RELATIONSHIP OF CURIOSITY, EXPLORATORY TENDENCIES AND GENERAL SELF-EFFICACY WITH ACADEMIC ACHIEVEMENT

By

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Dedicated To My Children

MAHRUKH, HASSAN & NOOR

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ABSTRACT

The current research was conducted in order to investigate the relationship of curiosity, exploratory tendencies and general self-efficacy with academic achievement of students at undergraduate level of different colleges and universities of the Punjab (Pakistan). It was hypothesized that there would be a positive relationship of curiosity, exploratory tendencies and general self-efficacy with academic achievement. A positive relationship between curiosity, exploratory tendencies and general self-efficacy would also be present. Further it was hypothesized that there would be a significant gender differences in the variables. For this purpose survey design was used. The curiosity and exploratory inventory (CEI-II) was used to measure the trait of curiosity and exploratory tendencies. The general self-efficacy scale was used to measure the trait of self-efficacy in the sample. Results of intermediate classes were taken as one variable. Academic achievement was measured as the intermediate results of the students. A sample of 200 students (134 Males, 66 Females) studying in graduation from different public sector colleges and universities of Punjab province were selected through convenience sampling. Pearson correlation was used for the purpose of analysis. A significant correlation ($r = .214$, $p < .05$) between curiosity, exploratory tendencies and academic achievement was found, however, a non-significant correlation was found between general self-efficacy and academic achievement. Significant differences were found between males and females in curiosity, exploratory tendencies and general self- efficacy while in academic achievement results came out to be non-significant.

CHAPTER I

INTRODUCTION

The element of curiosity exists in human nature. A human being always tends to act according to his genetic makeup but his beliefs about his own competencies effect his achievements. Curiosity plays a significant role in a student's academic achievement. The educational system should be devised in such a way as to trigger the naturally occurring element of curiosity in him. It is often observed that there is a relationship between the element of curiosity and academic achievement of a student. A curious one always tries to seek the answers of his questions. The higher the level of curiosity the more are the efforts to find answers. The curriculum, teaching methods and infrastructure of education should enhance this naturally existing element of curiosity in students.

It is common observation that children are more curious than adults. With the passage of time, this curiosity level decreases, partially due to their awareness of the things about which they used to be curious in the past and specifically due to the streamlining of their goals. The problem occurs when these defined goals fail to get their deserved portion of curiosity from the students. Students often face this problem of decreasing curiosity because the educational system is seldom fully conducive to their efforts.

The present research focused on the assessment of the relationship of curiosity, exploratory tendencies and general self-efficacy, with academic achievement. This research is very important in the present educational and social structure of Pakistani society. It is a common observation that there is no variety of teaching methods used in educational institutes, especially in schools and colleges of Pakistan and the use of technology in class room settings is rare. The present research findings described that curiosity has a positive

relationship with academic achievement so it becomes very important to focus on the Pakistani educational system to bring improvements in teaching methods to enhance student's curiosity and exploratory tendencies. This research can be helpful to teachers, students and educational policy makers by elaborating the importance of curiosity in student's academic activities.

The word curiosity is derived from a Latin word "curiosus" which means careful. Curiosity worked as exploration of things, investigating the phenomena and learning by observation in human beings and animals. "Curiosity is the desire for information and knowledge" (Berlyne 1950). "Curiosity has been shown to stimulate exploratory behaviors" (Reio 2004). According to (Loewenstein1994) he said that if a learner has less information about his environment then his curiosity worked as a motivator to learn and investigate his environment so that the gap of his information fulfilled. Kashdan et al. (2009) defined curiosity as "recognizing, embracing, and seeking out knowledge and new experiences". Curiosity is defined as the "intrinsic desire to know, to see, or to experience that motivates information seeking behavior" (Zelick, 2007, as cited in Yau and Kan, 2011, p. 66).

Urge for knowledge is a key component of curiosity. The terms curiosity and motivation are associated with each other in such way that these can be used as an explanation of same sort of a specific behavior. According to Berlyne (1950) curiosity provides motivation and it led the person to exploration. Exploration means to collect information about an environment. It is very difficult to define exploratory behavior that either this one can be explained in terms of the movements or it can be defined in the sense of main achievement of the behavior. These two statements are intermixed in a way that these cannot be differentiated.

Loewenstein (1994) told that Curiosity often produces impulse behavior and attempts at self-control and it can change its direction at once. He described curiosity as a

powerful motivational force. Curiosity and exploration cannot be explained separately. These two terms are intermixed when it is explained in a psychological perspective. Curiosity and exploration are difficult to define separately due to circulatory nature of the terms. Philosophers and Religious thinkers gave importance to curiosity as a moral status on the earliest ages. In motivational psychology we study curiosity type behaviors such as asking questions movement towards an unknown object and search behavior etc. However in behavioral sciences curiosity itself does not fit better.

In motivational psychology mostly psychologist thought about curiosity when they came to know about the maze activities of rat in a lab. Wohwill (1981) stated that there was a relationship between curiosity and the environment of an individual. Curiosity system cannot be explored without considering the environment of an individual. Berlyne (1954) explained curiosity mechanism. He believes that curiosity drive is aroused from environment when there is a stimulus especially which is conflicting to the individual. In short if stimulus will change then creativity is associated by physiological change. He also told that exploratory behavior led the organism to attain a medium to maximum level of activation. It is seen that desire is decrease when exploration takes place.

Fiske and Maddi (1961) told that there is a difference between arousal and activation. They defined arousal as "diverse manifestation of activation", e.g. heart rate, muscle tone etc. While activation is defined as " the state of Catalytic and energizing mechanism in the central nervous system". According to Hunt (1963) "Curiosity is a combination of cognition and motivation" It leads to incongruence and then behavior will be effective and powerful by incongruence trait. Some researchers said that the behavior will be active to explore if there is same sort of problem present in the environment.Fowler (1965) considers curiosity as a homeostatic drive which is internally stimulated and human being explore the things to satisfy this internal need. Fowler conducted experiments on animals and he observed that animals explore things before exposure to stimulus rather the offer.

Drive theory viewed curiosity as a motivational force which is stimulated by external environment as well as internally stimulated. A drive theory consider curiosity as a same need as we satisfy our hunger by eating old one new interests play a significant role to fulfill the urge of curiosity. Mostly cultures are different in interpreting the meaning of exploration and information seeking and curiosity. Zukerman (1994) explained information seeking behavior as a risky behavior because to fulfill the information seeking human being takes social, financial and physical risk.

Berlyne (1954) conducted research in the field of curiosity on different cultures. He concluded that curiosity is different in form where countries are present on different geographical regions. He also found that there is a high similarity of curiosity, exploratory behavior in two cultures which are totally indifferent in historical way and difference in technological development. So he conclude that if you want toassess the clear cut picture of curiosity then you have to study curiosity and exploration in own culture to get a better understanding of different positive factors of environment and road blocks of curiosity in a particular culture.

