

CHAPTER 4

DISCUSSION

REGULARITY IN SCHOOL AND COGNITIVE FUNCTIONS

DISCUSSION

Researches related to reasons for irregularity or absenteeism and dropout among school children have been carried out across India and other parts of world. Researches related to educational issues among the Scheduled Caste and Scheduled Tribe, status of their education, impact of social, economic, cultural aspects affecting education have been major areas of research. Apart from social and economic reasons, there could be other issues of children which also need to be addressed such as lack of interest in studies, retention during exams, difficulties in subjects, etc. Therefore, there is a need to find others reasons associated with irregularity among school children. Present research was an attempt to find if the selected motivational and cognitive factors among primary school children get affected by gender of the participants, area to which they belong and regularity of the participants.

Present research was aimed to:

- To compare the Need for Achievement among selected participants on the basis of their gender, regularity in the school and area of living.
- To compare Concentration among selected participants on the basis of their gender, regularity in the school and area of living.
- To compare Creativity among selected participants on the basis of their gender, regularity in the school and area of living.
- To compare Problem Solving Ability among selected participants on the basis of their gender, regularity in the school and area of living.
- To examine the Attitude Towards Education of the parents of selected participants.
- To study the relationship between Parents' Attitude towards Education and Need for Achievement, Concentration, Creativity and Problem Solving Ability of the participants.

In order to study the motivational and cognitive factors, four performance based tools were used and to study the Parents' Attitude Towards Education, a questionnaire developed by the researcher was used. The data was collected from 17 government primary schools of Dabhoi block (non-

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tribal) and 17 government primary schools from Naswadi block (tribal) from Vadodara district.

4. 1 NEED FOR ACHIEVEMENT

The concept of motivation is the key to the understanding of human behaviour. Motivation explains why a person does or does not do an activity which is expected from him. Motivation has a very important role in the learning activities. It is in fact an integral part of the learning process as it maintains the consistency in the learners' involvement. In context to present research work, academic motivation of students in classroom is an important aspect of effective learning outcome. Academic motivation could be seen as self-determination to succeed in whatever activities one engages during academic life, be it subject learning, sports events, debates, performing in cultural events, among others. In the current study motivation is measured through “need for achievement.”

The results of the present study show that when gender, area of residence, and regularity are individually analyzed in context to need for achievement, there is no significant difference among all the groups of participants. In other words, there is non-significant difference on need for achievement among the participants based on area, regularity and gender parameters. But when area and regularity are analyzed together, significant effect is noted on need for achievement.

It is observed in the study that though group differences are not there but majority of participants have high need for achievement when compared with the standard test norms. This, of course, is not reflecting in actual academic achievement. In the rural and tribal areas irregularity and dropout from the schools are common phenomena. The common reasons cited are as distance to school, student physical health, academic problems such as boredom, lack of interest in studies, parents related issues such as their attitude problems, and student mental health problem. Those students who remain absent or irregular for a long time in a school are prone to poor academic performance which leads to loss of interest in studies, low self confidence, and low self esteem, and finally the child may decide to drop out. People generally

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work for intrinsic motivation or extrinsic motivation. Intrinsic motivation is self-desire for self-fulfillment, enjoyment and achieves a mastery of the subject. Students who are intrinsically motivated will eagerly involve in an activity due to personal interest and internal pleasure (Csikszentmihalyi, Abuhamdeh, & Nakamura, 2005).

Extrinsic Motivation refers to a desire to perform and succeed for achieving a specific result or outcome. Extrinsically motivated students are those who attend classes to get promoted to higher classes rather than for learning and mastering subject material (Ormrod, 2011).

Prajina (2017) had observed that tribal children lack both in intrinsic as well as in extrinsic motivation to achieve academic goals. The study conducted by Rajam and Malarvizhi (2011) on educational status of tribal children in the Nilgiri district show that parents educate their children to get good job, to raise income capacity, and for personal development. The findings also revealed that there was lack of achievement drive in respondents as they thought it was their birth-right to get job and financial assistance from government as they belong to scheduled tribe.

Students in higher standards and colleges put little efforts to succeed because they think they will any way get government jobs due to reservations. However, jobs in government are shrinking and private jobs are majorly knowledge based. So scheduled caste students are facing problem of employment. When younger children in villages see such unemployed youths, they too get demotivated for learning at school. They have no extrinsic motivation to go to school. Simultaneously, many students lack intrinsic motivation for academics because of lack of suitability of present education with the tribal culture, and no social / parental support.

Moreover large percentage of children in class V in village government schools cannot read a passage prescribed for their friends in class I elsewhere. There is also a huge shortage of teachers at the elementary level alone. Like tribal children, non-tribal rural children too experience poor job prospects and therefore lack of parental/ societal support for studies resulting in low intrinsic or extrinsic motivation.

