CHAPTER – II

REVIEW OF

THE RELATED LITERATURE
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The review of the related literature is the basis of research project in various fields. The general purpose of the review of literature is to provide the research worker adequate familiarity with the work which has already been done in that area. The phase “review of related literature” consist of two words: namely Review & literature. The term Review means to organize the knowledge of the specific area of research to evolve an adifice of knowledge to show that the proposed study will be an addition to this field. The term ‘Literature’ referes to the knowledge of a particular area of investigation of any discipline which includes theoretical, practical and its research studies.

“The keys to the vast store house of published literature may open doors to sources of significant problems and explanatory hypothesis and provide helpful orientation for definition of the problem back ground for selection of procedure and comparative data for interpretation of results in order to be creative and original, one must read extensively and critically as a stimulus to thinking. (Carter V. Good).

“Practically all human knowledge can be found in books and libraries. Unlike other animals that must start anew with each generation, man builds upon the accumulated and recorded knowledge of the past this constant adding to the vast store of knowledge makes possible progress in all areas of human endeavor. (John W. Best)

“The literature in any field form the foundation upon which all future work will be built. If we fail to build the foundation of knowledge provided by the review of literature our work is likely to be shallow and native and will often duplicate work that has already been done better by some one else”. – (Walter R. Borg)
“The competent physician must keep abreast of the latest discoveries in the field of medicine obviously the carefull student of education the research worker and investigator should be come familiar with location and use of sources of educational information”. – (Good Barrand Scates)

All through the general purpose of the review is to help the research worker, develop a thorough understanding and insight into previous work and the tends that have emerged the review can also help in reaching a number of important specific goals. This chapter gives an account of the findings of some of the important research studies. The inherent aims are to as certain the level of work done with a view of determine the direction of the present study to get acquainted with the findings of other follow researchers to avoid unnecessary duplication, to provide an insight to convert the tentative research problem to a new results in the light of old one’s and lastly to place the researcher in a better position to interpret the significance of his own results.

Further more it provides upto date information avoids duplication of study as certains the level of work done, determines the direction of the present study, makes him aware of the researches done in part, gives a clear picture of the problems, suggests methods, procedures, sources of data and statistical technique helps in comparative data and findings useful in the interpretative and discussion of results.

Purpose of the Review

A collective body of work done by earlier scientists is technically called the literature any scientific investigation starts with a review of the literature main objectives of a review of the literature and enumerated below.

1. Identifying variables relevant for research:- when the researcher makes a careful review of the literature, he becomes aware of the important and use
important variables in the concerned area of research. A careful review also helps the researcher in selecting the variables lying within the scope of his interest in defining and operationalizing variables and in identifying variables which are conceptually and practically important. Thus a review of the literature, on the whole, prepares the researcher to formulate a researchable problem in which conceptually and practically important variables are selected.

2) **Avoidance of repetition** – A review of the literature helps the researcher in avoiding any duplication of work done earlier. A careful review always aims at interpreting prior studies and indicating their useful uses for the study to be undertaken. Thus prior studies serve as the foundation for the present studies. In some cases the duplication or replication of prior studies becomes essential. This is specially true when the researcher wants to test the validity of the earlier studies. In such a situation too, a careful review helps the researcher in getting acquainted with the number of the studies related to the study whose validity is being assessed at present.

3) **Synthesis of prior work** – A careful review of the literature enables the researcher to collect any synthesis prior studies related to the present study. This intern helps him in building a better perspective for future research. A synthesized collection of prior studies also helps a researcher to identify the significant overlaps and among their prior works.

4) **Determining and Relationship among variables** – A careful review of the literature enables the researcher in discovering important variables relevant to the area of the present research when significant variables are discovered the relationship among them can be identified subsequently, the identified relationship is incorporated into different hypothesis thus for conducting a scientific study the relationship between the different variables must be explored by reviewing the literature so that a good context may be built up for subsequent investigations.
SOURCES OF THE REVIEWS

There are different sources of the review of the literature-

a- Journals and books
b- Reviews
c- Abstracts
d- Indexes
e- Doctoral Dissertations

Journals and books – Different research journals and books relevant to the areas of interest are the primary sources of the literature review. Most major libraries have a periodical section where different types of research journals are made easily available. A researcher journal contains the publication of original research reports with their detailed methodology and results such journals are referred and therefore are different from non-referred journals. A referred journal in one which reports only those articles which are carefully reviewed by the experts before publication. Often the review rejects several manuscripts and selects a few for publication, similarly books are also direct sources of the literature review of these two journals are regarded as more useful because they provide the researcher with the latest and up to information relevant to the area of the interest.

Reviews – Reviews are short articles that give brief information regarding the work done in a particular area over a period of time. Reviews are commonly published in journals year books, handbooks and encyclopaedias, reviewer select research articles of their interest, organize them content wise, criticize their findings and offer their own suggestion and conclusion. Review articles are a good source for those investigators who wish to have all the relevant researcher at one place without taking pains to look for them. Since the reviewer organize all the possible research papers of the relevant area in their review articles also provide the advantage of prior reviews.
Abstracts – Abstracts provide a summary of the research report done in different fields. Psychological abstracts (Washington – American Psychological Association) and sociological abstract (Newyork – Sociological abstract INC) are the two common examples of abstracts. These abstract are the useful sources of up to date information for researchers. In an abstract Besides a summary, researcher get all the relevant information such as the title of the research report, name of the author and the journal pagination information etc. regarding the research article. The only limitation of abstracts is that they fail to satisfy those researchers who desire detailed information regarding the methodology and results of the research articles.

Indexes – Indexes show the title of the research report without any abstract. The titles are categorized and arranged alphabetically in each category so that the researcher can locate any article of interest easily. The education index is a good example of an index. As indexes do not provide detailed information they keep many researcher dissatisfied. They can be best regarded as the supplementary some which, if combined with other sources can yield valuable information into the researches.

Doctoral Dissertations – The doctoral dissertations has also been a very good sources of the review of the literature. In libraries of universities, doctoral dissertations are available. The researcher can choose the dissertations of their interest and find useful and relevant information there. There are no set forms of coriting the research report in a doctoral dissertation contain chapters like an introduction review of the related literature, purpose of the study, Methods of the study, results discussion summary and conclusion some researchers prefer not to add a separate chapter on the review of the literature and hence incorporated into introduction itself. Thus the doctoral dissertations present the advantage of prior review. Ordinarily, it is not possible for the researcher to move through all the important libraries in the country to consult all existing doctoral dissertations hence he can have access to those dissertations that interest him through
dissertation abstracts international, which publishes the abstracts of the doctoral dissertations submitted to different universities.

It is therefore, thought imperative to review of available literature and research studies in this field. The existing researched that are directly or indirectly related to the present study have been classified under the following categories:

1. Studies related to Concept Formation
2. Studies related to Creativity
3. Studies related to Personality

Table – 1: Year wise and Disability wise Distribution of Researches

<table>
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<tr>
<th>Year</th>
<th>VI</th>
<th>HI</th>
<th>OH</th>
<th>MR</th>
<th>LD</th>
<th>Gifted</th>
<th>Misc.</th>
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VI: Visually impaired HI: Hearing Impaired OH: Orthopaedic and Neuromuscular Impaired MR: Mental Retardation LD: Learning Disability
Table – 2: Year wise distribution of studies completed at doctoral and project levels in India

<table>
<thead>
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<th>Year</th>
<th>Doctoral Level</th>
<th>Project Level</th>
<th>Total</th>
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</thead>
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<td>Education</td>
<td>Psychology</td>
<td>Others</td>
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<td>01</td>
<td>-</td>
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<td>1971-80</td>
<td>55</td>
<td>13</td>
<td>04</td>
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<tr>
<td>1981-90</td>
<td>61</td>
<td>33</td>
<td>09</td>
</tr>
<tr>
<td>1991-93</td>
<td>11</td>
<td>03</td>
<td>01</td>
</tr>
<tr>
<td>Total</td>
<td>130</td>
<td>50</td>
<td>14</td>
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</tbody>
</table>

Investigator gets help in research by collection knowledge in past with continuous humans efforts. The research work cannot freely conduct without related direct or indirect previously conducted related problems in plan of any research study carefully review of journals, books. Dissertations thesis and other information sources is a compulsory steps. The part is to be discussed to view a problem in a proper perspective so that a investigator may streamline his efforts to solve the problem. Keeping in view the objectives of the present research numerous studies pertaining to the development of cognitive abilities viz Concept formation Creativity and Personality of hearing impaired students.

Haplin, Halpin and Torrence (1973): In study of 81 Blind children 6 to 12 years old attending regular classes found to be more verbally fluent, flexible and original as measured by the Torrence test of creative thinking than were comparable sighted children.

Brown (1938): Used the Neymann – Kahlated Diagnostic Test for introversion – Extroversion showed a higher incidence of introversion among blind girls than among blind boys which did not seen to be true among the seeing. The comparison of responses to individual items revealed significant differences
between the blind and the seeing but a qualitative consideration of items did not show any typical differentiating syndrome.

A comparison between the blind and the seeing boys gave the blind boys "A somewhat more extraverted appearance". This was not indicated when the girls of both groups were compared. Brown believes that the girls of both groups were compared. Brown believes that the differences revealed in the study were predominately due to the effects of blindness, sex and institutionalization in the other study.

**Brown (1939):** Used the clark revision of the thurstone personality schedule in which the changed items and found a higher incidence of neurotic tendency among the blind than among the seeing and it was also higher among the girls than among the boys. There was a greater difference between the sexes in the blind group than in the seeing groups. According to the results the groups seemed to arrange themselves in order to decreasingly desirable adjustment as follows sighted boys blind boys sighted girls blind girls.

**Barker (1950) and Blank (1957):** The personality of blind people can become dissimilar and divergent depending on their individual make up if an individual does not reach the state of adjustment personality can be fixated at an earlier stage causing maladjustment.

**Bauman (1964):** In his study of 150 boys and girls attending residential school for the blind and an equal number of children attending normal day schools. Found by using personality inventories that the moderately visually impaired adolescent showed higher anxiety and insecurity in difficulties related to the home and parents and in problems of social and emotional adjustment than the impaired children in the integrated group.
Dhanagare & Khandelwal (1969): In their studies found that blind boys developes skills in craft faster than is liberal education and boys from rural area and low-socio economic background pose an problems of adjustment with institutional training khandelwal developed the job profile for blind workers in building words and found adjustment as a faster contributing to efficiency.

Kalavathy Vijaya & Bhaskar (1985): Assisted the attitude of blind boys toward self concept and creative interest in the area of physical characteristics and social activities. They were compared with normal boys to study the variation 30 blinks boys and sighted boys of age 10 to 15 years were taken. They concluded that –

1. Physical characteristics influenced the development of self concept to a greater extent.
2. The birth order of the sample has a positive relationship to the achievement of scores. As the both order increases. The achievement of the number of scores also increases.
3. No trend was observed regarding the achievement of scores in self concept and the age of which they become blind (Mostly they become blind because of infection diseases) or last vision at a later stage because of contract or small pox.
4. The test showed that the difference of scores obtained both by the blind and the normal in significant. Blind people do not fat inferior than normal in some aspects of normal person felt more inferior than the blind.

Gowman (1951): Identified losses which effect the individuals entire security system because of decreased perceptions, decreased controls and decreased communication. The experience –

1. General state of tension
2. Social uneasiness
3. Strain and anxiety in social situation
4. expenditure of extra energy or routine of living
5. Decline in self regard
6. Shaking of the coherence of personality organisation.

Simonton (1977): Creativity is conceived as the specific characteristics of personality. It is assumed that creativity represents unique features of personality. Such characteristics as eminence, productivity longevity etc. of personality are indicative of creativity.

Johnson (1979): Effect of blindness on originality was investigated the result of first study showed that disabled veterans were evaluated significantly higher than individuals disabled in traffic, work accidents areas a results of polio. The results of the second study indicated that the veteraned significantly higher self-concept than those of the subjects disabled in work accidents.

Silver (1977): Conducted series of studies on deaf children in 1966, 1967 and 1973 overall results shows that, as measured by the Torrance test of creative thinking and rating scale evaluations by panel of teachers and other educational specialists. Deaf population equaled hearing population and often excelled statistical analysis found significant given in cognitive as well as creative skills.


Education of the hearing impaired

Only six studies could be located this area Banarjee et. al. (1970) investigated the nature of deaf children in comparison to normal hearing children in the age group of 14-18 years. This study revealed that, under similar environmental conditions interests differed. Four studies covered hearing impaired as a sub sample (NCERT – 1968), Willian (1981) Bala (1985) and Goel (1986). These are the studies comparing hearing impaired children with non-hearing impaired children on selected variables. Jangira (1987) studies the socio-metric choices of hearing impaired children in an integrated setting as well as their academic achievement as reflected in ranking in respective classes. It was
discovered that hearing impaired children also received choices from non-hearing impaired children for the selected task and most of them were near average or above average in academic achievement.

**Education of visually impaired:**

Education of visually impaired persons were reported since (1965). When the first doctoral study was conducted by Advani at the University of Bombay. The nation wide study following survey methodology reported to identify educational and psychological problems of blind children. The problem related to a blind persons access to education was high lighted as the study revealed that an average only one special school existed for each 8000 blind children in the country. It is however difficult to draw a valid conclusion regarding the adequacy of facilities assessing the population of visually impaired children in the education age group is stated or the nature and degree of disability specified with the expansion of educational facilities for visual impaired children in general schools. Under the centrally sponsored scheme of integrated education of disabled children the survey of facilities should be updated. The NCERT conducted a survey of institutions for the blind in 1968 and in 1981 a study of regional centers for the training of teachers for the blind was conducted. Bhalerao conducted a sociological study in this area (1975).

Two studies investigated the adjustment of blind children (Williams 1981 and Pande 1985) Bala (1985) Goel (1986) and Rohindekar and Usha (1981) carried out comparative research across disability. Paknikar developed an intelligence test for the blind in 1975 at Bombay. The lone intervention study, relating to an integrated setting as a learning environment for visually disabled children was conducted by Jangira (1987). The study investigated socio-metric choices relating to small group work academic managerial and play related. It also provides the direction of choice from visually disabled to not disabled pears. Ranking of the visually disabled children has been used as a criterion to get an
assessment of academic achievement. The study indicates that visually disabled children are neither isolates nor are they below average in achievement.

Upreti V. (1988): The studies used physical and orthopedic impairment synonymously reported lower self-concept in children with orthopaedic impairment. The students with physical impairments felt more insecure and had poor adjustment. The girls felt more insecure than boys. These characteristics are related to the severity of disability like visually handicapped children they relate poorly to parents.


Sharma I. P. (1990): Studied the personality of low and high creative children with physical impairments. He reported no locational differences (Rural – Urban) in the two groups. The high creative groups of children preferred crafts. The high creative group of students were more reserved, responsible, imaginative, self radiant and relaxed than their low creative counterparts. Who were dependent and humble.

Sharma M.C. (1988): In a small experiment tried out teaching aids and used them in the concept attainment model at primary school level. The achievement of deaf students was higher in the experimental group but not significant.


Analysis of Review of the Related Literature
Creativity is the process of generating unique products by transformation of existing products. These products tangible and intangible must be unique only to the creator and must meet the criteria of purpose and value established by the creator.
A multidimensional attributes differentially distributed among people includes chiefly the factors of seeing problems. Fluency, flexibility originality, inquisitiveness and persistency.

The process of concept formation borrowed from the piagetion nation of equilibrium. That if an organism has two cognitions that are perceived as being dissonant with one another. There is a tendency to attempt a modification of the cognitive structures to reduce the dissonance. This process may states creates new concepts. For example if a child calls all animals doggie but notices others call some of those cats, the child with in time modify his or her other nation of what characteristics identify members of the class of dogs.

Personality may be called as the most characteristic integration of an individuals, structures, modes of behaviour. Social stimuli and the quality of his adaptation to the social feature of his environment, interest attitudes capacities abilities and psychophysical system of person habit and habit system.

