Chapter – 111

Methodology
STATEMENT OF THE PROBLEM

It is evident that academic achievement is influenced by various factors and the educationalist and psychologist approach to behavior is analogous. The present investigation “Academic Achievement in relation to School Environment, Home Environment and Mental Health Status among High School Students” The objectives and hypotheses, method and the material chosen to accomplish the requirements of the study are discussed in this chapter.

OBJECTIVES

The following are the objectives of the present investigation.

1. To assess the influence of school environment on the academic achievement of high school students.
2. To examine the influence of home environment on the academic achievement of high school students.
3. To enquire whether the mental health status of the students has any significant impact on the academic achievement.
4. To find out the impact of demographic variables such as gender, locality of residence and type of school on academic achievement.

HYPOTHESES

Based on the above objectives, the following hypotheses are formulated for the present study.

1. There would be significant impact of School Environment on the Academic Achievement of high school students.
2. There would be significant impact of Home Environment on the Academic Achievement of high school students.
3. There would be significant impact of Mental Health Status on the Academic Achievement of high school students.
4. There would be significant interaction among the three independent variables with regard to academic achievement of high school students.
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5. Gender, Locality and Type of School would significantly influence on the Academic Achievement among high school students.

6. There would be significant impact of Gender, Locality and Type of School on School Environment among high school students.

7. There would be significant impact of Gender, Locality and Type of School on Home Environment among high school students.

8. There would be significant impact of Gender, Locality and Type of School on Mental Health Status among high school students.

POPULATION

The population of the present study comprised 1200 high school children. The schools were selected randomly in and around Chittoor and Kadapa districts of Andhra Pradesh. Systematic random sample technique was used. Subjects were divided into two groups i.e., urban and rural areas, co-education and non-co-education including both boys and girls. Of the 1200 subjects 600 were boys and 600 were girls. From each category 300 from rural and 300 from urban were taken in to consideration. The distributions of the population under different categories are shown in the following table.

DISTRIBUTION OF THE POPULATION

<table>
<thead>
<tr>
<th>Locality</th>
<th>Boys Total</th>
<th>Girls Total</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Co-Education</td>
<td>Non-Co-Education</td>
<td>Co-Education</td>
</tr>
<tr>
<td>Rural</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Urban</td>
<td>150</td>
<td>150</td>
<td>150</td>
</tr>
<tr>
<td>Total</td>
<td>300</td>
<td>300</td>
<td>300</td>
</tr>
</tbody>
</table>
Methodology

The three psychological tools namely school environment, home environment and mental health status inventories were administered to subjects and finally 480 students were selected (based on the scores obtained by the subjects, the subjects are divided into high and low groups using mean+1 and mean-1 standard deviation formula for the investigation with 60 sample in each cell and the particulars of the sample are shown in table IA.

Table IA: Distribution of the Final Sample of the Investigation.

<table>
<thead>
<tr>
<th>Mental Health</th>
<th>Perceived School Environment</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>High</td>
</tr>
<tr>
<td></td>
<td>Home Environment</td>
<td>Home Environment</td>
</tr>
<tr>
<td></td>
<td>Poor</td>
<td>Good</td>
</tr>
<tr>
<td>Low</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>High</td>
<td>60</td>
<td>60</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>120</td>
</tr>
</tbody>
</table>

VARIABLES STUDIED

To test the hypotheses, the following variables are studied.

DEPENDENT VARIABLE

The marks obtained by the students in their previous academic year annual exams (9th class subject-wise) were collected from the school record and this constituted the dependent variable scores.

INDEPENDENT VARIABLES

School Environment Inventory

Home Environment Inventory and

Mental Health Status

DESCRIPTION OF TOOLS

A bio-data sheet was prepared seeking information about the respondents’ sex, locality, type of school, type of family, education and occupation of the parents etc.

SCHOOL ENVIRONMENT INVENTORY
Methodology

School environment inventory developed and standardized by Manjuvani (1989) was used in the present study. The inventory consists of 60 statements and it was sub divided into part-A and part-B. Part-A consist of 50 statements and the statements are sub divided into six dimensions designed with three point scale (many times, sometimes and rarely). Part-B consist of 10 items with two point scale (Yes/No). The particulars of dimensions are given below.

1. **Creative Stimulation:** This refers to such teacher’s activities which promote the child’s ability to find new solutions to a problem, new modes of artistic expression, bring into existence a product new to the individual.

2. **Cognitive Encouragement:** It implies teacher’s behaviors which promote the child awareness off its surrounding, understanding things and solution, to think and reason clearly and an overall efficiency in intelligent behavior.

3. **Permissiveness:** It indicates a school climate in which students are provided opportunities to express their views freely.

