A Comparative Study of Motivational and Cognitive Factors among Irregular and Regular Primary School Students Belonging to Tribal and Non-tribal Blocks of Vadodara District

A synopsis submitted for the Degree of

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(Psychology)

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Abstract

Admission and completion of Primary Education by the children in India, has been an important agenda of Government since independence. Numerous schemes and amendment in laws have been implemented for upliftment of education among all classes of people especially for the deprived, schedule caste and schedule tribe. But issues of irregularity and dropouts still persist. The present study tries to investigate if psychological factors such as need for achievement, problem solving ability, creativity and concentration among students and parents' attitude towards education affect regularity of the students in schools. The sample belongs to Naswadi (tribal block) and Dabhoi (non-tribal block) of Vadodara district. Total 406 students and 398 parents have been selected for the study. The results show that male and regular students have scored more on problem solving ability and creativity than irregular and female students. Among all grades 8^{th} grade students have scored more on creativity and concentration than 6^{th} and 7^{th}gradestudents. Students belonging to non-tribal area, regular students and female students have scored more on concentration than the students belonging to tribal area, irregular students and male students. There is a significant difference in attitude towards education between parents living in different Blocks and between parents with their children's regularity. Parents staying in non-tribal area i.e. Dabhoi and parents whose children are regular have positive attitude towards education. There is no significant difference between parents' attitude towards their children's education with respect to children's gender.

Key words*:* Need for achievement, Problem solving ability, Creativity, Concentration, Regular, Irregular, Tribal and Non-tribal

1. INTRODUCTION

Education is important for development of an individual as well as the nation. Education creates earning opportunities which brings economic development of an individual and then further development of his family and society. Importance of education is very well captured in Universal Declaration of Human Rights. It says,

> "Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages. Elementary education shall be compulsory. Technical and professional education shall be made generally available and higher education shall be equally accessible to all on the basis of merit." - Article 26, Universal Declaration of Human Rights

Government of India has launched various flagship programs, apart from various educational policies and institutions, to improve education.

Under Right to Education Act (RTE) free and compulsory education is provided to all children in the age group of six to fourteen years. It is legal duty of the Centre and State Government to provide free and compulsory education. Government is continuously attempting to improve education. The educational input takes various forms such as opening of schools, enrolment drives, and measures for the retention of students in schools, provision of tuition without payment of fees and of scholarships, supply of textbooks and other teaching/learning materials, opening of residential schools with or without a vocational base, appointment of teachers and so. These inputs are expected to facilitate the educational process and attract disadvantaged children to school or college. However, the educational process does not benefit the disadvantaged groups evenly, resulting in differential development. Disadvantaged group is an omnibus category. It includes the scheduled castes and the scheduled tribes. It also includes the socio- economically deprived backward castes,

slum dwellers, neglected minority groups and economically backward individuals. Article 46 of the Indian Constitution states that,

> "The State shall promote, with special care, the education and economic interests of the weaker sections of the people, and, in particular of the Scheduled Castes (SC) and Schedule Tribes (ST), and shall protect them from social injustice and all forms of social exploitation."

1.1 Tribal Community and Education Status

Indian Tribal people or "Adivasi" is an umbrella stint for a heterogeneous group of ethnic people living in various states in India. They are counted as a minor category but they occupy the larger part of the country. They are primitive people who live away from the so called civilized society. They have been dwelling in the forests surrounded by hills for a long period (Prajina, 2010). Article 366 (25) of the Constitution of India refers Scheduled Tribes as these communities, who are scheduled in accordance with Article 342 of the Constitution. Their poverty, social and economic backwardness are highly observable in the literature. The Human Development Indices (HDIs) of the ST population are much lower than the rest of the population in terms of all parameters such as education, health, income, etc. (Annual Report 2016, Ministry of Tribal Affairs, Government of India).Their situation of life is not different in Gujarat. Even though there is a considerable economic growth, this section of the society that depends on traditional resources for livelihood and left out from the development. The factors that exposes in the chariot of Gujarat's development experience such as improved literacy, primary education, better health indicators, economic development etc. have played only a restricted role in the holistic development of these communities. Education is still a challenge in tribal communities.

Chattopadhyay and Durdhawale (2009), conducted study on situation of primary school attendance, gender difference in schooling, quality of schools of tribal children in

some selected villages of Nandurbar District. The sample consisted of 245 students from 183 households and their parents. Primary and secondary data were analysed using qualitative and quantitative tools. The analysis showed that improvement is required in infrastructure, economical reasons due to uncertainty of income and language problem were major reasons for absenteeism.

Rani (2009) analysed researches done on tribal education and issues related to it such as absenteeism, language problems, curriculum, etc. One of the studies conducted in Karnataka on Government policies on development of tribal language and tribal education, indicates that the major problems in tribal education are medium of language, child labour, lack of motivation from parents, absenteeism of teachers, sibling care, gap between seasonal holidays and summer vacation.

1.1.1 Issues related to education. Since, Independence there has been increase in number of schools, gender-wise enrolment in schools, but still there persists problem of school drop-outs. As per annual report of year 2016-2017 developed by Ministry of Tribal Affairs and Statistics Division, there are48.2% drop-outs in Scheduled Tribes children. Poverty, lack of access to educational system, negative attitude towards schooling, peer influence, alcoholism of parents, large family size, distance of the school, poor transport facility, unemployment, mother tongue inhibition, less parental support in schoolwork, low level of motivation, poor self-esteem of children etc. pull them back from the school (Baruah & Goswami 2012; Chantia& Mishra, 2011; Crookston, Forste, McClellan, Georgiadis, &Heaton, 2014; Dhawan, 2005;).

As per the report published by Ministry of Human Resource Development Department of School Education and Literacy, New Delhi in year 2016, the drop-out rate in India reported in year 2014-2015 for primary section i.e. for grade I-V is 4.42 % and the drop-out rate for upper-primary section i.e. VI-VIII is 3.75 %. The drop-out rate for ST in

primary section is 7.98% and the drop-out rate for upper primary for ST is 8.43%.A detailed study was conducted by Sarva Siksha Abhiyan (SSA) in year 2009 in twenty states of India to assess the attendance, to find the reasons for absenteeism, to assess effect of absenteeism on achievement of examination results and drop-out rates. A total sample of 6715 schools was selected for the study. Out of these, 4988 schools were primary schools and 1727 were upper primary schools. The finding showed that overall average attendance rate of students was 68.5 % at primary schools and 75.7 % at upper primary schools. The attendance rate of girls was higher than boys. The main reasons for students irregularity from school given by head teachers, teachers and Village Education Committee(VEC) members were inadequate school facilities, teacher shortage, overcrowded classrooms, boys helping parents in fields, girls engaged in taking care of siblings and parents' lack of interest in education. According to parents, lack of school facilities and child's unwillingness to go to school were main reasons for absenteeism in school. Community suggested that motivating parents, improving teaching and giving incentives for regularity will increase attendance in schools.

There is a well-established link between socioeconomic status, need for achievement, cognitive functioning and attendance of children in the school (Crookston, Forste, McClellan, Georgiadis, &Heaton, 2014; Paxson & Schady, 2007;Sirin, 2005).

Psychological problems of ST students lead to low levels of education. Inherent fear of tribal children towards teacher and their inability to establish a communication link with the teacher results in low attendance and high dropout rates (Sujatha, 2002). In tribal societies the parents are strongly adverse to education of their children; they give emphasis on teaching their children about income generating works (Sarangi, 2015). Empirical evidences reveal that tribal children possess the basic cognitive abilities and psychological dispositions for successful participation in schools but there is no sufficient intrinsic and extrinsic motivation to achieve the academic goals (Paxson & Schady, 2007;Prajina, 2010). Lack of ambition and

unfavourable attitude towards education were the main reasons for the failure of tribal children (Mukherjee, 2018; Roy, 2005;Sachidananda, 1967; Sujatha, 2002). A great deal of research has found that students with high achievement motivation are more likely to have increased levels of academic achievement and have lower dropout rates (Bansal et al 2006; Singh & Parminder, 2005; Umadevi, 2007).

1.2 Motivation Factor (Need for Achievement)

Motivation is the key factor which affect directly on the academic performance as well as other elements (Francis et.al, 2004). Those who are less motivated are likely to be less hard working (Prajina, 2010). The word motivation was originated from the Latin word "movere", which means to move. Motivation is defined as an internal drive that activates behavior and gives it direction. The term motivation is concerned with why and how human behaviour is activated and directed (Singh, 2011). In other words motivation is the stimulation of goal oriented behavior. Various theories support that, motivation may be rooted in the basic need of minimizing pain and maximizing pleasure, or it may comprise specific needs such as eating and resting, or a desired object, hobby, goal etc.