**Studies on inter relation between creativity and cognitive styles.**

**Western studies**

**Harritte (1987)** conducted a study to determine the strength of the relationships between field independence/dependence, visualization and problem solving in adolescent males and female hundred graders were administered the group embedded figures test (GEFT). Persue perceptual & screening test (PPST) and cognitive abilities test and verbal problems test to measure field independence/dependence visualization and problem solving ability respectively subjects who were field independent and highly visual and field dependent with low visualization were identified. Then the relationship between these subjects cognitive style and problem solving was examined. Statistical analysis revealed that problem solving was positively related to cognitive style and visualization. Field independent subjects with high visualization scored higher than field dependent subjects with low visualization both problem solving measures. Males
were found to be more field independent than females. Males scored higher than females on the embedded figures task and the relationship between part one of the PPST and the GEFT were highly correlated for females.

**Indian studies**

Rastogi (1978) investigated the difference in intellectual level and creativity of 30 male and 30 female field independent or field dependent Indian adults. Creativity but not intelligence was associated with cognitive style. Sex and the interaction between sex and cognitive style did not significantly effect creativity or intelligence levels.

Bal (1988) Studied the relationship between creativity cognitive styles and academic achievement. The sample of 150 high, middle and low academic achievers (age range of 18-21 years) from various colleges of Delhi were selected embedded figures test was used to measure cognitive style (field independence/dependence) Torrance test of creative thinking (TTCT) verbal form A and remote association test (RAT) were administered to measure creativity. The analysis of variance of the creativity scores on various measures revealed that both field independent cognitive style and academic achievement are related to fluency flexibility and originality scores of TTCT as well as creativity measured by RAT. It was also observed that field independent cognitive style and academic achievement significantly interact with RAT creativity and not with TTCT creativity.

**Studies on inter relation between creativity and reflection/ impulsivity cognitive style**

**Western studies**

Ward (1968) found that the cognitive style reflection/impulsivity was unrelated its creativity, along with hypothesized antecedents of this dimension are identical to those who have been proposed for various creativity subgroups.
Fugue, Bartech and Phye (1975) investigated the relationship between cognitive tempo and creativity in pre-school age children. The subject were 70 enrolled in a large urban nursery school located in central Iowa, a modified version of the Kagar S matching familiar figures test were used to measure creativity and reflection/impulsivity cognitive style respectively. A significant effect for cognitive tempo was found showing reflective subjects scoring higher than impulsive subjects on each measure of creativity.

Haskins and Mc Kinney (1976) Studied that relative effect of response temper and accuracy an problem solving. To examine the relationship between response accuracy and tempo as measured by the matching familiar figures test (MFFT) and criterion measure 233.7.9 and 11 year old children were given the MFFT, 2 problem solving tests and test of academic achievement, univariate correlations between the MFFT variables and the problems solving and academic achievement variables revealed or number of significant correlations involving MFFT errors but relatively few significant correlations involving MFFT latency. Multiple regression demonstrated that MFFT variable did not add substantially to the univariate correlations.

Klein Blockovich Buchalter and Huyghe (1976) studied the relationship between reflection/impulsivity and problem solving performance of 88 children categorized as reflective or impulsive was compared on convergent and divergent problem solving tasks. The matching familiar figures test was administered along with the test for determining the correct order or a word sequence and for testing unusual. Uses for familiar objects. Reflective children (N = 83) made significantly fewer errors on the convergent problems solving test than impulsive children (N = 33) but these was no effect of cognitive style on the divergent problem solving tests.

Adejumo's (1979) purpose of the study was to find the degree and nature of relationship between the tempo of response and accuracy on problem solving tasks
as measured by modified matching familiar figure and performance on visual perceptual tasks. Two hundred male subjects draw from age group of 7 and 9 years olds (n = 100 each) in classes two and four respectively, were classified into four groups (impossible reflective test accurate, blow inaccurate) based on performance on modified matching familiar figure test subjects were also tested on object comparison and visual recognition tasks performance on modified matching familiar figures correlates significantly with performance on visual perceptual task (r = 0.58 and 0.63 per 7 and 9 year olds, respectively) seven year old subjects in the reflective and fast accurate groups were superior in performance an the visual perceptual tasks.

**Sigg and Gargiulo (1980)** studied the creativity and cognitive style in 42 learning disabled and 44 non disabled students. They were administrated the matching familiar figures test and the Torrance test of creative thinking. A chi-square analysis suggested a significant difference in creativity between learning disabled and non disabled students or between effective and impulsive individuals correlational analysis suggested that errors and latencies on the matching familiar figures test were not significantly related to the creative abilities of either learning disabled or non disabled children.

**Influence of Demographic Factors on Creativity and cognitive Styles**

**Western Study**

**Hurlock (1981)** stated that children from higher socio-economic groups tend to be more creative than those of the lover socio economic groups status. There are more opportunities for giving the knowledge and experience necessary for creativity. The former for the most part are brought up under democratic child training methods while the latter for more likely to experience authoritarian training. Democratic control faster creativity by giving children more opportunities to express their individuality and pursue interest and activities of their own choice.
Doyle (1970) hypothesized that Negroes would exhibit creativity to levels superior to that of their caucasian classroom peers and observed that the hypothesis was not statistically supported through there was a tendency towards negroes superiority on the creativity measures.

Richmond (1971) observed that the caucasian students were. Significantly higher (0.05 level) on verbal and non-verbal intelligence verbal, fluency, verbal flexibility, figural flexibility and figural originality, no difference between negro and white children in respect to their creativity scores were found in the studies conducted by Halpin, Halpin and Torrance (1973).

Indian Studies
Raina's (1968) study designed to compare significant difference between high and low creative groups on selected measures of cognition, personality and socio economic status. Minnesota test of creative thinking was administered to a total population of 500 students of three educational zones of Rajasthan. 100 high and 100 low score were delineated. Only 90 in the former group (high creative and 85 in the latter (low creative) were available for the final analysis. The results revealed the significant differences between the IQ of the two groups differences being in favor of high creative. Significant differences were noted in the socio economic status of the high creative on all three dimension of the socio economic status scale used.

Badarinath and Satyanarayana (1970) Chandha and Sen (1985) and Venkata Rami Reddy and Tulsi Devi (1981) reported that there was no significant difference in the creativity of student belonging to high middle and low socio economic groups.

Kundu and Mallick (1987) studied the factors affecting creativity and found that socio-economic status is an important factor in fostering creativity. The influence upon the person’s creativity ability may be both positive and negative. From the
very nature of the inner conditions of an individual it is evident that creativity can not be proceed but may be stimulated to emerge and there may be an optimum level under the favorable environmental conditions.

Ahmed and Joshi (1978) studied the impact to socio-cultural disadvantage on Mehdi's non-verbal creative thinking in 120 students from advantaged and disadvantaged schools advantaged and disadvantage homes and 7th 9th and 11th grade. Results revealed that home and school differences were important only at the 7th grade level. Where as the combined effect of the two environments were significant through 11th grade. At higher grade level, irrespective of the type of schools, there occurred a more rapid in crease in creativity scores of disadvantaged subjects as compared to their advantaged computer parts.

Ahmed (1980) studied the effect of socio-cultural disadvantage on creative thinking, verbal and non-verbal creativity test were administered to 150 8th and 10th graders in 5 Indian schools that were on a continuum from extremely advantaged to extremely disadvantaged. Subjects were classified as being from advantaged and disadvantaged home back ground were found on the creative thinking tests and all interactions were significant except for the grade and school interaction.

Yadav and Dash (1980) studied the cognitive affective abilities and social back grounds of tribal and non tribal primary schools dropouts. In a factorial design dropout and regular children (N=80) belonging to tribal and non-tribal population residing in rural areas and reacting in 3rd and 5th graders were tested. Questionnaires and tests were the tools used. Results revealed that the drop out had lower intelligence scores, were found to be less creative had limited vocabulary and poor linguistic ability, showed lower achievement motivational levels, were found to be impulsive and lacking flexibility. Their families were found to be less effective in satisfying their needs.
Krishna Kumari, Lalitha and Parmaji (1986) conducted in study in Warangal Andhra Pradesh to compare the creativity of tribal (Lambada, Koya and Yernkala) children with that of the non tribal children. The sample was 50 boys and 50 girls of class 8th. Mehdi’s test of creative thinking was used its measure verbal and non verbal components of creativity results revealed that the tribal children were deficient in regard to the level of verbal creative thinking (originality, fluency flexibility and elaboration). The performance of tribal children in non-verbal creativity (Originality and elaboration) test were superior to the non tribal children.

Golwalder (1986) studied the scientific attitude, creativity and achievement of tribal student of Rajasthan. The sample consisted of 270 tribal and 270 non-tribal students of IX and X classes effecting science as optional subjects and living in tribal areas. Mehdi’s verbal and non verbal test of creative thinking was used for measuring creativity. This test consists of fluency flexibility originality and elaboration components. Results reported that in verbal creativity, the non-tribal excelled the tribal in all components except flexibility and in non-verbal creativity the performance on non-tribal was better in all components without any exception.

Asifa (1986) studied the effect of parents educational level and economic status an creativity of the Adivasi female students. It was found that parents economic condition had a significant effect upon the creativity. The higher creative group found in the upper economic group and the lower creative group in the lower economic group, parents education had no effect upon the creativity scores.

Sharma (1972) conducted a study to find out the rural-urban differences in creative thinking. Two test of creativity normely Srujnatmakta Pariksha and Varna Viparyas Pariksha were administered to X class male students from urban and rural areas. The results showed there was no significant difference in creativity between rural and urban students.
Sharma (1974) in a study of creativity as a function of intelligence, fine art interest and culture employing 2X2X2 factorial design found creativity to be affected by all the three factors and their interactions. Excepts for the interaction of fine art interest and culture. He observed that high level of intelligence was necessary for creative thinking. Importance of rural culture was shown by the fact that goals of expressive group (rural) were easily approachable and clear. Where as the oppressive group (urban) has to play individual roles to achieve their life goals.

Cross Cultural Studies

Torrance (1968) Made a comparative study of the performance of various cultural groups on test of creative thinking. It was found that children from highly developed cultures such as the united state Negro group. Western Samoa and India the children in India performed disproportionately better on verbal than on figural tests. Indian boys scored higher than girls in verbal tests but not on figural tests.

Singh (1970) made a comparative study on American and Indian subject creativity abilities. Matfessail individual test of creativity were used to measure creativity. Data was gathered from Tempa and Banaras. Results revealed that disadvantaged children, regardless of culture, did no score low on the verbal part of the creativity test, and with an increase in socio-economic status, abilities, such as flexibility and originality excelled at the cost of redefinition, fluency, sensitivity to problems elaboration.

Ogletree and Ujlaki (1973) in a cross cultural study of English Scotlish and German subjects observed that creativity scores were function of socio-economic back ground. They further observed that in all countries subjects from upper class families obtained significant higher creative scores (verbal and non verbal) than subjects from middle and lower class familiar.
Studies on sex differences and creativity

The different creative potentials have been marked among persons due to individual differences. These differences have been considered to be age factor, aptitude and interest of the individual see differences etc. research findings about sex differences an creative are varied and their results are not conclusive. There are three contradictory trends observable in these findings.

1) Boys are superior to girls in creative thinking.
2) Girls are superior to boys in creative thinking.
3) There is no sex difference in creative ability.

1) Studies Reporting Boys are Superior to Girls in Creative Thinking
   a) Kelly (1965) and Middents (1968) observed males scoring higher than females an non-verbal creativity measures in their samples of school and college students.
   b) Starus and starurs (1968) reported that boys performed better than girls on measures of creativity in both Indian and American culture while sex differences were more prominent in India.
   c) Mar (1971) found male superiority in creativity over females in the study of Arab and American eighth graders. In this study boys performed better on 9 out of 13 scores derived on Torrance test of Creatively Thinking.

Indian studies

Prakash (1969) and Raina (1969) with independent data collected from different parts of the country and about five years apart found that boys excelled girls on practically all of the verbal creativity tests.

Raina (1969) tried to study the comparative performance of boys and girls on the test of creativity using 180 subject (90 males and 90 females) of VIII grades through IX classes of higher secondary schools of Ajmer. The results of these
study showed that males were more creative than females on the figural tests and on the part of the verbal form.

Rawat and Agarwal (1977) conducted a study to determine the effects of intelligence, age, sex, community and income groups on creativity. They constructed a test of creative thinking comprising & subjects. Word association, unusual uses plot titles and consequences and it was administered to 300, 12 to 16 years old Indian 8th and 9th graders. Results showed the following:
(a) high achievers in intelligence were not necessarily the high achievers in creativity.
(b) Up to age 13 years boys scored higher than girls but after 13 years there was a down ward trend for boys and an up ward trend for girls. At age 16 girls performance was better than that of the boys.
(c) Boys scores on creative thinking were higher than that of the girls in all samples.
(d) Boys caste played no important role in creative thinking while it affected the girls scores.
(e) Occupational community had no impact on role in creative thinking except for the higher income group.

Tara (1981) conducted a study on sex differences in creativity among early adolescents. From schools is Bangalore 1250 boys and girls of 13 to 15 years old were administered the Mehdí’s verbal and figural tests an measures verbal fluency, verbal flexibility figural originality and figural elaboration.

Dharmangadan (1981) conducted a study to determine the effect of sex, age and locale of secondary school pupils on the performance of creativity tests. He administered an adopted version of the Torrance tests of creative thinking to 300 children (13 to 15 years of age) from the schools in the Trivendrum. Result showed that (a) boys scored significantly higher than girls. (b) both 14 and 15 year old scored significantly higher than 13 year olds. (c) only on verbal tests did 15
years old scored higher than 14 year olds. (d) in verbal test the urban children scored higher than the rural children.

Shukla and Sharma (1986) studied differences in scientific creativity in 17 males and 16 females in the middle schools of Raipur and Rajnadgaon district in India. The test of scientific creativity developed by Shukla (1980) which measure fluency, flexibility, originality and global scientific creativity was administered. Results indicated that measures of scientific creativity were consistently but insignificantly higher than those of girls.

2) Studies Reporting Girls are Highly Creative

Getzels and Jackson (1962) found that personality dimensions associated with the divergent thinking abilities should provide girls better chance to grow as creative persons but only in respect of semantic content. This is probably due to the fact that the girls tend to keep themselves free from all sense of responsibility likely to occur in different occupations and jobs.

Razik (1964) observed that the females out ranked males in their creative ability on four out of six test of creativity. The sample included the students from colleges of Agriculture, Education Engineering and Applied Arts.

Torrence (1967) and his associates found that in the USA after about the age of ten year the girls consistently performed better than the boys in almost every verbal test of creative thinking.

Orcutt (1968) has given a series of creativity. Conformity, and originality test to 197 children of age 3, 4 and 5 years. Five year old girls were found to be significantly more conforming than five years old boys on this task.

Torrance and Aliotti (1969) with a sample of 10 year old rural Wisconsin children found that girls expelled in all of the verbal tests and on the figural
elaboration test but that boys were superior to girls in figural originality and flexibility. They interpreted this as resulting from greater socio-cultural encouragement for boys to be original and divergent with non-verbal concepts and relatively greater social pressures for girls to develop skills that require verbal reinforcement.

Kershner and Ledger (1985) compared 30 gifted (15 boy and 15 girls age 9 to 11 years to 30 average IQ children from Toronto public school on Torrance tests of creative thinking and thinking styles. The results showed that sex, IQ and thinking style each had an effect on different dimensions of children's creativity. Girls irrespective of their IQ level thinking style scored higher than boys consistently across the seven creativity sub scales, reaching statistical significance in verbal and figural fluency. Gifted boys and girls, independent of their thinking style than the non gifted children but only in verbal originality.

Indian studies
Singh (1978) suggested that girls scored higher than boys mainly in semantic content on the figural elaboration the two groups demonstrated performance up to the same level. The girls group was also able to demonstrate higher level of antinomy in thinking, non conformity to conventions and less rigidity in belief system than boys.

