief concerning the locus of causality of events i.e., adolescents with 'internal' locus of control (ILC) differ from adolescents with 'external' locus of control (ELC) in their adjustment patterns. Therefore, the null-hypothesis to be tested would be:
In Bangladesh, the adolescents with 'internal' locus of control (ILC) do not differ from the adolescents with 'external' locus of control (ELC) with regard to their adjustment patterns in different areas in life.
- iii) The nature and pattern of adjustment is a function of one's purpose-in-life (PIL) i.e., the adolescents belonging to different purpose-in-life (PIL) groups differ in their adjustment patterns. Therefore, the null-hypothesis to be tested would be: In Bangladesh adolescents with different degrees of purpose-in-life (PIL) do not differ from each other with regard to their adjustment patterns in different areas in life.
- iv) The nature and pattern of adjustment is a function of interaction between the sex of the adolescents and

their locus of control (LC) i.e., the boys and girls belonging to 'internal' locus of control (ILC) and 'external' locus of control (ELC) groups differ in their adjustment patterns. Therefore, the null hypothesis to be tested would be: In Bangladesh, adolescent boys and girls with differential locus of control orientation do not vary with regard to their adjustment patterns in different areas in life.

- v) The nature and pattern of adjustment is a function of the interaction between the sex of the adolescents and their purpose-in-life (PIL) orientations i.e., the adolescent boys and girls belonging to different purpose-in-life (PIL) groups differ in their adjustment patterns. Therefore, the null-hypothesis to be tested would be: In Bangladesh, adolescent boys and girls belonging to different purpose-in-life (PIL) groups do not vary with regard to their adjustment patterns in different areas in life.

- vi) The nature and pattern of adjustment is a function of the interaction between the locus of control (LC) and purpose-in-life (PIL) orientation of the adolescents i.e., the 'internal' and the 'external' adolescents

belonging to different purpose-in-life groups differ in their adjustment patterns. Therefore, the null-hypothesis to be tested would be: In Bangladesh, 'internal' and 'external' adolescents belonging to different purpose-in-life (PIL) groups do not vary with regard to their adjustment patterns in different areas in life.

- vii) The nature and pattern of adjustment is a function of the interaction between sex, locus of control (LC), and purpose-in-life (PIL) of the adolescents i.e., 'internal' and 'external' adolescent boys and girls belonging to different purpose-in-life (PIL) groups differ in their adjustment patterns. Therefore, the null-hypothesis to be tested would be: In Bangladesh, internally and externally oriented adolescent boys and girls belonging to different purpose-in-life (PIL) groups do not vary in regard to their adjustment patterns in different areas in life.

2.4. The Variables:

The meaning and psychological relevance of the major independent and dependent variables under investigation have been discussed in Chapter I. Here, an attempt is being made to define the variables operationally in terms of their levels, types and functions.

2.4.a. Independent variables:

The three independent variables in the present study were as follows:

- i) Sex difference
- ii) Internal-external locus of control (I-E LC)
- iii) Purpose-in-life (PIL),

i) Sex difference:

In bio-social researches, sex of the subject has gained paramount importance. Development of self and social attitudes, orientations and reactions are determined and differentiated by the gender-identity of the subject. The Psycho-analytic theory (Freud, 1925) stresses that motivated by powerful emotions directed at parents, the child forms a gender-identity congruent with his/her biological sex. The social learning theory (Mischel, 1970) suggests that the child develops a gender-identity through a learning process that involves modelling, imitation and reinforcement.

In their interaction with surrounding, adolescents, with definite sex-role identity, find performance of sex-appropriate behaviour reinforcing. For adolescents in Bangladesh, there are separate guidelines suggesting how boys should behave and how girls should behave. In the present investigation, biological sex difference of the Bangladesh adolescents was taken as an independent variable, assuming

that adolescent boys and girls would differ in their adjustment patterns.

ii) Internal-external locus of control (I-E LC):

The locus of control (LC) is conceptualized as a generalized expectancy related to a person's belief concerning the locus of causality of events. At one extreme are 'internals' who perceive the reinforcements they receive as functions of their own actions or characteristics, and, therefore, under personal control. At the other extreme are 'externals' who perceive the reinforcements they receive as being unrelated to their own behaviour and, therefore, beyond one's personal control (Rotter, 1966, 1975; Rotter et. al. 1962; Gilmer, 1978).