Need for achievement is one of the motivational factors, possibly an intrinsic motive to achieve more and reach the highest in academic field (Sarangi, 2015). Now, need for achievement is considered as a key factor to contribute towards academic success. Need for academic achievement is used to measure the pupil's need or drive towards the achievement of success in academic work (Amalaha, 1975; Moen & Doyle, 1977) as quoted by Muola, J. M. (2010).Achievement motivation is a primary condition to achieve something. It is a strong motive characterized by ambition, high level of energy, strong desire for independence. It is a stable learned characteristics in which satisfaction comes from striving for and achieving a level of excellence. Achievement Motivation is a drive to excel in learning tasks combined with capacity to experience tried in accomplishment (Manchak,1994).The concept of

Achievement Motivation was first popularized by Murray (1938). Later McClleland and Atkinson(1966) concentrated on the study of achievement motivation. People who strive for excellence in a field for the sake of achieving and not for some reward are considered to have a high need for achievement. So the need for achievement was defined as the desire or tendency to do things rapidly and to accomplish something difficult to master, manipulate, organize physical objects, human beings or ideas. This is to do things rapidly and independently as possible to overcome obstacles and obtain a high Grade to excel oneself to rival and surpass others and to increase self-regard by the successful exercise talents (Murray,1938).The theory of achievement motivation is concerned with the interaction of personality and the immediate environment as a contemporary determinant of aspiration, efforts and persistence when an individual expects that performance will be evaluated as success or failure in relation to some Grade of excellence. McClelland (1966) has rightly said, "If in a given country the students in the schools or universities have concern for excellence, that country will show a considerable amount of progress." So the progress of a country depends upon its youth /students and, to a great extent, depends upon their academic attainment.

Atkinson was influenced by McClelland who developed studies concerned with relationship between performance and individual differences in strength of achievement motive as inferred from thematic apperceptive measure of *n* Achievement (Atkinson, 1964).Atkinson and Feather (1966) suggested that an achievement motivation is a combination of two personality variables: tendency to approach success and tendency to avoid failure. The basis of achievement motive is to achieve and find satisfaction in difficult and challenging performances.

1.3 Cognitive Factors

Life of a human being starts with conception in the mother's womb. Growth refers to changes in body such as increase in height or weight and development refers to changes that result in improved in functions and behavior (Manivannan, 2010). According to Feldman (2005) cognitive development is the process by which child's understanding of the world changes as a function of age and experience. Fernald & Fernald (2005) state, "Cognitive development is an intellectual growth, usually of child. The emphasis is upon the development of perceptual capacities, memory, and problem solving techniques". As the person grows, mental processes such as perceiving, remembering, reasoning and problem solving become more complex and difficult.

According to Piaget's Theory of Cognitive Development, there are four stages of development. In the first stage (birth to 2 years) the child uses his sensory and motor skills to explore the world. In second stage (2 to 7 years), the child develops ability to identify and classify objects, uses concepts based on the past experiences but is intuitive. Therefore, the schools should provide concrete experiences to child by introducing real objects in nursery and kindergarten schools. In the third stage of development (7 to 12 years), the child begins to think logically and relates to real life events. The child is able classify objects, understand other people's viewpoint, come to conclusion through reasoning. Formal schooling of the child begins in this age hence child can be taught to abstract thinking. In the last stage i.e. formal operational stage (12 yrs to adulthood), the child develops abstract thinking, he can choose correct solution for problem, follows systematic approach to resolve problems and is able to use knowledge in various situations. The high school children fall in this age group hence; mathematics of higher level is introduced to children. It can be said that education is based on cognitive development of the individual at various levels.

The cognitive learning theories emphasizes more on mind in learning by studying memory, attention, perception and concept learning. The Kohler's (Allen & Levin, 1973) learning by Insight Theory implies that motivation, individual difference, understanding for problem solving, intellectual capacity is very important in learning. Lewin's(Allen & Levin, 1973) Field Theory of Learning emphasizes on motivation, perception, and presentation of problem as a whole to develop cognitive and psychological readiness of the learner for optimum learning. Similarly, Tolman's Sign theory of learning states that learning should be purposeful and goal oriented. The theory states that the learner has to draw a cognitive map of the environment to come out with a proper solution to a problem and intrinsic motivation is required for teaching as well as learning instead of outside rewards or high expectation(Allen & Levin, 1973).

Studies indicate that in comparison to other groups tribal people have fine judgement of shape and size of stimuli, spatial relations and produce an array of objects. These abilities are required for learning science, art, music, dance, athletic activities and vocations like carpentry, tailoring, wood and stone crafts (Mishra et al, 1996).

1.3.1 Creativity. Creativity has been defined by many psychologists. Some of the definitions are given below:

Spearman (1931): "Creativity is the power of the human mind to create new contents by transforming relations and thereby generating new correlates."

Guilford (1959): "Creativity is the capacity to produce ideas that are both new and useful through divergent thinking. "

Stein (1974): "Creativity is a process which results in novel work that is accepted as tenable to useful or satisfying to a group of people at some point in time."

Key characteristics of creativity are (Manivannan, 2010):

→ Creativity is universal and each one of us possess creative ability in some degree

→ Creative ideas come from experience but everyone can be trained to promote creativity

→ Creative thinking is divergent thinking

→ The different cognition factors like ideational fluency, originality, flexibility, divergent thinking, self-confidence, ability to see relationships and associations are favourable for creative ideas

→ Intelligence and creativity are not same nor are they entirely unrelated.

Guilford (1950) noted that it was difficult to measure creativity of highly creative people in a laboratory set-up; therefore, he thought creativity could be easily studied in day-to-day subjects using simple tests such as paper-and-pencil tasks. Guilford (1967) identified two distinct forms of thinking i.e. Divergent thinking and Convergent thinking. Divergent thinking or synthetic thinking is the ability to draw on ideas from across disciplines and fields of inquiry to reach a deeper understanding of the world and one's place in it. Convergent thinking is opposite to divergent thinking. It means coming up with one correct answer to a question.

The society needs creative people who come-up with different solutions. Our problems are resolved easily when we improve our capacity for thought, action and communication (Duffy, 1998). Children have to grow in adults who think flexibly, be innovative, play with ideas and material, use information in new ways, experiment with novel concepts, take risks, can work with people from different places and cultures and deal with change. For all these characteristics children have to grow as creative adults and encourage creative thinking (Duffy, 1998).

A study of relationship between creativity and academic achievement of secondary school pupils was carried out in Kollegela Taluk of Karnataka (Surapuramath, 2014). Total of

100 students (50 government school and 50 unaided schools) sample was selected randomly. The tool used was Bekar Mahadiyar Creativity Test. Coefficient of Correlation and t-test were for analysis. The results showed that there was slightly positive relationship between creativity and academic achievement of 8th grade students and there was no significant difference in creativity on gender of 8th grade students and there was no significant difference on rural and urban students and government and aided school students.

Similar study was carried out in Jodhpur, Rajasthan to see relation of creativity and educational achievement in adolescence. The sample of 240 students (120 males and 120 females) was from Senior Secondary Schools of Jodhpur of ages 14 to 16 years. The tool used for study was Passi Tests of Creativity. The findings showed that the higher achiever group of adolescents had higher level of creativity. There were gender differences among low achiever group on creativity (Trivedi & Bhargava, 2010).

1.3.2 Problem solving ability. The analyses of problem and strategy used to resolve the problem is problem solving. Few definitions are quoted below

Woodworth and Marquis (1948) said, "Problem-solving behaviour occurs in novel or difficult situations in which a solution is not obtainable by the habitual methods of applying concepts and principles derived from past experience in very similar situations."

Skinner (1968): "Problem-solving is a process of overcoming difficulties that appear to interfere with the attainment of a goal. It is a procedure of making adjustment in spite of interferences.

Woodfolk (1990): "Problem-solving means creating new solutions to novel problems rather than simply applying previously learned rules."

Fernald and Fernald (2005):"Problem-solving is defined as adjusting to a situation by acquiring new modes of response, learning in which reasoning or insight may be involved."