Raina (1980) reported a reversal in sex differences in creativity over a ten year period in India in 1969 boy in India had shown a consistent superiority on both the verbal and figural creativity. It had shifted on favor of the girls. In similar investigations Raina (1971) Goyal (1973) and Sharma (1981) also found that females were significantly superior to males on all the dimensions of creativity, viz, fluency flexibility and originality.

Chandha and Ghose (1985) found statistically significant difference between males and females on all the components of creativity. The results were is like
with the study conducted by Getzels and Jackson (1962) Passi (1972) Brodley (1976) and Chandha (1981) in which they found females scored higher than males on all the four components of creativity.

**Influence of Psychological Factor on Creativity**

An important aspect of research on creativity has been the study of the relationship with personality characteristics. It is a common belief that creative persons are different from others in the sense that they have unique personality traits of an individuals.

**Western studies**

Weisberg and Springer (1961) from interviews wish a fourth grade group of creative children and control group of comparable IQ and age, concluded that the creative children significantly demonstrated a stronger self image greater ease of early recall, humour, availability of oedipal anxiety and uneven age development.

Torrance (1962) found that highly creative children are not always well rounded individuals. In imaginative or inventive child who is an expert in solving problem and developing fantastic ideas may have reading or writing difficulties? Their visuals abilities may be below some of their other abilities or they may be inferior to their fellows in size and strength. They are also likely to have physical defects or impairments.

Barron’s (1962) analyzed personality attributes to creative individuals, the attributes are based on 76 descriptive statements of personal functioning sorted on a 9 point scale and 300 items check list of adjectives checked simply as characteristics or non characteristics of a creative persons. It was found that creative individuals are seen as intelligent, interesting and imaginative people quick flexible and perceptive socially effective and personally dominated.
Taylor’s (1964) study reveals three major characteristics of creative people. They are –

1) intellectual, originality, flexibility, sensitivity, memory and evaluation.
2) Motivational interest, curiosity, likes to play with others challenged by problems, tolerate uncertainly persistent and committed to his or her work.
3) Personality (in dependent move inclined to risk, more resource full and adventurous.

Cashdon and Welsh (1966) showed that the high creative adolescent emerged as an independent, non conforming individual who seeks change in his environment and whose interpersonal relationship is open and active.

Kurtzman (1967) compare three groups of adolescents with different levels of creativity to determine it they differed with respect to personality characteristics peer acceptance and attitude toward schools the result indicate that creative students trend to be more adventurous, extroverted and self confident. They also have a less favourable attitude towards schools. In terms of peer acceptance. Sex appeared to be an important factor higher creative boys received greater accepted by their classmates.

Iwata (1968) studied relationship of creativity with intelligence and personality variables and found that in the upper half of an intelligence test but in the lower half on the creativity test, the subjects were more independent introverted and dominant but less sociable than those in the lower half in intelligence but in the upper half in the creativity. Those high on creativity test were relatively more extroverted and less neurotic.

Torrance (1969) study revealed more creative group was found to have significantly higher scores than the tests creative group on the scales for achievement, affiliation, conjunctively, ego-energy, exhibitions, reflective-ness and understanding.
Barron (1969) summarized the studies of creative mathematician’s scientists, writers, architects and business managers, and found that in addition to being flexible, curious and original, they were individualization non-conforming, unsociable, low in impulse traits might have enabled the highly creative children to preserve and to develop their scientific creativity.

Khire (1971) studied creativity in relation to intelligence and personality factors. A battery of creativity test was developed and Raven’s advanced progressive matrix was used to measure creativity and intelligence. The cognitive and non-cognitive measures included the scores on the Binnet’s Mechanical Comprehension tests. School marks interests regarding academic subjects, games, hobbies students rating of peers and teachers, the scores on the Bernreuter Personality Inventory for the upper extreme group first 25 on creativity and first 25 on intelligence. Some of the important findings were (1) the chosen variables of creativity (abilities of fluency. Flexibility, originality and elaboration) remained closer to each other and at the same time, farther from intelligence (2) creativity had lower correlation with aptitude of mechanical comprehension and higher with scholastic performance was related with high creativity.

Komarik (1972) studied the relations between creativity and other measures of personality namely intelligence and Eyseneck’s orthogonal factors. A significant positive correlation was found between creativity and neuroticism, while no significant relationship was found between creativity and extraversion or creativity and intelligence. It was suggested that low score of Eyesneck’s Personality Inventory may be an indicator of social conformity which is an impediment to creativity.

Hassan and Akbar (1973) in their study on ideal and perceived self-concept of high and low creative students found that high creative group students were less satisfied with the qualities they perceive to have and they wished to be self confident and systematic than the low creative group.
Phillips (1973) studied the relationship between creativity performances and personality profiles by nation split on the Torrance test of creative thinking into high and low creative groups. He compared two groups on the omnibus personality Inventory and found that the high and the low creative subjects differed significantly in terms of some personality factors and the way is which they perceived themselves. It was also observed that with in each group significant relationships were found between personality profiles and self perceptions.

Payne, Helpin, Ellett and Dale (1975) studied personality correlates of creativeness in two groups academically and artistically gifted youth and obtained multiple conditions between sub scales of the 16 PF and Khatena and Torrance’s what kind of person are you? Inventory measures of creative personality characteristics. The five most significant scales yielded multiple correlations of 0.56 for the academic groups 0.71 for the artist group and 0.61 for the combined groups. The self report characteristics of strewed and reserved were descriptive of the academic and combined talented groups. The scale of self sufficient sensitivity and casualness were descriptive of artistic group.

Walhers (1976) observed two personality characteristics complexity and integration to play an important role in creative individuals. The creative tolerant with respect to ambiguity, and permissive.

Indian Studies
Bhattacharya (1961) conducted a survey of well known painters in India to know their personality and found that the subjects were introverted since childhood. He isolated the following psychological qualities intelligence constructive capacity, relative ideas of form and depth confidence sociability and spontaneous reaction to stimulation. The survey also suggested that the painter’s sex difference and religion played no significant role in his/her creative activity.
Raina (1968) in his doctoral study on some personality correlates in Indian students found the highly creative, high school students exhibiting greater achievement autonomy, dominance, change and endurance than the low creative students.

Goyal (1969) studied personality traits of reactive children at the middle school age of Patiyala district in Punjab. Using his own valid and reliable tests of creativity developed on the lines of Torrance, he concluded that the creative pupil at the middle school stage possessed a higher level of energy. They rejected suppression foot the control of impulses, they were more of introverts and move independent in both thought and action had open minds, could tolerate ambiguity and entertained opposing values.

Ahmad (1969) tried to study the personality differences among high and low creative girls. A 94 items test of personality from sends personality trait inventor, including six areas of personality viz (1) activity (2) attempt at moral values (3) dominance (4) depressive tendency (5) emotional in stability (6) introversion was administered to the two groups of creative and non creative girls. The obtained results indicated that the two groups did not differ significantly any of the personality traits except dominance. The originals or the creative were more dominant than the un-originales or the low creative.

Passi (1972) conducted an exploratory study of creativity and its relationship with intelligence and achievement in school subjects at higher secondary stage. The sample consisted of 600 higher secondary boys and girls of rural and urban areas of the Punjab, Haryana and Chandigarh. Different tools namely questionnaire for personal data, the things done of your own. The Raven's standard progressive matrix test. The Jalota's group test and General Mental ability scholastic achievement from school results reported that the scores of the criterion variables of scholastics achievement were found to be significantly influenced by the major
effects of sex, residence, grade creativity and intelligence as well as the interactional effects of sex X residence X grade.

Parmesh (1972) Employing Wallach Kogan task for measuring creativity. He concluded that the high creative individuals were neither significantly more or less introverted than the low creative individuals. The high creative individuals were not significantly different from the low creative individuals in the levels of an kindly and neuroticism. The high creative were significantly high in ego strength than the low creative individuals. The high creative differed significantly from the low creative on theoretical and aesthetic values.

Joshi (1974) studied creativity and some personality traits of the intellectually gifted high school students the sample consisted of 935 gifted pupils from standard VII to XII of 23 secondary schools of Ahmedabad, Barroda, Kaxia, Panch Mahals and Surat. They were administered Torrance creativity test and cattell’s 16 PF test. Their annual examination marks were treated as achievement scores. It was found that gifted ness was an effective contributor, to creative scores. Age was an important correlate of creativity at 15 years age level giftedness contributed to emotional maturity in boys and to personality factor ‘B’ in all case. There was low positive creativity and achievement in all school subjects except English.

Gopal (1975) Investigated the personality variables of creative and non-creative science and engineering students. The findings were creative science and engineering students were found to be more reserved emotionally stable assertive, expedient, venture some self-sufficient and relaxed than the counter part group.

Gakhar (1975) studies intellectual and personality correlates of creativity. The sample was 730 girls form IX X and XI of high school in urban areas of Punjab. Torrance test of creative thinking form a and figural form A. The group test of general mental ability by Jalota and Singh. The Califomia psychological inventory and the Bernreuter personality inventory were administered. The main findings
were that both creativity and intelligence were two distinguishable modes of the same intelligence functioning yet at the same time they were not distinctly independent of each other out of 24 personality tracts chosen in the study fifteen were correlated positively with verbal creativity while 18 were correlated positively with non-verbal creativity. There was a consistent increase in the mean scores from grades IX to XI on all the measures until about age of 15 years through some non-verbal creativity was found to develop even beyond this age.

Nair (1975) conducted a study to solve the problem of identification of the creative pupil in the classroom by simple observation of the adjutant nature of their personality. The positive adjustment variables subjected to experimentation were self-reliance. Sense of personal worth, sense of personal freedom feeling of belonging freedom from withdrawing tendencies freedom from nervous symptoms social standards, sense of personal freedom from anti-social tendencies, family relations. School relation and community relations. The only negative adjustment variables under experimentation was anxiety. The tests of creative thinking developed by the researcher included fluency, flexibility, originality, elaboration, sensitivity to problems and redefinition. The study indicated that the creative pupils were found to differ from the non-creative pupils in respect of the adjustment variables, viz. covert sense of personal freedom from anti-social tendencies, school relations, community relations and anxiety to a high degree. In respect of variables comprising self-reliance sense of personal worth, feeling of belonging, freedom from nervous systems symptoms form social standards and social skills, the creative pupils differed from the non-creative to a comparatively lesser degree. The profile of the adjutant traits of the creative pupils. The non-creative pupils the lowest degree of the feeling or anxiety where as the creative pupils the lowest degree. The creative pupils were better adjusted than the non-creative pupils, personality as well as socially.

Patel (1976) studied personality syndromes of people who are high on each of five creativity dimensions, using Torrance test of creative thinking that those with a
high profile on all creativity variables were venture some placed self confident and emotionally stable while those low on all creative variables were shy.

Paramesh and Narayana (1976) studied the effect of creativity and intelligence on temperament. Ninety three adult graduates employed permanently in a large firm in Madras were taken for the study. The age of the subjects ranged from 23 to 30 years. The Wallach and Kogan (1965) visual creativity instruments, Raven’s (1960) standard progressive matrix and Thurston’s Temperament schedule were administered to the subject in group form. The results reveal that creativity seems to subdue sociability trait at lower level of intelligence while contributing to the same at higher level of intelligence. Low creative high intelligence group is highest on active trait.

Babu (1977) conducted a comparative study of the personality factors of high intelligence, high creative. (HI-HC) thinkers and high intelligence. Low creative (HI-LC) thinkers in secondary schools in Kerala. Two tests of intelligence. One verbal and other non-verbal and a standardized creativity test in Malayalam was administered. The sample was of 128 HI-HC subjects and 159 HI-HC subjects. The two groups were compared on 14 personality variables. It was found that (i) among 14 variables, 8 variables viz self reliance with drawing tendencies nervous symptoms, social standards, anti social tendencies, family relations, school relations and general anxiety discriminated significantly between the two groups. (ii) Factor identified for HI-HC group were (a) non – anxious disposition (b) group adjustment (c) individual adjustment, (d) social conformity (e) performance anxiety (f) free orientation (iii) factors identified for the HI-LC group were (a) self adjustment (b) social disposition (c) total adjustment (iv) It was indicated that dissimilarity of factor patterns for HI-LC was because of the presence of two factor in each group social conformity and total adjustment for the HI-LC group.
Gakhar (1975) and Gupta (1977) found that highly creative individuals were found to possess higher self concepts and high self acceptance both of which were conductive to better adjustment and positive mental health.

Mehdi (1977) conducted a co-relational study of creativity, intelligence and achievement. Two hundred and fifty nine boys studying in class 7th and 8th of an urban intermediate college of Aligarh and 200 by boys studying three rural schools of Azamgarh district in U.P. formed the sample of the study. The age range of the pupil was 12 and 13 years plus creativity was measured by verbal and non-verbal test of general intelligence. The annual examination marks represented the school achievement of pupils in the urban sample intelligence and creativity are slightly negatively correlated in the rural sample they show significantly positive correlations and creativity and school achievement also significantly correlated.

Kumar (1978) studied creative functioning in relation to personality structure, value orientation and achievement motivation ninety six high and low creative class IX science students of Muzaffernagar were given the Torrance test of Creative Thinking Jalota's test of General Mental Ability and a Hindi version of Eysenecks introversion extra-version measure. A sentence completion test to measure achievement motivation, and a Hindi version of the Allport vernon Lindezey study of values and were more highly motivated towards achievement.

Asha (1978) conducted a study to find out whether – (i) highly creative children differed significantly from their less creative peers in different areas of adjustment such as home, health, social and school adjustment. (ii) highly creative children differed significantly from their less creative peers in adjustment to the problems of stemming from the situation in which they found themselves. (iii) whether better adjusted children differed from their maladjusted peers in creative performance. The sample comprised 1100 students of standard X drawn from twenty four high schools in Trivendram district in Kerala, giving proportional representation to the sex and location and the type of school. The findings of the
study indicated that none of the groups classified on the basis of creativity showed significant difference in health, social and school adjustment areas for the boys and girls. Again it was found that three creative groups among the boys showed significant differences in emotional adjustment. Only two sub group (high & moderately creative groups) of boys showed significant difference in low adjustment. Boys and girls differed significantly in adjustment differed only in certain tasks of creativity and these tasks differed for each areas of adjustment. When classified on the basis of problems concerning personality characteristics of creative children the better adjusted and the maladjusted groups of boys differed n one task of creativity (similarities) and the Moderately adjusted and Maladjusted girls differed on one task (Pattern Meaning).

Bhattacharya (1978) studied the interaction of personality and creativity the sample consisted of 410 male students of classes IX and XI the finding of the study revealed that there was interaction of creativity and the fourteen personality factors of high school personality questionnaire on the achievement of students of class IX and X factor CGHQ, and creativity interacted to affect the intelligence of those in classes IX and XI levels of personality factors did not affect intelligence, levels of creativity did not affect intelligence of the students. Levels of any of the fourteen personality factors did not affect the achievement of class XI pupils verbal elaboration had s significant positive relationship with composite creativity fluency, flexibility and originality. Comparability had significant positive relationship with creativity and its two composed flexibility and originality literary quantitative production was significantly and positively related to composite creativity and all its components fluency, flexibility and originality. The high creative secondary and higher secondary students were more warm heard more out going. More intelligent less excitable and more adventurous than the low creative secondary students. The low creative secondary students were assertive and aggressive with weaker super ego strength, when as the low creative higher secondary students were confirming, dependent shy, with drawing and quick in seeing dangers.

Problem: This study attempts to find out the vocational interests and creativity of gifted rural and urban girls.

Objectives: (i) To identify gifted girls in the two settings, i.e. rural and urban, (ii) to describe family background, parental education and parental occupation of the two categories of gifted girls i.e. rural and urban gifted girls, and (iv) to compare rural and urban gifted girls on flexibility, fluency, originality and total creativity scores.