There are different points of view about the concept of curiosity and exploration. Most research findings focus on the mechanism of curiosity that this is an inner or outer stimulus primary innate or secondary required drives motivation, drive curiosity and exploration. These all terms are intermixed and cannot be explained and described separately etc.Most of the researchers are eager to find out the relationship of curiosity with some other psychological traits.Kashdan et al.(2009) defined curiosity as "recognizing, embracing and seeking out knowledge and new experience". Recognizing means openness of new experiences. It does not mean to understand some phenomena withclosed eyes. Seeking out knowledge and new experience means to take part in some activity and when that activity is finished then one can himself start that activity in an active manner.Curiosity can be changed

from one form to another e.g. curiosity can create happiness or frustration in individuals. According to kashdan curiosity is more effective in creating a long term fulfillment.

Most of the psychologists consider curiosity as an interest. Kashdan et al.(2009) believes that curiosity directly effect on the reduction of anxiety in individuals in their daily life. Nowadays curiosity and interest helped us to discover new sources of food, new technologies and improvement in living system. In this way anxiety can be reduced. If we neglect curiosity then we miss many important benefits. Most of the studies found that curiosity plays a vital role in developing new several connections as well as it keep activates our brain similarly as a catalyst increase the speed of some chemical reaction. Some studies conclude the curious people develop relationships with strangers, friends and romantic partner. Curious people have more meaning and purpose in life. Curiosity also plays role in the success of an individual.

Curiosity plays a vital role in the life of children because they learn explores and discover new things. Pessy (1969) as cited in Langevin (1971) consider curiosity as a "cycle of learning" curiosity leads to exploration and exploration leads to new curiosities and discoveries. Emotional and intellectual development of children is closely related to curiosity. The children who are less curious they are unable to develop social relations with others and also there is difficulty in teaching to them.Parents can help their children to develop curiosity in them e.g. if the parents give healthy familylives and routines to their children then they will be more curious. Mostly children like stable homes and daily life. Children feel comfortable and they explore new things. Parent's attention and admiration also play role in children's curiosity. Children showed the trait of curiosity and exploration when they brought up in stable and health family lives instead of abuse, stressful and neglecting life. Encouragement and supportive environment of home play role in the development of curiosity in children. Different children have different styles of curiosity some play some physical activity while some explore through their minds. If parents gave extra attention to

the slow learners for exploration and showing patience to help children in the development of curiosity then the children will learn more.

It is a common observation that the children who are confident and they have firm believes in their capabilities they are better in exploration. If parents will involve themselves in children's curiosity and discovery and provide safe environment for creative thinking when the curiosity level of children will be enhanced. Recognition of individual differences is also very important. The exploration method is different for each individual some explore in a physical way e.g. touching, smelling, tasting etc. While others are timed in behavior. Some feel comfortable with newness of ideas while some feel uneasy to leave the prior safe environment.At this stage parents encouragement, approval, attention, reinforce led the children to the highest level of curiosity. On the other hand if teacher feel that children curiosity is creating disturbance in the classroom. Then never ever discourage the student and told him that this is not a proper place to do this.Mostly toddlers are keen to know the cause and effect of light switch on and off. When they found that by turning switch on the light will be on and by turning off the light will be off this is exploration and discovery for them. It looks them to happiness. So curiosity and exploration causes happiness in individuals.If there will be no curiosity in children then their future cannot be bright. A student who is less curious will make few new friends, feel trouble in social relations and also read fewer books. Motivation and inspiration to this kind of individual is not effective.

There are three important things which crush curiosity in adults. Firstly if fear is present then there will be no curiosity. The adults which are confronted by natural disasters e.g. violence, flood, earthquake they have fear in their minds then the curiosity will be less Second one is disapproval. If parents will disapprove all his creative work the trait of curiosity is crushed by them. Thirdly if there is an absence of caring, a sense of safety and sharing of discovery or the parent's does not reinforce the discovery of new thing then it is hard to develop curiosity in adults. More than hundred years ago the most important study of

curiosity takes place in the history of psychology. Before 1950s and 1960s it is not an attention seeking topic. Curiosity also plays role in education context. Now there are some researches who find out that there is a relationship between curiosity and learning. Curiosity and intrinsic motivation are mixed in such a way that most of the researches tried to find the effect of these variables on learning. It is not only important in education sector but also in business sector. Academic achievement is also very important in educational setting and most of the researcher tried to find out the relationship of it with other psychological traits.

Self-Efficacy

Self-efficacy has been defined as one's belief in one's ability to succeed ina particular situation. In achieving goals, tasksself-efficacyworked as catalyst. Basically self-efficacy means that how much a person has firm belief in his own competencies. By using these competencies a person can gain his achievement to gain a particular set of goals. Positive psychology tried to find out the ways and means by which a person can develop self-efficacy in him. It is believed that if self-efficacy will be present a person will spend more productive and happy life. According to Bandura (1995) self-efficacy is "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situation". In other words he described self-efficacy "As a person has belief in his own competencies to succeed in a particular situation". It can work as a determinant of how people feel behave and think.

Social Cognitive Theory

Social cognitive theory is given by Bandura (1988) and the term self-efficacy is a major component of Bandura's theory. The important point of this theory is that it focuses on observational learning and social experience play a vital role in the development of personality. According to social cognitive theory it can be stated that all our actions and reactions in each and every situation are triggered by their activities which we have observed

in others in different social situations. These observations play a key role in the shaping of social behaviors and cognition. Our self perception and social experiences are important in the development of self-efficacy. Self-efficacy is closely related to the personal perception of an individual about some particular situation. According to this theory that these people which have high self-efficacy they take challenging tasks to be mastered not to be avoided.

Social Learning Theory

Social learning theory focuses on the development of experimental skills and individual emotional responses in a specific situation. According to social learning theory most people learn from one another by observing and imitation. It depends on learning of those skills which are acceptable in a society if the skills will be matched with the norms of society then it is considered as a success while if the cognitive patterns do not match with social group there it will consider as a failure.

Self-Concept Theory

This theory focuses on the perception of an individual about himself which he receives from external environment. Many of the success and failures are interpreted in such a ways that people learn from others about himself. Most of the psychologist believes that self-concept is not inborn. It is learned through experiences and recognized that we apply experiences to ourselves. Our perception changes with the passage of time and it is not fixed.

Attribution Theory

Basically this theory deals with the attribute of the cause of an event. It creates beliefs on these interests with internal perception of themselves. This theory told three important things which worked as a cause.

Locus:-It determines the cause that either it is environmental or internal. If success or failure is considered as internal factors then there will be increase in self-efficacy. On the other hand self-efficacy will be decreased if a person confronted failure.

Stability:-If someone considers the cause as a stable factor then the expectation will be matched with this stable factor either it is success or failure.

Controllability:-It means that the person is under the control of cause. If we have firm belief on our abilities in achieving success then self-efficacy will be increased. If we attribute failure to our abilities then this leads us to embarrassment.

Effects of Self-Efficacy

Choices Regarding Behavior

Beliefs about own competencies are important in the selection of behavior. If the self-efficacy is low about a particular task then the person will avoid the task. People with a high level of self-efficacy more than their actual abilities to complete work then there will be difficulties. Moreover if people's self efficacy is less then abilities they are afraid to start a new kind of work. Most of the researches showed that a medium self-efficacy gave encouragement to complete a task.