Ford and Roby (2013) introduced a concept of “Amotivation” referring to absence of motivation. Amotivated students feel disintegrated or

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disconnected from their action and make very little or no effort in their tasks. There is nearly total absence of motivation to perform. The state of amotivation has been correlated to that of learned which in case of tribal and rural students related to their family and societal culture. Amotivation results in boredom and poor concentration, poor psychological adjustment in classroom, higher perceived stress at school resulting in higher dropouts (Baker, 2004).

Academic amotivation may result from school activities that are not expressions of student's self or of his values. When the schools have poor reputation, it leads to negative consequences that inevitably result in motivational deficit. Rural students including tribal who perceive their surroundings as a conveyer of negative information about the value of school are likely to develop motivational problems. Values need to be explored in order to completely understand academic behaviors (Bigelow & Zhou, 2001).

Research studies have been carried out in India and abroad on need for achievement in various contexts of students such as academic achievement, attendance and home environment. The studies conducted by Adsul and Kamble (2008); Chaturvedi (2009) and Chetri (2014) show that there is no significant difference in the achievement motivation of students with regard to gender. The current study results also show no difference in need for achievement with regard to gender.

A study was conducted on 180 tribal students of Ahmednagar, Maharashtra to know the relationship between academic achievement and school adjustment. The study revealed that students who had unfavourable family background, less academic support from teachers, and problem with the curriculum in the tribal context had poor academic achievement. The students who were well adjusted with the school environment, self motivated, and were getting proper guidance from teachers were scoring good academic scores (Shivagunde & Kulkarni, 2012).

Interest and attitude of learner towards a particular subject also matters a lot. It is very important that students themselves realize the importance of education, so that they are motivated to study and regularly attend school. The study conducted by Maheshwari and Singh (2014) revealed that there was significant association between respondents' academic performance and their

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attitude towards education indicating that academic performance of students gets affected by their attitude towards education. Researches also show that students with high academic motivation are more likely to have increased level of academic achievement and lower dropouts rate (Singh, 2011).

Rural students' need for achievement needs to be diverted towards school and classroom. Teachers should help students develop realistic goals and recognize progress. An environment is required where academic success is valued and encouraged among tribal community. Klose (2008) in her article suggests that school needs to create structures in system which would promote competencies and growth rather than superiority over others. She also suggests creating environment which would value students' contribution, regardless of academic ability and her emphasis on efforts and growth in all aspects of the learning environment.

Level of need for achievement of a student can be utilized by the teacher to plan the required activities as per students needs. Students who are highly motivated are likely to complete assignments, respond to new and unusual problems with support of teachers. Those students who avoid failure could be given less challenging assignments, simple rewards for success, and lots of encouragement which would be beneficial for such students (Singh, 2011).

The result revealed by Sa (2006) that non-tribal students had better level of achievement motivation than the tribal students is in favour of the current study. In the current study the results show that when area and regularity are analyzed together there is significant difference in Need for Achievement. Non-tribal regular participant group have scored better on Need for Achievement than the other groups viz. non-tribal irregular participants, tribal regular participants and tribal irregular participants. Sa (2006) conducted study on assessing achievement motivation among tribal and non-tribal students from districts of Odissa State. The reasons for the observed difference given by Sa (2006) were majorly due to social background, religious background, sex, caste status, area of residence, socio-economic status, child rearing practices, mother's education and socio-economic status. The researcher also stated that non-motivational forces of the fears like illiteracy, lack of role model of parents, lack of exciting achievements of their parents

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could be the reasons for low achievement motivation among the tribal students. If we closely study the attitude of teachers towards tribal students, environment of school and students' attitude towards education we might come to know the exact reasons for lack of motivation. There is a possibility that tribal children are not sensitive to understand the importance of education or they are not intrinsically motivated to learn. Teachers need to cultivate understanding among tribal children about the aim and objectives of schooling. According to (Sarangi, 2015) tribal students perform low in academic achievement due to psycho-social factors. Tribal students need proper motivation, guidance and remedial instructions for upliftment (Sarangi, 2015).

4.2 CONCENTRATION

Concentration is a prerequisite for success in academics as well as in further career. Concentration levels (Stuart & Rutherford, 1978) refer to the degree to which students attend to instructional material. Like any human attribute, there are variances in concentration levels. Some people can focus on a task while surrounded by a variety of stimuli, while others (especially those with learning disabilities) have difficulty concentrating under any conditions. Students who have greater motivation to solve the tasks proposed by the teacher also show high levels of concentration for their achievement. In the current study, non-tribal as well as tribal are high in need of achievement, but show significant difference in concentration. This difference can be attributed to regularity in school. Regularity sets a positive cycle of learning. Classroom increases the motivation of the students which improves their concentration and, as a consequence, they learn more.

