DESIGN AND METHODOLOGY

The present study is an 'Ex-post-Facto' cum co-relational research which deals with five independent variables namely, personality traits, creativity, self-concept, academic achievement, motivation, and values. Karlinger (1964) defines an 'Ex-Post-Facto' research as "That research in which the researcher starts with the observation of a dependant variable. He then studies the independent variable in retrospect for their possible relations to and effects on the dependant variable or variables." Moreover, in 'Ex-post-facto' research, the researcher does not have direct control of independent variable because their manifestations have already occurred or because they are inherently not manipulable. The variable of this study are 'attributes' which are already present in the subject. They are not active variables. In other words, it can be said that since none of the independent variables are subject to direct manipulation and are manipulated through selection only so the present study has a fixed model (McGuigan 1960).

The present study is basically an 'Ex-Post-Fact' in which attempt has been made to control independent variables by matching and selection. The rational behind this 'Ex-Post-facto' study is that despite its methodology weakness, it does not loose its worth in psychology. According Kerlinger (1964) if a tally of sound and important studies in psychology that 'Ex-Post-facto' studies would out number and out rank experimental studies. Again he pointed that "Despite its weakness, much 'Ex-Post-Facto' research must be done in psychology, sociology and education simply. Because many research problems do not land themselves to experimental inquiry, the variables remain not manipulable it
can be said that 'Ex-post-facto' research is more important than experimental research (Keringen 1966). Such experiments can improve upon their inherent short comings and inherent qualities by using sensitive statistical techniques (Guillford, 1959, 1966).

PROBLEM: A Comparative Study of Personality Creatively, Self Concept, Academic Achievement Motivation and Values of Adolescents Studying in different types of educational institutions.

Hypotheses –

In the light of the review of various studies the following hypotheses were framed to give specific direction to the study:

1. There is a significant difference in personality of Adolescents studying in different types of Educational Institutions.

2. Creativity among adolescent depends on the pattern of education in different types of Educational Institutions.

3. There is a significant difference in Self – Esteem of Adolescents studying in different types of educational institutions.

4. There is a significant difference in the Academic Achievement Motivation of Adolescents studying in different types of educational institutions.

5. There is a significant difference in the values of Adolescents studying in different types of Educational Institutions.

The independent variables in present investigation (Export-Facto cum co relational research) with manipulated treatment through selections is:-
Different type of Education Institutions
1. Schools directly controlled by central and state govt.
2. Private unaided Recognized schools.
3. Schools controlled and managed by Hindu Missionaries.
4. Public and convent schools.

Dependent Variables

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Personality traits</td>
</tr>
<tr>
<td>2.</td>
<td>Creativity</td>
</tr>
<tr>
<td>3.</td>
<td>Self-Concept</td>
</tr>
<tr>
<td>4.</td>
<td>Academic Achievement Motivation</td>
</tr>
<tr>
<td>5.</td>
<td>Values</td>
</tr>
</tbody>
</table>

The control of 'subject', 'situation' and 'sequence' relevant extraneous variables of the present study has been done through various techniques as under –

Subject – Relevant

<table>
<thead>
<tr>
<th>Variable</th>
<th>Technique of Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Religion</td>
<td>Randomization</td>
</tr>
<tr>
<td>Age</td>
<td>Matching</td>
</tr>
<tr>
<td>Caste</td>
<td>Randomization</td>
</tr>
</tbody>
</table>

Sequence – Relevant

<table>
<thead>
<tr>
<th>Variable</th>
<th>Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatigue</td>
<td>Elimination</td>
</tr>
<tr>
<td>Monotony</td>
<td>Elimination</td>
</tr>
</tbody>
</table>

Situational – Relevant

<table>
<thead>
<tr>
<th>Variable</th>
<th>Technique</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology</td>
<td>Randomization</td>
</tr>
</tbody>
</table>

The Sampling –

The first problem was of selecting the schools for study. There are so many schools in Kanpur which are situated near and far from
the City, Schools which are situated in the city more than 10 km. from the school limits were selected for the study.

A list of different types school was drawn and then they were classified into four categories.

1. Schools directly controlled by central and state Govt.
2. Private unaided Recognized schools.
3. Schools controlled and managed by Hindu Missionaries.
4. Public and convent schools.

400 Adolescents in the age range of 14-16 years studying in different classes from each type of the Educational Institutions were selected for the study. It included both male and female Adolescents. These Education institute were located in Kanpur city only as it helped the Investigator to collect the Data. All the students taken in the sample had at least three years of the stay in the institution. It was an essential condition as the investigation wanted to see the effect of Institution as on the variables in study. Final 400 adolescent were selected randomly. Out of 400 Adolescent 100 Adolescents which include male and females were selected from each type of Institution for selection for the sample principals of the above school contacted.