According to Rotter (1966), beliefs in I-E LC are highly relevant to adjustment. The Social learning theory (Rotter, 1954), underlying the concept of locus of control puts emphasis on the meaning of the environment as perceived and interpreted by the individual in his transactive behaviour. This perception and interpretation is based on one's previous learning experience. It is assumed that realistic 'expectancies' and 'reinforcement values' tend to make the person internally oriented, thus helping him in healthy transactive interactions. And unrealistic 'expectancies', 'reinforcement values' tend to make the person externally

oriented making his behaviour defensive. In the present study, I-E LC was taken as an independent variable on the assumption that 'internal' and 'external' beliefs would influence the Bangladesh adolescents differently in their transaction interactions in different areas in life.

iii) Purpose-in-life (PIL):

The Frankl's (1967) existential theory and logotherapy are based on the belief that each person needs to find meaning and purpose in his/her own existence. This "will to meaning" is fulfilled through self-transcendence. The psychologically healthy and well adjusted person is self-transcendent in that he has moved beyond or transcended the focus on the self. His life is directed to something other than the self, a cause to serve, or another person to relate to or love. Frankl (1955) asserts that life has meaning, and the will to meaning is inborn. One has the free will to realize his creative, experiential, and attitudinal values. Thus, one of the built-in challenges of existence is the directive that one should take an affirmative stand towards life, not allowing himself to fall victim to those forces that would rob life of its intrinsic meaning.

Twentieth century has been described as the "Age of Anxiety". According to Frankl (1946, 1980), the predominant anxiety of today is that of the 'inner void' which, in common

language, means meaninglessness or purposelessness. The degree of PIL experienced by the Bangladesh adolescents was taken as independent variable because of its wide prevalence in today's world. Also, it was assumed that different degrees of PIL would influence the adjustive transactions of Bangladesh adolescents differently.

2.4.b. Dependent variable:

Adjustment patterns of Bangladesh adolescents was taken as dependent variable because of the urgency to give a new look to the present day problem and also to study the adjustive transaction of adolescents who constitute 10.9% of the total Bangladesh population (1974-Census report, 1977).

Human adjustment is basically a purposive transactional process as the individual lives in his family-setting, engages himself in social relationships, matures emotionally, advances educationally, and grows into a both physically and mentally healthy adult. In each of these areas (e.g., home, health, society, emotion, education as well as total adjustment) the adolescent is likely to face problems of adjustment.

i) Home adjustment:

A certain degree of tension in home life is a normal accompaniment of adolescent growth. Such feelings could be a source of strong motivation for the adolescent toward his

achievement. Only when such tensions become disproportionately intense, persistent, and unmanageable, the adjustment becomes psychopathological.

Home in Bangladesh, is meant to be the centre for love and affection. However, in urban Bangladesh, the home setting seems to have changed from a pattern dominated by the "head" of the family and the decision-making power seems to have become a shared responsibility of both the parents. Adolescents now seem to enjoy more freedom than childhood period. However, adolescents are not given absolute freedom to make their own choices. An attempt was made to see if home adjustment of the adolescents was a function of their sex, locus of control, and purpose-in-life.

ii) Health adjustment:

Physical constitution is a primary condition of all behaviour. The nervous, glandular, and muscular systems have a direct bearing on overall adjustment and mental health. Furthermore, these systems are the physical groundwork of both psychic processes and behaviour, their condition and development are bases of effective adjustment. A healthy, intact, and normally developed nervous system is a "sine-quanon" of adequate psychological functioning and therefore of both adjustment and mental health (Meyer, 1961).

Preoccupation with one's bodily aches and pains, particularly during adolescence, is sometimes a symptom of failure to make wholesome social contacts and to learn how to express one's feelings. Recent developments in medicine and psychology have given rise to the interdisciplinary field, dedicated to promoting a philosophy of health, labelled "behavioural health" that stresses individual and social responsibility in the application of behavioural and biochemical science knowledge and techniques to the maintenance of health and the prevention of illness (Matarazzo, 1980).