The results show that area, gender and regularity have significant effect on concentration of participants. Regular participants belonging to non-tribal block and female participants have scored significantly more on concentration. Also, there is interaction effect between area and gender on concentration variable as reflected by results that females from non-tribal block (Dabhoi) are more likely to have significantly higher concentration.

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Results show importance of regularity on concentration. Educational level shows a significant effect on time spent in completing cancellation task (Rosselli, Ardila, & Rosas, 1990). A regular student develops visual and visuo-motor skills through reading and writing. Regular academic involvement raises and reflects in the speed of cancellation in the test. Brucki and Nitrini (2008) confirm that those students who are irregular in school are unable to do systematic searches.

Irregular students do not develop systematic approach to task, as a result they perform non-systematic searches in cancellation test and take longer time for completion of the task (Rosselli, Ardila, & Rosas, 1990). In fact, most school-age children without visuo-spatial dysfunctions use systematic search and have near-perfect accuracy on cancellation tasks (Wasserman et al., 1995). The problem of lack of concentration stems in students due to irregularity and therefore, when teachers teaches in classroom, student is unable to relate to the content and eventually loses interest in studies.

One possible reason as to why regular learning improves concentration can be that the learning involves eye movement control, visuospatial attention, and peripheral vision—all important components of reading. It means learning and concentration are interrelated. Many of attention-related functions contribute to reading. Selective attention to a word or string of words in concentration test requires concentrated focal attention and controlled shift of attention.

Searching involves directing attention towards the target. This diversion of attention is not random. Visual attention is voluntarily allocated towards an object in a goal-directed manner (e.g., when searching for your keys). Research evidence indicates that prior experience (in present case attending school regularly) is also an important factor influencing attentional regulation (Awh et al. 2012).

Research also shows significant difference between boys and girls on concentration, girls being significantly higher. Results are in consonance with others studies wherein girls are found to be better in performance at school and hence enhancing concentration as explained above. Gwen Kenney-Benson said that “girls succeed over boys in school because they tend to be more

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mastery-oriented in their schoolwork habits. They are more apt to plan ahead, set academic goals, and put effort into achieving those goals. They also are more likely than boys to feel intrinsically satisfied with the whole enterprise of organizing their work, and more invested in impressing themselves and their teachers with their efforts” (Gnaulati, 2014).

Researchers have suggested various possible explanations for the under- performance of boys. A common explanation points at the difference in school attitudes between boys and girls. In general, girls spend more time doing school homework, show less disturbing behaviour in the classroom and attend class regularly and attentively. Girls are more enthusiastic about continuing their studies, whereas boys take it easy, work less hard and are distracted more quickly (Houtte, 2004). These differences in achievement are also explained in terms of bio-psychological factors. By nature, girls are more persevering, while boys need more encouragement. Boys are more inclined to risk taking behaviour, with a consequence of more failures (Houtte, 2004).

The findings of study conducted by Dar and Najar (2017) reveal that there is gap between school culture and family culture of tribal children. This creates a situation of cultural mismatch and results into creating discipline problems, management problems and poor responsiveness of tribal children towards academic activities. The study also revealed language problem, curriculum and lack of cultural sensitivity among teachers as major problem in teaching tribal children. The problems stated by above study support the finding of the current study which shows that participants belonging to tribal area have scored significantly less than non-tribal area students.

Study conducted by Sulaiman et al. (2011) states that factors of speech or presentation style of the teacher and group discussions contribute to individual learning concentration. From the findings of the above studies we can relate to the current findings which shows tribal students have scored less on Concentration. The sample of tribal students belongs to the area which is not much exposed to urban culture. The study conducted by Brand (2010) suggests that there is a significant relationship that exists between motivation and concentration. The study emphasized on importance of motivation of participant for attention in class-room. The current study shows that non-tribal participants and regular participants are significantly high on concentration in

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comparison to tribal participants and irregular participants. Analysis of data in current research shows that tribal and irregular tribal participants have scored lowest on Need for Achievement) indicating amotivation for learning, and relatively low concentration.

In the current study there is interaction effect of gender and area on concentration where female students from non-tribal area have scored maximum on concentration. When the results are reflected, it is observed that irrespective of area of living females are better than boys on concentration, but in interaction effect even within females, non-tribal female participants are better than tribal female participants. Despite several campaigns to promote formal education ever since independence, the literacy rate among Scheduled Tribes has remained low and the female literacy rate has been still lower compared to the national female literacy rate. Behera and Samal (2015) suggest that students from tribal community have low level of educational and career aspiration. This indicates less number of tribal girls in school with relatively low level of aspiration, low efforts in reading writing learning. This is reflected in significant difference between tribal and non tribal girls on concentration in current research.