Motivation

High self-efficacy is directly proportional to the efforts which a person put to accomplish a task. Low Self-efficacy builds low confidence in individuals and cannot be mastered in getting success. Sometimes low self-efficacy plays as an inactive role to learn and gain more than high self-efficacy.

Thought Patterns and Responses

Low self-efficacious people consider work hard than it is actually in nature. This leads the person to stressful situation. The people with low self-efficacy show unpredictable behavior to accomplish a task in a successful manner. People with high level ofself-efficacy blamed their failure to environment factors where a person with low level of self-efficacy consider this failure as a less performance e.g. If a person got less marks in some subject a person with high self-efficacy consider the poor result to feeling sick, less preparation etc while a person with lessself-efficacy will say that all this one is due to less ability in mathematics.

Health Behaviors

It includes seat belt, non smoking, condom use, breast self examination etc. Self-efficacy belief is a thinking pattern to be initiated in a particular situation. It is linked to positive behavior because achievement is affected by it. Self-efficacy will be high when the person has ability to cope with various events where the person feels depressed.

Academic Achievement

Academic achievement will be high if the student has high self-efficacy their performance will be low if they have low self-efficacy. It is directly linked to the productivity. Most of the researches showed that students who are confident mostly they have control over their own learning and students who are less confident they become isolated from their studies.

The Destiny Idea

Researchers conclude the different people have different levels of selfefficacy. Those people which have high level of self-efficacy they reported that their own actions and

decisions play role in their lives while low self efficacious people think as somewhat out of their hands.

The Role of Self-Efficacy

Self-efficacy plays a major role in identifying of goals which people want to accomplish or they would want to change or achieve. Mostly people think that it is not easy to put plans into actions. Those people who take interest in such kind of work in which they indulge themselves have high level of self-efficacy and they consider challenging tasks as easy one. If there is some disappointment or loss then they recover themselves very quickly from depression and tension. On the other hand those people who are weak in their self efficacy they try to ovoid those tasks which they feel difficult and they assume that they have no ability to handle this difficulty. Mostly they think about their failures and they have less confidence in their potentials.

Sources of Self-Efficacy

Self-efficacy develops during the whole life of an individual as life goes on the individual deals with different type of difficulties and acquires new skills. According to Bandura (1977) self-efficacy is developed in an individual by following methods.

Mastery Experiences

If an individual want to develop self efficacy in him then the most important component is mastery experiences. If the individual successfully performed the task it will improve his self efficacy and if a person does not effectively deal with the task then the self-efficacy will be low.

Social Modeling

Another important source of self efficacy is social modeling. If the other people accomplish task successfully then one has full belief in their capabilities to get success in a particular kind of work.

Social Persuasion

Encouragement and admiration from others have an important role in developing self efficacy in an individual .People gave good performance if others gave positive attitude towards them. If an individual has doubts in their capabilities then the admiring words spoken by other people developed a trait to minimize the negative ideas about him. An individual performed at his best.

Psychological Responses

Our psychological responses e.g. mood, physical reactions stress emotional level etc. These effects on our self-efficacy. A person who is less confident in eating in front of others may have low level of self-efficacy in him. Practice makes a man perfect. If there will be practice to reduce the stress then the self-efficacy will be higher.

Improvement in Self-Efficacy

There are different methods and techniques by which we can improve our self-efficacy. Some are discussed below.

Use Moderately-Difficult Tasks

If the task is too much difficult then it will decrease self efficacy and if the task is very easy then it will be boring and students will not take interest in completing the task. So the task must be slightly difficult than the present ability level of a student.

Use Peer Models

Peer plays a significant role in the process of learning. By observing peers success one can learn and improve self-efficacy.

Teach Specific Learning Strategies

A project or assignment which is given by teacher to students work as a skill development in student to learn.

Capitalize on Student's Interest

If you want to improve self efficacy in students then you have to link the course with some interesting things such as sports movies.

Freedom of Choices

If there will be freedom of choices e.g. In project submitting date and assignment options then it will be better for students.

Encouragement

Verbal encouragement given to the students is another important and vital source of self efficacy.

Focused Feed Back

Always give admiration and reinforcement to student's performance. Never compare the performance of one student to the other.

Accurate Attribution

By giving accurate attribution to the students the results will be fruitful to enhance the self efficacy of the student.

There are many effects of self-efficacy on transgressed behavior. A positive correlation exists between academic self-efficacy and moral values while negative is observed between misbehavior and moral values. Most of the researches told that the people of the high sense of self efficacy have a negative effect on motivation because they are more confident and this over confidence leads them to less motivation. Self-efficacy also play role in health behavior change and it is also helpful in relapse prevention. People have beliefs in their competencies but the reality is different. Sometimes it happens that beliefs and originality are sometimes same and the individuals show behavior according to his beliefs.

Self-efficacy beliefs help the people to determine the outcomes about which one is expecting. Students who are confident in their social skills perform better. A student who has high self-efficacy in his academic capabilities may get fewer marks than a low self-efficacious student. Self-efficacy also determine that how much effort one can put to get success, how long one can confront obstacles and how a person behave in a stressful situation. People with stronger trait of self-efficacy they tried to solve complicated problems and to overcome the difficulties rather than escape. Moreover they can recycle their sense of self efficacy and they blame environmental factors for their failure.

Self-efficacy directly effect on the cognition of an individual to a situation. People with low level of self efficacy thought about things that these are difficult to complete and it leads them toward depression, anxiety etc. In this way they lose confidence and the performance will be lower on a particular task. Self-perception is also another important factor which effect on self-efficacy. If the person will perceive himself as active then the self-efficacy will be also high but if the perceptions will not good about him then the person will not get success in life. In addition to interpreting the above statement it is commonly observed that observations of others are another aspect of self-efficacy. If one sees people that they are doing a particular task then there will be improvement in one's self-efficacy and a person can be mastered to attain the goal.

Self-efficacy gave the foundation to motivate the human behavior to get achievement and particular goals. Self-efficacy worked as a vital force in self-regulation. There are many factors which effect on an individual behavior e.g. Knowledge, Skills, Judgment and achievement. These factors worked as a catalyst in boosting the trait of self-efficacy in an individual. According to Turner and Shallert (2001) self-efficacy beliefs directly effect on the behavior of an individual. It effects on choices of an individual and also in the selection of an occupation. These beliefs also provide root to the individuals that how much they have to struggle for achievement, how much they have to handle difficulties and deal with troubles to accomplish a task. (Bandura 1977, Pajaras 2002) Directly or indirectly self-efficacy effects on the academic achievement of an individual. A research was conducted by Chemers, Hu and Garcia (2001) on problem solving. The results concluded that children with high level of self efficacy struggle more on a task than the students with lower self-efficacy. A study conducted by Pintrinch and Degroot (1990) found that academic self-efficacy has a positive correlation with various educational outcomes such as grades, performance and score on exams etc. Most of the researchers conclude that self-efficacy worked as a strong predictor of academic achievement. Some researches conclude that beliefs have a positive impact on motivation and achievement (Zimmerman, Bandura & Martinez-Pons, 1992; Pajares& Miller, 1994Pintrich& De Groot, 1990).