The present study sought to see if Bangladesh adolescents were aware of the importance of their health and of the etiology, dynamics and preventive and curative measures related to health.

iii) Social adjustment:

Social adjustment is the process whereby the individual attempts to maintain or increase his status, security and creative inclinations in the face of everchanging conditions and pressures of his social environment. Adolescence is the time when relationship with peers becomes intensified. The adolescent peer group is seen as a social institution that serves specific functions. According to Seltzer (1982), the need of the adolescent to develop an adaptive sense of self is best met in the peer group. In the present study, an attempt

was made to understand the factors that help and interfere in the adjustment of Bangladesh adolescents to society and the community at large.

iv) Emotional adjustment:

Generally, adolescence is said to be a period of heightened emotionality. Physiological transition and the social expectation of the sex-appropriate behaviour makes the adolescent emotional. Emotionality, which is in its peak during early adolescence, becomes more matured and stable during late adolescence. Sometimes heightened emotionality is learned from home environment.

Emotions are inherent characteristics of man, but emotional expressions are learned. Society dictates 'how', and 'when' they should be expressed. Effective emotional expressions help in effective communication. Sometimes, adolescents, who have experienced some major blockages in the free expression of their feelings during infancy and childhood, show inhibited manner of responding to emotionally stimulating situations.

In the present study, an attempt was made to see if emotional adjustment of the adolescents was a function of their sex, locus of control (LC), and purpose-in-life (PIL).

v) ^{ca}Edu~~t~~ional adjustment:

Educational adjustment is the process where the learner actively participates in the learning situation. The degree of an adolescent's successful adjustment in his learning experiences is affected by such factors as the learner's degree of mental ability, readiness, interest, appropriateness of curriculum offerings, teachers attitude and teaching techniques (Crow, 1967).

The educational institution provides an enlarged sphere of self-directed activity and self-dependence to the adolescent. During adolescence, the demands upon him are usually greater than those in his earlier academic life. An adolescent's successful adjustment largely depends on understanding and application of suitable and efficient techniques.

In the present study, an attempt was made to see if educational adjustment of the adolescents was a function of sex, locus of control (LC), and purpose-in-life (PIL).

2.5. The Sample:

The sample for the present study comprised of 1,300 adolescents from Bangladesh: 631 of them were girls and 669 were boys. The age range was from 15 to 18 years i.e. late adolescence. All the adolescents were from the first and second years of college. The sample selection was made with

the following considerations;

- i) None of the subject was physically and psychologically handicapped. This was done by taking the opinion of Principals of the colleges and the class teachers.
- ii) Subjects were taken from the urban area of the Divisional headquarters only (See map, p.94).
- iii) Subjects were taken from all educational streams such as, humanities, science, commerce and home science.
- iv) Subjects were taken from adolescents with different religious groups i.e., Islam, Hinduism, Christianity and Buddhism.

Bangladesh is constitutionally divided into four Divisions (See map, p.94) namely, Dhaka (Centre), Chittagong (East) Khulna (South) and Rajshahi (North). Data were collected from all the four Divisional headquarters. The sample distribution for each of the Divisions can be seen in the table below (Table 1) and also in the map (p.94).