There are many studies which support that problem solving ability positively relates with academic achievement. Improvement in any subject can be achieved by sharpening problem solving approach. A study was conducted by Gupta, Pasrija and Kavita (2015)to assess the effect of problem solving ability on the academic achievement of 250 (165 males, 85 females) 10th Grade high school students of Rohtak district. Problem Solving Ability Test (PSAT) developed by Dr. L. N. Dubey (2006) was used to assess Problem Solving Ability. The marks obtained by the students in 9th class (previous class) were considered as the academic achievement of students. Statistical analyses revealed that problem solving ability had a significant effect on academic achievement of high school students. Similar study was conducted by Gupta (2013), in Government High Schools of Jammu District. Sample of 100 scheduled tribe and 100 scheduled caste students studying in 10^{th}Grade were randomly selected for the study. The findings showed that gender and caste had significant impact on the problem solving ability of students. The study however did not find interactional effect of gender and caste on the problem solving ability and academic achievement of students.

1.3.3 Concentration. Attention is term which is frequently used in our day-to-day life. Dumville (1938) defined attention is the concentration of consciousness upon one subject rather than upon another. According to Ross (1951), attention is the process of getting an object of thought clearly before the mind. Roediger et al. (1987) defined attention as the focusing of perception that leads to a greater awareness of a limited number of stimuli. The concentration or focus provided by the process of attention helps us in the clear understanding of the perceived object or phenomenon. Concentration is required while solving difficult subjects like arithmetic. Concentration is one of the most important cognitive ability that helps a child to achieve his or her difficult tasks. In one of the studies, Camos and Baumer(2015) was aimed to find the contribution of cognitive abilities such as multiplicative facts, attention and spatial capacities to solve the long division problems. The study was

conducted in three French urban schools with sample size of 56 students of age group 10 to 11 years. There were six different test used in the study out of which cancellation subtest of WISC was also used. The results showed that increased attention capacity and better knowledge in multiplicative facts contributed to division solving, whereas spatial capacity did not contributed for unique variance and children with low attention capacity showed decreased in performance when the solution required more processing steps. According to a study conducted in Dehradun, India, teaching time affects attention and concentration of students. A study, 'Impact of Teaching Time on Attention and Concentration' was conducted in selected College of Nursing, Dehradun, Uttarakhand, India (Lamba, Rawat, Jacob, Arya, Rawat, Chauhan & Panchal, 2014). The study was administered on 91 nursing students who had classes for two hour. The tools used for study were divided in two sections i.e. section A was about the details of the sample (includes age, gender, class/group and duration of class preferred by the students) and section B contained self-reported checklist (include factors which can distract the students during the class). The analysis of data showed that most of the students lose attention and concentration during lengthy teaching learning activities and there was no significant association between sample characteristics with attention and concentration score of students.

1.4 Parent's Attitude towards Education

Parents have the major role in development of child from birth to maturity. Family involvement is important in child's studies as it is directly associated with children's learning, motivation to learn, attention, skills and conduct. Parents' positive attitude towards child's education is important in determining school attendance and academic achievement of the child. Favourable attitude towards schooling and education enhances parental involvement in children's present and future studies. Students have a higher probability of academic success whose parents provide additional assistance in their academics (Antonie, 2015). A study was

conducted in USA where parents were divided into two groups. One group of parents was given a handbook which gave tips on improving the child's academic achievement and other group did not receive any handbook. Children had better academic achievement whose parents received handbook and were more involved in academics of their children than those parents who did not received handbook. The results indicated that there is positive relationship between parental involvement and academic achievement of children (Wilder, 2014).

1.5 Rationale of the Study

Researches show a positive relationship between need for achievement, cognitive factor, parental attitude and regularity of children. However, there has been limited research to unfold link between need for achievement, cognitive factor, parental attitude and regularity of children enrolled in the primary school in tribal and non-tribal locations. The present study is the comparative study aimed at understanding motivational and cognitive factors among regular and irregular primary school students from Tribal and Non-Tribal locations. Primary objective is to understand how cognitive and motivational factors contribute to regularity among school children. Further, this study also attempts to understand whether parents' attitude influences students' regularity in the school.

1.6 Research Objectives

The primary objectives of the research are as follow:

1. To compare the need for achievement motivation of regular and irregular primary school students of tribal and non-tribal blocks.
2. To study gender differences of students of tribal and non-tribal blocks on need for achievement.
3. To compare need for achievement among tribal and non-tribal students.

4. To compare problem solving ability of regular and irregular primary school students of tribal and non-tribal blocks.
5. To study gender differences of students of tribal and non-tribal blocks on problem solving ability.
6. To compare problem solving ability among tribal and non-tribal students.
7. To compare creativity of regular and irregular primary school students of tribal and non-tribal blocks.
8. To study gender differences of students of tribal and non-tribal blocks on creativity.
9. To compare creativity among tribal and non-tribal students.
10. To compare concentration of regular and irregular primary school students of tribal and non-tribal blocks.
11. To study gender differences of students of tribal and non-tribal blocks on concentration.
12. To compare concentration among tribal and non-tribal students.
13. To study parents' attitude towards education of regular and irregular primary school students of tribal and non-tribal blocks.

1.7 Hypotheses

The study proposed to test the following hypotheses:

1. There will be no significant difference among regular and irregular primary school students of tribal and non-tribal blocks on need for achievement motivation.
2. There will be no significant difference among girl students and boy students of tribal and non-tribal blocks on need for achievement.
3. There will be no significant difference among tribal and non-tribal students on need for achievement.

4. There will be no significant difference among regular and irregular primary school students of tribal and non-tribal blocks on problem solving ability.
5. There will be no significant difference among girl students and boy students of tribal and non-tribal blocks on problem solving ability.
6. There will be no significant difference among tribal and non-tribal students on problem solving ability.
7. There will be no significant difference among regular and irregular primary school students of tribal and non-tribal blocks on creativity.
8. There will be no significant difference among girl students and boy students of tribal and non-tribal blocks on creativity.
9. There will be no significant difference among tribal and non-tribal students on creativity.
10. There will be no significant difference among regular and irregular primary school students of tribal and non-tribal blocks on concentration.
11. There will be no significant difference among girl students and boy students of tribal and non-tribal blocks on concentration.
12. There will be no significant difference among tribal and non-tribal students on concentration.
13. There would be no significant difference among parents of regular and irregular primary school students of blocks of tribal and non-tribal on attitude towards education.

2. METHODOLOGY

The present research is a cross-sectional comparative study to understand motivational and cognitive factors amongst regular and irregular primary school students from tribal and non-tribal blocks of Vadodara District in Gujarat. The research also attempted to understand parents' attitude towards education and how it related to motivation, cognitive factors and regular attendance of students. Need for achievement was taken as the measure of motivational factor while cognitive factors included creativity, problem solving skills, concentration. This section presents scientific methods and procedure adapted to carry out the research.

2.1 Variables

A variable is defined as anything that has a quantity or quality that varies. The dependent variable is the variable a researcher is interested in. An independent variable is a variable believed to affect the dependent variable. Independent variables for the present study are gender, regularity, grade and locations. Dependent variables are motivation factor (need for achievement), cognitive factors (creativity and problem solving ability, concentration) and parental attitude towards education. Control variable is a variable that is held constant in order to assess or clarify the relationship between two other variables. In this research, Government school and the school with primary sections were kept constant.

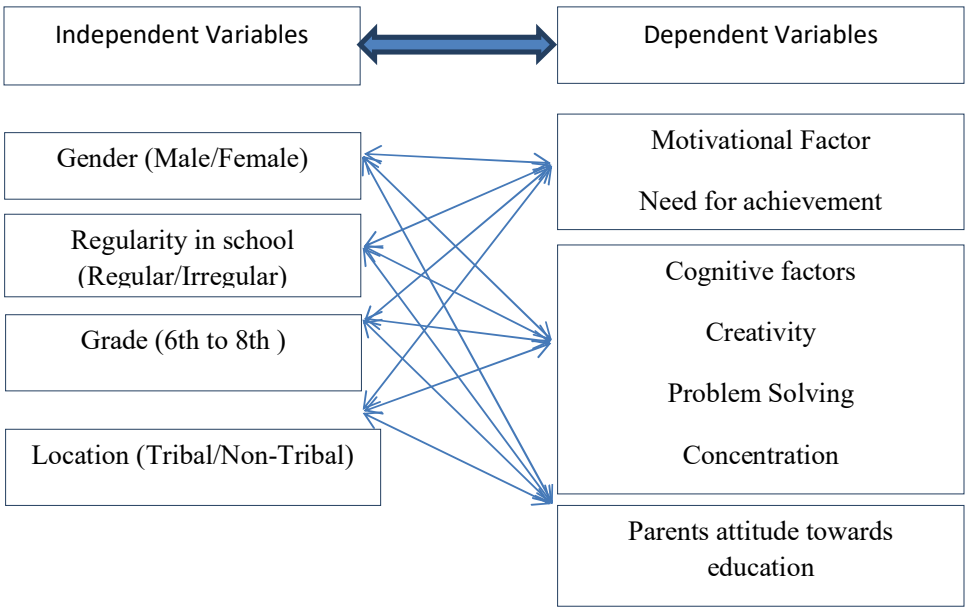

*Figure 1.*Independent and dependent variables of the study.