Schunk (1991) stated that individuals with high level of self-efficacy worked harder on a task and encounter difficulties with courage while low self efficacious mostly avoid tasks. According to Bandura (1977) individual firstly have the tendency of motivation then they form beliefs and after that they set goals for themselves and plan to get success in life. In educational setting thinking patterns and activation these both play role in self-regulation (Zimmerman, 1989; Schunk, 1989). Buttler and Winnep (1995) told that the students which have competencies the trait of self-regulation worked as a learning method. Kovach (2000) found that self regulated learners have the ability to plan aims for themselves,

select proper learning techniques and continue monitor goal progress. Research findings told that students with high level of self-efficacy make better thinking patterns and self regulation than those which do not. Pintrinch and Degroot (1990) conducted a research and found that academic self- efficacy beliefs have positive correlation with inner feelings, cognitive and self regulation. Another study which is conducted by Zimmerman and Martinez-Pons (1990) found thatself-efficacy is a positively correlated with self-regulation.

LITERATURE REVIEW

There are many researches on the topic of curiosity, exploration and its relationship with self-efficacy and academic achievement. Some are discussed below.

A study conducted on the topic of ability, personality and academic performance by Stumm and Hell (2010) as cited in Charomo-Premuzic (2011). More than 200 pervious researches are rechecked by them and they found that intellectual curiosity has a positive relationship with academic performance. Moreover some personality traits e.g. intellectual curiosity and conscientiousness on academic performance are linked to intelligence. Leherissey (1971) as cited in Draper (2010) developed a scale named state epistemic curiosity scale (SECS) to check the level of curiosity in students. In this study he used this scale within a computer assisted instruction CAI task. He also tried to find out that whether curiosity would decrease anxiety and improve performance. His scale consisted of 152 female's undergraduate of psychology and education classes. He found that negative relationship exists between curiosity and anxiety. Students who are more curious had lower anxiety levels and performed well on CAI task. This study found that curiosity has a positive impact on performance.

Roman and Kay (2007) found in their study that teachers play an important role in exploring the roadblocks of learning through developing a trait of curiosity in students. They told that good teacher is like a therapist. As therapist create a save environment for

therapeutic relationship similarly a good teacher create a learning context to develop a trait of curiosity in students. A study conducted by Brophy (2010) on intrinsic motivation. His emphasis was on how much a person is determined in achieving goals and on actions which are self regulatory. He tried to find out the different aspects affecting student's performance. He found that if self-regulation of actions is improved then the academic performance of students can be increased at the same time.

Engelhard and Monsaas (1988) found in their study that there are no significant gender differencesof curiosity among urban school students. Some results were found by Ben-Zur and Zeidner (1988) when conducted study on College Students of America. In Hong Kong a research was conducted by Ning and Downing in 2010. They investigated the relationship between motivation and achievement of students studied in university. The result was that the relationship is positive between motivation and achievement.

In Pakistan a study conducted on university students by Afzal, Ali, Khan and Hamid in 2010 to assess the relationship between motivation and academic achievement. They conclude that the relationship is positive so intrinsic motivation is a necessary tool for the improvement of student's academic performance. Naderi et al. (2009) conducted a study to examine the relationship of creativity age and gender with academic performance.153 participants of both gender solved creativity test. CGPA was used to select the participants. The findings of the study showed that there is a low correlation of CGPA and creativity while no significant differences were seen between CGPA and gender. A study conducted by Gottfried (1990) to investigate the trait of intrinsic motivation in school children. He concluded that those students which have inner motivation to perform worked better than those who have less motivation for learning.

Fortier et al. (1995) in her research found that perception of academic performance was positively related to intrinsic motivation. Her sample consisted of 263 students. She

found that students which have firm belief in their competency and self determination in the school environment create a trait of intrinsic motivation and by this creation of trait they got good grades. She also found that perception of academic performance and perception of academic self-confidence has positive relationship with academic motivation and on school performance. Printrich (2003) as cited in Ross (2008) conducted a study to search a relationship between a motivational trait of performance and achievement in academics in two different cultures. The findings from this study demonstrate that these two variables effect on each other there is a positive relationship occurred. Although cultures differ from one another in this regard.

Robbins, Wallis and Durston (2003) conducted a research to assess the role of genetical and environmental factors which are related to academic success and occupational aspirations. Students were assessed on their morality and definition of success. In this study they found that cultural issues and related phenomena are important to achieve success in the field ofacademics and occupational aspirations. Altun and Cakan (2006) their paper isabout the students which studied in university reported the thought patterns, scoringon a task and tendency to get knowledge of computers. They found that there is no significant relationship between the thought patterns, scoringon a task and tendency to get knowledge of computers. In a metaanalytic study by Edmondson, Boyer and Artis (2011) investigated the relationship of self-directed learning with various variables such as curiosity, needs, planning, success and novelty academic performance, future aspiration, creativity, and life satisfaction. The findings of research showed that self directed learning has a positive relationship with all these variables which are discussed above.

Akay (2006) conducted a research on school going children to assess the relationship of level of participation in studies and intrinsic interest. He found that those students who participate in studies display curiosity and have interest in learning and school. There was strong evidence that motivational force worked as a critical source in student's achievement

and interest in learning. Many school level studies agreed that engaged students and intrinsically motivated students learn more and vice versa. Reio (2004) reported about the curiosity and its effect on achievement in job. These findings conclude that there is a weak and significant direct effect on job achievement and these effects can be explained in terms of the learning which is directly related with cultural norms. She reported that curiosity has direct effect on two types of jobs i.e. technical and interpersonal. She found that that curiosity significantly effects on both types of jobs performance. In a nutshell this study's findings support for adult curiosity as being associated with the cultural norms and also in job achievement.

Appleton (2005) investigated a qualitative assessment of curiosity in the classroom setting. He found that there is a connection among work, course marks and evaluation. He also found that a link existed between curiosity and student's outcomes. Kashdan and Steger (2007) conducted a study to find out curiosity worked as a royal road to success and its effect on the life of an individual that how much a person gave value to his life. They tried to seek answers that those people which have high level of curiosity showed satisfaction in their life. When their curiosity level is high they found when they are more curious people showed targeted behavior and greater satisfaction in their life. The results provide support for curiosity as key component of satisfied life. Malik, Sikendar, and Amjad (2010) conducted a study on the role of self-efficacy in academic achievement among students of natural and social sciences, Punjab Pakistan. The results indicated that there is a positive correlation between self-efficacy and academic achievement. Results also showed that academic success is high among male students as compare to female students while there is no difference seen in self-efficacy among college and university students.

Amiseso (2011) worked on the topic of academic achievement, procrastination and self-efficacy. A sample consisted of 320 students in research. Self- efficacy is a key component in academic achievement while no significant contribution seen from

procrastination. Further analysis of data showed that all participants had a medium level of self-efficacy and procrastination with high level academic achievement. There is a significant difference seen in gender related to academic success.