Concentration, thus, clearly depends on regularity and motivation of the students, which in case of tribal a major issue. Geographic isolation of tribal areas has negative consequences. School with few students means low probability of high-achieving peers to motivate them to excel. Students are less likely to discover career possibilities that exist only outside their rural communities, which can affect their motivation and success. Isolation also makes it difficult for schools to recruit and retain qualified staff that can provide the full range of educational opportunities. But, isolation does come with benefits. For instance, students in rural schools often attend smaller schools where teachers can give them more personalized attention. Because schools are often central to the identity of these communities, longer-term residents may have stronger attachments to them and stronger investment in student achievement. This cultural foundation provides a type of social safety net for many students. Community values can strongly motivate students to succeed and to stay in the community.

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The concentration skill which is important for learning can be improved if regular workshops are held for students. Frequent workshops for teachers for effective teaching are also required so that teachers use innovative techniques for making learning interesting. Also, there is need for special educators to identify and address learning disorders like ADHD (Attention Deficit Hyperactive Disorder). These measures will help enhance cognitive skills of students which are important for education. Study conducted by Stasch (2014) to see the effect of focus attention on academic achievement showed that when participants were given certain exercise that enhanced their attention during the classes resulted in academic achievement. This study supports the fact concentration can be improvised.

There is a need to form policy for understanding mental health problems of children and adolescent and an environment in school as well as society is required for implementing positive mental health. There is need to create awareness about mental disorders, mental well-being among society.

4.3. CREATIVITY

Creativity is the inherent as well as developed tendency to generate or recognize ideas, alternatives or possibilities that may be useful in solving problems, be it technical, social, personal or any other issue faced in day to day/professional life. It is characterized as achieving something familiar in an unfamiliar way or transforming something familiar into something unfamiliar by searching for solutions in a way that is not previously known. Everyone has the creative ability embedded in his/her behavior and everyone has specific way of thinking. Creativity is a general human behavior and not specific to a particular group of people. It is a potential construct shared by all people in a varying degree. Creativity can be managed, improved and developed. Fostering creativity in education is intended to address many concerns, including dealing with ambiguous problems, coping with the fast changing world and facing an uncertain future. Developing the creativity of the young cannot be left to chance (Cremin & Barnes, 2018), because it directly impacts on the students' sense of competency, autonomy and relatedness.

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The results of the present work revealed that area and regularity have significant effect on creativity of participants. Participants belonging to non-tribal area are more creative than the participants belonging to tribal block and regular participants are more creative than the irregular participants. Male and female participants do not differ on creativity.

In the present study, it is found that participants belonging to non-tribal area are more creative. It is evident that non-tribal area is near to Vadodara (urban area), due to which the participants might be more exposed to technology, educational material and availability of opportunities to learn more than participants who belong to tribal area. Urban (2003) says that the environmental conditions of various systems may discourage, inhibit and suppress or nurture, stimulate, inspire and cultivate creative processes. Results of divergent thinking can be affected by the environment. The study conducted by Sharma (2015) shows that those children who had exposure to unstructured material, educational material, play equipment, natural material, electronic goods performed better on creativity than those who had less exposure to such material at home. This supports the findings of the present study where non-tribal participants are more creative than tribal participants as the exposure and environment near the non-tribal participants is more close to urban exposure as compared to tribal area.

Many cross-cultural studies indicated that children in modern societies scored high on creative thinking and they related it to cultural differences, i.e. the more developed the culture, the more creative were their children (Sharma, 2015). The reason for tribal participant lagging behind in creativity could be that the tribal people stay in remote areas and are superstitious and addicted to blind beliefs (Malyadri, 2012), which restricts their flexibility and originality in thinking, requirement of creative thinking. In the same way factors like negative parental attitude towards education, less parental support in school work, low levels of motivation, poor family income and poor self-concept of children, deprivation characteristics of home and neighborhood are mainly responsible for poor performance of tribal children in their various creative fields (Malyadri, 2012). Parents' low socio-economic status restricts children's experience adversely affecting their creativity (Runco, 2007).

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There is a very strong correlation between the development of executive functions and socio-economic status (SES). Tribal children living in poverty are far more likely to arrive in school with less developed executive functions. This reduces their capacity to learn effectively, which is an important part of creativity. As a result, they soon start to fall behind. If emotional, social, or physical needs are ignored due to poverty, those unmet needs will work against good executive functions and hence against academic and creative excellence.