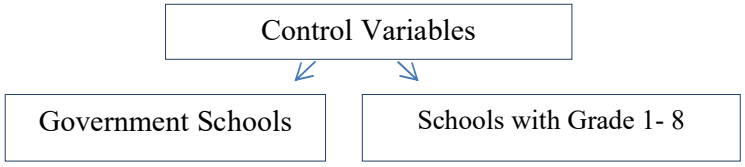

Figure 2. Control variables of the study.

2.1.1 Operational definitions for the variables under study

Dependent Variables

2.1.1.1 Need for achievement. Need for achievement is defined as need to achieve and avoid failure.

2.1.1.2 Problem solving ability. Problem solving ability is defined as a process of overcoming difficulties in attainment of goal.

2.1.1.3 Creativity. Creativity is defined as ability to draw different ideas for completing a routine task.

2.1.1.4 Concentration. Concentration is defined as the focus provided by paying attention in order to understand an object or task or phenomenon.

2.1.1.5 Parents attitude towards education: Parents views towards education and schooling of children.

2.2Sample

The population for the study belongs to Naswadi tribal block and Dabhoi, non-tribal block of Vadodara district in Gujarat. There are total 44 and 46 Primary Government Schools from standard 1st to standard 8th in Dabhoi and Naswadi blocks of Vadodara district respectively.

The sample for the research included students in the age group of 11 to 16 years from 34 schools,17 from each block.

2.2.1 Selection of schools. Schools are divided under different groups or clusters as per villages under Sarva Siksha Abhiyan. Schools from every cluster were selected randomly by lottery from both the blocks i.e. Dabhoi and Naswadi. Total 17 schools from Dabhoi and 17 schools from Naswadi were selected i.e. total 34 schools. The Table 2.1 presents details of selection of primary schools from selected blocks.

Table 2.1:*Selection of Primary School*

Total Primary Government Schools	**School Sample Selected**
Nasvadi (Tribal block)--46	17
Dabhoi (Non-tribal block)--44	17
Total Schools selected	34

2.2.2 Sample size. Total 406 students and 398 parents were selected for the research.

Table 2.2*Sample of students and parents for the study*

Categories	**Tribal**				**Non-Tribal**				
Attendance	Regular		Irregular		Regular		Irregular		
Gender	Male	Female	Male	Female	Male	Female	Male	Female	
Students	51	51	51	49	51	51	51	51	406
Parents	51	49	51	48	51	50	49	49	398
Total									804

2.2.3 Sampling technique. Stratified sampling was used to select students for the research while parents of students were purposefully selected.

2.2.4 Selection of students. Class-teacher from each grade i.e. 6th, 7th and 8th was asked to name one girl and one boy who were most regular and most irregular in school based on their attendance. Thus, from each grade 4 students and total 12 students were selected from every sample school. Total 406 students from 6th, 7th and 8thgrades were selected from 34 sample schools, 17 schools from each block. Table 2.2 presents the representation of students from primary school.

Table 2.3 *Selection of Students from Each Primary School*

6thGrade				**7thGrade**				**8thGrade**				**Total**
Regular		Irregular		Regular		Irregular		Regular		Irregular		
1 G	1 B	1 G	1 B	1 G	1 B	1 G	1 B	1 G	1 B	1 G	1 B	
2		2		2		2		2		2		12

Note: G represents Girl while B refers to Boy.

Table 2.4 presents gender-wise distribution of regular and irregular students selected for the research.

Table 2.4*Gender-wise Distribution of Regular and Irregular Students*

Grades	Female Students				Male Students				Total
	Tribal		Non-Tribal		Tribal		Non-Tribal		
	R	IR	R	IR	R	IR	R	IR	
6	17	16	17	17	17	16	17	17	134
7	17	16	17	17	17	19	17	17	137
8	17	17	17	17	17	16	17	17	135
Total	51	49	51	51	51	51	51	51	406

Note: R refers to Regular and IR refers to Irregular

2.2.5 Selection of parents. Either of the parents i.e. mother or father or guardians of sample students were taken for the research. Therefore, total 398 parents or guardians were part of the research. Table 2.4 presents the break-up of parents selected for the research.

Table 2.5*Break-up of Research Participants*

Categories	Tribal (199)				Non-Tribal (199)				Total
Attendance	R Students		IR Students		R Students		IR Students		
Gender (Students)	M	F	M	F	M	F	M	F	
Parent/ Guardian	51	49	51	48	51	50	49	49	398

Note: R refers to Regular and IR refers to Irregular. M refers to Male and F refers to Female

2.3Research Tools

The present research applied total five different performance based tools. Four tools were used for students while one test was exclusively used for parents or guardians.

Justification for the use of performance based tools for the research:

i) The sample consisted of children in the age group of 11 to 16. Therefore, it could be easy for young children to perform than to answer long questionnaire.

ii) The children were from tribal and non-tribal areas which has different dialect. There could be difficulties in reading and comprehending Gujarati. Performance based tools would help avoid language barrier or bias to prompt answers by the researcher

iii) While interaction with children and school teachers, it was observed that the children follow oral Gujarati and have difficulties in reading. Therefore, the performance based tools were included to ascertain appropriate response from students discounting effects of limitations of the language.

2.3.1 Ring toss game. The tool was used in the study was Atkinson's Risk Taking Model of Achievement Motivation (Atkinson & Feather, 1966). The tool uses a ring toss as its basis. The rings are tossed at pegs that are five, ten, and fifteen feet away from the thrower. The five-foot peg equals one point, the ten-foot peg equals two points, and the fifteen-foot peg equals three points. The points may be related to a prize or reward or just left as points. In the original experiment Atkinson and Litwin had forty-five human participants in their experiment and each was allowed ten opportunities to toss a ring at a peg from a distance of their choice in the range of 0 to 15 feet(approx 4.57 meters). Results were collated for each motivation type in three range-brackets for 'easy', 'moderate' and 'hard 'goals (Merrick, 2011).

The ring toss game was validated and found to be accurate compared to other projective tests (Ray, 1979; Ray, 1980). This game is also one of the effective game for children (Rae, 2006).There is high internal consistency and test–retest reliability of ring toss game for the measurement of motivation (Fineman, 1977; Spangler,1992).

To make this game fit with the local context minor modifications were made. In the present study, peg was replaced with the box. Further, three distances 5ft, 10ft and 15 ft with the interval of 5 feet were used. Students were asked to throw ring in the box from any of the three distances i.e. 5 ft, 10 ft or 15 ft. The distances were marked on the floor at interval of 5

feet. The closest line was 5 ft and the farthest was 15 feet from the box. The ring was 5 inch outside diameter and made of rubber. The square box was1feet in width and 2 feet height.

2.3.2Cancellation test.' Cancellation test' is used to measure concentration. This test was originally developed by Bourdon (1895).

The test was administered as paper-pencil test which was used to assess persons' ability to visually search for a target and either cancel it or circle it. Cancellation tests have long been used in the neurological assessment of visuo spatial function and selective attention, mainly in stroke patients, where they are utilized to assess spatial inattention or neglect (Brucki & Nitrini, 2008).

In cancellation test, random letters are written in rows on A4 size paper. The target alphabet are randomly scattered along with the non-targets letters or distracters. Time limit of 1minutes is given to identify the target letter and cancel it. Sometimes sound distractions are also added during the performance. The performance of the subject is evaluated by counting the number of correct targets and subtracting the errors committed such as cancelling the wrong target.

Pradhan and Nagendra (2008) conducted a study to establish norms for letter cancellation test. They selected 819 normal students (with no history of neurological or psychiatric disturbance) between age group of 9 to 16 years for the study. Sarang and Telles (2006) found the test retest reliability of cancellation test as 0.781 ($r = 0.781$, $P = 0.002$). This test has been used in earlier studies in an Indian population (Agarwal, Kalra ,Natu, Dadhich, &Deswa. 2002; Natu & Agarawal, 1997; Sarang&Telles, 2007).

Gujarati alphabets were printed on a sheet of paper in rows. Total 50 rows with different Gujarati alphabets were printed and in each row 5 alphabets '**ક**' was printed randomly.