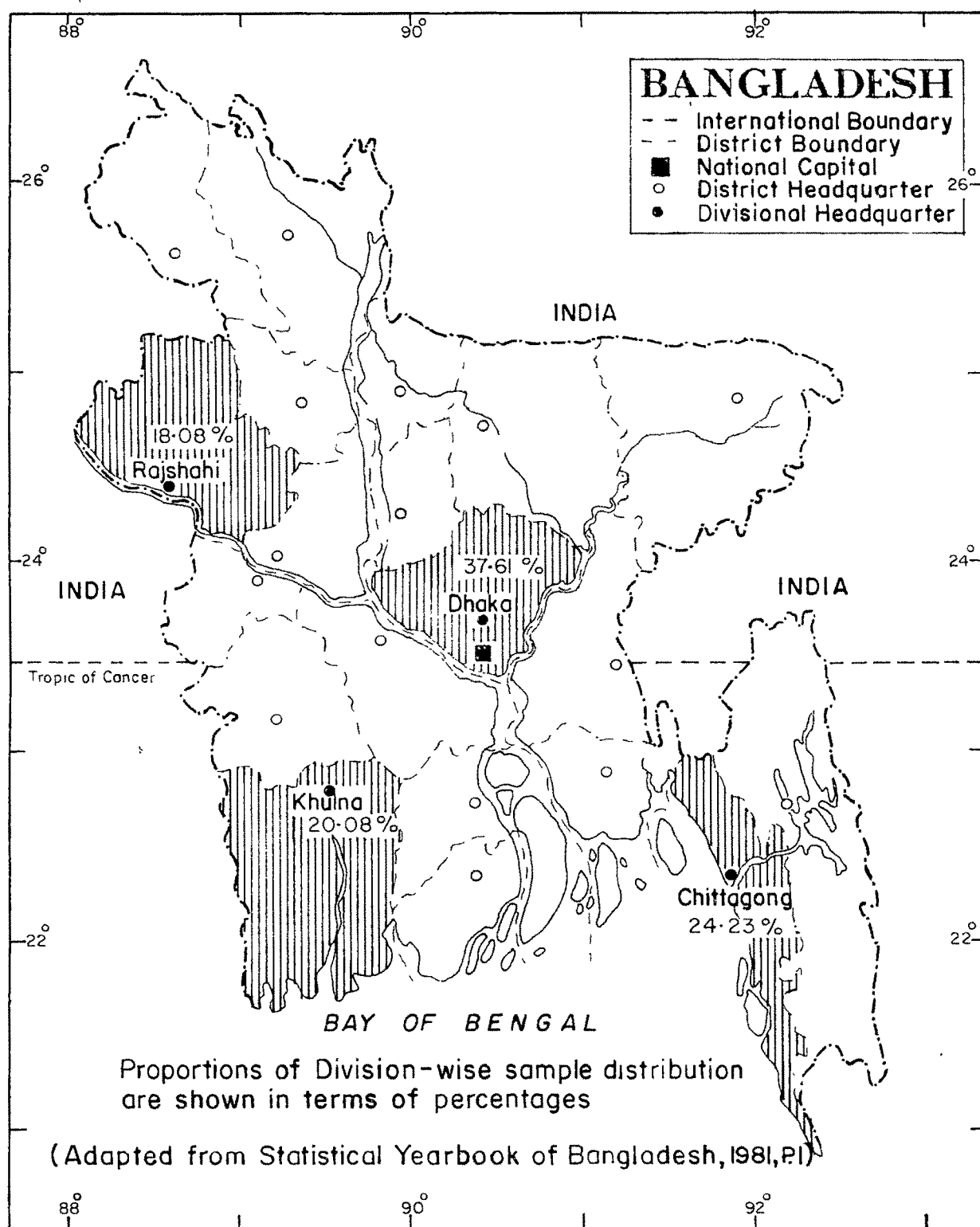


Table - 1:

Sample Distribution in terms of Four Divisional Area and Sex Difference:

Divisional Head Quarters	Boys	:	Girls	Total	Perce- tage
Dhaka	188		301	489	37.61
Chittagong	205		110	315	24.23
Khulna	161		100	261	20.08
Rajshahi	115		120	235	18.08
Total	669		631	1300	

The sample was collected randomly from the different colleges. A College-wise distribution of sample under four Divisional headquarters is presented below. (Table 2).