The difference among tribal and non-tribal participants on creativity score could be also due to poor or lack of vocabulary or writing skills. Language is the means through which people can share their thoughts. Language is a powerful way of expressing feelings and thoughts. Without language it is impossible to exchange creative thoughts.

There is one interesting research where Madhu (1987) reported findings in favour of the rural students, who were found to be more field independent than the urban students who were field dependent. The rural students had better elaboration ability, and were more fluent producing new ideas than the urban students. The urban students had higher mean values on originality. There was no significant difference between the two groups in their mean values on flexibility and total creativity thinking, although the rural group had higher mean scores.

One of the findings of the study by Surapuramath (2014) is contrary to the current results. The findings of the study show no significant difference on creativity of students on rural and urban students and government and unaided school students. The difference among tribal and non-tribal participants on creativity score could be due to poor or lack of vocabulary or writing skills. Therefore, the academic scores in language subjects could be analyzed for further research.

Gender does not affect creativity of the participants. This is in consonance with other studies in Creativity (Kumari, Pujar, & Naganur, 2014; Potur & Barkul, 2009; Saeki et al., 2001; Sharma, 2015; and Siddiqi, 2011; Surapuramath (2014). The findings of the study conducted by Muchhal and Ram (2017) and Wu (2010) are however contrary to the findings of the current

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results. Their finding of the study showed that female participants were more creative than male participants.

As the large proportion of studies, including current research, have reported a lack of gender based differences in creativity, it can be safely said that there are no systematic differences between the gender in terms of creative ability or potential. Nonetheless, when taken together all the studies, what they suggest is that human beings commence their creative development on a roughly even footing and is not skewed towards any gender. But differences in creative accomplishment begin to surface in young adulthood and are manifest in real world achievements throughout the adult lifespan mainly due to available opportunities to explore, external and internal motivation, and culture.

The results of the current study revealed that regularity has significant effect on creativity of participants. School is considered as one of the most important environmental factors which helps develop creativity comprehensively and holistically. When a student comes to class regularly, he is exposed to variety of information and stimulation that is base for creativity. As discussed earlier, regularity also enhances concentration which in turn helps in generating ideas.

Parents of low socioeconomic groups play important role in irregularity of students. Due to poverty and ignorance, parents have little faith in education. Children therefore, get no encouragement to go to school. The parents' role in creating a positive atmosphere for education, encouraging curiosity and providing environments for children to learn at school is a necessary factor in developing creativity (Csikszentmihalyi, 1999).

There is lack of studies which can directly show the support to the current findings. But it can be inferred indirectly through studies which show that academic achievement of studies is influenced by creativity and also correlates with regularity positively. Kar (2007) showed that there was positive relationship between creativity and academic achievement of students. The study results by Chauhan and Sharma (2017) revealed that creativity could predict students' academic success and achievement-orientation and creativity contributes in academic achievement of the students. Regularity therefore affects creativity of students positively as reflected in

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their better academic achievement. The current study however shows that there is difference in creativity even between the participants of tribal and non-tribal areas, both belonging to rural background. Non-tribal participants are more creative than the tribal participants. Sometimes social conservative values and expectations hinders or limit's child's imagination.

Overall the results of the present study show if students are regular in school their creativity is better than the irregular and regularity in schools is an important aspect of universalization of education. Special attention should be given for development of creativity among students by providing proper environment in school and at home.

4.4 PROBLEM SOLVING ABILITY

A problem is a situation, in which a person tries to find a solution and does not exactly know how but still tries to solve it. Problem solving is selective process in which relevant experiences are recalled for finding the successful solution. Funkhouser and Dennis (1992) too suggest that solving a problem requires work or act based on prior knowledge. D'zurilla and Goldfried (1971) state that solving a problem is frequently based on individual's social environments, previous leanings, and personal characteristics, be it personal or professional work place. Problem solving can be related with many cognitive abilities also, ranging from logic, analysis, mathematics, and science (Incebacak & Ersoy, 2016).

Problem solving abilities are therefore important skills to be acquired during school learning. In fact, an important goal of education is helping students learn how to solve problems by combining creative thinking and critical thinking. It is clear that foundation of problem solving is first acquiring knowledge, then use it for divergent applications. Student's regularity and motivation are important parameters for imbibing skills of problem solving as academic learning provides fundamentals on which problems can be solved.