Majzub and Yusuf (2010) investigated the relationship between self efficacy, success desire and techniques of learning. Data was collected from 300 undergraduate's students. The results indicated that there was a significant correlation value existed among self-efficacy beliefs; the success motivation and techniques of learning. Finney and Schraw (2003) conducted a research on self efficacy and its relationship to performance in statistics course. A sample consisted of 103 students of Midwestern University. They told that self-efficacy has positive correlation with achievement in the subject of stat. Onwuegbuzie(2000) found in his study that the students which have no confidence on their perception of competency showed highest anxiety in the subject of Stat. Pajarus and Miller (1995) concluded that students with high level of self-efficacy showed less anxiety in Mathematics and vice versa.

A study conducted by Zajacova, lynch and Espenshade(2005) investigated the collaborative effect of academic self-efficacy and stress on academic performance. Data was collected from 107 students of college freshmen. The results revealed that academic self-efficacy is important and good predictor than stress for academic success.Lamperd (2007)conducted a study to check the effects of self-efficacy and self-concept with the achievement of the students studying in college. Academic performance was measured by CGPA of student. The results indicated that a self-efficacy and self concept both were found as a significant role in the CGPA of college students.Zimmerman(2000) found that self-efficacy worked as a predictor in achievement, effects on the techniques of self study and play as a mediator in academic achievement of the student.Maw and Maw (1961) conducted a study on children. They conclude that the children which have high level of curiosity if they are in such environment in which information is given to them then their performance is

better than those children which have low level of curiosity.In another study which is conducted by Hogan and Greenberger (1969) found that curiosity has a positive relationship with academic achievement of a student.

Vidler and Rawan (1974, 1975) conducted a study on students. They measured academic learning performance by CGPA and the grades of students. They measured academic curiosity by using curiosity scale. They conclude that there is a positive correlation exists between academic curiosity and academic learning performance. Jones (1979) conducted a study to find out the relationship between curiosity and the final result of college student. By conducting study on college student he found that there is a positive correlation between these two variables. According to literature there are many researches which found relationship between curiosity and learning in children while there has been less study found on these variables in adults.

In 1995 Schunkfound that self-efficacy has significant positive relationship with the performance of a student. He told that the personal traits of an individual e.g. How much a person is energetic and active in achieving goals and the environmental factors e.g. either his environment is supported and gave encouragement on completion of a task both play role in student's self-efficacy. He concludes that there is a positive relationship between self-efficacy and the performance of a student. Bandura et al.(1996) conducted a research on children and found that if parents gave encouragement to the academic achievement of their children their performance is increased. It is also found that encouragement by parents not only increases performance of the children but also it effects on the self-efficacy of children in a positive way.

Mahyuddin, Elias, Cheong, Muhamad, Noordin and Abdullah (2006) found the relationship of self-efficacy with the achievement in the language of English. The findings showed that 51 percent of students had high sense of self efficacy while 48 percent showed

low level of self efficacy. A positive correlation existed between both variables. Gulten et al. (2011)conducted a study to analyze the relationship between teacher,s curiosity and self-efficacy in the subject of Computer.Questionnaires were used to measure the trait of curiosity and self efficacy belief. SPSS 13 were used for dataanalyzation. The findings showed that female candidates are more curious than male candidates and self efficacy is same for both gender. They also found that there is a relationship between self- efficacy and curiosity's total score.Choi(2005)conducted a research on college students. They completed 3 self-efficacy measure and the 2 self concept measures. For this purpose 230 students were selected. The findings were clear that there is a significant relationship between self efficacy and self concept. Both academic and specific self-concept were significant predictors in terms of results of students. In additional analysis he found that general academic self-efficacy was not a significant predictor of academic success.

Lease(2009)investigated the college students both male and female to check the relationship of mother's attachment, decision of adoption of career self-efficacy and parenting styles. She tried to find out that weather these relation are different for males and females. Data analysis showed that attachment was important for females but not for males. Career decision self-efficacy in terms of female was being predictive of authoritarian parenting styles. There are many studies which showed that self-efficacy directly effect in a positive way on the success and achievement of a student when longitudinal study was done the results were different. Vancouver et al. (2002)conducted two studies to find out the main role of self-efficacy which worked as a cause and its different effects on the performance of the students. In study (i) self-efficacy was measured for 43 students of under graduate on an analytical game. When self-efficacy was measured on a next game then there was negative correlation between self-efficacy and performance.In study (ii)104 students of under graduation self-efficacy is measured after every game he found self-efficacy is increased after each game. Self-efficacy let them to over confidence and there is an increment in logic errors

during the game. By this study he concluded that self-efficacy negatively effect on the performance.

Zimmerman, Bandura and Martinez (1992) investigated causal role of students self-efficacy beliefs and aims in the field of study. The results indicated that student's beliefs about himself directly effect on their perceived self-efficacy for academic success which in response it effects on aims and their final academic achievement. Shaw,Nancy and Elaine(2008)conducted a study on 31 freshman engineering students to asses the effects of the perception of parenting styles and academic self-efficacy. They found that authoritative maternal parenting is important to develop strong academic self- efficacy in students. Turner, Chandler and Heffer(2009) investigated the college students that how much the parenting styles are important for psychological disorders, behavioral problems and achievement in the field of study. The sample consisted of 264 students. Results revealed that those parents who keep authority on their children's decision directly influence the achievement in studies at college level. They also found that intrinsic motivation and self- efficacy both are significant in academic success of student. Dunlap(2006)examined that what is important for the improvement of self efficacy in students. He found that collaboration and practice of problems during studies work as a catalyst to improve the self efficacy of students.

Clark(1995)in his article told that the important factors such as age, socio economic status sense of controlplay a vital role in self-efficacy. Ben- Zur and Zeidner (1988)conducted a research to know gender differences in curiosity anger and anxiety in students of college level of Israeli and compare the data against the cultural values of American students, 223 girls and 151 boys participated in a research as a sample. It was found that female students showed higher anxiety and anger than males. It was also found that males are more curious than females. Overall the results of data showed significant differences between both countries.

Howard and Patrick(2010) in their article told that those struggling students which have low level of self-efficacy mostly they avoid tasks. It was found the teachers play a significant role in the development of self-efficacy in students by telling techniques to deal with problems, to handle such kind of work which is challenge for them and to create the trait of interest in studies.Mager and Robert (1992) conducted a research to assess the role of self-efficacy in successfuljob performance.They told that beliefs about own competencies are important in this regard. High self efficacy leads them to motivation and creativity and low self-efficacy leads them to stress and depression. So by increasing self-efficacy by different techniques such as(modeling,social persuasion,and expertise).One can be successful in his job performance.

Banfield and Sara(2009)conducted a research to examine the relationship between teacher misbehaviors and many other variables such as curiosity,motivationcognitive learning etc. They found that there is a negative correlation value existed between curiosity and teacher misbehavior. Academic self efficacy and motivation has a positive relationship with learning. Cognitive learning is very low when the behavior of a teacher is not good and appreciative. Vang, Mary,Montanez and Marcel(2005)examined self- efficacy and its relation with the achievement of learners in English language. It was found that perceived self-efficacy in math's and reading had increased at the completion of course. On the other hand they also found that enhancement in self-efficacy in reading work as significant predictor of growth in reading while not work as a significant predictor in math's score. Kirsten, Mckenzie, Kathryn, Gowb(2004) find out the relationship among previous marks and present achievement of the student.A sample consisted of 1193 students. It was found that previous academic performance work as a predictor in academic achievement and there is also a relationship between present performance and previous performance of a student.

