CHAPTER – IV

METHODOLOGY

CHAPTER-IV

METHODOLOGY

The purpose and aim of the present study "Psycho-social Predictors of Scholastic Attainment in High School Students" was to find out the contribution of various factors of family environment coupled with self-efficacy, self-esteem and emotional intelligence in academic achievement among government school and private school students in the two genders. To meet the objective of the study, the following methodology was adopted for carrying out the research.

The goal of the present chapter is to clarify:

1.   Design of the study

2.   Sample selection and data collection

3.   Tools used

4.   Procedure

5.   Scoring and statistical analysis

4.1 Design of the Study

The present investigation was designed to study the relationship of various factors of family was environment i.e. cohesion, expressiveness, conflict, independence, achievement orientation, intellectual cultural orientation, active recreational orientation, moral religious emphasis, organization and control with self-efficacy, self-esteem and various factors of emotional intelligence i.e. self awareness, managing emotions, motivating oneself, empathy and handling relationship and among adolescent students of two different samples i.e. government school and private school with equal number of males and females. Hence, correlational design was used to observe the relationship between these variables and academic achievement. It was further subjected to stepwise

regression analysis to find out the exact variance explained by the above mentioned factors in academic achievement. Finally, ANOVA (Analysis of Variance) was applied to verify if there were significant difference between samples i.e. government school and private school males and females on the variables under study i.e. family environment, self-efficacy, self-esteem and emotional intelligence. It may be mentioned that this was another aim of the present study.

4.2 Sample

The initial sample comprised of 800 students (400 boys and 400 girls) of class 8-9th age ranging between 13-16 years from schools of Mandi in the state of Himachal Pradesh. All these schools follow identical syllabi of courses and system of evaluation. The students were matched on intelligence i.e. IQ score for which all 800 were given the Standard Progressive Matrices (SPM) (Raven & Raven, 1977). Subjects lying between 75th to 85th percentiles were selected and the groups did not vary significantly on this factor. They were almost equal on intelligence.

4.3 Research Tools Used

In the present study, the following tools have been used:

1. Family Environment Scale (Moos & Moos, 1994).

2. General Self-Efficacy Scale Hindi (GSEI-Hindi) (Sud, 2002).

3. Self-esteem Inventory (SEI) (Coopersmith, 1987).

4. Multi Dimensional Measure of Emotional Intelligence (MMEI) (Darolia, 2003).

5. Standard Progressive Matrices (SPM) (Raven, Court, & Raven, 1977).

6. Academic Record (Annual Result of Previous Class).

4.3.1 Family Environment Scale (FES) by Moos and Moos (1994)

The family environment scale is used to describe family social environment. It is composed of 10 subscales that measure the actual, preferred and expected social environment of families. These 10 FES subscales assess three underlying sets of dimensions: relationship dimensions, personal growth dimensions and system maintenance dimensions. The descriptions of these subscales are as follows:

Relationship dimension include:

i)   **Cohesion (C):** Cohesion subscale measures the degree of commitment, help and support family members provide for one another, for example: the way they support one another, the amount of energy put into what they do at home, and how much feeling of togetherness is in the family.

ii)   **Expressiveness (EX):** Expressiveness subscale measures the extent to which family members are encouraged to express their feelings directly.

iii)   **Conflict (CON):** This subscale measures the amount of openly expressed angle, aggression and conflict among family members.

Personal growth dimension include:

iv)   **Independence (IND):** The independence subscale measure the extents to which family members are assertive, are self-sufficient, and make their own decisions.

v)   **Achievement orientation (AO):** The achievement orientation subscale taps the extent to which activities, such as schools and work, are cast into an achievement-oriented or competitive framework.

vi)   **Intellectual Cultural Orientation (ICO):** It assesses the degree of interest in political, intellectual and cultural activities.

vii) Active Recreational Orientation (ARO): This subscale taps the extent of participation in social recreational activities.

viii) Moral-Religious Emphasis (MRE): It measures the degree of emphasis on ethical and religious issues and values.

System maintenance dimension include:

ix) Organization (ORG): It measures the importance of clear organization and structure in planning family activities and responsibilities.

x) Control (CTL): It assesses the extent to which set rules and procedures are used to run family life.

FES has following 3 forms:

1) The real form (form R) measures people's perception of their current family environment.

2) The ideal form (form I) measures people's preferences about ideal family environment.

3) The expectations form (form E) measure people's expectations about family settings.

In the present study, form R has been used. Form I and form E are parallel to form R i.e. each of the 90 item in form I and form E corresponds to an item in form R.