Methodology: The sample of the study comprised 835 girls students of Grade xi from different higher secondary schools of Srinagar and Baramullah Districts. Out of the total sample, 410 girls were from rural and 425 girls were from urban background. The tools used included information Blank Sheet, Non-language preference Schedule by Chatterji, Verbal Test of creative Thinking by Baqer Mehdi, and Progressive Matrices by Raven. Mean, SD, ‘t’ values and percentages were used for the analysis of data.

Major Findings: (1) Rural and urban gifted girls did not show any characteristic difference in parental education or occupation. (2) Rural gifted girls in comparison to urban gifted girls were found to be higher on creativity but difference between the mean scores could not reach any level of significance. No significant difference was found between these two groups on the components of creativity, viz. fluency, flexibility and originality. (3) The vocational interests of gifted rural and urban girls were more or less similar when compared on a one-to-one basis.

[AGM 1859]

AMIN M.J., 1988: To study the effectiveness of Creative thinking programmes on the. Creativity level of the school children in relation to the programme correlates, Ph.D., Edu., SPU.

The objective of the study was to develop a creative thinking programme (CTP) for enhancing the level of creativity in children with special reference to time duration for implementing the programme, teacher variability, discussion pattern
in a group and programme correlates. The hypotheses examined were: (1) A creative thinking programme increases the level of creativity of students. (2) A creative thinking programme increases the creativity components scores for fluency, flexibility and originality of the students.

An experimental factorial design (2X2X2) with a single control group was employed. The independent variables were varied at two levels. In each of the eight cells, 20 subjects were randomly chosen. The control group comprised 40 subjects. Thus, in all a sample of 200 subjects of class V was employed. The Creative Ability Test standardized by J.Z. Patel was used to measure creativity and its components. The experimental treatment, namely, the creative thinking programme developed by J.Z. Patel, was used to enhance creative ability. Analysis of variance and t-test were applied for data analysis.

**Some of the major findings were:** 1. The main effect of the treatment – the training of creativity by the creative thinking programme – was significant for creativity and its component measures: fluency and originality. 2. The main effects of the two factors, time duration and group discussion, were found significant on creativity and fluency thinking ability. Thus, when the programmes were utilized for as long a period as 12 weeks, enhancement of creativity seemed to be superior, irrespective of discussion and programme instructors. 3. After the completion of every creative thinking programme, group discussion seemed to be worthwhile in terms of ideas produced. 4. The main effect of programme instructor was not significant.

**The educational implications are:** (1) National education policy should put special stress on the development of creativity in primary school children. (2) The programme to enhance creative thinking can be implemented within school hours, during the regular time table. (3) Creativity can be introduced through co-curricular activities, social sciences and general sciences. (4) Involvement of the students in creative thinking would provide highly motivating opportunities to achieve many good and appropriate responses to the stimulus.
The objectives of the enquiry were (i) To study physically handicapped and normal children with respect to personality traits, values, self-concept, mental make-up and adjustment, and (ii) to compare educational facilities provided in schools of normal and handicapped children.

The study was limited to the state of Haryana and the children of age range 12 to 18. In order to select the sample of handicapped children, three institutions were taken- the Haryana Welfare Centre for the Deaf, the Blind School, and the Institute of orthopaedically Handicapped. Five hundred handicapped students were taken. Similarly a sample of 500 normal students was selected from the normal schools. These schools were situated in an environment similar to that of the schools for physically handicapped children. The tools used were the record for each child regarding age, place of residence, parental occupation, and family history, an interview schedule to gauge societal reaction and the impact of institutionalization, the high school personality Questionnaire of cattell, the Allport- Vernon and Lindzey Inventory of Values, the Deo personality word List, the Jalota General Mental Ability Test, the Bhatia Battery of Performance Test, the Sinha and Singh adjustment Inventory and a questionnaire for comparing educational facilities. Testing was done at different intervals in different institutions. The variables controlled were age, grade, economic and educational status. The data collected were analysis using analysis of covariance.

Major findings of the study were: 1. Deaf, blind and orthopaedically handicapped children differed significantly from normal children in personality traits and values. 2. Personality characteristics common to all physically handicapped children were that they were reserved, stiff, detached, emotionally less stable submissive serious, with weak super ego, withdrawn, dependent, more shy, and apprehensive.3. Deaf children were deliberate, inactive, phlegmatic, prudent and tenderminded.4. In values, deaf children were less theoretical, economical, aesthetic, religious, political and more social.5. The self – concept 6. The deaf children were less intelligent. 7. The adjustment of deaf children was
socially, emotionally and educationally less stable. They had poor home and health adjustment. 8. Blind children were restrained, worried and untidy. 9. In the case of values blind children were less economical and religious but had more social and aesthetic values. 10. Blind children possessed poor ideal, and social and perceived self-concept. 11. Blind children had poor home, health, emotional and educational adjustment. 12. Orthopaedically handicapped children were affected by feelings. They were obedient and untidy. 13. In values, orthopaedically handicapped children were less theoretical, less economical, less religious and more social and aesthetic. 14. Orthopaedically handicapped children had a poor concept of their power and strength and had more negative tendencies. 15. Orthopaedically handicapped children were less intelligent had poor home, health, emotional, educational and social adjustment. 16. The facilities available in the institutions for handicapped children were quite inadequate as compared with those provided in the schools for normal children.

The study has its implications for all those concerned with education of the handicapped as it brought out the need to apply special methods and techniques for developing personality, values and adjustment of the handicapped.


The main objectives of the study were, (i) to compare the creativity, self-concept and locus of control of boys and girls, (ii) to compare the creativity, self-concept and locus of control of urban and rural students, (iii) to find out the magnitudes and directions of the correlations of self-concept and locus of control with fluency, originality and creativity, (iv) to find out the magnitudes and directions of the multiple correlations of self-concept and locus of control with fluency, originality and creativity, (v) to study the predictability of fluency, originality and creativity of the students with a high and low self-concept, (vii) to compare the fluency, originality and creativity of the students with internal and external locus of control and (viii) to study the interactivity. Thirty-one operational hypotheses were formulated for the study.
The sample comprised 1,014 students with 671 boys and 343 girls, and 685 urban and 329 rural students. It was selected by employing the stratified random cluster technique from population of about 10,000 students studying in Std. X of Gujarati-medium secondary schools in Bhavnagar district. The three tools used to collect data for the study were the Creative Expression Test (CET) constructed and standardized by Janakaray Dave, the Self-Concept Inventory (SCI) constructed and standardized by Jayantilal Shah, and a Gujarati adaptation of Rotter's Internal-External Locus of Control Scale (RIELCS) prepared by the investigator. The reliability and validity indices of the CET, SCI and RIELCS ranged from 0.812 to 0.942 and from 0.470 to 0.883, respectively. The technique of a back translation was employed to examine the Gujarati adaptation of the RIELCS for any possible culture bias. The descriptive statistics such as mean, median, standard deviation, zero-order correlation and multiple correlation and inferential statistics such as multiple-regression equation z-ratio, t-ratio and ANOVA were employed to analyses the data.

The major findings were: 1. Boys were more creative than girls, but they did not differ in their self-concept and locus of control. 2. Urban students had a higher self-concept than rural students, but urban and rural students did not differ in their creativity and locus of control. 3. The zero-order correlations of self-concept and locus of control with fluency, originality and creativity were 0.248, 0.219, 0.253, 0.239, 0.241 and 0.240 respectively. The correlation between self-concept and locus of control was 0.345. All the correlations were linear, positive and significant at 0.01 level. 4. The multiple correlations of self-concept and locus of control with fluency, originality and creativity were 0.297, 0.282 and 0.301, respectively. These multiple correlations were positive and significant at 0.01 level. 5. The fluency, originality and creativity of the students were predictable from their self-concept and locus of control. 6. The students with a higher self-concept were more fluent, original and creative than the students with a lower self-concept. 7. the students with internal locus of control were more fluent, original and creative than the students with external locus of control. 8. The main effects of
self-concept and locus of control on creativity were significant, but their interactive effect on it was not significant.

CHAUDHARY, G.G., 1983: An investigation into the Trends of Creative Thinking Ability of Pupils of Age Group 11+to13+in relation to some psycho socio correlates, Ph.D. Edu., SPU.

The objectives of the study were: (i) to prepare a reliable and valid creative thinking ability test, (ii) to study the trend of creative thinking ability of pupils of different areas, (iii) to study the trend of creative thinking ability of pupils of different sexes, (iv) to study the trend of creative thinking ability of pupils of age group 11 to 13, and (v) to study the trend of creative thinking ability of pupils in relation to their socio-economic status (SES), need achievement (n-Ach), IQ parental behaviour, anxiety, security-insecurity feelings, radicalism us. Conservatism, flexibility us. Rigidity, suggestibility and emotional stability.

The creative thinking ability test was standardized on a sample of 1000 pupils of which 394 were from urban area and 606 were from rural area. The reliability and validity of the test were established. The percentiles and percentile rank norms were established for different age groups. For measuring socio-economic status (SES), n-Ach, IQ, anxiety, security-insecurity, and personality traits, inventories were used. All these tools were standardized by different persons. Factorial design was used to study creative thinking ability in relation to various psycho-socio variables.

The major findings were: 1. There was no significant difference between the mean creative thinking scores of male and female children of rural and urban areas. 2. There was a marked difference between the mean scores on the test of children of three age groups. 3. The higher the socio-economic status. The higher was the creative thinking ability of the student. 4. The higher the n-Ach, the higher was the creative thinking ability of the students. 5. The students with high IQ did not have more creative thinking ability than the students with low IQ. 6. The students belonging to the high parental behaviour group did not have more creative thinking ability than the students belonging to the low parental behaviour.
groups. 7. The students with low anxiety had more creative thinking ability than students with high anxiety. 8. The higher the security, the higher was the creative thinking ability. 9. The higher the radicalism trait, the higher was the creative thinking ability of the students. 10. Students with the flexibility trait had more creative thinking ability than students with the rigidity trait. 11. The students with low suggestibility had more creative thinking ability than the students with high suggestibility. 12. The students with high emotional stability had more creative thinking ability than the students with low emotional stability.

CHAUHAN, N.S., 1978: Creativity Components as Functions of Personality Factors, of Personality Factors, sex and Adolescence among University-going students, D.Litt. Psy., Agra U.

The objectives were: (i) to explore the nature of creativity, (ii) to enhance the concept through specific probes of its components, (iii) to determine adolescent growth of the five components of creativity, and (iv) to determine personality correlates of creativity components.

The sample comprised 240 university going students. It was selected by employing the multistage random sampling method. The creativity Test developed by Chauhan and Tiwari was used to measure to measure creativity. Personality was measured with the help of the 16 PF questionnaire developed by Cattell. The data were analysed with the help of (2X2X3) factorial design analysis of variance of equal cell size.

The findings were: 1. At the age level 17 years, fulsome expression was positively correlated with creativity components. In late adolescence, it promoted creative production (CP), originality, masculine and feminine creative production (CP). At the age level of 21 years, affectothymia continued to promote CP, masculine CP, originality and musicality Affectivity of affectothymia as a correlate of creativity components, with a depression at 19 years continued to grow. 2. Intelligence demoted fluency and flexibility and rise of CP and flexibility on the low level proved them to be negatively correlated with intelligence, but the decline of feminine, flexibility on the low level of intelligence put it as a positive
correlate of intelligence. Intelligence was a correlate of creativity but a negative one of fluency, flexibility, CP and masculine flexibility. It was a positive correlate of feminine flexibility. 3. CP increased consistently and originality increased after the age of 19 was feminine at 19 years. Masculine fluency declined up to 19 years, whereas feminine fluency increased up to 19 years, Masculine fluency as a reverse of fluency, flexibility of males increased up to 19 years but feminine flexibility declined up to 19 years. Thus the age level of 19 years remained a point of depression for masculine fluency and feminine flexibility. 4. Super ego at its weaker end acted as a better correlate of adolescent components of creativity. 5. Harria was a positive correlate of feminine CP, feminine fluency and masculine flexibility up to 19 years and of originality after the age of 19 years. Harria was a negative correlate of feminine flexibility up to 19 years both adequacy and guilt-proneness were correlates of adolescent components of creativity. Conservatism was a positive correlate of adolescent components of creativity up to 19 years. Group dependence was a positive correlate of feminine CP, feminine fluency, masculine flexibility and originality during late adolescence. It appeared as a negative correlate of masculine fluency and feminine flexibility. Low self-sentiment remained a positive correlate of feminine CP, feminine fluency, originality and masculine flexibility during late adolescence. It appeared as a negative correlate of masculine fluency and feminine flexibility. Adjustment either low or high was a positive correlate of feminine fluency. Adjustment, independent of its level variations, was a positive correlate of originality. Adjustment or less of it was a positive correlate of ISP. Adjustment was a negative correlate of feminine flexibility. Subdued-ness was a positive correlate of feminine CP, fluency, feminine fluency, originality, flexibility, masculine flexibility and ISP, IT remained a negative correlate of fluency up to 19 years and of feminine flexibility well. 6. Both CP and flexibility were feminine but ISP masculine, originality and fluency were sexaternal. Fluency was feminine at 19 years with weak resurgence, conservatism, group dependence, inversion, and with less of adjustment; at 21 years, the low intelligence, weak super ego and with guiltaneness. Creativity
components were sex sensitive. 7. Feminine fluency and masculine fluency and feminine flexibility declined after 19 years.


Problem: The study addresses the problem of speech and language patterns of cerebral palsied children.

Objective: To investigate and identify the speech and language patterns of cerebral palsied children.

Methodology: The sample comprised nine cerebral palsied children (six spastics and three athotoids, aged 4-10 years) having mild, moderate severity of the disability and normal intelligence. The speech samples collected on tape recording and diary-keeping of spontaneous, elicited, narrative and imitated speech have been analysed in terms of articulation, voice, fluency, rhythm and language ability in terms of their phonological, morphological and syntactic features. Besides, individual description, intra group and inter group comparisons of spastic and the told children were attempted.

Major findings: (1) Various deficiencies and deviances in terms of speech and language behaviour of cerebral palsied children were highlighted. (2) Dysarthria, poor intelligibility, dealy in language development, limited language output, incomplete and deficient linguistic structures, expressive aphasia, pronominal reversal and confusion were some of the language deficits and deviations seen. (3) Language comprehension was much better than language expression in both types of cerebral palsied children. (BNS 0984).


Problem: This study explores the development pattern of creative thinking and leadership behaviour among Navodaya Vidyalaya students.

Objectives: (i) To study the development pattern of creative thinking and leadership behaviour characteristics among the Naovdaya Vidyalaya students of
Himachal Pradesh, and (ii) to study the sex differences in the development pattern of creative thinking and leadership behaviour among the Navodaya Vidyalaya students of Himachal Pradesh.

**Methodology:** As many as 866 randomly selected students from Grades VI, VII and VIII from five Navodaya Vidyalayas formed the sample of the study. The tools used were Leadership Behaviour Characteristics Questionnaire, Verbal Test of Creative Thinking and Socio-economic Status Scale Questionnaire. Analysis of variance was used for the purpose of analysis of data.

**Major findings:** (1) There was a significant development pattern of creative thinking among the Navodaya Vidyalaya students of Himachal Pradesh in the case of the dimensional components of fluency and flexibility but not in the case of the originality component of creative thinking. (2) There were no significant sex differences in the development pattern of creative thinking, though girls tended to be more creative than boys on dimensional scores of fluency, flexibility, and originality, as well as, on total scores of creative thinking. (3) The high and the low socio-economic status groups of students did not differ on creativity. (4) There was a significant development pattern from Grades VI to VIII among students of Himachal Pradesh in the total leadership behaviour. (5) The low SES students exhibited better leadership qualities as compared to their high SES counterparts. (6) There was a significant development pattern of communication qualities of leadership behaviour among students. (LK 1318).


**Problem:** Motor creativity is a combination of both innate and acquired qualities – a combined expression of creativity and motor ability. This study investigates the relationship between creativity, motor ability and motor creativity.