2.3.3 Guilford's alternative uses. Guilford's alternative uses is a revised and improved form of the test "Unusual Uses", which was originally designed (Wilson, Guilford, Christensen & Lewis, 1954) to measure creative thinking. Each item represents the name of well-known object, such as a newspaper, with a statement of its ordinary use. The participant is to list as many as six other, uncommon uses for the object, in the time allowed. For instance, name all the possible uses for a brick. The probable answers may be a paperweight, a doorstop, a platform to sit, to use as a weapon and to hit my sister on the head with brick. The responses are evaluated on 4 dimensions: originality (uncommon responses), fluency (quantity), flexibility (number of different categories), and elaboration (amount of detail). Runco and Acar (2012) found that divergent thinking is a reliable indicator of creative potential. It is a Grade test of divergent thinking which allow for a faster evaluation of creativity(Dippo, 2013).Using percentage of occurrence as measure of novelty, participants that produced more responses, had more novel responses and a higher average novelty score. The unoriginality of ideas decreases exponentially at a rate of x-1/2 (r2=.94).

2.3.4 Kohs block design. Originally in Kohs block design test there are 17 designs and 16 blocks. The subject is supposed to complete each design in stipulated time such as for 1-3 design the time limit is 1 ½ minutes, then for 4-9 design the time limit is 2 minutes, for 10^{th} design 3 minutes, further for 11-14 design the time limit is 3 ½ minutes and lastly for 15 to 17 design the time limit is 4 minutes.

In the present study, the shorter version of Kohs block design in Bhatia's Battery of Performance Test of Intelligence was used to measure problem solving skills. This battery

includes 10 designs from the original 17 designs from the Kohs test. The time for first five designs is 2 minutes and for the remaining five the time is 3 minutes. The cards with a variety of colored designs are shown to the test taker and he is asked to reproduce them using a set of colored blocks. The test consists of nine red and white square blocks and a spiral booklet of cards showing different color designs that can be made with the blocks. If the subject fails to produce the design, the administrator solves the design and asks the subject to start the next design in sequence. If the subject fails to make the design two consecutive times then the test is stopped.

2.3.5 Parent attitude towards education scale. A modified parent attitude towards education scale developed by Medinnus, Devlassic and Stevens in 1971 was used for the research. The scale developed by Medinnus, Devlassic and Stevens was 5 point scale consisted of 53 statements, measuring parent attitude towards school and teacher, the value of education, the value of the parent's own education and language education in general.

The modified scale consists 35 items in Gujarati. The response were on three point scale i.e. 'yes', 'no' and 'don't know.' The scale was adapted in Indian context based on following six dimensions measuring parent's attitude towards education.

Parents' attitude towards school and teacher. Parents' approach or thoughts or stance or mind-set specific towards particular school (it could be their child's school) and the teacher. For example, the item in questionnaire says: It is necessary for students to follow teacher's instructions.

Value of education. Parents' understanding how important is education for their child. For example, going to school is useful to child for whole life.

Parents' responsibility towards child's education. Parents point of view towards their role and accountability in child's education. For example, Parents should regularly visit school of their child.

Parents' value towards own education. Parents' view and importance towards own acquired education and teachers who taught them. For example, 'My life would have been better if I had formal education'.

Parents' attitude towards school facilities. Parents attitude towards education in comparison to the facilities provided by the school such as separate toilets, drinking water and proper sitting arrangement. For example, I would not send my daughter to a school with poor or no facility of toilets

Parents' attitude towards gender difference in context of education. Parents' may have different opinion towards education for girls and boys. The importance and level of education choice could be different gender wise. For example, 'I do not prefer to educate girls as educated girls do not like to do household work.'

Table: 2.5*Dimension-wise Item Distribution of Parents' Attitude Towards Education Scale*

Dimension	**Parents' attitude towards school and teacher**	**Value of education**	**Parents' responsibility towards child's education**	**Parents' value towards own education**	**Parents' attitude towards school facilities**	**Parents' attitude towards gender difference in context of education**
Total Items	7	6	7	6	4	5

The items were first prepared in English language.After preparing the draft scale, it is necessary to screen items in scale from the view point of wordings and whether they depict the parents' attitude toward education. For this, with the help of guide items were screen. Certain items were edited. The Deplhi method was used to finalize the tool for the research. The Delphi method is a forecasting method based on the results of questionnaires sent to a panel of experts. Several rounds of questionnaires are sent out, and the anonymous responses are aggregated and shared with the group after each round. (Linstone & Turoff,

1975;Norman& Olaf, 1963&Sackman, 1974).The experts' feedback was incorporated in the final version of the tool. In the present study, research tool was shared with Delphi panellists which included experts of The Maharaja University of Baroda from the Department of Psychology, Education, Social Work and Department of Human Development and Family Studies; PhD scholar from the Psychology Department; education expert working with civil service organization; school teacher and a parent to evaluate the tool in terms of meaning and relevance of statements. They were asked to check the language and if the item was properly selected under correct dimension. Based on face validity given by experts few of the items were dropped due to its ambiguity such as, 'I want my child to like school' or 'Schools are doing good job today.' After incorporating necessary changes, the tool was again shared with the Delphi panellist for their comments. Along with the English draft, Gujarati draft was also given for finalising the tool. All, the panellist had the expertise in both English and Gujarati language. However there was no further comments and revision. Finally, the scale was reduced to 35 items.

2.4 Data Collection Procedure

Permission was obtained from the District Education Authority for the research and data collection from selected primary schools as well as permission from respective School Head Master / Mistress or Principal. Permission letter explicitly mentioned the purpose of the research, age-group of children, list of schools selected and sample size.

The District Education Officer issued Office Order to the respective School Head Master/Mistress or Principal for approval of the research and extending their support in data collection for the research. Before visiting the school, head master or principal was communicated about the research and the permission sought for collection of data from the school. The date of visit was discussed and finalized. The class-teachers of 6^{th}, 7^{th} and 8^{th}gradewere requested to identify regular/irregular students from their attendance register.

The data collection schedule was prepared for each school in coordination with School Head Master or Principal. Accordingly, the data was collected from the students and parents. Consent from parents was also taken.

2.4.1 Procedure of administration of test on students

Firstly, after identification of all studentsfromgrade6th, 7th and 8th, they were taken in a separate classroom. The researcher introduced herself and shared the games that will be played subsequently. The researcher said, "Dear student, today, I am here to play four different games with you that would help me in my research. These games results are for my research and it is not part of your school exam. So, without worrying just follow my instructions. Raise your hand for any query. One by one, we will play and I will explain you each game before we start playing." Students were asked to write their name, age, gender, name of school and grade in which they studied on the plain paper. The data collection was started in following order: 1.Ring toss game 2.Cancellation test, 3. Guilford Alternative Task and 4.Kohs Block Design. The detail of procedure for each performance test is as follows:

1. Ring Toss Game: One by one student was called from classroom to the experiment sight which was away from the classroom so that other students could not see. The student was told that he or she is supposed to throw the ring in the box from any of the three distances from where he or she wished to throw the ring but only one chance would be given. It was also explained that if the ring was thrown from five-foot, it was worth one point, the ten-foot distance was worth two points, and the fifteen-foot distance was worth three points. No reaction or feedback was given by the researcher when the student selected the distance. After, completion, the selected distance was noted down and the student was asked to sit in separate classroom so that he does not interact with other students selected for the experiment.

2. Cancellation Test: All the selected students were gathered in a room and were made to sit separately on a bench. Usually two students can sit on one bench with safe distance between them. Students were asked to identify alphabet '**ક**' as many as possible and put a '/' (cancel mark) on it. Total 5 minutes time was given for the entire test. Students were instructed to start and stop the test when researcher made the announcement. The right responses (correctly cancelled) and wrong responses (some other alphabet cancelled or '**ક**'is skipped) were noted down. Wrong responses or errors are subtracted from the total cancelled responses to calculate final score. For example: cancelled responses: 80 and wrong responses: 5, then total score is 75.
3. Guildford Alternative Tasks: All the selected students were gathered in a room and were made to sit separately on a bench. Students were given a record sheet on which instruction with example was printed for measuring creativity. The instruction along with example was read and explained to students. Students were instructed that they have to write different possible uses of cloth (size of bed-sheet) in Gujarati in 5 minutes. An example of different uses of wooden stick was stated and explained. Students had to start writing in the record sheet when the instructor said 'start' and stop writing when the instructor said, 'stop'.

All the responses given by all the subjects were noted in the MS-excel worksheet in computer for creating data sheet. Secondly, percentage of the unique responses and unusual responses was drawn based on the total number of responses. The scoring of every response given was based on four components:

Fluency. Total number of responses given was used as the score for fluency. For example, if the subject has given 10 responses then 10 score is the score he would get.

