MATERIAL

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METHODS
MATERIAL AND METHODS

Success of any research is measured by the preciseness results, reached at. This is possible only when the whole scientific endeavour is based on a sound and systematic footing. The purpose of research is to remove incorrect notions and promote clear and accurate understanding about the aspect of the empirical world and thus to maximize the possibility of the reduction of various human problems. A researcher, belonging to any of the social sciences faces a serious challenge, if engaged in the above persuit, because of the many unavoidable reasons. Firstly any social phenomena, occurring as a result of the effect of manifold factors, poses a severe complexity to its scientific analysis, in the sense that it becomes altogether difficult and unmanageable to the researcher to investigate the extent to which the various factors are effective and thus produce the phenomena. With regard to the study of natural phenomena although effective tools and techniques have been developed in natural science, yet they too do not claim cent percent success in all respects. Still vast area of the human world lies either beyond the reach of natural scientists or possesses great difficulty in its scientific understanding. Leaving aside the claim and the actual achievement of natural scientist, which win our favour and praise to a certain extent, when we consider the deeds of psychologists and behaviourists with reference to the study of human behaviourists and personal interactions, we realize that their claims and achievements bear comparatively lesser significance.
Difference of opinion among psychologists and behaviourists on any one issue shows obviously how even today, imperfect psychological and behavioural thought is.

The complexity of any natural phenomena being the outcome of the combined effects of numerous factors, and posing the difficulty in the adoption of a synthetic and all encompassing approach in the study, has too much persuaded to adopt particularistic view point, thereby leaving sufficient grounds inviting criticisms from various corners regarding the validity and reliability of their studies. Secondly in the study of behavioural phenomena a researcher has to be much more dependent on respondent or informants for the purpose of the collection of information. The respondents for various personal and other reasons do not extend active cooperation to the researcher by giving true factual and reliable information. Thirdly methodological complexities and ambiguities hinder the behavioural researcher to move smoothly onward in the process of scientific pursuit.

Any scientific effort aimed at the analysis of a part of psychological reality can only falsely claim to be maintaining cent percent perfection and accuracy. The above difficulties are universal in nature. They can only be minimized and reduced to ensure, the achievement of maximum objectively in the study.
This research work is done by framing a comprehensive research design compatible to the objectives of study under consideration. “A good research design helps in the conduction of the research work smoothly by the way of providing necessary guidance and regulations.”

The methodological approach followed and present material used for conducting the study has been described in this chapter under the following subsection:

1. Locale of the Study
2. Sampling procedure
3. Variables and their measurements
4. Tools and Techniques
5. Data Collection
6. Analysis of Data and Statistical Tools Applied

Locale of Study:

Jhansi city of Uttar Pradesh State was selected as a locale of the study due to easy accessibility.

Sampling Procedure:

From Jhansi, the pre-school children ranging from 3 to 5 years of age group were randomly selected from the following schools:
(i) Gyansthaly Public School
(ii) Saint Flower Nursery School
(iii) Shishu Mandir School
(iv) Blue Bells Public School

Statement of the Problem :

The problem selected for the present study is “To study the effect of cognitive style, ordinal position and social environment on the creativity of pre-school child.”

Aims and Objectives :-

1. To study the creativity of pre-school child.
2. To study the cognitive style of pre-school child.
3. To study the social environment of pre-school child.
4. To study the ordinal position of pre-school child.
5. To study the effect of cognitive style on the creativity of pre-school child.
6. To study the effect of social environment on the creativity of pre-school child.
7. To compare the creativity of child in between boys and girls.
8. To study the relationship between creativity and ordinal position.
Hypothesis for the present study:

Hypothesis for the present study is as follows:

(i) Children belonging to pre-school age will differ significantly in their creative behaviour.

(ii) The social environment of pre-school child will differ significantly.

(iii) Children belonging to pre-school age will differ significantly in their cognitive style.

(iv) Children belonging to pre-school age will differ significantly in their ordinal position.

(v) There will be significant relationship between cognitive styles and creativity of pre-school child.

(vi) There will be significant relation between social environment and creativity of pre-school child.

(vii) There will be significant relation between ordinal position and creativity of pre-school child.

(viii) There will be significant difference between the creativity of boys and girls.
Uttar Pradesh State

Bundelkhand Region

Jhansi District

Jhansi City

Gyansthaly Public School

Saint Flower Nursery School

Shishu Mandir School

Blue Bells Public School

60 (G) 40 (B)

60 (G) 60 (B)

15 (G) 15 (B)

25 (G) 25 (B)

100

120

30

50

Total Sample of Size 300

Fig. - 1 Sampling Design
Working Definitions:

Creativity: Creativity is the power which provides the children new direction, new rhythm, new life and new thoughts. The creativity inspires the children for new inventions, research thereby to bring new social changes in human life for better living.