Table 1: DISTRIBUTION OF STUDENTS

<table>
<thead>
<tr>
<th>Types of Schools</th>
<th>No. of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Public &amp; Convent Schools</td>
<td>100</td>
</tr>
<tr>
<td>2. Schools directly controlled by Central &amp; State Govt.</td>
<td>100</td>
</tr>
<tr>
<td>3. Schools controlled &amp; managed by Hindu missionaries</td>
<td>100</td>
</tr>
<tr>
<td>4. Private unaided recognized schools</td>
<td>100</td>
</tr>
<tr>
<td>TOTAL</td>
<td>400</td>
</tr>
</tbody>
</table>
Tools and Data Collection –

1. Name of the test: Personality Questionnaire  
   Jr. Sr. High School

Profile – Name of the Authors – S. D. Kapoor & Rao.

<table>
<thead>
<tr>
<th>Nature of Tool</th>
<th>Individual as well as group</th>
</tr>
</thead>
<tbody>
<tr>
<td>Structure</td>
<td>Item</td>
</tr>
<tr>
<td>Duration</td>
<td>40 - 50 minutes</td>
</tr>
<tr>
<td>Reliability</td>
<td>Shown in the table – 2</td>
</tr>
<tr>
<td>Validity</td>
<td>Shown in the table – 2</td>
</tr>
<tr>
<td>Availability Source</td>
<td>Agra Psychological Research Cell, Agra</td>
</tr>
</tbody>
</table>

Description of Tool -

There are numerous personality inventories available in English and Hindi to measure different personality factors of individuals. But here researcher choice felt on personality inventory by cattell and Beloff (1963) translated in Hindi by Kapoor & Rao due to following facts-

1. The inventory is in Indian Language.
2. It contains very brief and clear instructions.
3. In items of multiple choice the respondents have simply.
4. It gives the maximum information in shortest possible time about the greatest number of dimensions of personality.
5. Hardly 45 minutes time is required to give the responses on inventory. Thus, it has neither fatigue nor boredom effect on the respondent.
6. It is convenient in administration and scoring.
### Table 3: Direct Concept Validities of the H.S.P.Q. Scales by the Method of Computer Synthesis.

<table>
<thead>
<tr>
<th>Length</th>
<th>H.S.P.Q. Personality Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A</td>
</tr>
<tr>
<td>a + 3 – C + U</td>
<td>.94</td>
</tr>
<tr>
<td>a + y + C + U</td>
<td>.91</td>
</tr>
<tr>
<td>a + g</td>
<td>.80</td>
</tr>
<tr>
<td>a</td>
<td>.87</td>
</tr>
</tbody>
</table>
The inventory consists of 142 multiple choice items. The respondents are required to put a ( X ) on answer according to their choice. Generally it takes 45 minutes to complete the inventory. However there is no time limit for it and sufficient time is allowed to the subjects to give their responses conveniently. It is primarily meant for the age group of 12 – 10 years. Butcher, Anisworth and Nerbelt (1963) describe it as "One of the more promising instrument available for use with children". The test measures 14 factors of personality. These are

<table>
<thead>
<tr>
<th>Low Score</th>
<th>High Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Schizothymia</td>
<td>Cyclothymia</td>
</tr>
<tr>
<td>Low Score</td>
<td>Less intelligent</td>
</tr>
<tr>
<td>Emotional instability</td>
<td>Emotional strength</td>
</tr>
</tbody>
</table>

FACTOR – A

(Reserved, Detached, Critical, Aloof, Stiff) (Warm hearted, Outgoing, Easy-going, Participating)

FACTOR – B

(Less intelligent) (More intelligent)

(Concrete – thinking, of lower scholastic capacity) (Abstract – thinking, Bright, of Higher scholastic mental capacity)

FACTOR – C

(Reserved, Detached, Critical, Aloof, Stiff) (Warm hearted, Outgoing, Easy-going, Participating)

(Less intelligent) (More intelligent)

(Affected by feeling, Emotionally less stable, Easily upset, Changeable) (Emotionally stables, Mature, Faces reality, Calm)
FACTOR – D
Low Score
Phlegmatic temperament
(Undemonstrative, Deliberate, Inactive, Stodgy)
High Score
Excitable
(Impatient, Demanding, Over-active, Unrestrained)

FACTOR – E
Low Score
Submissiveness
(Obedient, Mild, Easily led, Accomodating)
High Score
Dominence or Ascendance
(Assertive, Aggressive, Competitive, Stubborn)

FACTOR – F
Low Score
Desurgency
(Sober, Tactiturn, Serious)
High Score
Surgency
(Enthusiastic, Heedless, Happy-go-lucky)

FACTOR – G
Low Score
Low Super Ego
Strength or Lack of Acceptance of group Moral standards
(Disregards rules, Expedient)
High Score
Super Ego strength or Character
(Conscientious, Persistant, Moralistic, Staid)