Originality. Each response was compared to the total amount of responses from all of the subject who gave the test. Score 1 was given to responses that given by only 5% of the subjects these are called as unusual responses. Score 2 was given to responses given by only 1% of the subjects, these were unique responses.

Flexibility. All the responses were categorized. For example, if students were asked to write different uses of brick (as stated in above example) and the responses received were: a paperweight, a doorstop, a platform to sit, to use as a weapon and to hit my sister on the head. In the given example responses to use as a weapon and to hit my sister on the head will come under one category i.e. weapon. Hence, on component flexibility the subject would score 4 (four different categories).

Elaboration. All the responses which were elaborated were given either score 1or 2 based on the way it was elaborated. Using the same example again (different uses of brick), if one had written only doorstop, he would score 0, component elaboration for not elaborating it. But if some other respondent has written "a door stop to prevent a door slamming shut in a strong wind", then he would be given 2 points (one for explanation of door slamming and another point for detail of the wind).

Finally, a total score was calculated for subject by adding scores one received on all four different components. The more the score obtained the more creative to be said.

4. Kohs Block Design: In this research, subjects were shown all the blocks. Blocks were turned and colors were also shown. They were asked to name the color. The trial design was shown and the researcher arranged the blocks to complete the design as shown in card. After which, subjects were asked to complete all the designs one after another. There were total 10 designs to be made. There was no time limit to complete the design but the time taken by the subject to complete design was noted. After the failure of each test, the researcher completed the design and asks subject to attempt

the next design. After two consecutive failures of design the test was stopped. Score of 1 was given to all the correct designs solved by the subjects. The maximum marks obtained were 10.

2.4.2 Procedure of administration of questionnaire on parent/ guardian

Parents / guardians of the selected students were informed to remain present at the school as per the appointment schedule. All respondents were oriented on purpose of the study. The respondents were individually explained that there were 35 items in the questionnaire related to the education and school of their children which they had to answer either 'yes', 'no' or 'don't know'. The researcher read the statements for individual respondent and respondent's responses was noted. This way data was collected from 398 respondents from 34 schools. Subsequently, the data collected from selected schools were compiled, and scored. There were total 35 items in scale which included13 negative statements and 22 positive statements. The score 1 was given to items which shows positive attitude towards education. Reverse scoring was done for negative statements. The data was then entered in the excel sheet for the ease of statistical analysis.

2.5 Ethical Considerations

Ethical considerations are the foremost concern of the researcher before the research process is conducted. It is the researcher's responsibility to maintain ethical grades before and while conducting the research (Creswell, 1994). The researcher's intention was to promote a trustful relationship with all participants to produce precise, rich information without any negative impact on the participants. The researcher was aware of the inherent responsibilities for the protection of the rights of participants and maintaining the ethical Grades of this research. Prior to the performance of game, a statement of ethical concerns was read to each of the parents / guardians of participants and written consent was taken to allow their children to participate in the study. Further each participant was informed about research objectives,

research process and use of research findings. The protocol of ethics has assured that participation in the study was voluntary and that names or identities of participant would not be revealed in any case. Participants were also informed that they can refuse to answer any question, and were free to withdraw from the interview at any time. The researcher had received permission from the District Education Authority to conduct research and collect data from students and their parents from selected schools. Also, approval from respective school headmaster or Principal was obtained before beginning the research.

3. RESULTS

This section presents findings of the research. The data was organized, coded and analyzed using computer assisted statistical methods i.e.20th version of SPSS. Multivariate Analysis of Variance (MANOVA)was applied to understand significant difference within and between dependent and independent variables. Analysis of Variance (ANOVA) and Chi-square were used to analyze parents' attitude towards education. The detail analyses of for each variable is described as below.

Table 3.1: *The distribution of sample based on block, gender, regularity and grade [N=406]*

Blocks		**Gender**		**Regularity**		**Grade**		
Dabhoi	**Naswadi**	**Girls**	**Boys**	**Regular**	**Irregular**	**6th**	**7th**	**8th**
204	202	202	204	204	202	134	137	135

The research covered 406 students, 202 girls and204 boys. Out of the total, 134 were studying in the grade 6, 137 and 135 respectively from the grade 7 and 8. The Table 3.1 presents the data.

Table 3.2*Descriptive statistics of need for achievement in context of regularity and grades*

Variable	**Block**	**Gender**	**Regularity**	**Grade**	**Mean**	**Std. Deviation**
Need for achievement	Dabhoi & Naswadi	Female & Male	Regular	6th	10.88	3.659
				7th	10.59	3.512
				8th	10.74	3.589
				Total	**10.74**	**3.572**
	Dabhoi & Naswadi	Female & Male	Irregular	6th	9.77	3.964
				7th	11.45	3.845
				8th	10.82	3.853
				Total	**10.69**	**3.929**

Table 3.2 shows that regular students of both the blocks have score higher (M= 10.74, SD=3.572) on need for achievement than the irregular students (M=10.69, SD=3.929) of both the blocks. The irregular students of 6th grade (M=9.77, SD=3.96) have scored the lowest among all the grades. It can be concluded that regular students have scored higher on need for achievement than the irregular students from both the blocks.

Table 3.3*Descriptive statistics of need for achievement in context of gender and grades*

Variable	Block	Gender	Regularity	Grade	Mean	Std. Deviation
Need for achievement	Dabhoi & Naswadi	Female	Regular & Irregular together	6th	10.52	3.906
				7th	10.67	3.783
				8th	10.51	3.576
				Total	**10.57**	**3.739**
	Dabhoi & Naswadi	Male	Regular & Irregular together	6th	10.15	3.791
				7th	11.36	3.604
				8th	11.04	3.847
				Total	**10.86**	**3.763**

The results indicated gender difference in need for achievement. The male students from 7th and 8th grades have higher need for achievement (M=11.36, SD=3.604; M=11.04, SD=3.847) than that of female students from all grades (M=10.52, SD=3.906; M=10.67, 3.783; M=10.51, SD=3.576). The Table 3.3 also represents gender segregated grade wise descriptive data. Overall, male students of 7th& 8thgrades have scored slightly more than the females.

Table 3.4*Descriptive statistics of need for achievement in context of area*

Variable	**Block**	**Gender**	**Regularity**	**Grade**	**Mean**	**Std. Deviation**
Need for achievement	Dabhoi	Female & Male	Regular & Irregular together	6th	10.66	3.756
				7th	11.18	3.677
				8th	11.18	3.677
				Total	**11.00**	**3.693**
	Naswadi	Female & Male	Regular & Irregular together	6th	10.00	3.922
				7th	10.87	3.733
				8th	10.37	3.725
				Total	**10.42**	**3.791**

The results indicated area and grades difference in need for achievement. The male and female students from Dabhoi block on all grades have higher need for achievement (M=11.00, SD=3.69) than that of students from all grades (M=10.42, SD=3.79) belonging to Naswadi block. The Table 3.4 presents area segregated grade wise descriptive data. Overall, students of non-tribal block i.e. Dabhoi have scored slightly more than the students from Naswadi block.

Table 3.5*Multivariate analysis of block, gender, regularity, grade and need for achievement*

	Variables	*df*	*Mean Square*	*F*	*Sig.*
Need for achievement	Block	1	36.510	2.562	.110
	Gender	1	8.078	.567	.452
	Regularity	1	.376	.026	.871
	Grade	2	17.021	1.194	.304

The above table shows that there is no significant difference in any of the variables and need for achievement. It indicates that irrespective of gender, location, regularity and grade, the need for achievement among all the students is almost same.

Table 3.6*Descriptive statistics of problem solving ability in context of regularity*

Variable	Block	Gender	Regularity	Grade	Mean	Std. Deviation
Problem solving ability	Dabhoi & Naswadi	Female & Male	Regular	6th	2.50	1.409
				7th	2.68	1.935
				8th	2.93	1.879
				Total	**2.70**	**1.757**
	Dabhoi & Naswadi	Female & Male	Irregular	6th	1.74	1.168
				7th	1.81	1.192
				8th	2.28	1.640
				Total	**1.95**	**1.365**

Table 3.6 shows that regular students of both the blocks have score higher (M= 2.70, SD=1.757) on problem solving ability than the irregular students (M=1.95, SD=1.365) of both the blocks. The irregular students of 6^{th} grade (M=1.74, SD=1.168) have scored the lowest among all the grades. It can be concluded that regular students have scored higher on problem solving ability than the irregular students from both the blocks.