It is observed from the results that regularity and gender have significant effect on problem solving ability. Results show that male participants irrespective of area of living or regularity have better problem solving ability than female participants selected for the study. Studies

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frequently conclude that differences in test performance are the result of differential performance on certain types of items. For the current research work KOH's block Design Test from MISIC was used. In a seminal paper, Maccoby and Jacklin (1974) reviewed studies investigating sex differences published in American journals during the ten year period preceding 1974. They concluded that the sexes did not differ consistently in tests of composite abilities such as IQ. However from adolescence onwards there was evidence of girls superiority in a variety of verbal abilities. In contrast, there seemed to be a consistent trend for a male advantage from age 13 onwards in quantitative and visuo-spatial abilities. KOH's Test basically measures visuo-spatial ability (Strand, 2003).

Bakhiet and Lynn (2015) reported gender differences on the WISC -3 for children in Bahrain and the United States. The results for the two samples were consistent in showing no significant differences in verbal, performance and full scale IQs, higher average scores by males on the block design and mazes subtests of spatial ability and by higher average scores by females on coding and digit span.

In India, specifically in rural areas males and females have different ecological roles and therefore required to solve different problems. Studies on humans have suggested that the two genders often show different efficiency in problem-solving tasks. In rural areas women are equally involved in earning livelihood along with men apart from all house chores. Girl child helps her mother in completing these works. The girl child does not get time to study at home and they often remain absent in school to help their mothers (Chatterjee, 2014). Moreover, girls are not allowed by their parents to venture outside and explore the world. As a result female students do not get opportunity to develop problem solving ability. The strict social and cultural norms or restrictions limit a girl child's freedom to think. The study conducted by Kolawole (2007) supports the findings that male students are better at problem solving than female students. The results in study conducted by Gupta (2013) revealed that gender and caste had significant impact on the problem solving ability of students. The results were similar to the current study where males had better problem solving ability than female participants. In contrast to the current study results, however, Walker et al. (2002) in their study revealed that

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girls performed better than boys in problem solving ability. The study by Walker et al. (2002) was to examine gender influences on preschool children social problem solving strategies where hypothetical social situation was designed by researcher to assess their problem solving skill in the area of provocation, peer group entry, sharing and talking. The study conducted by Alic, Balibey, Meral, and Ozbal (2019) show no significant difference on gender of the students which is contrary to the current study results.

The reason of low problem solving ability among the girls may be due to the conservative upbringing done by the parents, poor home atmosphere, cultural taboos and restrictions. Academic achievement of students gets influenced by problem solving ability. Interestingly, researchers have also tried to explain the gender difference in problem solving through biological factors (e.g., sex hormones), experience, and sex differences in brain, cognition, and social behavior (Geary, 1999). Sex hormones, and perhaps more direct genetic influences, can influence the ways in which the brain responds problems in his/her environmental input. Given this, any conclusion that the sex difference in problem solving abilities is likely to be experience based and does not have a biological basis is premature (Geary, 1999). In other words, it cannot be assumed that the different experiences of boys and girls are driven only by cultural factors (e.g., gender roles) and even with the same experiences it cannot be assumed that the cognitive and brain development of boys and girls will be the same. In fact, biologically driven sex differences in terms of cognitive and brain development are likely to reflect in approaches to problems solving (Geary, 1999), yet role of prior experience and knowledge in solving problems are of paramount importance and this knowledge comes only through having proper schooling.

Current results show that regular participants have better problem solving ability than the irregular participants. Overall, there is not much difference in the scores they have. The students with high problem solving ability perform better in academics than the students who score low on problem solving ability (Gupta, Pasrija, & Kavita, 2015). This study supports the current findings. If a participant is regular in school, his problem solving ability improves and eventually his academic performance also improves, though for the current study the academic scores have not been analyzed. One

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of the findings of study conducted by Bala and Shaafiu (2016) supports the present study. The finding shows that there is positive correlation between academic achievement and problem solving ability. Another finding of the same study shows that there was no gender difference on problem solving ability which is contrary to the current study. Study conducted by Jain (2017) reveals that due to optimistic teachers, students' academic performance increases and optimistic attitude of teachers inspires students. Another study results show that students are good at problem solving ability when they come across problems which had solved earlier (Incebasek & Ersoy, 2016). The study results of Sungur (2016) show no gender difference in problem solving ability and children whose mother's education level was good had good problem solving ability. This implies that there is parental influence on problem solving ability on children. Children form effective solutions when they are encouraged at home and school. This study supports the results of current study. In current study results show that participants are regular in school whose parents have positive attitude towards education results also show that parents' attitude towards education predicts problem solving ability of children.

Regular class attendance, hard-work and interest in a subject, and teacher's frequent feedback to students contribute to an improvement in problem solving skill development. Classroom experiences give different opportunity to learn and problem solving. Cooperative learning refers to the use of small groups in which students are training to enhance their knowledge with each other and their peers to engage in activities (Mafakheri et al., 2013). Irregular students miss on all critical experiences in classroom, and lag behind on problem solving ability.