**Objectives:** (i) To find the relationship between creativity, motor ability and motor creativity, (ii) to study whether motor creativity was dependent upon creativity or on motor ability or on both, (iii) to study whether sex or strata (in this case, athlete and non-athlete) had any influence on creativity and its components, on motor
ability, and on motor creativity and (iv) to study whether motor creativity could be predicted if the original scores of creativity and motor ability were known.

**Methodology:** The sample comprised 600 students aged between 13 to 16 years. The tools used were pass tests of Creativity (Bengali version by M.C.Ghosh), Motor Ability measured through five Standardised tests, and Motor Creativity measured through a newly constructed Motor Creativity Test consisting of five test items. Descriptive statistics, Analysis of variance, product moment correlation, multiple correlation, and regression analysis were used for the analysis of data.

**Major Findings:** (1) Boys were superior to girls in motor ability, creativity and its components, (2) Athletes were superior to non-athletes in motor creativity. (3) The boys athlete group was superior in all the parameters to the other three groups. (4) Creativity, motor ability and motor creativity were positively related with each other, (5) The scores of all the four groups in motor creativity, creativity and motor ability had a significant relationship. (6) Motor creativity scores were directly related with scores in motor ability and creativity, and were also dependent upon them. (7) Motor creativity scores could be predicted from the multiple regression equation with the help of creativity and motor creativity cores. (PDR 0618).

**GOLWALKAR, S.A., 1986:** Study of Scientific Attitude, Creativity and Achievement of Tribal Students of Rajasthan, Ph.D. Edu., M. Sukh. U.

**The main objectives of the research were:** (i) to study the scientific attitude of tribal students studying science in secondary schools located in tribal area, (ii) to compare this with the scientific attitude of non-tribal students of the same schools, studying science in secondary classes, the same schools, studying science in secondary classes, (iii) to compare the creativity of tribal and non-tribal and non-tribal students in science subjects.

The sample of the study consisted of 270 tribal and 270 non-tribal students of classes IX and X offering science as an optional subject, and living in a tribal
area. The tools and techniques used were the scientific attitude scale. Thinking creativity with words, and thinking creativity with figures.

The main findings were: 1. When comparison of tribal and non-tribal on ten components of scientific attitude was made, non-tribal were found to be superior to tribals on three components of scientific attitude. 2. There was no significant difference between the mean scores of tribals and non-tribals fare better than the non-tribals. The overall mean score on the scientific attitude scale for non-tribals was higher than for tribals. 3. There was a significant difference between the mean creativity scores of tribals and non-tribals. The non-tribals had a higher level of creativity than the tribals. Factor-wise comparison of the two groups on the basis of a verbal test of creativity showed that for the fluency component, the mean fluency score of non-tribals was higher than that of tribals. Non-tribals had more fluency than the tribals. The two groups did not differ significantly on the flexibility component. The mean originality score of non-tribals was higher than that of tribals. 4. The non-tribal students had a higher scholastic achievement in science subjects than the tribal students.


Problem: The present study aims at assessing the future orientation of Grade IX students in terms of achievement motivation and the perceived instrumentality of the SSC examination marks for their future goals. And relating these to their academic attainment at the Class IX and the SSC level.

Objective: to understand the relationship of future orientation among the Grade IX boys and girls with their academic performance as well as their cognitive and non-cognitive personality attributes.

Methodology: The sample comprised 429 students of Grade IX from 10 different schools located in Nagpur. The tools used were Perceived Instrumentality Index (PI). High School Personality Questionnaire (HSPO). Test of Creativity (Cr.), Abstract Reasoning Test (AR) by J.M. Ojha (Hindi version), Achievement Value
and Anxiety Inventory (AVAI), and Verbal Test of Intelligence (Parts I and II). Median, un-weighted mean analysis, frequencies, and harmonic mean were calculated for analysis of the data.

**Major Findings:** (1) Those who perceived the relationship between SSC marks and future career goals to be more important and more achievement oriented, scored more marks at the SSC. (2) Differences in perceived instrumentality produced differences in SSC examination marks among those who were high in achievement motivation but not among those low in achievement-motivation. (3) Higher achievement oriented students of Grade IX obtained more marks at their SSC examination; also, as those who perceived the relationship more important obtained more marks in that examination. (4) When boys and girls were considered separately, instrumental tendencies did not appear to have influenced their examination performance. (5) The perceived instrumentality tended to serve as a significant source of variance in examination performance for the girls but not for boys. (6) The achievement motive served as a significant source of variance in examination performance for boys, but not for girls. (GPK 1593).

GUPTA, I.D., 1984: A. Study of Some Factors of Environmental 'Press' Facilitating Creativity in Language Arts, Ph.D., Edu., Bhopal U.

The study attempted to investigate two comparatively neglected aspects in creativity research, viz, (i) creative product, and (ii) creative 'press', both related to school education. Specifically, it explored the structure of creativity in language arts and studied its facilitation through the 'press' of environment.

The study was conducted on a sample of 550 eighth grade children, comprising 247 boys and 303 girls from 22 school classrooms selected at random from the schools of Bhopal city. The data were collected with the help of a Creativity Test, Hindi Achievement Test and Environmental press Scale constructed for the study and Jalota's Mental Ability Test.

**The findings of the study were:** 1. In the first instance, the structure of creativity in language arts was derived through factor analysis. Basically, it was found to be composed of imagery and composition. Later, composition was found to split into
poetry and story dimensions. With this split, humour emerged as an independent cluster spreading equally over imagery, poetry and story. Studied along with intelligence and language ability, the chain of variables suggested a split of creativity into primary and secondary processes. The first part comprised imagery, humour and intelligence followed in sequence by the second half which included language, story and poetry. 2. Investigations into facilitation of creativity in language arts was made on the basis of environmental ‘press’ to include, (a) global factors, (b) ‘press’ factors in the domains of home, school and peers, and (c) the treatment factor. The analysis from global factors revealed that boys excelled girls on imagery, humour and intelligence. However, male superiority was found in families, average on all accounts. This support vanished in disadvantaged environments whereas in more advantaged environments the situation even reversed in favour of girls. Another interesting finding was that father’s education and books at home supported creativity among boys but remained insignificant for girls. 3. The process factors were analysed in each domain separately and, in all, eight factors were derived to cover cognitive home, aesthetic home, home independence, school instruction, school enrichment, school openness, peer activity and peer openness. Canonical correlation analysis revealed a very significant contribution to creativity of both boys and girls. Peer activity, cognitive home and school instruction emerged as the main potent facilitators. Lastly, facilitation by treatment ‘press’ was explored three classrooms by pre-test post-test design. Convince analysis demonstrated that experimental treatment facilitated creativity without having any adverse side effect on regular classroom achievement.

The study raises hope for schools of the possibility achieving creativity goals without hampering routine instruction. Emergence of schools of the possibility instruction. Emergence of ‘school instruction’ as a significant process factor also supports this hope. The implications of the factors of ‘peer activity’ and ‘cognitive home’ are clear. The school has to provide a bridge between the home and itself, and to channelize student activity into their peer group.

**Problem:** This study attempts to make a detailed inquiry of the factors such as pupil teachers creativity and its relation to their teaching aptitude, teaching skills and personality variables that may reveal useful and new facts which may have a direct influence on the teachability of creativity.

**Methodology:** Two hundred and eighty pupil teachers from two colleges, i.e. University College of Education, Nagpur, and P.P. College of Education, Gondia, formed the sample of the study. The tools used were Torrance tests of Creative Thinking (Verbal form A) by E.P. Torrance, Classroom Creativity Observation Schedule by Denny, Cattell’s Sixteen Personality Factors Questionnaire, Teaching Aptitude Test by Prakash and Srivastava, Microteaching Techniques and Observation Schedule prepared by the researcher. Mean, SD, coefficient of correlation and ‘t’ test were used for the purpose of analysis of data.

**Major Findings:** (1) Positive and highly significant correlation was found between creativity and classroom creativity, teaching aptitude, and teaching skills, (2) Out of the sixteen personality factors, positive and highly significant relationship was found with factors C, G, and Q₇ and low but positive correlation was found with factor E. (3) Positive and highly significant relationship was found between factor Q₇ and classroom activity. (4) Low but positive and significant relationship was found between teachers’ classroom activity and teaching aptitude. (5) There existed mean differences in the case of all the teaching skills of high and low groups of pupil-teachers (formed on the basis of classroom creativity), but these were not statistically significant. (GPK 1694).


**Problem:** The study aims at examining the differences between normal and deaf children on perceptions of parental behaviour, perspective taking ability and cognitive functioning. The study also attempts to see whether institution alisation
and multiple birth of deaf children make any difference to their performance on these variables and academic achievement.

**Objectives:** (i) To compare the normal and deaf children of some educational grades in terms of perceptions of parental behaviour, perspective taking ability and cognitive function. (ii) to compare the institutionalization and non-institutionalisation in terms of the above variables, (iii) to compare the single and multiple deaf children in terms of the above variables, and (iv) to examine the nature of the relationship between academic achievement and teacher ratings in normal and deaf groups.

**Methodology:** The sample comprised 275 children of Grades IV to VIII of municipal or government schools. Out of 275 children, 156 were normal and 119 were deaf. Children of both the sexes belonging to all educational levels had equal representation. The tools used included Parental Behaviour Inventory, Perspective taking Ability – Facial Expression Test, Koh’s Block Design Test, Alexander’s Pass Along Test, terminal examination performance and teacher’s ratings. The statistics used to treat the data were, ANOVA. ‘t’ tests. Mann-Whitney U-test and stepwise regression analysis.

**Major Findings:** (1) Deaf children did not differ from normal children in perceptions of parental behaviour and perspective-taking ability. However, the difference between the deaf and the normal were significant for Koh’s Block Design Test and Alexander’s Pass Along Test, (2) Institutionalised deaf children perceived parental behaviour as more accepting than the non-institutionalised deaf children, but the two groups did not differ significantly on perspective taking ability, and on Koh’s Block design test (3) On academic achievement, non-institutionalised children were found to be significantly better. (4) Institutionalised deaf boys had better perception of parental behaviour than non-institutionalised boys, but on perspective taking ability, on difference was found between the two. (5) The institutionalized and the non-institutionalised girls did not differ on perceptions of parental behaviour and perspective taking ability. (SCG 0155).
Kumar, Girijesh. 1989: A follow-up study of creatively talented college students. Independent study, Moradabad: Hindu College, (ERIC Funded)

Problem: The study attempts to conduct follow-up of students who were found creatively talented.

Objectives: (i) To study whether young people identified as creatively talented during their college years become creative and productive adults in their later life, (ii) to study the occupational choices of creative students identified on the basis of creativity tests, (iii) to study the extent of job satisfaction of creative talented adults, (iv) to study the marital status and ordinal position of creatively talented adult (v) to study the work values of creatively talented adults, and (vi) to study the background factor and academic attainments of creatively talented adults.

Methodology: The Sample comprised 425 subjects enrolled for B.Sc. during 1975. In the follow-up study, during 1985-86, 120 Subjects responded. The tools used included Questionnaires, Torrance Test of Creative Thinking, work Values Inventory, Choice Dilemma Procedure, and Embedded Figures Test. Percentages, mean, SD, standard error, ;t'-test, and correlation were used for the purpose of analysis of data.

Major Findings: (1) It was found that a majority of the fathers of creatively talented were graduates while those of the less creatively talented were intermediate only, and the mothers of creatively talented were matriculates while those of the less creatively talented were non-matriculates. (2) As regards education of the creatively talented groups, both the categories had a majority under the matriculate group. (3) With regard to the that a majority of the fathers of the creatively talented were professionals, while among the less creatively talented the fathers were sales workers. (4) It was found from among the respondent subjects, that the monthly income of the parents was Rs. 1, 000 or less. (5) As regards the birth talented were second-born whereas, the less creatively talented were third-born. (6) With regard to occupational choices, it was found that most of the creatively talented and the less creatively talented were working in conventional occupations. Only three subjects chose unconventional occupations. (7) Fluency, flexibility and originality in the case of verbal as well as non-verbal
and the composite creativity were the predictors of academic achievement. The poorest of creativity predictors were verbal and non-verbal originality, and the best were fluency and flexibility. (8) The creativity talented group differed significantly from the less creatively talented group on both verbal and non-verbal creativity. But on intelligence the two groups did not differ significantly. (9) The creatively talented and the less creatively talented groups differed significantly on quantity and quality of creative achievement, and on creativeness of aspirations. (10) A comparison of the creativity talented and the less creatively talented differed significantly on 'freedom' and 'creativity' in favour of the former group, [CGVM1145].


The objectives of the study were: (i) to find out the interrelationship among the three components (originality, flexibility and fluency) of creativity, (ii) to find out the nature of relationship between creativity with respect to sex and curricular streams, (iii) to find out the interrelationship among creativity and its components, ego strength and personality factors (extraversion, neuroticism and psychoticism) with sex and curricular streams, (iv) to compare individuals braving high and low egostrength, high and low extraversion, high and low psychoticism with respect to their creative responses, (v) to compare incidence of creativity among hysterics and dystheemics, (vi) to verify the orthogonality of relationship among the three dimensions of personality (extraversion, neuroticism and psychoticism), (vii) to find out the interaction, if any, among creativity and various correlates of the study, and (viii) to investigate the nature of distribution of components of creativity, egostrength, extraversion, neuroticism and psychoticism.

A sample of 252 subjects was selected from the metropolitan city of Delhi. The subjects in the study comprised XI grade students of arts and natural sciences of age level 15 + years. In order to study the factors which were responsible for creativity, the independent variables were (a) egostrength, (b) Extraversion, (c) Neuroticism, (d) Psychoticism and the dependent variables (a) originality,
flexibility and fluency, (b) creativity as a composite ability. The tools used in the study were (i) the Torrance test of Creativity, (ii) the Eysenck Personality Inventory.

The findings of the study were: 1. Introverts were more creative than extraverts. 2. Creativity was positively and highly and highly related with ego-strength. 3. Science students were more creative than arts students. 4. Creativity was negatively and highly related with psychoticism. Individuals high on ego-strength were more creative than those low on ego-strength. 6. The relationship between creativity and extraversion was curvilinear. 7. Systemics were more creative than hysterics. 8. The high creative were consistently high on originality. 9. Introverts showed greater originality than extraverts. 10. Subjects higher on ego-strength had higher scores on originality. 11. Science students had higher scores on originality than arts students. 12. Males had higher scores on originality than females. 13. Introverts had higher scores on flexibility than extraverts. 14. Subjects higher on ego-strength had higher scores on flexibility. 15. Science student a had higher scores on flexibility. 16. Introverts were more fluent than extraverts. 17. Science students were more fluent than arts students. 18. Psychoticism was negatively and highly related with ego-strength. 19. Males evinced greater psychoticism than females. 20. Extraverts were higher on neuroticism than introverts. 21. Arts students were high on extraversion that science student were higher on ego-strength than arts students.

LATA, K., 1985: Impact of Parental Attitude on Social-Emotional and Educational Adjustment of Normal and Handicapped Students, Ph.D. Psy., Agra U. The objectives were: (i) to investigate the difference of parental attitude towards the normal and handicapped school students, (ii) to study the difference between normal and handicapped students in adjustment, (iii) to find out the difference between normal students and handicapped students in the field of social, emotional and educational adjustment, (iv) to trace the effect of the attitude of parents on the adjustment of normal and handicapped students. The hypotheses were: (1) Parent attitude does not differ between normal and handicapped students. (2) The sex of
the child has no effect on the parental attitude towards normal and handicapped students. (3) Normal students do not differ from the handicapped students in adjustment. (4) Normal students do not differ from the handicapped students in the fields of emotional adjustment, social adjustment and educational adjustment. (5) The attitude of parents does not affect the adjustment of either normal students or handicapped students. The sample consisted of 150 subjects (75 normal and 75 handicapped). Of the normal, 46 were boys and 29 girls. The Adjustment Inventory developed by A.K.P. Sinha and R.P. Singh was used to measure adjustment. The test, retest and split–half reliability coefficients ranged from 0.90 to 0.96 and 0.93 to 0.95 respectively. The Parent’s Judgement Scale regarding a particular child developed by Irkin was translated into Hindi and used to measure the parents’ reaction to their child. The split-half reliability coefficient was 0.95. The data were analysed with the help of t-test and chi-square technique.