FACTOR – H
Low Score
Threctia
(Shy, Timid, Restrained Threat-sensitive)
High Score
Parmia
(Adventororous, Thick-skined, Socially bold)

FACTOR – I
Low Score
Harria
(Tough-minded, Rejects illusions)
High Score
Premsia
(Tender-minded, Sensitive, Dependent, Over-protective)
FACTOR – J

Low Score
Zeppisia
(Zestful, Liking
group action)

Vs
High Score
Coasthemia
(Circumspect, Individualism,
Reflective, internally
restrained)

FACTOR – Q

Low Score
Untroubled adequacy
(Self-assured, Placid,
Secure, Complacent)

Vs
High Score
Guilt proneness
(Apprehensive, Self-reproach-
Insecure, Worrying)

FACTOR – Q2

Group dependency
(Socially group dependent,
dependent, A “Joineer”
and sound follower)

Vs
Self-sufficient
(Prefers own decisions,
Resourceful)

FACTOR – Q3

Low Score
Low Self Sentiment
Integration (Uncontrolled,
Careless of Social rules)

Vs
High Score
High strength of self
sentiment
(Controlled, Exacting will
power, Socially precise,
Compulsive)

FACTOR – Q4

Low Score
Low ergic tension
(Relaxed, Tranquil Torpid,
Unfrustrated, Composed)

Vs
High Score
High ergic tension
(Tense Frustrated, Driven,
Over wrought, Fretful)
2. **Name of the test Profile**  
   Creativity test  
   **Name of Author**  
   Dr. N. S. Chauhan  
   **Nature of Tool**  
   Group Test  
   **Structure**  
   Item  
   **Duration**  
   180 minutes  
   **Reliability**  
   (Product Movement Method)

**FACTORS** –

<table>
<thead>
<tr>
<th>FACTOR</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creative Production</td>
<td>0.762</td>
</tr>
<tr>
<td>Fluency</td>
<td>0.831</td>
</tr>
<tr>
<td>Original Power</td>
<td>0.597</td>
</tr>
<tr>
<td>Flexibility</td>
<td>0.673</td>
</tr>
<tr>
<td>Ingenious solution of problems</td>
<td>0.640</td>
</tr>
<tr>
<td>Validity</td>
<td>0.364 (Product Movement Method)</td>
</tr>
</tbody>
</table>

**Availability Source**

National psychological research cell, Agra

---

**Description of Tool –**

Gillford (1951) Getzels and Jackson (1958) and several other researcher evolved their tests to measure the creativity of an individual. Creativity for the following reason.

1. It is in Hindi language.
2. The statements of the test are simple and interesting.
3. The scoring process is very simple.
4. This test is meant for adolescents.

3. **Name of the test**  
   **Self concept**  
   **Name of Author**  
   M. S. Prasad & G. P. Thakur  
   **Nature of Tool**  
   Group Test  
   **Structure**  
   Item  
   **Duration**  
   No time limit  
   **Availability source**  
   Agra Psychological Research Cell, Agra
Description of Tool –

The test inventory of M. G. Prasad & G. P. Thakur used for following reasons. It has no time limit. It is in simple language and has 60 questions in two parts. Each part has 30 questions. Of the thirty items, seventeen are socially undesirable. The item which are socially desirable would get 7 scores if answered completely true and 1 if answered completely false. Other intermediate answers would get scores accordingly. The socially undesirable items would be scored in the opposite manner. The completely false point would get 7 scores and completely true would get 1 score. An individual who has taken both the sets of the inventory will have two scores one for the personally perceived self and the other for the socially perceived self.

4. Name of the test

Name of author
T. R. Sharma

Nature of Tool
Group Test

Structure
Item

Duration
Not more than 20 minutes

Reliability
Split half Re. 0.697
Rational Eivalence – 0.7506
Test Retest – Boys-0.795
Girls-0.807

Validity
Three types
1. Content
2. Criterion
3. Construct

Availability Source
National Psychological Corporation, Agra.
Description of Tool:

In India, Prayag Mehta (1969), N. P. Chaubey (1974), Pratibha Deo and Asha Mohan (1985) and several other researchers evolved their tests to measure how much an individual is motivated in the field of academic achievement. Academic Achievement Motivation Test by T. K. Sharma was selected for the following reason:

(a) It is a 38 Items test.
(b) The statement of the test are simple and interesting with two alternatives. The respondents are required to put a tick (✓) according to their choice.
(c) There is no time limit for completing the test but respondents were advised to complete the test as quickly as possible, generally it takes 20 minutes.
(d) The scoring process is very simple. The scoring is done by scoring key given in manual. The score range from 0-38. A high score (33 and above for boy, 34 and above for girls) on this test indicates high achievement motivation while a low score (25 and below for boys, 26 and below for girls) indicates low achievement motivation.
(e) This test is meant for adolescents.