The validity and reliability of the scale is in expectable range on Indian sample. The internal consistencies (Cronbach's alpha) for each of ten subscales are all in an acceptable range and vary from moderate for independence and achievement orientation to substantial for cohesion, organization, intellectual cultural orientation and moral-religious emphasis. Internal consistency range from .61 to .78 for the ten subscales and the test-retest reliability range from .68 to .86.

Instruction

Following instructions were given to the subjects. "Please read each statement in your booklet and then, in the boxes on the other side of this sheet, mark your answer by making 'X' in the appropriate box. (True, if you think the statement is true of your family and False, if you think the statement is false of your family). Work across from left to right and be sure to match each number in the booklet with each one on this sheet. There are 90 items it, please answer them all."

Scoring

Regarding scoring, the FES items are arranged so that each column of responses on the answer sheet constitutes one subscale. Scoring is done with the help of template. The scores simply counts the number of "X" showing through the template in each column and enters the total in raw score box at the bottom.

4.3.2 General Self-Efficacy Scale Hindi (GSEI-Hindi) by Sud (2002)

The generalized self-efficacy scale-Hindi is a ten item scale, which has been translated by Mary Wegner from the original German version by Schwarzner and Jerusalem (in Schwarzer, 1992). It is now available in 25 languages (Schoiz, Dona, Sud & Schwarzer, 1992) and mainly assesses the strength of an individual belief in his or her own ability to respond to novel or difficult situations and to deal with associated obstacles or setbacks.

Instructions

Following instructions were given to the subjects: "This is a self-administered scale which normally takes two to three minute to complete. For each statement, choose one response alternative that describes you the best.

There is no right or wrong answers. Read each statement carefully, before responding. When you have decided on your answer, put a cross mark (X) in the box corresponding to that answer. There are 10 items in it, answer them all."

Scoring

Each item has a four choice response pattern rending from 'not at all true' which scores '1' to 'exactly true' which scores '4': The scores of each of the ten items are summed to give a total score. Thus, the range of possible scores for this instrument could vary from a minimum score of 10 to a maximum score of 40.

The coefficient of internal consistency, estimated by Cronbach's alpha was determined to be .75 and the validity of the scale is also high.

4.3.3 Self-Esteem Inventory (SEI) by Coopersmith (1987)

Self-esteem inventory is used to measure the set of attitudes and beliefs that a person brings with him-or her when facing the world. The SEI is designed to measure evaluative attitudes towards the self in social, academic, family, and personal areas of experience.

Self-esteem inventory has 3 forms

1)   The school form: This form is used with students aged eight through fifteen and consist of fifty-eight items: fifty self-esteem and eight items that constitute the lie scale, which is a measure of a student's defensiveness or test wiseness.

2)   The school short form: This experimental form is used with the same age group as the school form. The school short form does not include lie scale items and does not elicit subscale scores.

3)   The adult form: This form is used with person aged sixteen and above. It consists of twenty five items adopted from the school short form.

In the present study, the school short form has been used. Internal consist every range from .80 to .86 for the school form of self-esteem inventory and for the school short form reliability coefficient would probably be somewhat lower because of the shorter length. Its split half reliability coefficient ranges from .71 to .74.

Instructions

Following instructions were given to the subjects "Please read each statement in your booklet. You will find a list of statements about feelings. If a statement describes how you usually feel, put an X in the column 'Like me" if a statement does not describe how you usually feel, put an X in the column 'unlike me'. There is no right or wrong answer. Begin at the top of the page and mark all 25 statements."

Scoring

Scoring of SEI can be scored in a few minutes by using the scoring keys. If a scoring key is not available, the general rules listed below would be followed when scoring the self-esteem items.

1. Score negative items correct (for example, "I get upset easily at home) if they have been answered "unlike me".

2. Score positive items correct (for example, "1" pretty sure of myself") if they have been answered "like me".

To arrive at a total self score, sum the number of self-esteem items answered correctly. For the school short form multiplies the total raw score by four.

4.3.4 Multi Dimensional Measure of Emotional Intelligence (MMEI) by Darolia (2003)

It measures the multi-dimensions of emotional intelligence. It is composed of five subscale i) self-awareness (SA), ii) managing emotions (ME), iii) motivating one-self (MO), iv) empathy and v) handling relationship (HR).