The findings were: 1. The parental attitude did not differ for normal and handicapped students. 2. The attitude of fathers and mothers of normal and handicapped students did not differ significantly for boys and girls. 3. Normal children showed a significant difference from handicapped children in adjustment. 4. Normal boys and handicapped girls showed better emotional adjustment than normal and handicapped boys. 5. Normal students did not differ significantly from the handicapped in the field of social adjustment. 6. Normal students differed significantly from the handicapped students in the fields of educational adjustment. 7. Parental attitude did not significantly affect the adjustment of normal students. 8. The attitude of affected significantly the adjustment of handicapped girls but did not affect the adjustment of handicapped boys.


This is an evaluation of the scholarship scheme of the government of India for the physically handicapped in Bihar; between 1971 and 1974 the total number of beneficiaries under this scheme were 118. One hundred beneficiaries were
interviewed out of whom 48 were blind, three deaf and 49 orthopaedically handicapped.

The major findings were: 1. The notion that the onset of the disability at an early age led to late schooling was not true. Two-thirds of the respondents started their school career from the age of seven though the majority of them showed onset of disability during the first six years of their life. 2. The belief that disability during student life stopped educational development was not supported as one-third of the respondents developed their disability at this time but they pursued their study undisturbed. 3. However, the disability prevented most of them from participating in sports and extra-curricular activities. Most of the respondents' performance was average. 4. The students found the integrated system of education better than studying in separate schools. 5. The scholarship came as a great help for most of the students. 6. There was much delay in the disbursement of scholarships. 7. Forty-three respondents were in a position to take up gainful employment. 8. Employers were not always fair in selection. 9. Inadequate training and employees reluctance to engage handicapped per sons were considered to be the major obstacles to their employment. 10. The high incidence of handicaps in rural areas caused by curable diseases demonstrated their absence of awareness among the masses about the available preventive measures for diseases as well as the lack of medical facilities in the rural areas. 11. There was poor awareness of these facilities among the guardians of the handicapped children.


The major objectives of the study were: (i) to compare the home adjustment, health adjustment, social adjustment, emotional adjustment, school adjustment and total adjustment of crippled and normal children, (ii) to compare the level of aspiration of crippled and normal children, (iii to compare the self-concept of crippled and normal children, and (iv) to compare the academic achievement of crippled and normal children.
The sample comprised 50, crippled children ranging in age from 13 years to 16 years, studying in high schools and intermediate colleges of Allahabad city and 50 normal children matched with crippled children in age, sex, IQ, socio-economic status, institution and class. The matching was made in pairs. The tools used in the study were, (i) General Mental Ability Test by S. Jalota, (ii) Vyaktitva Parakh Prashnawali bi, M.S.L. Saxena, (iii) L.A. Coding Test by A. Ansari and G.A. Ansari, and (iv) Self-concept Inventory by U.P. Singh. Personal interview, school records of students and the Educational Problem Check List Prepared by the investigator were also used. Wilcoxon's Matched-pairs, Signed Ranks Test was used to examine the hypotheses.

The major findings were: 1. Crippled children differed significantly from normal children in school adjustment, emotional adjustment and total adjustment. However, when comparison- was made separately for boys and girls, it was found that crippled boys differed significantly in social adjustment only while crippled girls differed significantly from normal girls in social adjustment, emotional adjustment and total adjustment. 2. Significant differences were found between crippled children and normal children, crippled boys and normal boys and crippled girls and normal girls in the level of aspiration measured in terms of goal discrepancy score. 3. Crippled children, crippled boys and crippled girls differed significantly from normal children, normal boys and normal girls in self-esteem as well as, in social esteem. 4. When academic achievement children, boys and girls was comprised with that the normal children, boys and girls respectively, no significance difference was found between them. 5. About 20 to 84 per cent of the crippled children were found to be facing various educational problems.


Problem: The study focuses on ego-strength, personality needs and home-emotional climate as the determinants of creativity.

Objectives: (i) To find out if there exists any difference between means of ego systems., the personality needs and the nature of the home-motional climate of
high and low creative groups, (ii) to study the effect of variation of ego-strength, personality needs and home-emotional climate on creativity, (iii) to study the interacting effect of ego strength and personality needs on creativity, (iv) to study the interacting effect of ego-strength and home-emotional climate on creativity, (v) to study the interacting effect of personality needs and home-emotional climate on creativity, (vi) to predict, i.e. to establish regression equation between creativity as criterion and ego-strength, personality needs and emotional climate as predictors, and (vii) to study the, multiple correlation between creativity and its team of predictors.

**Methodology:** Five hundred students between the age of 15-17 years studying in arts and science faculties of different intermediate schools of Agra City formed the sample of the study. The tools used were Creativity Test by Baqer Mehdi, Ego Strength Scale of MMPI, and Personal Preference Schedule by Tripathi. The collected data were treated using ANOVA, multiple correlation and multiple regression analysis.

**Major Findings:** (1) Ego-strength was found to be a significant determinant of creativity, both for boys' and girls. (2) High creative boys were significantly higher in all needs except n-defense while creative girls were significantly higher in needs. (3) n-ach, n-auto, n-aff, n-change, n-end and n-agg. were the significant motivational determinants of creativity in the case of boys while for girls n-ach, n-def, n-auto, n-change and n-end were significant determinants. (4) In all the designs, the democratic home - emotional climate was found to be a positive and significant factor in development. of creativity of both the sexes. High creatives were from affectionate and democratic home climates. (5) There existed a significant interaction, between ego-strength and various needs in the' case of boys and girls. (6) Ego-strength, n-ach, n-auto and emotional climate were significantly positive predictors of creativity in case of boys. (7) n-def, n-domi, n-end and home-emotional climate were found to be significant positive predictors of creativity in the case of girls. (SS 0829).

Problem: This study reviews the existing tests of creativity developed by Indians.

Objectives: (i) To collect information on measures of creativity with respect to their development and use in various research studies, thereby establishing their usefulness. (ii) to review the existing tests of creativity developed by Indians, and (iii) to highlight the use of tests of creativity developed by Indians.

Methodology: The existing creativity tests developed by Indians were subjected to examination and analysis.

Major Findings: (1) Almost all the Indian creativity tests have been patterned on the lines of Guilford's Structure of Intellect model. (2) Torrance Tests of Creativity follow the cognitive approach to assess creativity. (3) The various dimensions scored by almost all tests included fluency, flexibility, originality and elaboration. (4) The items in almost all the tests represent a heavy intake from foreign tests, though the items are adapted to Indian situations, the rationale for their inclusion cannot be justified. [Author 1206]


Problem: The study attempts to analyse whether a single-modality (visual or auditory) stimulation to its maximum capacity reflect positively upon speech and language A performance of hearing-impaired individuals.

Objectives: (i) To measure hearing loss of children, (ii) to form a homogeneous group in the, classroom with reference to hearing sensitivity along with chronological age, (iii) to evolve a scale for measurement of language skills, and (iv) to investigate individual needs of the students to plan an individualized programme of language development.

Methodology: The sample comprised children in the experimental group and children in the control group. They were selected using the criteria of W chronological age between 7 to 9 years, and (ii) the degree of loss, only severe and
profound category. The used included, an audiometer and a self language test. The analysis of the data were d using 't' test and ANCOVA.

**Major Findings:** (1) On the test of children could identify all the ten items and answered in the form of complete sentences (2) Children developed the concept of sin and plural number, gender, usage of adjectives verbs. Prepositions, cases and story telling. (3) It was found that there were significant differences h, in the case of the pre-test and post-test scores in both the experimental groups but not in the control group. (4) It was also found that the single-modality approach worked more effectively than the multi-sensory approach. (5) Children with profound hearing loss proved better candidates for speech-reading. But, there were a few children with a good amount of residual hearing who exhibited poor candidacy for amplification due to some physiological factors, such as poor dynamic range, recruitment, and persistent discharging ears. These children were, considered for visual-modality stimulation. [Author 1205]


**Problem:** It attempts to study the effect of home environmental variables on language acquisition of learning-disabled and normal children.

**Objective:** To examine the extent to which home environmental variables affect language acquisition of the learning-disabled and normal children.

**Methodology:** The sample consisted of 26 children divided into two sub-groups on the basis of normal and learning normal subjects were taken from Standard 1, belonging to the age-groups of 3+ and 4+, respectively. But age was not taken as a factor in the case of learning disabled children. The selected learning-disabled children and their mothers were free from speech and learning defects. The tools used included Home Environment Questionnaire of Jacckuck and Khandai, and Test of Oriya Syntactic Ability ROSA). Mean, SD, T test, and factor analysis were used to analyse the data.

**Major Findings:** (1) Parental aspiration and living conditions of the home environment had a significant effect on the test of Oriya Syntactic Ability. (2)
normal children differed from the disabled children on their home environment in favour of the enriched home environment. (3) Test of Oriya Syntactic Ability (TOSA) had relationship with the home environmental factor but it was not high. (4) The parent-child interaction and mass media had a significant relationship.


Problem: It attempts to study the problem of reading, memory and attention processes of normal and reading-disabled children.

Objectives: (i) To investigate the differences between the normal and reading-disabled children of Grade II and Grade IV on the measures of decoding, (ii) to compare the differences between normal and reading-disabled children of Grade II and Grade IV on the measure of comprehension, and (iii) to analyse the differences between normal and reading-disabled children in the psychological processes of attention and memory.

Methodology: The sample comprised 40 subjects, 20 each from Grade 11 and Grade IV. Among them, 10 were normal and 10 were reading-disabled. The tools used included Decoding Test, Comprehension Test, Oral Reading Test, Digit Span Test, Letter Cancellation Test, Visual Closure Test, Visual memory Test, Auditory Closure Test and Auditory Memory Test. Mean, SD. and ANOVA were calculated to treat the collected data.

Major Findings: (1) The normal and the reading-disabled children did not differ with respect to their intelligence. (2) In the case of decoding score, the normal subjects of both grades performed better than the reading disabled subjects. (3) In the case of oral reading errors, the normal children made significantly less errors than the reading-disabled children. (4) There was a significant difference in comprehension as a function of reading ability only and not grade. (5) There was a significant difference in the Digit Span score as a function of reading ability only and not for grade. This indicated that the normal children of both grades had better performance in digit recall than the reading disabled of both grades. (6) The
differences in the errors in letter cancellation as a function of grade was not significant, but for reading ability the differences were significant. (7) There was no significant difference in the letter cancellation time as an effect of grade as, well as an effect of reading ability. [KCP 0485]

MAAN, G.S., 1978: Value Patterns of Creative and Noncreative Student (A Cross-cultural Study), Ph.D. Psy., Agra U.

The hypotheses were: (1) There is no significant difference between Hindu and Muslim high creative in relation to values. (2) There is no significant difference between Hindu and Muslim low creative in relation to values. (3) There is no significant difference between high creative boys and girls in relation to values. (4) There is no significant difference between low creative boys and girls in relation to values.

The sample consisted of 500 male and female students of intermediate colleges of Hindu and Muslim cultures. It was drawn from the Agra commissionary. The sample was divided into four groups: 125 Hindu boys, 125 Hindu girls, 125 Muslim boys and 125 Muslim girls. Creativity was measured with the help of the Verbal Creative Thinking Test developed by Baqer Mehdi. The Value Test was developed by the investigator. Its test-retest reliability coefficients ranged from 0.21 to 0.40. The data were analysed with the help of critical ratio.

The findings were: 1. No significant difference was found between the high creative Hindu group and the high creative Muslim group except in theoretical and political values, on which they differed significantly. 2. The low creative Hindu and Muslim groups did not differ significantly on theoretical, economic and aesthetic values but differed significantly in regard to religious, social and political values. 3. High creative boys and high creative girls did not differ from each other in respect of values except aesthetic value. 4. Low creative boys and low creative girls did not differ significantly in relation to values, except on economic value.
MUKHERJEE, MANJUBALA, 1973: A Study of Relation between Some Personality Traits and Choice of Occupations, Ph.D. Psy., RSU.

The objectives of the study were: (i) to find out if personality traits had any measurable bearing upon the choice of occupations at the two definitely different stages of age and educational development, (ii) to find out if individuals differing in respect of their choices of occupations also differed in respect of their personality traits, and (iii) to find out if individuals differing in their age and sex also differed in their choice of occupations.

The sample of the study consisted of 800 students of grades III, IV, VIII and X selected from different schools of Raipur city, following the stratified random sampling method. The simple was divided into two broad age groups, viz. pre-adolescence (9 to 11 years of age) and late adolescence (14 to 16 years of age). The data were collected by employing the Early Personality Questionnaire and High School Personality Questionnaire. Apart from these, an Occupational Choice Inventory was constructed and validated by the investigator herself. Means, t-values, chi-square test, and coefficients of correlation were used for the analysis of data.

The findings of the study were: 1. Some personality traits, namely A, C, and 0, were found to have a measurable bearing upon the choice of some of the occupations. 2. Individual, differing in respect of their choice of occupation were also found to differ in respect of their personality traits. In the case of males at the pre-adolescent levels, significant differences were observed among the occupational groups of doctor and lawyer on factor C. The male students of the late adolescence level who showed difference in their occupational preferences also differed significantly in their average scores on factors A, B, F and I of personality. In the case of female students at pre-adolescent age level, differences were noted in the average scores on personality factors of C and D. Here the occupational groups of doctors and school-teachers were taken up for discussion. At the late adolescence level, the female students showing preference for the occupations of doctor and school-teacher respectively showed significant differences, in their average scores on factors A, B, and H of personality. 3. The chi-square and t-values computed
among the average preferences for the occupations were found to be significant for the choice of army officer, businessman, teacher, lawyer, leader, lecturer, engineer and actor in the male groups, whereas, in case of female students, significant difference in the average performance was noted in nine occupations out of 20. 4. The students at the late-adolescence level were found to shift their occupational choices in a more realistic direction than those of the pre-adolescence level, who seemed to be much more influenced by fanciful ideas. 5. Significant sex differences were observed in the choice of occupations which were found to increase with the advancement in age and educational grades.


The major objective of the study was to find out the effect of punishment procedures in the discrimination process of the retarded.

In the study a sample of 30 mentally retarded children from four institutions of Delhi was taken. There were 20 males and 10 females having an IQ range of 45-52 and with a mean age of 191.57 months (age range 159-216 months). The subjects were categorized as first session learners (FSL) and latent learners (LL) on the basis of their performance on learning tasks. The tools used in the study were: (i) The sequin form board test, (ii) the draw-a-Man Test, (iii) the Stanford Binet intelligence test, (iv) the Stanford pseudo-isochromatic colour blindness test, (v) six wooden forms having such shapes as square, circle, triangle, star, cross and hexagon. Each of these was colour with six different colour red, yellow, green, blue, black and white. The data so collected were analysed with the help of Bartlett's test.

The findings of the study were: 1. The variable of punishment contingency had its effect in both the measures, i.e. trials to criterion and percentage of errors. 2. with a preferred dimension being employed as an irrelevant dimension, a trend of a direct relationship existed between the amount of interference caused and the number of variable cues. 3. Statistically insignificant results were obtained with
regard to the differences between the means of the two groups on chronal age, the Stanford-Binet Mental age score and sequin form board mental age score. 4. Within a sis of the group of FSL indicated that their perform reflected a superiority unexplained by the present absence of punishment contingency. 5. Latent Lead (LL) as a group showed a significant betterment their performance when operating in the present punishment. 6. Compared to the performance of the performance of LL even when facilitated by parchment, was distinctively inferior which indicated the FSL as a group found these tasks to be very FSL as a group manifested a stronger ego organization better reality perception, lesser pathogamy, more all maturity and lesser anxiety context in their fanta. 8. LL seemed to possess a group personality characterized by weaker ego organization, frequent flight fantasies, greater pathogamy, lesser overall matt and higher anxiety content in their fantasies. 9. La potential could be brought to the surface with a purment contingency. 10. The LL could not match the performance of FSL due to cognitive deficit.