Table 3.7*Descriptive statistics of problem solving ability in context of gender and grades*

Variable	Block	Gender	Regularity	Grade	Mean	Std. Deviation
Problem solving ability	Dabhoi & Naswadi	Female	Regular & Irregular together	6th	1.99	1.080
				7th	1.97	1.557
				8th	2.57	1.781
				Total	**2.18**	**1.522**
	Dabhoi & Naswadi	Male	Regular & Irregular together	6th	2.27	1.563
				7th	2.50	1.717
				8th	2.64	1.807
				Total	**2.47**	**1.697**

Table 3.7 indicates that the mean score of regular and irregular female students of Dabhoi and Naswadi blocks is 2.18 (1.522 SD). Compare to this with irregular and regular male students from both the blocks, the mean score is 2.47 with 1.697 SD. The scores therefore indicate that male students have scored more on problem solving ability variable than the females.

Table 3.8 *Descriptive statistics of problem solving ability in context of area and grades*

Variable	Block	Gender	Regularity	Grade	Mean	Std. Deviation
Problem solving ability	Dabhoi	Female & Male	Regular & Irregular together	6th	2.22	1.348
				7th	2.37	1.753
				8th	2.72	1.735
				Total	2.44	1.628
	Naswadi	Female & Male	Regular & Irregular together	6th	2.03	1.347
				7th	2.12	1.558
				8th	2.49	1.845
				Total	2.21	1.602

The results indicated area and grade difference in problem solving ability. The male and female students from Dabhoi block on all grades have higher problem solving ability (M=2.44, SD=1.628) than that of students from all grades (M=2.21, SD=1.602) belonging to Naswadi block. The Table 3.8 presents area segregated grade wise descriptive data. Overall, students of non-tribal block i.e. Dabhoi have scored slightly more than the students from Naswadi block.

Table 3.9 *Multivariate analysis of block, gender, regularity, grade and problem solving ability*

	Variables	***df***	***Mean Square***	***F***	***Sig.***
Problem solving ability	**Block**	1	5.328	2.170	.142
	Gender	1	8.839	3.599	.059
	Regularity	1	58.356	23.760	.000
	Grade	2	8.414	3.426	.034

Table 3.9 indicated that there is significant difference by gender (F=3.599, p=0.059) and regularity (F=23.76, p=0.000) on problem solving ability. Male students have scored

higher on problem solving ability than the female students. Regular students have scored more on problem solving ability than the irregular students.

Table 3.10*Descriptive statistics of creativity in context of regularity and grades*

Variable	Block	Gender	Regularity	Grade	Mean	Std. Deviation
Creativity	Dabhoi & Naswadi	Female & Male	Regular	6th	13.75	10.213
				7th	18.50	10.929
				8th	19.49	12.780
				Total	**17.25**	**11.578**
	Dabhoi & Naswadi	Female & Male	Irregular	6th	7.77	7.223
				7th	8.70	7.735
				8th	14.31	10.413
				Total	**10.26**	**9.004**

The table no. 3.10 indicates that the mean score of regular male and female students of Dabhoi and Naswadi blocks studying is 17.25 (11.57 SD) whereas compare to this with irregular male and female students from both the blocks, the mean score is 10.26 with 9.00 SD. From this table it has been concluded that the mean scores of regular male and female students of all the three grades (i.e., 6^{th}, 7^{th} and 8^{th}) is more than mean score of irregular male and female students of both the block and with same grades. The scores therefore indicate that regular students have scored more on creativity variable than the irregular.

Table 3.11*Descriptive statistics of creativity in context of gender and grades*

Variable	Block	Gender	Regularity	Grade	Mean	Std. Deviation
Creativity	Dabhoi & Naswadi	Female	Regular & Irregular together	6th	10.24	8.314
				7th	12.27	9.531
				8th	17.13	10.666
				Total	**13.23**	**9.944**
	Dabhoi & Naswadi	Male	Regular & Irregular together	6th	11.37	10.278
				7th	14.80	11.515
				8th	16.70	13.128
				Total	**14.30**	**11.843**

Table no. 3.11 indicates that the mean score of regular and irregular female students of Dabhoi and Naswadi blocks is 13.23 (9.94 SD) whereas compare to this with irregular and regular male students from both the blocks, the mean score is 14.30 with 11.84 SD. It has been concluded that the mean score of regular and irregular male students is more than mean score of regular and irregular female students of both the block. The scores therefore indicate that male students have scored more on creativity variable than the female students.

Table 3.12*Descriptive statistics of creativity in context of area and grades*

Variable	Block	Gender	Regularity	Grade	Mean	Std. Deviation
Creativity	Dabhoi	Female & Male	Regular & Irregular together	6th	13.96	10.256
				7th	15.47	11.160
				8th	19.12	13.375
				Total	16.18	11.814
	Naswadi	Female & Male	Regular & Irregular together	6th	7.56	6.973
				7th	11.68	9.797
				8th	14.69	9.812
				Total	11.33	9.395

The above table shows that the male and female students from Dabhoi block on all grades have higher mean score (M=16.18, SD=11.814) than that of students from all grades (M=11.33, SD=9.395) belonging to Naswadi block on creativity. Overall, students of non-tribal block i.e. Dabhoi have scored more than the students from Naswadi block.

Table 3.13*Multivariate analysis of block, gender, regularity, grade and creativity*

	Variables	***df***	***Mean Square***	***F***	***Sig.***
Creativitys	**Block**	1	2437.490	25.095	.000
	Gender	1	131.417	1.353	.245
	Regularity	1	5011.599	51.596	.000
	Grade	2	1274.645	13.123	.000

Table 3.13 indicates that there is significant difference by area (F=25.095, p=0.00), regularity (F=51.596, p=0.000) and grade (F=13.123, p=0.000) on creativity. Students belonging to non-tribal area i.e. Dabhoi block have scored more on creativity variable than the tribal block. Amongst the regular and irregular students, regular students are more creative than the irregular students. Male students have proved to be more creative than the female students. Among all grades 8th grade students have scored more on creativity.

Table 3.14*Descriptive statistics of concentration in context of regularity*

Variable	Block	Gender	Regularity	Grade	Mean	Std. Deviation
Concentration	Dabhoi & Naswadi	Female & Male	Regular	6th	78.00	21.050
				7th	88.82	23.122
				8th	91.88	27.707
				Total	**86.24**	**24.733**
	Dabhoi & Naswadi	Female & Male	Irregular	6th	71.18	25.326
				7th	74.77	25.491
				8th	82.54	24.620
				Total	**76.17**	**25.468**

Table 3.14 shows that the mean score of regular male and female students of Dabhoi and Naswadi blocks is 86.24 (24.733 SD) whereas mean score of irregular male and female students from both the blocks, is 76.17 with 25.46. The scores therefore indicate that regular students have scored more on concentration variable than the irregular.

Table 3.15*Descriptive statistics of concentration in context of gender*

Variable	Block	Gender	Regularity	Grade	Mean	Std. Deviation
Concentration	Dabhoi & Naswadi	Female	Regular & Irregular together	6th	76.90	21.804
				7th	85.64	25.829
				8th	93.65	23.133
				Total	**85.44**	**24.509**
	Dabhoi & Naswadi	Male	Regular & Irregular together	6th	72.39	24.888
				7th	78.01	24.301
				8th	80.75	28.316
				Total	**77.06**	**25.977**

Table no. 3.15, in context to concentration, indicates that the mean score of regular and irregular female students of Dabhoi and Naswadi blocks is 85.44 (24.50 SD) whereas compare to this with irregular and regular male students from both the blocks, the mean score is 77.06 with 25.97 SD. Therefore, it can be concluded that the mean scores of regular and irregular female students of all the three grades (i.e., 6^{th}, 7^{th} and 8^{th}) is more than mean score of irregular and irregular male students of both the block with same grades. The scores therefore indicate that female students have scored more on concentration variable than the males.

Table 3.16*Descriptive statistics of concentration in context of area*

Variable	**Block**	**Gender**	**Regularity**	**Grade**	**Mean**	**Std. Deviation**
Concentration	Dabhoi	Female & Male	Regular & Irregular together	6th	81.88	21.284
				7th	86.66	21.442
				8th	92.46	25.447
				Total	**87.00**	**23.104**
	Naswadi	Female & Male	Regular & Irregular together	6th	67.18	23.320
				7th	76.90	27.839
				8th	81.96	26.765
				Total	**75.40**	**26.656**

The above table shows that the male and female students from Dabhoi block on all grades have higher mean score (M=87.00, SD=23.10) than that of students from all grades (M=75.40, SD=26.65) belonging to Naswadi block on concentration. Overall, students of non-tribal block i.e. Dabhoi have scored more than the students from Naswadi block.