Table - 2 :

College-wise Sample Distribution under the Four Divisional Areas:

Divisional Head Quarters	Name of the Colleges	N	Grand Total	Percentage
Dhaka	1. College of Home Economics.	95	489	37.61
	2. Kabi Nazrul Govt. College.	141		
	3. Shiddheswari Girls' College.	196		
	4. Dhaka University Laboratory School.	46		
	5. Dhaka College.	06		
	6. Titumir College.	03		
	7. Jagannath College.	02		
Chittagung	1. Chittagong Govt. College.	315	315	24.23
Khulna	1. Azam Khan Govt. Commerce College.	172	261	20.08
	2. Pioneer Girls' College.	89		
Rajshahi	1. Rajshahi Govt. College	92	235	18.08
	2. New Govt. Degree College	50		
	3. Rajshahi Govt. Girls' College.	50		
	4. Govt. City College.	43		

Dhaka is the capital city of Bangladesh, having the maximum number of colleges. This explains why the maximum number

of subjects was taken from Dhaka. In Khulna and Rajshahi, due to some political tension and non-cooperative attitudes of some college principals, the expected number of cases could not be collected.

On the basis of median-split (median = 09) of the I-E locus of control (LC) scores (as per suggestion of Rotter, 1975), the total sample was divided into two groups (See Table - 3). Below is given the sample distribution in terms of I-E scores and sex difference.

Table - 3:

Sample Distribution in terms of I-E Locus of Control and Sex Difference:

I-E Locus of Control (Score range : 00 to 17)		Boys	Girls	Total	Percentage
External Locus of Control (ELC) (10 and above)	(f)	292	316	608	46.77
	(%)	48.03	51.97		
Internal Locus of Control (ILC) (00 to 09)	(f)	377	315	692	53.23
	(%)	54.48	45.52		
Total	(f)	669	631	1300	100.00
	(%)	51.46	48.54		
$\chi^2 = 5.95; \text{ df} = 1; \underline{P} < .05$					

Table - 3 shows that the ILC group comprised of 377 adolescent boys and 315 adolescent girls, and ELC group comprised of 292 adolescent boys and 316 girls respectively.

On the basis of the quartile distribution of the purpose-in-life (PIL) scores, four groups were formed (Table - 4).

Table - 4:

Sample Distribution in terms of Degrees of Purpose-in-Life (PIL) and Sex Difference:

Purpose-in-life (PIL) in terms of quartiles of scores (Score range: 40 to 140)		Boys	Girls	Total	Percentage
High Purpose-in-Life (HPIL) (117 and above)	(f)	176	142	318	24.46
	(%)	55.35	44.65		
Moderately High Purpose-in-Life (MHPIL) (107 to 116)	(f)	180	141	321	24.69
	(%)	56.07	43.93		
Moderately Low Purpose-in-Life (MLPIL) (95 to 106)	(f)	158	171	329	25.31
	(%)	48.02	51.98		
Low Purpose-in-Life (LPIL) (40 to 94)	(f)	155	177	322	25.54
	(%)	46.69	53.31		
Total	(f)	699	631	1300	100.00
	(%)	51.46	48.54		

$$x^2 = 9.24; \quad df = 3; \quad p < .05$$

Table - 4 indicates that the maximum number (N=332) of cases fall under LPIL group, followed by MLPIL (N=329), MHPIL (N=321) and HPIL (N=318).

2.6. Tools:

In the present study, the following tools were used.

- (a) Internal-External Locus of Control Scale (I-E LC).
- (b) Purpose-in-Life Scale (PIL).
- (c) Adjustment Inventory of College Students (AICS)
- (d) Case History.

In order to make the test more comprehensible to Bangladesh adolescents, all the three scales (I-E LC Scale, PIL Scale, and Adjustment Inventory for College Students) were translated by expert and professional translators into the national language of Bangladesh i.e., Bengali (See Appendix- A). These translations were checked by experts who knew Hindi, English, and Bengali equally well.

2.6.a. Internal-External Locus of Control Scale (I-E LC):

The locus of control was measured by Rotter's (1966) I-E Locus of Control Scale which measures a person's perception of contingency relationships between his own behaviour and events following that behaviour.

After a rigorous process of item-analysis, the I-E scale, in its present form, consists of 23 paired questions, using a forced-choice format, plus six filler questions (See Appendix -B). 'Internal' statements are paired with 'external' statements. One point is given for each 'external' statement selected. Scores on the scale range from 0 (most 'internal') to 23 (most 'external'). Rotter (1975) suggested that ILC and ELC groups be formed on the basis of mean or median of the I-E scores of the subject. The same method was followed in the present study.