Cognitive Style: Jean Piaget develop the theory of cognitive development. According to Piaget, both organization and adaptation will sustain an orderly, structured development of conceptual awareness and understanding. It is a ability to classify and order new experience in the mind.

In recent years psychologists have begun to look at differences in the way human being process information and deal with their environments. The individual differences observed in these strategies are to be called cognitive styles.

Social Environment: Psychological studies have proved that social environment plays a vital role in the development of child personality. The social traditions, culture, social institutions like family, neighborhood, school etc. effect the personality of the child. In one way or the other the environmental differences put its impact on the child’s creativity and personality. The habit, behaviour and attitudes of the children differ due to its environmental differences in which the child is being nourished. The environment or what is available to the individual in a particular situation or stage of life. This includes the
significant context of life such as family, school and neighbourhood or community. The interaction between the person and the environement.

Pre-school Group: The child for the first time is brought away from home when enters the nursery school.

The child of 2½-3 years of age is normally ready for admission to nursery school. It is the place where the child gains knowledge in different fields through play methods.

Ordinal Position: Birth order and creativity have each spawned a considerable body of research, but these have been relatively few attempts to investigate relationship between the two since personality and motivational differences have been postulated as both a consequence of birth order and a determinant of creativity a relationship between the two seems reasonable and worth exploring.

On the basis of the review of literature on birth order and creativity, greater creativity for either first born or later born or those in middle positions could be hypothesized. Higher expectations from the first born. The studies and researches on ordinal position prove that second and third born children have greater creativity in comparison to the first born child.

Sex: Boys show greater creativity than girls, especially a childhood advances. In large part, this is due to the different treatment boys and girls receive. Boys are given more opportunities to be independent, they are prodded by peers to take
more risks and they are encouraged by parents and teachers to show more
initiative and originality.

**Socio-Economic Status**: Children of the higher socio-economic groups tend to
be more creative than those of lower groups. The former for the most part, are
brought up under democratic child training methods, while the latter are far more
likely to experience authoritarian training. Democratic control fosters creativity
by giving children more opportunities to express their individuality and pursue
interests and activity of their own choices. Even more important is the
environment of children of the higher socio-economic grounds more
opportunities for gaining the knowledge and experiences necessary for creativity.

**Variables and their measurements**: Under this section dependent and
independent variables, their operational definitions and measurements used in the
present study have been described.

**Dependent Variable**: Creativity of pre-school children were taken as dependent
variables.

**Independent Variable**: The independent variables include cognitive style,
social environment and ordinal position. Age group, type of the family, income
group, education of parents, occupation of parents, sex were treated as controlled
variables.
Socio-personal Variables:

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
</tr>
</tbody>
</table>

Sex: The categories of sex were scored as:
- Girls – 1
- Boys – 2

Types of Families: It refers to nuclear family and joint family.
1. Nuclear Family - 1
2. Joint Family - 2

Education of Parents: It refers to the education of the parent. The scores assigned were as follows:
1. Illiterate 1
2. Middle 2
3. High 3
4. Very High 4

Occupation: It refers to occupation of the subject’s parents. The scores assigned were as follows:
1. Service 1
2. Agriculture 2
3. Business 3
4. Labour 4

Income: It refers to monthly earnings of the family from all sources the scores assigned were as follows:

1. Below - 5000
2. Between - 10,000 to 15,000
3. Above - 15,000
PERCENTAGE DISTRIBUTION RESPONDENTS ACCORDING TO THEIR SOCIO-PERSONAL PROFILE