The study by Cornoldi et al. (2015) states that focusing on meta-cognition and working memory, problem solving ability can be improved. It also indicates that special trainings are required to be given to participants to improve their Problem Solving Ability.

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4.5 PARENTS' ATTITUDE TOWARDS EDUCATION

It can be inferred from the results that parents' belonging to non-tribal area have more positive attitude towards education than the parents' staying in tribal area and parents' whose attitude is positive towards education regularly send their children to school. The present study also shows that parents' attitude towards education does not differ for male and female child. The findings of the present study also showed that up-to some extent parents' attitude towards education affects creativity and problem solving ability of children.

Study conducted by Bordhan (2014); Dinesh, and Chandrasekhar (2015); Mor and Sethia (2015) and Samal (2012) and showed that there was no difference in attitude of parents' for male and female child's education. This finding of the study supports the present findings of the study which shows parents' attitude towards education does not differ for male and female participants. The improvement in literacy rate and enrollment of students in schools shows that there is improvement in peoples' attitude towards education. Tribal as well as other communities belonging to rural areas slowly understand the value of education. Researcher Bordhan (2014) states the similarity in attitude towards schooling and child's education could be because of the uniform local facilities such as housing, water, sanitation, provision of school shared by tribal and the non-tribal in the Sonapur Village of Kamrup (Metro) district of Assam. Government has implemented several programs for the awareness of education and special emphasis is given on girl education. This has resulted in rise of girls' enrollment in school (Census, 2011). In the current study there is a major difference on attitude towards education among parents' staying in tribal area and parents staying in non-tribal area. The findings of study conducted by Bordhan (2014); Dinesh, and Chandrasekhar (2015); Mor and Sethia (2015) and Samal (2012) are contrary to the current study. If we compare the sample for the present study, it belongs to 17 different villages from two different blocks. Hence, the living conditions, exposure to facilities could be different and hence, parents belonging to tribal and non-tribal block have difference in their attitude towards education.

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In the current study, the results show those children are regular in school whose parents' have positive attitude towards education. Many studies have been conducted to see effects of parental involvement on academic achievements of students. The previous studies show that students' performances get positively affected by positive home influences of parents' involvement (Oluwatelure & Oloruntegbe, 2010). Parents' who have positive attitude towards education will try to provide facilities required for studying that also includes good home environment for studies. These parents will also be aware about their child's weakness and strength related to studies. Parents with high education have high level of aspiration of their children's academic achievements and they tend to implement lot of strategies at home and school for their child's education (Vellymalay, 2011). The finding of the current study are consistent with the previous studies which show that parents with positive attitude towards education will encourage children to attend school regularly. The students who are regular in school will definitely perform better than those students who are irregular. The findings of the study conducted by Topor et al (2010) shows that parental involvement i.e. positive attitude of parents towards their child's education, teacher and school results into increased academic performance of the child. The study results by Gosain (2013) show that parental indifferences, parental demands, criticism and lack of recognitions by parents are the reasons for irregularity among school children. Joy and Srihari (2014) has revealed alcoholism of parents is also one of the reasons for dropout among tribal children as drunk parent do not provide an environment suitable for studies at home. This aspect also draws attention to investigate whether children whose parent or guardian is addicted regularly attend school or not.

It can be inferred from the results of current study that parents' belonging to tribal area have less positive attitude towards education as compared to the non-tribal area. Also, their children are more irregular in school. One of the reasons behind this could be because of the occupation. Many parents have seasonal occupation which forces them to migrate for livelihood which may results in two possibilities, children either stay away from parents or children remain absent in school.

REGULARITY IN SCHOOL AND COGNITIVE FUNCTIONS

One of the major reasons for irregularity among children is due to disconnect between parents/families and child's education. Parents' own lack of education, unawareness of earning potential associated with education discourages parents from sending their children regularly to school (Bhatt, Singh & Swanson, 2014). A study carried out in Nandurbar district supports this argument. The findings of the study show that the disinterest in education by parents as well as children is due to the financial hardships they face (Chattopadhyay & Durdhawale, 2009). Family disharmony negatively affects the academic performance of child. Attendance, teacher and educational background of parents positively influence students' academic performance (Srinivas & Venkatkrishnan, 2016). In present study impact of parents' education on children's education is not evaluated separately but researches show that parents' education is an important factor in encouraging parental involvement in children's education. Parents with more education have greater confidence in helping their children to perform well in school (Vellymalay, 2011).