The hypothesis which formed the basis of the study were: (1) Teaching through a creative method improves Marathi language proficiency of students. (2) Teaching through a creative method develops linguistic creativity among students. (3) Teaching through a creative method develops such abilities as are involved in linguistic creativity as vocabulary, sentence construction, poem composition, story writing and imagination among the students.

The sample for the study consisted of ninth class students offering Marathi as mother-tongue. Two equivalent groups of students were formed on the basis of a test in Marathi. Experimental and control treatments were randomly assigned to these two groups. A suitable adaptation of a test of literary creativity in Marathi developed by M.B. Kundley was administered to the ten groups as a pre-test. The experimental group was taught Marathi through a creative method developed by the researcher and the control group was taught through a traditional method for a
whole session. The two groups were post-tested on the different items of the same test. t-test was employed for comparison of the two groups on the gain scores.

It was found that the experimental group scored significantly higher than the control group in (i) language proficiency, (ii) overall creativity, and (iii) all the abilities involved in linguistic creativity.


Problem: The study addresses the problem of analysing the socio-economic problems faced by the disabled in the rural areas of eastern Uttar Pradesh, and of evaluating the measures lodged by the government and voluntary organisations for their welfare.

Objectives: (i) To assess and analyse the extent and type of exiting disabilities in the rural areas, (ii) to examine the status of the disabled in the family/society, (iii) to review the ongoing schemes and measures for the welfare and upliftment of the disabled, and (iv) to suggest remedial measures for their development.

Methodology: The sample comprised 400 male and female disabled, covering the totally blind, the crippled and the dumb of all age-groups and different religions and castes. It also considered 400 heads of families to which the disabled belonged and 400 neighbours from four selected districts of eastern Uttar Pradesh, i.e. Bahraich, Deoria, Pratapgarh and Ballia. In addition, the opinion of the officials of concerned departments and voluntary organisations was also incorporated in this study. The tools used included Schedules, Interviews, Discussions and Observations. In addition, the secondary sources of information were also collected and used. The percentage method was used to treat the collected data.

Major Findings: (1) It was found that from among the total sample of the disabled, 16% were totally blind, 10.5% were dumb, 11.5% were mentally retarded and 3% were leper cases. (2) The disabled were living in a critical condition. (3) Most of the people did not want to mix with the disabled and look d
own upon them (52% of the disabled reported). Disability also caused problems for the relatives (47.50% of the disabled reported). (4) The disabled were unwelcome in community places like schools, temples, parks, public wells, etc. (60% of the heads of families of the disabled and about 52% neighbours reported). In certain cases, the family also discouraged them from mixing in society due fear of harm from other persons (19.50% respondents reported). (5) The educational I of the disabled was poor as they belonged to poorer sections of society. 13.7% of the, disabled were economically engaged in different occupations. The per capita annual income of the working disabled was Rs. 1,144 only. (6) Developmental plans related to the disabled had lit 6't coverage in the rural- areas. A low proportion (42%) reported awareness about the develop schemes for the welfare of the disabled. [NR 1240]


*Problem:* This research attempts to study the effect of a supplementary training programme on the language development and socialisation of hearing-impaired children and to study the effect of parental education programme on the parents awareness of acceptance of their child's handicap. The researcher evolved a structured programme both for the children and also for the parents.

*Objectives:* (i) To find out the hearing loss of deaf children as well as to study their socioeconomic background, (H) to identify the problem of deaf children in their language development, (iii) to evolve a programme of supplementary education for the language development of deaf children, (iv) to identify the problem of deaf children in respect of their socialisation and to evolve a programme for supplementary education for socialisation of the deaf children, and (v) to identify the problem of the parents in accepting the handicap of their child
and evolve a programme for developing the awareness of the parents regarding the acceptance of handicap.

**Methodology:** The sample comprised 34 children in the age-group of 3 to 12 years, who were chosen using the purposive sampling technique. Two sets of tools were used in the study - one set for parents and the other for the children. The tools used for the parents included Interview Schedule, Questionnaires, Participatory programmes for the parents. and Socio-economic proforma. The tools used for the children included Programmes, Check-list, Rating Scale for Socialisation, case studies, observations and language tests. The collected data were subjected to percentiles and T ratios and analysed accordingly.

**Major Findings:** (1) As a result of the supplementary educational programme, the children started speaking boldly. They started speaking full sentences. They were eager to express themselves without feeling shy. This was substantiated by the quantitative analysis. (2) During the programme the children developed a positive social behaviour such as answering, taking turns, volunteering for work, etc. In most of the cases the increase in the positive behaviour was doubled in the third phase. This was an indication of good socialisation of the children. (3) The children were expected to pick up some higher social behavioural traits, such as admiring the good work done by others feeling free in the presence of strangers, etc. In this case, also, the children showed good development. (4) Parents could not give the exact nature of the defect of their child, but they knew about the degree of hearing loss. The misunderstandings on the Cochlear Implant were totally removed. (5) As a result of parents' awareness programme, the parents became aware of the positive points, such as, the residual hearing of the child. Parents became more free and open-minded in disclosing the facts regarding the consultations with different doctors or following other than medical measures. They realised the necessity of teaching the child to lip-read. (6) Parents gave up many wrong concepts regarding their hearing-impaired child and developed the right concepts in many respects. (7) At the end of the project, parents started keeping a record of the child's receptive and expressive language. All of them started teaching their child. They could detect the difficulties on the part of the
children about words. They become more attentive towards the problems of the child. (8) It was observed that there was a lot of enrichment of the teachers participating in the project and the student teachers involved in the project. [Author 1201]

PATHAK, A.B., 1984: A Study of Disabled Children in Normal Schools, V.B. G.S. Teachers' College, Udaipur, (NCERT financed)

The major objectives of the study were: (i) to study the personality traits, adjustment and aspirations of disabled children in normal schools, (ii) to study their socio-metric status in the classroom, and (iii) to suggest ways to achieve better integration with normal children.

The sample was drawn from among the orthopaedically disabled children in normal schools of three districts of Rajasthan – Udaipur, Banswara and Jodhpur. The final sample consisted of 79 boys of 32 higher secondary and secondary schools from urban and rural areas. The age range of the students was 12 to 18 years with a majority in the age range 14 to 17. The tools included the Personality Questionnaire by Kapoor and Mehrotra, Adjustment Inventory by Sinha and Singh, an aspiration questionnaire and a personal data blank. Percentages were calculated for data analysis.

The major finding were: 1. most of the disabled children came from families with poor economic background. 2. Sixty-three of the 79 children’s fathers had studied only up to higher secondary or below. 3. Parents of 46 children had a family income below 500 rupees per month. 4. Most of the disabled children were from large families having four to five children. 5. The disabled children were somewhat reserved, emotionally stable, satisfactorily adjusted but low in scholastic ability, demanding and easily excitable, obedient, expedient, vigorous and not very tense. 6. Overall adjustment was average. Emotional adjustment was good, social and educational adjustment was average. 7. Socio-metric status was satisfactory. Only three children were isolates. 8. Most of the children wanted to continue studies up to Post-graduation. 9. Teaching was the most preferred pursuit while intellectual or political pursuits and material comforts received least
preference. 10. The few problems which disabled children faced were fear of the school, difficulty with classroom learning, dissatisfaction with teachers, ridicule by other children and inability to participate in co-curricular activities.

**Ramajee Lal, 1984**: A Study of Some Personality Characteristics of Creative Adolescents with the Help of Some Projective Tests, Ph.D. Psy., Pat. U.

The hypotheses examined in the study were: There are significant differences between high and low creative adolescent groups in respect of their psychological needs, n-Achievement, n-Defeence, n-Abasement, n-Autonomy, n-Aggression, and n-Counteraction. 2. There is significant difference between high and low creative adolescent groups in respect of various environmental 'press'. 3. There are significant differences in the structural characteristics of personality (introversive-extroversive balance, inner control, level of aspiration, empathy) of high and low creative group of adolescents.

The study was conducted on sample of 150 male adolescents in the age range of 17 to 20 years belonging to the colleges of Deoria District (UP) and studying in 1st year. The total sample was divided into high and low creative groups on the basis of the subjects scores on the Creativity Test, taking the median of the score distribution as the cut-off point. The tests utilized to collect the data were the Creativity Test by Wallach and Kogan, after adapting the verbal part of the test into Hindi, the Thematic Apperception Test and the Rorschach Ink-blot Test to assess the personality characteristics of high and low creative adolescents. The obtained data were analysed by employing t-test, median test, chi-square and graphic methods. The phi-coefficient was used to determine the relation between creative and personality variables.

The major findings were: 1. High creative adolescents exhibited a greater introversive tendency as compared to their low creative counterparts. This was further shown by the negative correlation between creativity and the introversive-extroversive balance. 2. A significant phi-coefficient value showed a positive relationship between creativity and inner control. 3. High creative adolescents exhibited a higher level of aspiration than low creative. 4. High
creative adolescents possessed good empathetic feeling as compared to low creative adolescents. 5. The mean achievement score of the high creative group was significantly greater than that of low creative group. 6. The low creative groups possessed a significantly higher need for deference than the high creative group. 7. Low creative adolescents were higher on n-Abasement in comparison with the high creative. 8. High and low creative adolescents differed significantly in respect of n-Autonomy scores. 9. High and low creative adolescents differed significantly in respect of mean aggression scores. 10. A negative correlation and a significant t-ratio demonstrated that subjects of the low creativity group had greater need for nurturance than the high creative group. 11. The high creative group yielded significantly higher mean scores for n-Succorance.


The main objective of the study was to identify certain social-familial and personality variables which would correlate with creativity and hence would discriminate between subjects of three different levels of creativity high creative, average creative and low creative. The major hypothesis was that each of the 18 independent variables included in the study, categorized as social, familial and personality, would show significant association with creativity, the dependent variable.

The study used a sample of 566 pupils of Std. IX drawn from different schools of Kerala, and selected on the basis of stratified sampling procedures with representation given to factors such as school efficiency, rural-urban residence and sex of subjects. The tools used were the Kerala Socio-Personal Adjustment Scale, Kerala Introversion-Extraversion, Scale, Kerala General Anxiety Scale, Kerala Examination Anxiety Scale, Kerala Achievement Motivation Scale, Home Learning Facility Inventory, Family Acceptance of Education Rating Scale, Family Cultural Level Rating Scale, Family Environment Index Inventory, A Comprehensive Test of Creative Thinking, the Kerala University Test of Verbal Intelligence and General Data Sheet. The social-familial factors measured were
father's educational level, father's professional level, father's income level, mother's educational level, socio-economic status of family, order of birth of the subject, family size of the subject, family cultural level index, family environment index, family acceptance of education and home learning facility. The personality variables measured were social adjustment, personal adjustment, general anxiety, examination anxiety, achievement motivation, masculinity-femininity, and introversion extraversion. The reliability and validity of the scales were established in earlier studies. The statistical techniques used were product-moment coefficient of correlation, analysis of variance and appropriate tests of significance for differences between means both for large independent and dependent samples.

The main conclusions were: 1. Out of the 18 independent variables studied, 16 correlated significantly with creativity. The two variables which did not indicate association with creativity were 'family acceptance of education and 'masculinity-femininity'. 2. All the 16 variables which correlated significantly with creativity, differentiated significantly among subjects at different creativity levels.

The correlates of creativity identified in this study can be used for identifying creative talents and possibly also for predicting creative talents. The possibility that creativity can be developed by improving the correlated variable's pointed to the possibility of development of new educational strategies for students of high creativity.


Problem: The present study tries to find out the determinants and correlates of scientific education. creativity among adolescents.

Objectives: (i) To study the difference between the low and high scientifically creative adolescents on various dimensions of creativity based on the S.I. model of Guilford, 40 to study personality differences between low and high scientifically creative adolescents in terms of Cattell's trait theory, (iii) to examine the perception of the home environment (different dimensions) by low and high scientific creative adolescents, and 40 to examine the perception of the school
environment (different dimensions) by low and high scientifically creative adolescents.

**Methodology:** Two hundred students of +2 level from nine private and government schools formed the sample of the study. The tools used were Scientific Creativity Test (MSCT) developed by Majumdar, Jr. Sr. High School Personality Questionnaire (Form A) by Cattell's and questionnaires to measure perception of home and school environment. Descriptive and inferential statistics were used for the analysis of data.

**Major Findings:** (1) Lower Scientific Creativity (LSC) and Higher Scientific Creativity (HSC) groups differed significantly on all the three parameters of structure of intellect model. The HSC group was found to be better than LSC group on these parameters. (2) HSC adolescents differed markedly from the LSC adolescents in terms of most of the personality traits. (3) Both the groups differed significantly, so far as perceived impacts of home and school environment were concerned. [RDM 0351]

**SAMI, S., 1986:** A Study of Relationship activity, Self-awareness and Self-adjustment Edu., AMU.

**The objectives of the investigation were:** (i) activity, (ii) to study self-awareness, and (iii) self-adjustment of university students. Zaidi's Ideational Tendency Scale, Zaidi's dimensional Inventory of Self-awareness a Self-Adjustment Scale were administered to representative sample of 450 students studying graduate and postgraduate classes of Aligarh University. Coefficients of Correlation were used to study the relationship between the variables.

**The major findings of the study were:** 1. coefficients of correlations obtained between creativity the different dimensions of self-awareness and between self-awareness and the different dimension of creativity were positive and significant thought high. This indicated that creative were self-aware and self-aware people were fluent, flexible and original. 2. The relationship between creativity, total self adjustment and its different dimensions as also between self-adjustment and different dimensions of creativity were positive and significant, but not high. This
showed that creative were self-adjusted and the self-adjusted were fluent, flexible and original. 3. The relationship between high creativity and high self-awareness and that between low creativity and low self-awareness were positive and very significant. 4. The relationship between high creativity and high self-adjustment was positive and moderately significant, but that between low creativity and low self-adjustment was positive and very significant. This showed that while most of the high creative were likely to be self-adjusted, some may lack in this regard, but almost all the low creative were likely to be poor in self-adjustment.


Problem: This study is an investigation into the personality correlates of creativity.

Objectives: (i) To study creativity in terms of its components, and (ii) to determine the self-concept, values, need, and personality factors of adolescents in relation to fluency, flexibility and originality.

Methodology: Two hundred and fifty college going girls of middle socio-economic status studying in different colleges of Aligarh City formed the sample of the study. The tools used were Verbal Test of Creative Thinking by Baqer Mehdi, Your Choice (Apki Pasand) by R-S Tripathi, Values by R.K.0Jha, and Cattell's 16 Personality Factors Questionnaire (For-in A) prepared in Hindi by S.D. Kapoor.

Major Findings: (1) On the basis of empirical verification of the null hypotheses of the study, it was found that when the adolescents were imbued with high or less creativity components (i.e. fluency, flexibility and originality) they had clear perceptions about their values, self-concept, needs and personality factors. (2) Each component of creativity had its own orientation and should be studied separately to enhance our knowledge of the truth. [SS 0808]

SHARMA, K.P., 1984: Socio-cultural Correlates of Creativity Adjustment and Scholastic Achievement, Ph.D. Psy., Agra U.
The objectives were: (i) to determine the impact of cultural determinism, religion and socio-economic status upon important aspects like creativity components, adjustment and scholastic achievement, and (ii) to determine, interactions among all the three variables in the domain of all three studies.

The sample consisted of 300 subjects belonging to different levels of SES, caste and conformists/rebels. It was selected with the help of the stratified random sampling method. The Culture Determinism Scale by N.S. Chauhan and A.D. Sharma, Socio-economic status scale (Urban) by S.P. Kulshrestha, Creativity Test by N.S. Chauhan and G.P. Tewari, and Adjustment Inventory by A.K.P. Sinha and others were used in the study. The data were analysed with the help of analysis of variance using factorial design of equal cell size.