Pakistani educational system does not appear to foster these competencies. A thorough analysis of the quality of higher secondary education in Punjab province of Pakistan

by Shahzad (2007), showed that secondary and higher secondary educational institutes in Punjab lack even such basic facilities as qualified teachers, quality text books, furniture, drinking water, and proper class rooms. The curriculum looks to be out-dated that does not support independent thinking in students; the teaching methodology is not very constructive and engaging and only lecture method is considered to be most effective with minimal participation of students

Poor quality of instructional methods is also reported by another study on the sample from Pakistani universities (Iqbal, 2004). The study shows that Pakistani public sector universities are not up to the mark as far as the development of faculty and staff is concerned. Teachers mostly use lecture method, and discovery, and other participatory methods are not encouraged; even inside universities, rote learning is usually common to get success in exams. Emphasis is not put on character building and moral education of university students, and there is a gap between academic research work and its practical utility (Iqbal, 2004. p 278-279). On the basis of such findings it can be argued that poor teaching methodologies, and low quality education, in public sector schools, colleges, and universities, are possibly hampering students' critical and autonomous thinking abilities which in turn could become a possible factor in low moral competence in students of all grades in Pakistani sample.

Gulten, Yamen, Deringol and Ozsari(2011)conducted a study to analyze the relationship of curiosity level and computer self efficacy beliefs. Questionaires were used to assess the trait of curiosity and self efficacy for the collection of data. SPSS 13 was used to analyze the data. The result showed that there are no significant differences in computer self-efficacy beliefs while females are more curious than males. It was also found that there is a relationship between total score of curiosity and total score of self-efficacy beliefs. A study conducted by Tierney and Farmer(2002) to find out the relationship of new construct creative self-efficacy and employs beliefs of job. It was found that officer behavior, job difficulties and job duration worked as a key component in the development of creative self-

efficacy. It was also found that employee's beliefs of job worked as a predictor of creative self efficacy.

Kuo,Chu Hsu and Hsieh(2004)in their study explore how self efficacy may effect on web searching behavior. It was concluded that subjects with low self-efficacy put effort to get accuracy in web searching while the subjects who are high in self efficacy put less effort to get accuracy in web searching. Hidi, Berndorff and Ainley (2002) tried to find out relationship between student's interest in writing and self-efficacy. The results suggested that positive relationship existed betweenabove discussed variables.

Rationale of the Study

This study aims to investigate the relationship of curiosity, exploratory tendencies, general self-efficacy with academic achievement in students of public sector colleges and universities. There is a need of research work in Pakistan that explores the relationship of these variables in college and university settings, this research provide a base for future research on these very important variables. This research enables us to focus on the Pakistani educational system to bring improvements in teaching methods to enhance student's curiosity and exploratory tendencies.

This research leads us to a decision to bring some refinements in educational policies so that if students are provided ample opportunities to increase their level of curiosity and exploratory tendencies their academic achievement might improve. Especially for the slow learners, strategies can be made to enhance their curiosity. Another dimension which is investigated is the gender differences in the level of curiosity, exploratory tendencies, and self-efficacy. Some differences were found then it will provide a very good foundation for the future work to explore these phenomena in detail.

Objectives

The objectives of the study include

1. To understand the nature of relationship between curiosity, exploratory tendencies with academic achievement

2. To determine the relationship between general self-efficacy with academic achievement

3. To assess the relationship between curiosity, exploratory tendencies with general self-efficacy

4. To check the gender differences in curiosity, exploratory tendencies, general self-efficacy and academic achievement

Hypotheses

1. A positive relationship exists between curiosity, exploratory tendencies and academic achievement.
2. A positive relationship exists between general self-efficacy and academic achievement.
3. There is a positiverelationship between curiosity, exploratory tendencies and general self-efficacy.
4. There are gender differences in the level of curiosity, general self- efficacy and academic achievement.

METHODOLOGY

Research Statement

A study was conducted in order to investigate the relationship of curiosity, exploratory tendencies and generalself-efficacy with academic achievement in students of undergraduate level in public sector colleges and universities of the Province of the Punjab.

Research Design

It was a cross-sectional study and survey design was used for the collection of data.

Population and Sampling Strategy

Students of public sector colleges and universities of undergraduate level in the Provinceof the Punjab represent the population of study. Convenient (Non Probability) sampling procedure was used.

Sample

The sample consisted of 200 participants in this study that included 134 males and 66 females of undergraduate level from public sector colleges and universities of Punjab regions of Pakistan .The responses were recorded with demographic variables including gender, institute, and final marks obtained in inter class. The return rate was 95%.

Operational Definitions of variables

Curiosity and Exploration

According to Kashdan et.al (2009) defined curiosity as "recognizing, embracing, seeking out knowledge and new experiences"

For the present researchCuriosity and Exploration is defined as "total score on the Curiosity and Exploration Inventory (CEI-II) by Kashdan, Gallagher, Silvia, Winterstein, Breen, Terhar, and Steger (2009)."

General Self-Efficacy

This is the belief about the competency of an individual that he can solve difficult tasks and can be adjusted in any environment. According to Bandura (1995) self-efficacy is "the belief in one's capabilities to organize and execute the courses of action required to manage prospective situations"

For the present research general self-efficacy is defined as "total score on the General Self-Efficacy Scale (GSE)" by Schwarzer, R., & Jerusalem, M. (1995).

Academic Achievement

According to Spinath (2012) academic achievement refers to performance outcomes in intellectual domains taught at school, college and university. As an indicator of intellectual education academic achievement is the most important prerequisite for individual and societal prosperity.

In this research academic achievement is defined as total marks obtained by students in the final exams in their previous grades.

Measuring Instruments

Curiosity and Exploration Inventory (CEI-II)

Curiosity and Exploration Inventory (CEI-II) by Kashdan, Gallagher, Silvia, Winterstein, Breen, Terhar& Steger (2009) was used to measure participants level of curiosity and exploratory tendencies. It is 10 item 5 point likertscale with responses ranging from 1 as "very slightly or not at all" to 5 as "extremely."Stretching items show exploring

dimension and embracing items show curiosity dimension. Item no 1, 3,5,7,9 are stretching items and 2, 4, 6,8,10 are embracing items.

The Chronbach alpha reliability of this scale is .854.The maximum score on this scale is 50 and the lowest score on this scale is 0.Higher score reflects higher curiosity, exploratory tendencies and lower score reflects lower curiosity, exploratory tendencies..

General Self-Efficacy Scale

General Self-Efficacy Scale (GSE) by Schwarzer, R., & Jerusalem, M. (1995) was used for the measurement of participants; level of self-efficacy. The test is a 10 item 4-point scale with response ranging from 1 as "not at all true" to 4 representing as "exactly true.

The Chronbach alpha reliability of this scale is .925.The maximum score on this scale is 40 and the lowest score on this scale is 0.Higher score reflects higher self-efficacy and lower score reflects lower self-efficacy.