In current study the results show that parents' attitude towards education has relationship with creativity and problem solving ability of participants, although the strength of the relationship is not very high. The study by Zenasni, Besançon and Lubart (2011) reveals that creativity of parents was related to the creativity of children. The current study results are supported by the studies conducted by Wilder (2014) and Antonie (2015). The results of these studies revealed that involvement of parents in academics of children has shown high probability of academic success. The study results of Jayanthi and Srinivasan (2015) show that there is a positive relationship between knowledge of mathematics, understanding as well as application of the subject and home environment. This study results supports the current study which shows problem solving ability and creativity among participants gets affected by parents' attitude towards education.

In the current digital world mass media and information technology has positively helped in shaping the attitude of people belonging to various culture and socio-economic background. Schools also need to design programs or activities where parental involvement is required. This will definitely improve parents' attitude towards school and education.

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1.6 MAJOR FINDINGS

The major findings of the study are:

1. Interaction effect of area and regularity shows that regular participants from tribal area are high on Need for Achievement.
2. Regular participants irrespective of their living area and their gender, participants belonging to non-tribal block irrespective of their gender and regularity and female participants irrespective of living area they belong and regularity have scored more on Concentration.
3. There is interaction effect between area and gender on Concentration variable which showed that female participants belonging to non-tribal block (Dabhoi) have scored high on Concentration.
4. Participants belonging to non-tribal area and participants regular in school are more creative than the participants belonging to tribal block and irregular participants respectively.
5. Male and female participants do not differ on Creativity.
6. Regularity has significant effect on Problem Solving Ability.
7. Male participants have better Problem Solving Ability than female participants.
8. Parents belonging to non-tribal area have positive attitude towards education than the parents staying in tribal area.
9. Parents who have positive attitude towards education regularly send their children to school.
10. Parents' attitude towards education affects creativity and problem solving ability of children.

1.7 RECOMMENDATIONS

1. Even though results show that students have high Need for Achievement but problem of irregularity persists. In order to raise Need for Achievement among students there is a need to start programs based on the individual students need as well as working with their families. If academic scores of students and depth of their knowledge in various subjects is analyzed then a guided help can be extended to students. Non

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Governmental Organizations (NGO) working in the district can be involved to address the issue.

2. Apart from regular syllabus, reading –writing, schools can include other activities which interest students such as play, sports like archery especially in rural and tribal areas.
3. There could be need to supply interesting and useful material to students and create exciting classroom environment to maintain interest in regularity of school.
4. Problem solving ability is a very important life skill. Along with regular syllabus if skills such as farming, gardening,cooking, archery are taught in school and curriculum in tribal language is encouraged , it will not only help children to be regular in school and but it will also improve their problem solving ability in daily life. Female students would be equally benefited if they could learn new skills in a scientific way which in future will help them to be economically independent.
5. Parental counseling is essential for bringing awareness for education. Parent’s involvement in school should be increased to develop positive attitude towards education by organizing traditional events or festival celebration at school at least once in 6 months where mothers can participate with their children in rangoli completion, cooking competition, folk dance and singing competition, etc. or conduct various competitions like singing, dance, sports event, etc where parents can be called at school. Even teachers can involve themselves in tribal festivals to create rapport with parents and know their culture.
6. Assessment of learning disorders or behavioral and psychological problems should be done at-least twice in year and if problems are identified then it should be addressed by therapist.
7. A policy should be formed to appoint a counselor who would regularly visit schools periodically and provide help not only to students but also to teachers to deal with psychological problems of students.
8. School environment should be facilitating learning, positiveness among children towards gaining knowledge and overall physical and psychological development of children.

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4.8 LIMITATIONS

1. Dabhoi and Naswadi are the blocks which are near to Vadodara district. Only one block from tribal and non-tribal area is selected for study. Study at a larger scale including other blocks and urban block can also throw more light on the current research.
2. Students belonging to grades 6th, 7th and 8th were selected as sample from primary school. Students belonging to other grades from primary section can be involved.
3. During the analysis of Need for Achievement variable, academic scores of students were not considered. In future research academic scores can be considered for analysis along with other variables.
4. Parents education, socioeconomic status and cast has not been a part of analysis in the current study. In future, comparisons on these bases can be helpful to draw many more conclusions.

4.9 DIRECTION FOR FURTHER RESEARCH

1. Similar research for secondary and higher secondary schools can be carried out.
2. Other psychological variables such as self-esteem, level of aspiration can also be studied.
3. Academic achievements, socio-economic status, education of parents can also be taken into consideration for similar research.
4. Research can be extended by preparing tool for Principals, Teachers, School Management Committee members and other community members to know the causes of irregularity.
5. Parents' dependence on alcohol also needs to be assessed to see its impact on home as well as scholastic achievements of children.
6. Parents' education and socio-economic condition of the family is not considered in the current study. If these factors are analyzed then it could also reflect on strategies required for upliftment in context of familial and socio-economic factors.