The findings were: 1. Cultural conformity promoted creative production and scholastic-achievement in the Muslims. 2. Conformity of the low SES group promoted adjustment in home, health and educational pursuits. 3. Rebels to their culture were more original in general, possessed high creative production, originality and flexibility as compared to Muslims. Hindus of high SES possessed more creative production, originality and flexibility as compared to Muslims of middle SES. Hindus of middle SES possessed more originality and flexibility as compared to Muslims of the same status, and Hindus of low SES were more original as compared to Muslims. 5. Hindus of high SES possessed high creative production as compared to Muslims of the same status. 6. Adolescents of high SES possessed high creative production and scholastic achievement, they promoted creative production, originality and flexibility in both Hindus and Muslims as compared to Muslims of low SES; they were more original irrespective of religion as, compared to those of low SES; they were non conformists, possessed originality and showed better adjustment in home, health and emotional pursuits as compared to those of low SES. 7. Adolescents of middle SES promoted fluency and originality, demoted home adjustment after its middle level and showed better adjustment in emotional and educational pursuits up to the middle level. 8. Adolescents of low SES were better adjusted in the home as compared to those of high SES. They were imbued with conformity and showed better adjustment in
home, health and emotional pursuits as compared to those of high SES. They were found to be better adjusted in emotional and educational pursuits as, compared to those of middle SES.


The main aim of the research was to study some background, cognitive, motivational and personality factors in relation to creativity. Nine hypotheses were examined.

A sample of 400 standard X and XI high school students (200 males and 200 females) was drawn from uniform types of schools. Wallach-Kogaii's Battery of Creativity Instruments, the Bihar Test of General Intelligence, Scholastic Achievement Test, Bhatia's achievement Motivation Test, Kogan-Wallach’s Choice Dilemma Questionnaire, Eysenck’s Personality Inventory, Taylor’s Manifest Anxiety Scale, Maslow's Security-Insecurity Inventory, Mohsin-Sha adopted form of Bell's Adjustment Inventory, Data Blank and Kuppuswamy's SES Scale.

The major findings were: 1. Males were creativity to females. 2. High and low creative were significantly differentiated on intelligent elastic achievement, risk taking tendency, anxiety health, and emotional adjustment together with adjustment scores. 3. High creative males were intelligence and scholastic achievement but look taking. They were also better in home, health, trial and overall adjustment. 4. In case of female ground factors like parents education, and economic status were significantly associated creative females were significantly high in inter and scholastic achievement than low creative find.


Problem: There is evidence from various studies conducted on development of concepts among normal children. But, to know the process of development of
concepts among handicapped children seems to be a challenging task. Hence this study has been taken up.

**Objective:** To find out the effectiveness of the teaching-aid method based on the Concept, Attainment Model as compared to the effectiveness of the normal teaching method.

**Methodology:** The sample students were selected from Lady Noyce School for the Deaf Delhi. About 30 students from Classes I to V (excepting Class III) were selected. Four criterion tests were constructed by the researcher. Et concepts, two to each class, were taught by teaching-aid method and the normal teaching method. Two equivalent groups of 15 students each in one class were formed by assign, students in each group. The pre-tests and tests were conducted. The mean, SD; t-test used to treat the data.

**Major Findings:** (1) The teaching-aid me was found superior to the normal teaching method for the development of concepts among deaf children of Standards I and II. (2) teaching-aid method could not establish significant difference over the normal tea method for Standard IV and Standard V children. But it did show a hierarchical order from the teaching-aid method to the normal tea method in terms of effectiveness due to high score in teaching-aid method and low mean in normal tea6bing method. [SRA 1127]

**Sharma, Prernlata, 1989:** A study the to explore the linguistic competence of hearing impaired in IED and in special schools of Haryana & Delhi.

**Problem:** This study attempts to explore the linguistic competence of the hearing-impaired in IED and in special schools of Haryana and Delhi.

**Objectives:** To explore the linguistic competence of the hearing-impaired studying in special and in normal schools, through the case study approach, and (ii) to compare the levels of linguistic competence of the special schools hearing impaired with the levels of the hearing impaired children attending normal schools.

**Methodology:** The sample comprised 48 hearing-impaired students from special schools -and 48 hearing-impaired students from the normal schools of Delhi and
Haryana. The tools used included a Linguistic Competence Test in 'Hindi, constructed by the investigator, Raven's Progressive Matrices Test, and a Questionnaire covering the socio-economic status, degree of hearing loss, age and sex of the selected sample. The case study approach was used to assess the linguistic competence of the hearing-impaired studying in the special and IED schools of Delhi and Haryana. Mean, SD, T test and correlation techniques were used to treat the data.

**Major Findings:** (1) The linguistic competence attained by the hearing-impaired of, special schools was less than that of the hearing impaired of the IED schools. (2) The hearing impaired children of special schools were found' to be significantly better on their intelligence than the IED children. (3) The linguistic competence of the hearing-impaired studying in IED was significantly better than those of special schools. [Author 11641

**Sharma, Premlata and Pandey, Savitha. 1992:** An experimental study to assess the effectiveness of adapted instructional material In science on hearing-impaired from IED and special schools. Independent study. Mysore: Regional College of Education.

**Problem:** This study attempts to assess the effectiveness of the adapted instructional material in science for Classes I-VII in both integrated and special schools of Delhi, Haryana and Mysore (Karnataka).

**Objectives:** (i) to facilitate the teachers of the hearing-impaired teaching science to Classes I-VII in raising their level of classroom participation, (ii) to help the teachers of IED, schools in developing insights for devising better teaching methodologies for IED classes, (iii) to help the hearing-impaired studying both in TED and special schools from Classes I-VII in learning science concepts better. (iv) to facilitate the teacher to teach the difficult concepts by involving other sensory channels for providing the same learning experience in IED classes, and (v) to provide compensatory inputs to both the hearing-impaired and normal hearing children for understanding the taught concept clearly.

141
Methodology: The sample comprised 327 students (90 normal hearing and 237 hearing-impaired children) from Classes I-VII drawn from eight schools (both IED and special schools) of Delhi, Haryana and Karnataka. The tools used included the handbook on adaptation in science instructional material which was developed and tried out through teachers of the hearing-impaired for teaching science in IED and special schools; science achievement tests to assess the effectiveness of the adapted material used for teaching science for Classes I-VII. Mean, SD, T test and F-test were used to treat the data collected from pre-test and post-test scores.

Major Findings: (1) The performance of the hearing impaired from IED and special schools on post-test was better than on the pre-test. But the performance of Classes II and IV of special schools was better than the students of Classes II and IV studying in IED settings, both on pretest and post-test. Further, it was also found that the performance of the hearing-impaired was better on the post-test than on the pre-test. (2) The hearing-impaired from Classes V-VII from IED setting, in general, had performed better than the hearing-impaired studying in special schools, on both pre-test and post-test. The performance of the hearing impaired from the IED setting on post-test was significantly better than on the pretest, (3) Significant differences were found on age variables, but not so on gender variables among the hearing-impaired in both the settings. (4) It was also found that the medium of instruction had no impact on the science achievement of the hearing impaired studying in integrated and special schools, excluding class VI. (Author 1337).


The main purpose of the study was to construct a test for measuring scientific creative potential among high school students.

Six abilities, viz.; flexibility, novelty, observing minutely, imagination, analysing and transformation were selected. The test was developed in Hindi through tryout, item-analysis. Difficulty and discriminative values of items were found out. The final form had 29 items. The standardization sample included 466
class IX and X, students randomly selected from two government and two non-government schools of New Delhi. Reliability was estimated through test-retest, split-half and K-R 20 method. Content, practical validity and percentile and T-score norms for class IX (N=250) and X (N =216) were worked out. The test had fairly high reliability Norms were fixed.


The objective of the study was to test the following hypotheses: (I) Creative writers are extraverted, neurotic, psychotic and more prone to lying. (2) Creative writers are alienated. (3) Creative writers perceive themselves as less aggressive, less sociable, less emotionally stable, less socially adaptable and less socially intelligent. (4) Creative writers are theoretical and aesthetic in their value orientation and low on political, economic, social and religious values. (5) Creative writers are poorly adjusted on all aspects of adjustment scale.

The study was an exploratory one. A sample of 100 creative writers who had reputed published works in the areas of writing poetry, novels, plays, short stories, etc. was selected. Their age ranged from 23 years to 83 years. They were administered the following tools: (i) the Eysenck Personality Questionnaire (1978), (ii) the Pearline Alienation Scale (1962), (iii) the Srole Anomie Scale (1956), (iv) the Clarke Activity-Vector Analysis (1963), (v) the Allport Value Scale (1960), (vi) a seven point adjustment scale, (vii) the Mohan Creative Writers Questionnaire (1978).

The findings of the study were: 1. The creative writers emerged as introvert, neurotic, psychotic and socially conforming. 2. Creative writers were alienated and had a strong feeling of normalness. 3. Creative writers perceived themselves as less aggressive, less sociable, less emotionally stable, less socially adaptable and less socially intelligent. 4. Creative writers were found to be theoretical, aesthetic and social in their association and lower on political, religious and economic values. 5. Creative writers reported themselves to be quite well adjusted. 6. Extraversion was positively related with aggressiveness, social intelligence,
health, personal; social and total adjustment. 7. Psychoticism was positively related with neuroticism and negatively related with 'social desirability, positive values, health, personal, social and total adjustment. 8. Neuroticism was found to be positively related with aesthetic value and negatively related with social desirability, political value, health, personal, family, social and total adjustment. 9. Lie Scale was positively related with political value and total adjustment. 10. Alienation was positively related with anomie and theoretical value. 11. High positive correlation existed among different vectors of self perception. 12. Theoretical value was positively related with social value and negatively with aesthetic and religious values. 13. Economic value was negatively related with aesthetic and religious values. 14. Social value was negatively related with religious value. 15. Various dimensions of adjustment were found to have a positive correlation with each other and total adjustment.

TRIPATHI, V.K.D., 1983: A Study of Personality Traits as related to Creativity among Male and Female Teacher Trainees of High, Middle and Low Socioeconomic Status, Ph.D. Edu., Avadh U., 1983

The objectives of the study were: (i) to develop a new test of creativity primarily with its fluency and originality components, (ii) to prepare an Indian adaptation and standardization of Cattell's 16 Personality Factor Questionnaire Form C and D in the Hindi language for use on an adult population, (iii) to develop fresh norms for both the tests of creativity and personality, (iv) to study inter-relationships between originality and fluency and other components among teacher-trainees, (v) to study relationships between personality and creativity and the effect of socio-economic variables on these two, and (vi) to prepare personality profiles of creative and non-creative teacher-trainees and to compare their emerging patterns.

The sample of the main study consisted of 354 B.Ed. teacher-trainees selected from 572 trainees drawn from five colleges of Pratapgarh and Sultanpur districts of U.P., after checking and rejecting 218 answer sheets which were found invalid. The tools used for collecting data were a Hindi version, of 16 PF Questionnaire Form C and D, and Fluency-Originality Composite Test of
Creativity, both prepared and standardized by the investigator, and Socio-economic Status Scale Questionnaire (urban) prepared by Jalota, Pandey, Kapoor and Singh. Mean, median, point Biserial correlation coefficient and t-test were used for analysing the data and drawing conclusions.

**The major findings of the study were:** 1. The females were higher on creativity than the males. 2. There was a positive correlation between the SES and creativity scores. 3. Sex-wise analysis of creativity scores of the three SES groups showed a negligible effect of SES on creativity. 4. Female trainees on their personality scores were high in abstract thinking, conscientiousness, tender mindedness, imaginativeness, radicalism, and somewhat less frustrated. 5. The effect of SFS on personality was not substantial as the differences were noticeable in less than one-third of the total personality factors. 6. Creative female trainees were higher on intelligence, consciousness, experimental attitude, and self-sufficiency factors than creative male trainees. 7. High SES creative were superior in consciousness and experimental attitude. 8. High creative were more warmhearted, intelligent, emotionally stable, conscientious, venturesome, tender minded, imaginative, experimental and controlled than their low counterparts. 9. Fluency and originality were positively correlated. Both these factors contributed to creativity. 10. In terms of second order extraversion factor components, high creative teacher-trainees were more introverted than low creative teacher-trainees.

**The implications of the study are:** (1) The findings would help in selection, training and promotion of actual school teachers by knowing the personality pattern of creative and other socio-economic aspects. (2) It would help educators and psychologists to predict the creative potential of the individuals on the basis of the personality test scores. (3) The study introduced an innovative approach in teacher-training programmes which would prove helpful for training the future teachers in the art of identifying and teaching creative students in schools.

**VERMA, J., 1983:** A Study of the Differences in the Personality Patterns of High and Low Creative Adolescents in Schools as Measured through Rorschach, Ph.D. Psy., Mee. U.
The objectives of the investigation were: (i) to study the differences of the personality patterns of high creative and low creative adolescents, (ii) to know how the cognitive and affective aspects of personality interacted with each other in such individuals, and (iii) to ascertain whether creative adolescents were more imaginative, introverted, emotionally sensitive and better adjusted as compared to the non-creative adolescents.

The sample was selected from the schools under Delhi Administration on the basis of random sampling. The sample comprised 380 students taken from the middle socio-economic group to nullify its impact on creativity. The creativity was measured through the use of the Verbal Test of Creative Thinking by Baqer Mehdi and a Non-verbal Test of Creative Thinking by Baqer Mehdi. The Mixed Type Group Test of Intelligence by P.N. Mehrotra was used to equate the groups on intelligence. The Rorschach Ink Blot Test was used to measure personality patterns of the high and low creative adolescents. The data were analysed by using techniques like chi-square and analysis of variance.

The findings were: 1. The high creative group possessed more organizational interest and ability. The high creative group produced a superior concept in which the match of the concept to the blot was improved by the omission of certain parts of the blot. They were more accurate and specific. The: high creative persons possessed interest and ability to differentiate perceptually. High creative had a feeling of insecurity. They had a rich responsiveness to the environment in a perceptual sense and they had a flair for unusual things. Both high and low creative groups had almost the same desire to be outside looking. Both groups ignored the usual approach and literally 'dived into' their problems without regard for the surrounding area or context. High creative were more original, flexible, and had a more fertile imagination. High creative groups were more constructive, self-assertive, more imaginative, self-accepting, intelligent, inner stable, and had a feeling of empathy. They had superior creative potential compared to those who lacked even this degree of integration of ego and impulse life. They had integrated their impulse life with their value-system and they were well adjusted to their environment. Both groups had the same level of expected normal anxiety. High
creative had an optimal level of frustration of affectional satisfaction. Both groups were found to handle their affectional anxiety by introspective efforts, that is, they were able to tolerate their own anxiety. High creative had a feeling of insecurity for affectional needs. Both groups had a ready control over emotional impact without loss of responsiveness. Both groups were capable of representing keenly felt attitudes about oneself and the environment. High creative had more introspective tendencies as compared to low creative. They had more potential adjutings, techniques as compared to the low creative group. Both groups were found to see the world as others saw. It without an undue emphasis upon the conventional view. High creative had' novelty and unconventionality. 2. High creative had superior capacity and fine control of intellectual functions. 3. High creative produced responses that were very well differentiated or organized or both. 4. High creative had a flexibility of approach and wide range of interpretative background that contributed to the efficiency of intellectual function. They were perceptually responsive and receptive to the world around them. They were more alert and productive, and quick in taking decisions. They were quick in responding to both chromatic as well as achromatic cards. They had produced more movement responses as compared to low creative. Further, they had produced more responses which indicated their better adjustment to the environment. 5. High creative were not more introvert than low creative. Both high and low creative reacted emotionally to the environment.

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1. Motivation and cognition are unrelated to one other.

2. Cognition precedes and influences cognition.


4. Cognition and motivation are reciprocally related to one other

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