Academic Achievement

In this research academic achievement is defined as final total marks obtained by students in the final exams in their previous grades.

Scoring

For curiosity and exploration inventory (CEI-II) scoring was done by adding the scores of 10 items. Item no 1,3,5,7,9 are stretching items and 2,4,6,8,10 are embracing items. Stretching items show exploring dimension and embracing items show curiosity dimension higher score reflects higher curiosity, exploratory tendencies and lower score reflects lower curiosity, exploratory tendencies. For General Self-Efficacy scoring was done by adding the scores of 10 items. The maximum score on this scale is 40 and the lowest score on this scale is 0. Higher score reflects higher self-efficacy and lower score reflects lower self efficacy.

Procedure

First of all a pilot study was conducted on a sample of thirty students (15males and 15 Females) of undergraduate level from different colleges and universities. No significant difficulty has been noticed in finding the participants or during the administration of the scales. Most of the participants showed keen interest in this research project. The pilot study revealed the Chronbach alpha reliability of 0.931 for curiosity and exploration inventory (CEI-II) and 0.691 for general self- efficacy

On the present sample (N=200) curiosity and exploration inventory and general self-efficacy scale were administered on the students of undergraduate level in different colleges and universities of the Punjab. Every student was approached personally by using convenience sampling technique. Consent was obtained from every student. Students were briefed in a group about the nature and purpose of the study before administering the scales, and any queries from the participants were answered. The students were assured about the anonymity and confidentiality of the information they were going to provide. After obtaining the consent, questionnaires were administered.

Subjects were invited to rate the curiosity and exploration inventory by indicating 1 (very slightly or not at all) 2 (a little) 3 (moderator) 4 (quite a bit) 5(extremely). After filling the first inventory, the subjects were asked to fill the general self- efficacy scale. The instructions were given to the subjects to rate against each item which best suit them according to the given options {(which included 1. Not at all true, 2.Barely true, 3.Moderately true, 4. Exactly true)}.

Statistics

The data was entered into SPSS (Statistical package for social sciences) version 16. Demographic variables like gender, present grade level, final marks, and present institute were coded. Pearson correlation was used to examine the relationship between curiosity, exploration and academic achievement between general self- efficacy and academic achievement. Independent sample t-test analyses were also used.

RESULTS

Table 1

Chronbach's alpha and split-half reliability of Curiosity and Exploration Inventory-II (N = 200)

	Chronbach's alpha	Split-Half
Curiosity and Exploratory Tendencies	.854	.817

Table 1 shows high internal consistency (Chronbach's alpha =.854)and split half reliability (.817) values for Curiosity and Exploration Inventory-I

Table 2

Item total correlation for all items ofCuriosity and Exploration Inventory-II (N = 200)

Items	Item total correlation
1.	.609
2.	.549
3.	.574
4.	.589
5.	.624
6.	.343
7.	.609
8.	.451
9.	.712
10.	.527

Table 2 showsItem total correlation for all items of Curiosity and Exploration Inventory-II. All items show moderate to high correlation values i.e. .5 and above except item no 6(.343) and item no 8 (.451)

Table 3

Chronbach's alpha and split-half reliability ofGeneral Self-Efficacy Scale (N = 200)

	Chronbach's alpha	Split-Half
General Self-Efficacy Scale	.925	.918

Table 3 shows high internal consistency (Chronbach's alpha =.925)and split half reliability (.918) values for General Self-Efficacy Scale

Table 4

Item total correlation for all items ofGeneral Self-Efficacy Scale (N = 200)

Items	Item total correlation
1.	.772
2.	.675
3.	.659
4.	.680
5.	.694
6.	.761
7.	.618
8.	.764
9.	.739
10.	.764

Table 4 shows Item total correlation for all items of General Self-Efficacy Scale. All items show high correlation values i.e. .6 and above.

Table 5

Pearson Correlation between curiosity, exploratory tendencies and academic achievement (N = 200)

	Academic Achievement
Curiosity, Exploratory Tendencies	.214**

**$P < .01$

Table 5shows a significant correlation betweencuriosity, exploratory tendencies and academic achievement

Table 6

Pearson Correlation between academic achievement and general self-efficacy (N = 200)

	Academic Achievement
General Self-Efficacy	-.004

Table 6 shows Pearson correlation between academic achievement and general self-efficacy. Correlation is not significant

Table 7

Pearson correlation between general self-efficacy and curiosity, exploratory tendencies (N = 200)

	Curiosity, Exploratory Tendencies
Self-Efficacy	.876**

**P< .01

Table 7 shows a significantcorrelation betweengeneralself-efficacy and curiosity, exploratory tendencies.

Table 8

Pearson correlation between general self-efficacy and curiosity, exploratory tendencies and academic achievement in female students (N = 66)

	C.E.T	S.E.	A.A.
Curiosity, Exploratory Tendencies	---	.87**	.24*
Self-Efficacy	---	---	.02
Academic Achievement	---	---	---

**P< .01, *p< .05

Table 7 shows a significantcorrelation betweengeneralself-efficacy and curiosity, exploratory tendencies.*(r = .87, p<.01), and between academic achievement and* curiosity, exploratory tendencies (r = .24, *p*< .05). Non significant correlation was found betweengeneralself-efficacy*and academic achievement*

Table 9

Pearson correlation between general self-efficacy and curiosity, exploratory tendencies and academic achievement in male students (N = 134)

	C.E.T	S.E.	A.A.
Curiosity, Exploratory Tendencies	---.876**	.192*	
Self-Efficacy	---	---	-.026
Academic Achievement	---	---	---

**$P < .01$, *$p < .05$

Table 9 shows a significant correlation betweengeneralself-efficacy and curiosity, exploratory tendencies.*($r = .876$, $p < .01$), and between academic achievement and* curiosity, exploratory tendencies ($r = .192$, $p < .05$). Non significant correlation was found betweengeneralself-efficacy*and academic achievement.*

Table 10

Mean, Standard Deviation and t values for male and female students on curiosity, exploratory tendencies (N = 200).

	Males ($n = 134$)		Females ($n = 66$)			
	M	*SD*	*M*	*SD*	*t*	*P*
Curiosity, exploratory tendencies	29.8	8.1	32.3	8.9	-2.02	0.044

$P < .05, df = 198$

Table 10 shows Mean, Standard Deviation and t values for male and female students on curiosity and exploration inventory. The results indicate significant mean gender differences in scores on curiosity, exploratory tendencies($t = -2.02$, $p < .05$).

Table 11

Mean, Standard Deviation and t values for male and female students on General Self-Efficacy Scale (N = 200).

	Males (n = 134)		Females (n = 66)			
	M	*SD*	*M*	*SD*	*t*	*P*
General Self-efficacy	23.33	7.90	25.94	8.77	-2.11	0.036**

** $P < .05, df = 198$

Table 9 shows Mean, Standard Deviation and t values for male and female students on General Self-Efficacy Scale. The results indicate significant mean gender differences in scores on general self-efficacy

Table 12

Mean, Standard Deviation and t values for male and female students on academic achievement (N = 200).