4. **Acceptance:** It refers to teacher recognition that students have the right to express feelings, to uniqueness, and to be autonomous individuals. Teachers accept the feelings of students in a non-threatening manner.

5. **Control:** It indicates autocratic atmosphere of the school in which general restrictions are imposed on students to discipline them.

6. **Influence of Classmates:** It implies behavior of other students in the class towards the child.

In part-A of the seventh factor score can be obtained separately. School environment score for each subject was obtained by summing the scores of seven factors. The higher the score, better the school environment. In part-B all the ten items can be added to yield score on school physical setting. The reliability of the test established using testretest method 0.82. (Appendix-I)
HOME ENVIRONMENT INVENTORY

To assess the pupils’ home environment, the home environment inventory developed and standardized by Manjuvani (1989) was used. The inventory consists of 78 statements and it was sub divided into part-A and part-B. Part-A consist of 66 statements and the statements are sub divided into ten dimensions designed with three point scale (many times, sometimes and rarely). Part A items related perceived psycho-social environment. Part-B consists of 36 statements (12 items; divided into three categories: availability, opportunity and utilization). Part-B deals with the physical aspects of the home environment. Both part A and B together gives a comprehensive behavioral, structural and experiential components of home environment. The higher the score, better the home environment. The particulars of ten dimensions are given below. The reliability of the test established using test retest method 0.86. (Appendix-II)

1. **Permissiveness:** It includes provision of opportunity to child to express his views freely and act according to his desire with no inference from parents.

2. **Control:** It indicates autocratic atmosphere in which many restrictions are imposed on children by the parents in order to discipline them.

3. **Conformity:** It indicates parent’s directions, commands, or an order with which child is expected to comply by actions. It refers to demands to work according to parent’s desires and expectations.

4. **Rejections:** It indicates hostile atmosphere which includes excessive criticism, invidious comparisons, refusal to pay attention, un concern for the child’s welfare and no right to express feelings.

5. **Reward:** It includes symbolic rewards to strength or increase the probability of desired behavior.

6. **Punishment:** It implies infliction of pain or discomfort, denial or removal of satisfaction, to eliminate the occurrence of undesirable behavior.

7. **Protectiveness:** It implies prevention of independent behavior and prolongation of infantile care.
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8. **Nurturance**: This includes the tendency of the parents to take care of the child’s physical, psychological and social requirements so that the child grows happily. This involves all carrying and supporting functions of the parents in a family.

9. **Deprivation of Privileges**: It implies controlling children’s behavior by taking away their rights to sick love, respect and other things which satisfy their needs.

10. **Cognitive Stimulation**: This refers to such parental behavior which promotes the child’s awareness of its surroundings, understandings things and situations, to think and reason clearly and an overall efficiency intelligent behavior.

**MENTAL HEALTH ANALYSIS**

Mental health Analysis Questionnaire re-standardized by the Reddy and Nagarathnamma (1992) are used to assess the mental health status of the subjects. The questionnaire consists of 100 items and the items are classified into two-broad categories 1. Assets and 2. Liabilities. Each question has two answers i.e., ‘YES’ or ‘NO’ to which the individual answers in the manner he/ she feels best. The items were randomized and printed.

**ASSETS**

Mental Health assets are attitudes, beliefs, aspirations, skills and achievement which contribute to a sense of well-being and which support progress towards realizing one’s fullest potentialities. These are sought to be amplified for promoting mental health.

**LIABILITIES**

Mental health liabilities are threats to emotional security which impede the attainment of needs, satisfactions and directives. These threats are to be minimized or corrected for promoting mental health.

Each of these categories is sub-divided into five categories having 10 items in each. They are:
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ASSETS

1. **Close Personal Relationships**: Formation of strong emotional bonds with others. Items sample possession of the confidence and respect of family and friends, participation in personal decisions; a feeling of security in relationships with authorities; and congenial association with members of both sexes.

2. **Inter-personal Skills**: Skills acquired for dealing effectively with others. Items sample sensitivity to the feelings of others; good sportsmanship; Fairness; diplomacy; tactfulness; helpfulness; loyalty and a genuine interest in others.

3. **Social Participation**: participation in a variety of activities involving others. Items sample sharing group responsibilities holding membership in organization; enjoying mutual entertainment and joint hobbies and assisting in planning group projects.

4. **Satisfying Work and Recreation**: Satisfaction stemming from recreational, educational and vocational activities. Items sample feelings of the importance of such undertakings; interests in a variety of pursuits, and participation in them beyond minimum requirements.

5. **Adequate Outlook and Goals**: Possession of generally positive and constructive attitudes in developing personal long-range plans and goals, items sample willingness to uphold the moral values of society, such as respect for the rights of others, sense of justice, adherence to the golden rule and belief in equity of opportunity.