The questionnaire consists of 80 items and it is a 5-point scale viz. very true, mostly true, somewhat true, mostly false, and very false. All the 80 items are distributed in five dimensions, each consisting of 16 items. The test has been designed so as to control for responses set through the balancing of affirmative and negative statement. The description of the five dimensions of the MMEI as follows:

1. **Self-awareness (SA):** It assesses the extent to which one can observe himself or herself. It consists of item numbers 4, 7, 8, 15, 28, 29, 39, 40, 47, 52, 61, 67, 68, 74, 77, 80

2. **Managing emotions (ME):** it measures the handling of feelings so that they are appropriate; realizing what is behind a feeling; finding ways to handle fears and anxieties anger and sadness. It consists of item numbers 6, 13, 17, 19, 22, 26, 31, 37, 46, 51, 57, 58, 63, 69, 71, 76.

3. **Motivating one-self (MO):** It measures the channeling emotions in the service of goal; emotional self control; delaying gratification and stifling impulses. It consists of item numbers 3, 9, 14, 16, 18, 27, 30, 38, 43, 44, 54, 59, 60, 62, 72, 78.

4. **Empathy (E):** It assesses the extent to which one is sensitive to other's feelings, concerns, and taking their perspective; appreciating the differences in how people feel about things. It consists of item numbers 1, 2, 10, 23, 24, 34, 35, 41, 49, 50, 55, 65, 66, 70, 73, 75.

5. **Handling relationship (HR):** It measures the management of emotions in others; social competence and social skills. It consists of item numbers 5, 11, 12, 20, 21, 25, 32, 33, 36, 42, 45, 48, 53, 56, 64, 79.

Instructions

Following instructions were given to the subjects: "The following statements inquire about your thoughts and feelings in variety of situations. For each statement choose one response alternative that describes you the best. There is no right or wrong answer. Read each statement carefully, before responding. When you have decided on you answer, put a cross mark (X) in the box corresponding what is true of you. Please answer every statement. Your answers will be kept entirely confidential. If you have any question ask them now"

Scoring

The five different scoring keys were prepared for five dimensions. The scores for each dimension were calculated separately. I = very true, 2= Mostly true, 3= somewhat true, 4 = mostly false and 5= very false. And for some items in each dimension the scoring was done in reverse manner. Two types of reliability coefficients were worked out for all five sub scales. The coefficient alpha, which is more meaningful for test like MMEI, ranged between .76 to .81. The test retest coefficient ranged between .79 to .84. The validity of the scale is also high.

4.3.5 Standard Progressive Matrices (SPM) by Raven, Court, & Raven (1977)

The Standard Progressive Matrices (sets A, B, C D and E) or SPM, is a test of person's capacity at the time of the test to apprehend meaningless figures presented for his observation, to see the relations between them, conceive the

nature of the figure completing each system of relations presented, and by so doing, develop a systematic method of reasoning. The scale consists of 60 problems, divided into five sets of 12. In each set the first problem is as nearly as possible self-evident. The problems which follow become progressively more difficult. The five sets provide five opportunities for grasping the method and five progressive assessments of a person's capacity for intellectual activity. To ensure sustained interest and freedom from fatigue, the figures in each problem are boldly presented, accurately drawn and as far as possible, pleasing to look at.

Instructions

Following instructions were given to the subjects, "All you have to do is to point each time to the bit which is the right one to complete the pattern. They are simple at the beginning and get harder as you go on. If you pay attention to the way the easy ones go, you will find the later ones less difficult. Just point to the piece which completes the pattern. Now carry on at your own pace. See how many you can get right. You can have as much time as you like. There is no need to hurry. Be careful. Remember each time only one bit is quite right."

Scoring

When the series is given as an individual test, the person recording results enters on the form the number of each piece pointed to. If a person points to more than one piece, the piece he finally points to count right or wrong. A person's score on the scale is the total number of problems he solves correctly when he is allowed to work quietly through the series from the beginning to the end. Then the raw score is changed to percentiles score using the tables SPM IX to XI. Reliability ranges from 0.83 to 0.93 and its validity (predictive) ranges up to 0.70.

4.3.6 Academic Record (Annual Result of Previous Class)

The academic records of the students were taken from their respective schools. All the students were from class eighth to tenth, so their previous class results were noted down.

4.4 Statistical Analysis

Appropriate statistical techniques were applied taking into consideration the objective of the study and some are given below:

Stage One: Comprised of correlational analysis to find out the relationship between academic achievement, ten factors of family environment, self-efficacy, self-esteem and five factors of emotional intelligence.

Stage Two: includes the stepwise regression analysis to see the best set of predictors for academic achievement in all the samples. The order of entry of the predictor variables into stepwise regression was on the basis of the value of correlation.

Stage Three: Includes ANOVA (Analysis of variance) to find out the significance of difference between schools and gender on all the following variables: family environment, self-efficacy, self-esteem and emotional intelligence.