5. Name of the test              Values
Name of Author                   Dr. R. K. Ojha
Nature of Tool                   Individual as well as group test
Structure                       Item
Duration                        No time limit Generally it require 40 minutes.
Availability Source             National Psychological Corporation, Agra
Description of Tool:

The test of Dr. R. K. Ojha was used for the collection of data. The main aim of the study of valuer is to measure the six basic interests or motives in personality. The theoretical, Economic, Aesthetic, Social, Political and Religious. This type of classification is based upon spranger’s Type (S) of man. The study of values test is self administering. It consists a number of questions based upon a familiar situation. The test has two parts; first part consists of 30 items with two alternative answers and second part consists of 15 items with four alternative answers. In all there are 45 questions with 120 alternative answers.

Procedure -

After making the selection of educational mistake. Principals of the schools were contracted personally. The importance and utility of the study was explained to them. Fortunately, all principals as well as teachers took keen interest in research work and they provide necessary facilities in the school. After that, the test administration arrangement was planned. All the test materials were used in a group of 50 subjects at a time in five different session as depicted in the table below:

**ADMINISTRATION OF TEST MATERIALS**

Table – 4

<table>
<thead>
<tr>
<th>Session</th>
<th>Test Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td>First day</td>
<td>High School Personality questionnaire</td>
</tr>
</tbody>
</table>
Thus the testing programme consisted 2 days of five sessions to avoid fatigue, boredom and other straining effects. It is essential to impress the students as their cooperation and sincerity are crucial to make the study fruitful and reliable. In order to motivate and create interest in them, they were told that these tests were very interesting, informative, and useful from their study point of view. Five sessions of the test were arranged in 2 days for avoiding fatigue and boredom of the subjects.

Further, subjects were convinced that these programmes were only for academic and research purposes. They were told that their responses would be kept confidential. In this way, a good rapport was developed with subjects, before actual test administration started. As the data were taken during the school time, help of principal and concerning teachers was essential for the proper conduct and success of the test programme. This was done with the prior permission and help of the concerning authorities. Subjects showed full cooperation as the session progressed, increasing interest and sincerity was observed in most of the students.

On the whole, the students showed good cooperation in the study. Students were observed more serious, curious, and information...
seeking during the test situation. After completing the data the scoring was done with the help of manual and scoring key of the above tests.

Statistical Analysis –

The following statistical devices were used for analyzing the data of this study.

Mean –

Mean rather than median or mode was used as a measure of central tendency of distribution of scores of H.S.P.Q., achievement motivation, socio-economic status, study habits and academic achievement.

The formula of mean is as follows:

\[ M = \text{A.M.} + \left( \frac{fx^1}{N} \right) \times \text{C.I.} \]

Where

- \( M \) = Mean
- \( \text{A.M.} \) = Assumed Mean
- \( f \) = Frequency
- \( X^1 \) = Deviation of midpoint from assumed mean divided by the size of class interval
- \( fx^1 \) = Sum of Product of frequency and deviation
- \( N \) = Number of scores
- \( \text{C.I.} \) = Size of Class interval
Standard Deviation –

Standard deviation as a measure of variability was used because it goes with mean as a measure of central tendency. The mean and S.D. were suitable for this kind of data obtained in the present study.

The formula of S. D. is as follows:

\[ S.D. = \sqrt{\left(\frac{\sum (FX^2)}{N} - \frac{(\sum FX)^2}{N^2}\right)} \]

Where

- \( S.D. \) = Standard Deviation
- \( \sum fx^2 \) = Sum of product of frequencies and square of deviations.
- \( \sum fx \) = Sum of the product if frequencies and deviations.
- \( N \) = Number of scores.
- \( I \) = Length of class interval

\[ t \]-test – F ratio has been used.

Comparison between different groups on personality factors, academic achievement motivation, self concept, creativity and values. The following formula was applied for calculating 't' value.

\[ t = \frac{(M_1 - M_2)}{SE_D} \]

Where

- \( M_1 \) = Mean of first sample
- \( M_2 \) = Mean of second sample
- \( SE_D \) = Standard Error of difference between the two sample means.
The standard error of difference between two means was calculated with the help of following formula:

$$SE_D = \sqrt{\frac{\sigma_1^2}{N_1} + \frac{\sigma_2^2}{N_2}}$$

- $\sigma_1^2$ = Square of standard deviation of first sample
- $\sigma_2^2$ = Square of standard deviation of second sample.
- $N_1$ = Size of first sample
- $N_2$ = Size of second sample

Significance of a co-efficient of co-relation calculated by Person's Product moment method was also checked by following formula:

$$\text{Significance of } r = r \sqrt{\frac{1-r}{N-2}} \times \sqrt{N-2}$$

Where
- $r$ = Coefficient of correlation
- $N$ = Size of sample