The I-E Scale has an internal consistency coefficient (Kuder-Richardson) of .70 obtained from a sample of 400 Ohio State University Students (Rotter, 1966). For the two sub-groups of Rotter's sample, test-retest reliability coefficients were computed, with a value of .72 for college students, after one month (for males, $r = .60$; for females, $r = .83$). After two months, an r of .55 was obtained for 117 college students (for males, $r = .49$; for females, $r = .61$). Rotter (1966) also suggested that somewhat lower reliability for a two months period may be partly a function of the fact that the first test was given under group conditions and the second was individually administered. As regards convergent validity, it can be said that about 50% of the I-E LC investigators have employed the Rotter scale. About the discriminant validity, Rotter (1966) reported that correlations with the Marlowe-Crowne Social

Desirability Scale range from $-.07$ to $-.35$. Correlations with Edward's Social Desirability Scale have been found to range between $-.23$ to $-.70$. Correlations with measures of intelligence have ranged from $.03$ to $-.22$.

The test is self-administering and can be completed in about 15 minutes. It has been widely used in different Indian Contexts.

2.6.b. Purpose-in-Life Scale (PIL):

The PIL Scale was developed by Crumbaugh (1968) to measure the degree to which a person experiences a sense of meaning and purpose in his daily life. The scale is based on Frankl's (1946, 1980) theses that when meaning in life is not found, the result is 'existential frustration' (or among mental patients, noögenic neurosis).

PIL is a 20-item, 7 point Likert-type Scale extending from one extreme of feeling to its opposite kind of feeling (See Appendix -C). The subjects were asked to read each item carefully and then give their responses on the seven point scale. The total scores, therefore, range from 20 (low PIL) to 140 (high PIL). Numerically higher scores reflect increased purposefulness or self-transcendence.

The scale was originally developed on 406 normals and 335 psychiatrics from Georgia. Average scores tended to skew toward the positive end of the scale which gives support for

the scale's validity. Within each of the two samples, PIL scores correlated .47 with ministers rating (for the Parishover sample) and .38 with therapist ratings (for the out-patient sample). The PIL scale correlated significantly with the depression scale of the MMPI ($r = -.65$). It also correlated about .40 with the Srole Anomia Scale.

As regards reliability of the scale, a split-half correction of .85 was reported for 120 Parishovers. No test-retest data were reported.

The scale is self-administering in nature. The instructions appeared at the top of the questionnaire. There was no time limit. In the present study, subjects took about 10 minutes to complete all the twenty items (See Appendix -C).

2.6.c. Adjustment Inventory for College Students (AICS):

The Adjustment Inventory was developed by Sinha and Singh (1977) to segregate normal from poorly adjusted college students of all grades in respect of five areas of adjustment i.e., home, health, social, emotional, educational as well as total adjustment. The test is helpful in screening the poorly adjusted students who may need further diagnostic study and counselling.

The inventory has been prepared in Hindi and after a rigorous process of item analysis, this scale, in its present

form, has 102 items (Home = 16; Health = 15; Social = 20; Emotional = 30; and Educational = 21), (See Appendix-D). Responses to each item were given in 'yes' and 'no' form. The use of the letters 'Ka', 'Kha', 'Ga', 'Gha' and 'Cha', in the questionnaire corresponds to the measures of five areas of adjustment (See Appendix -D). Scoring was done according to the instructions given in the Manual (Sinha and Singh, 1977). For any response indicative of adjustment, zero was given. Otherwise a score of 1 was given. Thus, high scores indicate poor adjustment and low scores indicate better adjustment. Responses were classified and analyzed, as indicated in the Manual, in terms of five categories i.e., "Excellent", "Good", "Average", "Unsatisfactory", and "Very Unsatisfactory".

The inventory was validated by item-analysis. In item-analysis, validity coefficients were determined for each item by biserial correlation method and only such items were retained which yielded correlation of item (i) with the total scores on the inventory, and (ii) with the area total scores, significant at .001 level (Sinha and Singh, 1977). The inventory was also validated by the authors through correlation of the inventory scores with ratings by Hostel Superintendents. This was done on a sample of 120 students living in different hostels of Patna University. The Hostel Superintendents, rated the students on a five point scale, namely, "Excellent", "Good", "Average", "Unsatisfactory", and "Very Unsatisfactory" in

respect to their adjustment. The Product-moment coefficient of correlation between the inventory scores and superintendents ratings was found to be .58.