Table 3.17*Multivariate analysis of block, gender, regularity, grade and concentration*

	Variables	***df***	***Mean Square***	***F***	***Sig.***
Concentration	Block	1	13959.334	24.849	.000
	Gender	1	6875.694	12.239	.001
	Regularity	1	10557.499	18.793	.000
	Grade	2	5408.300	9.627	.000

Table 3.17 indicates that that there is significant difference by area (F=24.849, p=0.00), gender (F=12.239, p=0.001), regularity (F=18.793, p=0.000) and grade (F=13.123, p=0.000) on concentration. It indicates that Dabhoi students have scored more on concentration variable than the Naswadi students. Regular students have more concentration than the irregular students and female students have scored more on concentration variable than the male students.

Table 3.18*Interaction of gender, area, regularity and grade on need for achievement motivation*

Source	Variable	df	Mean Square	F	Sig.
Gender*Block*Regularity* Grade	Need for achievement	2	2.796	0.196	.822

Table 3.18 shows that F value 0.196 is not significant at 0.05 level. There is no interaction effect of gender, block, regularity and grade on need to achievement variable.

Table 3.19*Interaction of gender, area, regularity and grade on problem solving ability*

Source	*Variable*	*df*	*Mean Square*	*F*	*Sig.*
Gender* Block*Regularity* Grade	Problem solving ability	2	1.109	.451	.637

Table 3.19 shows that F value 0.451 is not significant at 0.05 level. There is no interaction effect of gender, block, regularity and grade on problem solving ability variable.

Table 3.20*Interaction of gender, area, regularity and grade on creativity*

Source	*Variable*	*df*	*Mean Square*	*F*	*Sig.*
Gender* Block*Regularity* Grade	Creativity	2	109.399	1.126	.325

Table 3.20 shows that F value 1.126 is not significant at 0.05 level. There is no interaction effect of gender, block, regularity and grade on creativity variable.

Table 3.21*Interaction of gender, area, regularity and grade on concentration*

Source	Variable	df	Mean Square	F	Sig.
Gender* Block*Regularity* Grade	Concentration	2	464.645	.827	.438

Table 3.21 shows that F value 0.827 is not significant at 0.05 level. There is no interaction effect of gender, block, regularity and grade on concentration variable.

Table 3.22*Two-way ANOVA for Parents' attitude towards education*

Tests of Between-Subjects Effects					
Dependent Variable: Parents' attitude towards education					
Source	**Type III Sum of Squares**	**df**	**Mean Square**	**F**	**Sig.**
Corrected Model	320.055[a]	23	13.915	1.604	.040
Intercept	244501.968	1	244501.968	28179.882	.000
Block	61.920	1	61.920	7.137	.008
Gender	6.708	1	6.708	.773	.380
Regularity	56.552	1	56.552	6.518	.011
Grade	32.808	2	16.404	1.891	.152
Block * Gender	11.085	1	11.085	1.278	.259
Block * Regularity	1.015	1	1.015	.117	.732
Block * Grade	26.190	2	13.095	1.509	.222
Gender * Regularity	3.727	1	3.727	.430	.513
Gender * Grade	52.198	2	26.099	3.008	.051
Regularity * Grade	1.899	2	.949	.109	.896
Block * Gender * Regularity	.440	1	.440	.051	.822
Block * Gender * Grade	1.628	2	.814	.094	.910
Block * Regularity * Grade	8.556	2	4.278	.493	.611
Gender * Regularity * Grade	15.760	2	7.880	.908	.404
Block * Gender * Regularity * Grade	43.456	2	21.728	2.504	.083
Error	3245.001	374	8.676		
Total	249026.000	398			
Corrected Total	3565.055	397			

According to Table3.22, there is a significant difference between parents living in different blocks (F = 7.137) at 0.01 level and between parents with their children's regularity (F = 6.518) at 0.05 level. Unlike this, there is no significant difference between parents' attitude towards their children's education with respect to their gender (children's gender). It indicates that, parents living in Dabhoi area and parents whose children are regular has positive attitude towards their education. However, parents' have equal attitude towards their children irrespective of their gender.

4. DISCUSSION

The study revealed there is no significant difference among regular and irregular primary school students of tribal and non-tribal blocks on need for achievement motivation. Hence, first hypothesis is proved correct. There is no significant difference among girl students and boy students of tribal and non-tribal blocks on need for achievement. Therefore, fifth hypothesis proved correct.

Achievement motivation is combination of two personality variables: tendency to approach success and tendency to avoid failure (Atkinson & Feather, 1966).Achievement motivation is subjective and internal psychological drive, enable individuals to pursue work they perceive to be valued and prompting them to reach goals (Singh,2011). The students have to be intrinsically motivated to achieve academic success. If students are intrinsically motivated they would also strive to attend school, gain knowledge and reach their academic goals. In the current study we find that there is no difference on Need for Achievement between those students who are regularly attending school and those who are irregular. As per the qualitative data analyses based on the discussion with teachers and principals during data collection, it was revealed that students are sent to attend school with an objective to get uniform, mid-day-meal or the financial aid provided to girls under government schemes. Students as well as parents are aware that even if they score poor in examination they would be will be promoted to next grade. Students need to be motivated to attend school for knowledge not just for attendance. Students need to be motivated that passing the grade is not sufficient until they learn to utilize the knowledge in day to day life.

There is significant difference among regular and irregular primary school students of tribal and non-tribal blocks on problem solving skills. Hence, second hypothesis proved

wrong. There is significant difference among girl students and boy students of tribal and non-tribal blocks on problem solving skill. Therefore, sixth hypothesis is proved wrong.

The regular school going students have better problem solving abilities than the irregular students. When a child regularly attends schools he not only gains knowledge of different subjects such as science, mathematics, English but he also interacts with other students, he learns how to play and share. He develops skills of thinking, imagining, and abstract thinking. He learns to resolve his problems by thinking critically, oriented towards goal and has insight for the solution. School provides various experiences and thus the child learns to interact with society. The child who is not regularly attending school will lack in formal education as well as other skills which are directly or indirectly taught in the classroom or outside classroom which helps in problem solving at large (Ramachandran, 2003).

Boys have performed better than girls in problem solving ability. The reason behind this is upbringing of child, parental attitude and thinking of society where the child dwells. Mostly, in Indian families boy child gets maximum attention, love and concern than the girl child. Most of the important decisions in a house are taken by fathers and brothers, hence the Indian adolescence girls may lack of confidence and problem solving ability. The study conducted by Gupta (2013), shows similar results.

There is significant difference among regular and irregular primary school students of tribal and non-tribal blocks on creativity. Hence, third hypothesis is proved wrong. Regular students are more creative than the irregular students. Students who regularly attend school read and write more than those who are irregular students. Hence, writing skills as well as imagination skills of these children develop more.

There is significant difference among girl students and boy students of tribal and non-tribal blocks on creativity. Therefore, seventh hypothesis is proved wrong. Males are more creative than the females. The study conducted by Surapuramath (2014) reveals there was no gender difference among 8th grade students on creativity. In the present study academic achievements have not been considered as to see the writing skills of students. Boys have been able to write or rather express more than the girls on different uses of cloth. Boys residing in non-tribal and tribal areas also work in fields or shops along with their parents in free time; hence the exposure to outer world for boys ismore than girls.

There is significant difference among regular and irregular primary school students of tribal and non-tribal blocks on concentration. Hence, fourth hypothesis is proved wrong. Regular students have score higher on concentration than the irregular students. The students who regularly attend school could easily identify the alphabets and made less error in cancellation than those who irregularly attend the school.

There is significant difference among girl students and boy students of tribal and non-tribal blocks on concentration. Therefore, eighth hypothesis is proved wrong. Girls have scored more than boys in concentration. Studies have shown that there is gender difference in factors that affect academic performances in schools such as females have more internal locus of control than boys, girls take greater responsibility of their academic failure than boys, boys perform better in technical subjects than girls (Houtte, 2004 ;Khajepour & Ghazvini, 2011). These days many awareness programs are run by state and central government for female education (e.g. Beti Bhachao Beti Padhao), which has brought awareness in parents as well as females towards importance of education.

There is significant difference among parents of regular and irregular primary school students of blocks of tribal and non-tribal on attitude towards education. Therefore, ninth hypothesis is proved wrong. Parents of students belonging to non-tribal area and parents of

regular students have positive attitude towards education. Numerous efforts are being made by the government for upliftment of Scheduled tribes and Schedule caste people especially in the field of education. Distance of school, lack of facilities at school, teacher's absenteeism, and economic backwardness is few of the reasons that prove hurdle in lack of education among the scheduled tribes. Parents staying in tribal areas lack in awareness towards education of their children, due to poverty and cultural diversities, lacking of sense of responsibility in education own child lead to negative attitude towards education.

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