N = 300

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Variables</th>
<th>Frequency (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>AGE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 Years</td>
<td>100 (33.3)</td>
</tr>
<tr>
<td></td>
<td>4 Years</td>
<td>100 (33.3)</td>
</tr>
<tr>
<td></td>
<td>5 Years</td>
<td>100 (33.3)</td>
</tr>
<tr>
<td>2.</td>
<td>SEX</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>150 (50)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>150 (50)</td>
</tr>
<tr>
<td>3.</td>
<td>STANDARD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nursery</td>
<td>100 (33.3)</td>
</tr>
<tr>
<td></td>
<td>LKG</td>
<td>100 (33.3)</td>
</tr>
<tr>
<td></td>
<td>UKG</td>
<td>100 (33.3)</td>
</tr>
<tr>
<td>4.</td>
<td>LIVING STANDARD</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Upper Stratum</td>
<td>0 (0)</td>
</tr>
<tr>
<td></td>
<td>Upper-Middle Stratum</td>
<td>157 (52.3)</td>
</tr>
<tr>
<td></td>
<td>Lower-Middle Stratum</td>
<td>67 (22.3)</td>
</tr>
<tr>
<td></td>
<td>Upper-Lower Stratum</td>
<td>76 (25.3)</td>
</tr>
<tr>
<td></td>
<td>Lower-Lower Stratum</td>
<td>0</td>
</tr>
<tr>
<td>5.</td>
<td>TYPE OF FAMILY</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Nuclear</td>
<td>230 (76.6)</td>
</tr>
<tr>
<td></td>
<td>Joint</td>
<td>70 (23.3)</td>
</tr>
<tr>
<td>6.</td>
<td>EDUCATION</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Illiterate</td>
<td>27 (9)</td>
</tr>
<tr>
<td></td>
<td>Middle</td>
<td>40 (13.3)</td>
</tr>
<tr>
<td></td>
<td>High</td>
<td>63 (21)</td>
</tr>
<tr>
<td></td>
<td>Very High</td>
<td>170 (56.6)</td>
</tr>
<tr>
<td>7.</td>
<td>ORDINAL POSITION</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1st</td>
<td>60 (20)</td>
</tr>
<tr>
<td></td>
<td>IIInd</td>
<td>180 (60)</td>
</tr>
<tr>
<td></td>
<td>IIIrd</td>
<td>60 (20)</td>
</tr>
<tr>
<td>8.</td>
<td>INCOME (Per annum)</td>
<td></td>
</tr>
<tr>
<td>Income Range</td>
<td>Count (Percentage)</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>--------------------</td>
<td></td>
</tr>
<tr>
<td>Below 5000</td>
<td>60 (20)</td>
<td></td>
</tr>
<tr>
<td>Between 10000 to 15000</td>
<td>153 (51)</td>
<td></td>
</tr>
<tr>
<td>Above 15000</td>
<td>87 (29)</td>
<td></td>
</tr>
</tbody>
</table>

9. **OCCUPATION OF FATHER**

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Count (Percentage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture</td>
<td>32 (10.6)</td>
</tr>
<tr>
<td>Service</td>
<td>93 (46.5)</td>
</tr>
<tr>
<td>Labour</td>
<td>25 (8.3)</td>
</tr>
<tr>
<td>Business</td>
<td>150 (50)</td>
</tr>
</tbody>
</table>

Figures in parenthesis indicate percentage.

N = Total Number of respondents
Tools and Techniques: Different tools and techniques were developed and standardized as per data. The procedure used for development of tools is as follows:

(i) The Baquer mehdi non-verbal Test of creative thinking (TCF) was used by the investigator to measure the creativity of pre-school child. The Hindi version of test was utilized. This test consists of 26 pictures, which are basically depend upon the three activities. This test is divided into three parts, the first part consisting two pictures, the second part consisting ten pictures and third part consisting fourteen pictures. The reliabilities of factor scores and also the total creativity are considerably high, ranging from .932 to .947.

(ii) To measure the Cognitive Development Test for pre-schoolers (PCDTP) scale constructed and standardized by Dr. Hema Pandey (1992) was administered. PCDTP measures the cognition in children by verbal and non-verbal items. The six sub-tests which make up PCDTP were chosen after wide study of the available test. The six sub-tests are Conceptual skills, information, comprehension, visual perception, memory and object vocabulary. The total score constitute the ‘raw’ scores of the subject. The test re-test reliability was .95
Researcher applying test material with pre-school group

Researcher applying test material with pre-school group
Researcher applying test material with pre-school group

Researcher applying test material with pre-school group
(iii) To measure the socio-economic status scale questionnaire. This scale constructed and standardized by S.D. Kapoor and R.N. Singh (1998) was administered. This test consists of twelve questions. For determining the reliability of the test, the test was administered on 350 students, correlation scores on this scale with those on Pandey's scale was found to be .92.

(iv) The self made inventory to measure the social environment of the child in school and home was administered by the investigator. The structured interview schedule was made in accordance with methodology, procedure and objectives of investigator. The schedule contained a questionnaire of forty questions, twenty questions for home environment and twenty questions for school environment.

**Data Collection**: To measure the dependent and independent variables different above written test was administered to the children individually. Responses was entered in the form by the subjects themselves. Special attention taken by the investigator to insist upon the children in getting the form filled up as quickly at possible to secure the objective responses.

**Analysis of Data and Statistical Tools Applied**:

Analysis of the data was done by using following statistical techniques:

1. The chi-square \((x^2)\) test was used to know the level of significance.