The 102-item test was administered to a sample of 2280 (1550 males and 730 females) students of Patna and Magadh University. Reliability coefficients of the test were determined by the Split-half method (Home = .87; Health = .83; Social = .96; Emotional = .95; Education = .97; and Total = .94), test-retest reliability was determined by administering the test after three weeks on 10% of the total sample (Home = .85; Health = .82; Social = .95; Emotional = .94; Educational = .96; Total = .93). Inter-correlations among the five areas of the inventory were calculated and they revealed that correlations among various areas vary from .14 to .32 with an average of .22.

The test is self-administering with instructions appearing at the top of the questionnaire. In the present study, subjects took about half an hour to complete the questionnaire of 102 items (See Appendix -D).

2.6.d. Case History:

A specially designed Case History Form was used to record case studies of a representative number of cases (See Appendix -E). The form consists of several areas of information related to the subject's childhood experiences, health condition, home environment, parental, parent-child

and sibling relationships, relation with peer-group members, neighbours, participation in group activity, economic condition, attitude toward vacation, emotional state, social status.

The form was designed in such a way that there were no direct questions. Case study was conducted through intensive individual interviews.

2.7 . Plan and Procedure of Data Collection:

The study was planned to be conducted in four phases and the procedure followed the same plan.

Phase I : Principals of different colleges were contacted for making the first and the second year college students available for the purpose of the present study.

Phase II : A pilot study was conducted on 50 adolescents (25 boys and 25 girls) to check the comprehensibility of the research tools and to understand the nature of the sample.

Phase III : For the purpose of the actual study, the researcher met the groups of college students in their familiar class-room set up. The eight-page booklets containing the three scales were distributed among the students after the necessary introductory remarks. The subjects were asked not to discuss the tests amongst

themselves. The importance of the need for "individual opinion" was stressed.

In each testing session, it took about one hour to complete all the three tests.

Phase IV : Case studies of randomly selected 60 cases were conducted. Case selection was based on their response in the adjustment inventory. Cases representative of all five categories of adjustment i.e., "Excellent", "Good", "Average", "Unsatisfactory", and "Very Unsatisfactory" were taken for study.

2.8. Design and Analysis of Data:

For the analysis of data, the following statistical techniques were used.

For classifying the group in terms of locus of control, the median-split of I-E scores was computed.

For classifying the group in terms of purpose-in-life, the quartile distribution of the PIL scores was computed.

To study the ~~main and interaction~~ effects of different independent variables i.e., sex difference, locus of control (LC), and Purpose-in-life (PIL), and their interactions on different areas of adjustment (e.g. home, health, social, emotional, educational as well as ~~their~~ total adjustment),

means, standard deviations, and 2 x 2 x 4 analysis of variance were computed. Analysis of variance is useful when more than two levels of a variable are to be compared and interaction between different variables along with their different levels are to be seen. In the present study, 2 x 2 x 4 analysis of variance took into consideration two levels of sex (boys and girls), two levels of locus of control (ILC and ELC), four levels of purpose-in-life (HPIL, MHPIL, MLPIL, and LPIL) in producing their main and interaction effects on different areas as well as on total adjustment of adolescents. A total of six (6) F tests were computed.

The relationships between sex difference, locus of control (LC), and purpose-in-life (PIL) with each of the areas as well as total adjustment were ~~seen~~ seen by Chi-square (χ^2). Since the category-wise distributions were in terms of frequencies, and not in terms of scores, Chi-square was the relevant technique. For preparing the contingency table, first the sample was classified according to variables namely, sex difference, I-E locus of control, and purpose-in-life; then proportions of the subjects under each category of adjustment i.e., "Excellent", "Good", "Average", "Unsatisfactory", and "Very Unsatisfactory" were seen. In all, eighteen (18) Chi-squares were computed.

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