LIABILITIES

1. **Behavioral Immaturity**: unacceptable or socially disapproved behavior for chronological age and maturity. Items examine proneness to selfishness, rudeness; impatience, spitefulness; and a lack of consideration for others.

2. **Emotional Instability**: Presence of non-adjective behavior. Items inquire into evidence of disturbances in emotional tone; extreme swings of mood, lack of responsiveness; marked over-sensitivity and unusual fears.
3. **Feelings of Inadequacy**: Feelings of personal insecurity; failure to cope adequately with everyday problems; tendencies to underrate oneself because of imagined weakness or inferiorities; feelings that insufficient recognition has been won, lack of coverage; and felt needs to excuse shortcomings.

4. **Physical Defects**: Over-sensitivity to one’s own physical particulars and unfortunate handicap which set the individual apart from others. The situations from which items are drawn are limited mainly to those involving external defects of an unusual or particularly noticeable nature, such as skin blemishes; extremes in weight or height irregular features, poor skeletal structure, unsightly teeth and sensory impairments.

5. **Nervous Manifestations**: Behavior which is symptomatic of underlying emotional stresses. Items inquire into any neuron-muscular, alimentary and sensory disturbances not organically determined, such as insomnia and other sleep irregularities, fingernail biting, muscular tenseness, lack of appetite, dizziness, stomach upsets, squinting, trembling twitching and other allied conditions.

The responses were scored with the help of the prescribed key for components of Assets and Liabilities. For assets number of ‘YES’ response was scored and for liabilities number of ‘NO’ responses were scored. Every individual gets two set of scores on the two components, namely Mental Health Assets and Mental Health Liabilities. Overall a high score on both sectors indicates good in mental health status. A split half reliability of the inventory was established separately for assets and liabilities of the mental health inventory. The correlation for the two sub-divided tests was 0.79 and 0.59 for assets and liabilities respectively. (Appendix-III)

**ACADEMIC ACHIEVEMENT**

The term achievement is generally used to refer to academic or scholastic achievement. Academic achievement signifies accomplishment or gain or a performance carried out successfully by an individual or group on the completion of a task whether it is academic manual, personal, or social. Therefore, achievement means knowledge attained or skills developed in the school subjects, usually designed by test scores or by marks assigned by teachers or by both.
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An achievement test is essentially a tool or device of measurement that helps in ascertaining quantity and quality of learning at the end in a subject of study or group of subjects after a period of instructions by measuring the present ability of the individual concerned. In the school situation, an achievement test is used as a tool for measuring the nature and extent of students learning in a particular subject or a group of subjects.

Educational achievement is usually defined in three ways - the grades the pupils earn in school, their performance in standardized tests of academic achievement, the number of years of schooling completed. Academic achievement is defined as the specified level of attainment of proficiency in academic work designed by test scores. Both physical maturation and mental readiness facilitate academic achievement. Other things equal, the more intelligent the child, the greater will his achievement in school. Hence marks obtained by the subjects in their annual examinations constituted the academic achievement.

ADMINISTRATION OF THE TOOLS

The subjects were tested in two sitting sessions. In the first sitting during the first period in the morning section the subjects were selected randomly in a class (not more than twenty subjects) and they were assembled in a room, along with their class teacher. Short introduction was given to the students and the students were instructed that these tests were no way concerned to their school subjects and thus they were encouraged to give responses honestly and frankly. The bio-data and the school environment inventory and home environment were distributed and asked to fill the particulars. After completion of the bio-data the subjects were directed how to do the inventory. Doubts if any were cleared. To make the student familiar with the test, the instructions were read with the test, to the group and the task of selecting the answer in terms of their importance were explained while the students were responding to the questionnaire. The investigator checked them to find out whether the students were responding, after completion, the questionnaires were collected. The time taken to complete the first sitting was approximately 90 minutes.

The mental health inventory was given in the second session. The subjects who have taken in the first testing were requested to assemble again. To them the mental health status questionnaire was distributed along with the responses sheets.
They were instructed how to do the test as mentioned in the manual. The instructions were read aloud to the group. Doubts if any were cleared. As soon as they finished, the booklets and the response sheets were collected. The students finished their second sitting in responding to the test and the time taken to complete the second sitting was also about 60 minutes.

SOCIO-DEMOGRAPHIC VARIABLES

Gender,
Locality of Residence and
Type of School.

RESEARCH DESIGN

The selected independent variables are three and as each variable are divided into two ways; so a 2 X 2 X 2 factorial design was employed.

STATISTICAL TECHNIQUES USED

The obtained data were subjected to statistical analysis such as means, SDs, ‘t’ test Analysis of Variance and MRA to test the hypotheses.