	Males (n = 134)		Females (n = 66)			
	M	*SD*	*M*	*SD*	*t*	*P*
Academic Achievement	704.46	72.85	709.67	95.05	.346	0.730

$P > .05, df = 198$

Table 10 shows Mean, Standard Deviation and t values for male and female students on academic achievement. The results indicate no significant differences in scores of gender on academic achievement.

DISCUSSION

The main objective of this study was to investigate the relationship of curiosity, exploratory tendencies and general self- efficacy with academic achievement of students at undergraduate level in different colleges and universities of the Province of the Punjab (Pakistan).For this purpose a sample of 200 students (134 Males and 66 Females) was selected through convenient non probability sampling. Curiosity and exploration inventory (CEI-II) and general self-efficacy scale were used to assess these traits in a sample. Academic achievement was measured through the final marks obtained by board in their intermediate exam.

The first hypothesis of this research was that there would be a positive relationship between curiosity, exploratory tendencies and academic achievement. The findings of the research suggest that this hypothesis is accepted ($r = .214$, $p < .05$ table 5). This shows that there is a significant positive relationship between curiosity, exploratory tendencies and academic achievement. These findings are consistent with previous research works. Maw and Maw (1961) conducted a study on children. They concluded that the children which have high level of curiosity if they are in such environment in which information is given to them then their performance is better than those children which have low level of curiosity.In another study which is conducted by Hogan and Greenberger (1969), it wasfound that curiosity has a positive relationship with academic achievement of a student. Vidler and Rawan (1974, 1975) conducted a study on students. They measured academic learning performance by CGPA and the grades of students. They measured academic curiosity by using curiosity scale. They concluded that a positive correlation exists between academic curiosity and academic learning performance. Jones (1979) conducted a study to find out a relationship between curiosity and the final result of college student. By conducting

study on college students he found that there is a positive correlation between these two variables. According to literature review there are many research works which found relationship between curiosity and learning in children while the number of such studies on adults is fewer in number.

In Hong Kong a research was conducted by Ning and Downing in 2010. They investigated the relationship between motivation and achievement of students studying in university. The result revealed that the relationship is positive between motivation and achievement.

The second hypothesis was that there would be a positive relationship between self-efficacy and academic achievement. This hypothesis is rejected in the present research. (r= -.004, p< .05 table 6). In the present study second hypothesis is rejected because the general self-efficacy is a psychological construct but our educational system, syllabus, teaching methods and college environment do not support the development of psychological traits in students.More specifically, the role of parents in the development of self-efficacy is also very important because the parenting style greatly affects this trait in students. This study shows that there is no relationship between these two variables. Lease (2009) conducted research to check the relationship of parenting style and self efficacy. She found that career decision self efficacy in terms of female was being predictive of authoritarian parenting styles. The previous research works showed different results. Majority of the studies found that there is a positive relationship but one study showed that there is a negative relationship.

Although a large no of studies have found a positive relationship between self-efficacy and performance. On the other hand several studies have found a negative relationship when the analysis is done across time (repeated measures) rather than across individuals Vancouver, Thompson ,Tischner and Putka (2002)conducted two studies to find out the main role of self-efficacy which worked as a cause and its different effects on the

performance of the students. In study (i) self efficacy was measured for 43 students of under graduate on an analytical game. When self-efficacy was measured on a next game then there is negative correlation between self-efficacy and performance.In study (ii) on 104 students of under graduation self-efficacy is measured after every game he found self-efficacy is increased. Self-efficacy let them to over confidence and there is an increment in logic errors during the game. From this study he concluded that self-efficacy negatively effect on the performance.

In 1995 Schunkfound that self-efficacy has significant positive relationship with the performance of a student. He showed that the personal traits of an individual i.e. the energy level and enthusiasm, and the environmental factors i.e. supporting and encouragement, both these factors play role in student's self-efficacy. He told that the personal traits of an individual e.g. How much a person is energetic and active in achieving goals and the environmental factors e.g. either his environment is supported and gave encouragement on completion of a task both play role in student's self-efficacy. He concludes that there is a positive relationship between self-efficacy and the performance of a student.

Bandura, Barbaranelli, Capraraand Pastorelli(1996) conducted a research on children and found that if parents encourage the academic achievement of their children their performance is increased. It is also found that encouragement by parents not only increases performance of the children but also effects on the self-efficacy of children in a positive way.Mahyuddin, Elias, Cheong, Muhamad, Noordin and Abdullah (2006) found the relationship of self-efficacy with the achievement in the English language. The findings showed that 51 percent of students had high sense of self efficacy while 48 percent showed low level of self efficacy. A positive correlation existed between both variables.Malik, Sikendar, and Amjad (2010) conducted a study and found that there is a positive correlation between self efficacy and academic achievement.

The third hypothesis was that there would be a positive relationship between curiosity, exploratory tendencies and general self-efficacy. This hypothesis is accepted in the present research. (r= .876, p< .01 table 7).It shows that there is a positive correlation between curiosity, exploratory tendencies and general self-efficacy. The results are consistent with the previous researches.Kuo, Chu Hsu and Hsieh(2004) conducted study to explore the relationship of self efficacy with web searching behavior. It was concluded that the subjects with high level of self efficacy put less effort to get accuracy in web searching behavior and vice versa. Hidi, Berndorff and Ainley (2002) conducted study and found positive correlation between student's interests in writing self-efficacy. Gulten, Yamen, Deringol and Ozsari(2011) found in their research work that there is a relationship between total score of curiosity and total score of self efficacy beliefs.

The fourth hypothesis wasthat there would be a difference of curiosity, exploratory tendencies, general self-efficacy and academic achievement in males and females. Significant differences were found between males and females in curiosity, exploratory tendencies. (t= -2.02, p< .05 table 12)and general self-efficacy. (t= -2.11, p< .05 table 11). In academic achievement results came out to be non-significant. . (t= .346, p< .05 table 12).The previous research works showed different results.Engelhard and Monsaas (1988) found in their study that there are no significant gender differences of curiosity among urban school students. Malik, Sikendar, and Amjad(2010) found in their study that academic success is high among male students as compared to female students while there is no significant difference seen in self efficacy.Mommanyi, ogoma and Misigo (2010) conducted as study to investigate that self-efficacy and academic achievement these both variables have different values for male and female students. A sample consisted of 230 students form secondary schools. The results revealed that the value of self-efficacy is same for both gender. However significant differences were observed in academic performance of boys and

girls. Naderi,Abdullah. Aizan, Shari and Kumar(2009) found that there are no significant differences seen between academic achievement and gender.

Conclusion

On the basis of the findings of the present research it can be concluded that curiosity plays a vital role in the success of a student so there is a need to improve the trait of curiosity and exploration by using different techniques and strategies. There is a need of latest teaching methods used in a class so that students can get optimal level of performance. As far as self efficacy is concern it was found that there is no relationship between self efficacy and academic achievement. However, there is a positive relationship between curiosity and self efficacy. Further studies should focus on exploring the casual relationship of self efficacy with curiosity. Significant differences were seen between males and females in curiosity, exploratory tendencies and general self efficacy, while in academic achievement results came out to be non significant.

LIMITATIONS

Following are the limitations in this research report

- Sample under observation consisted of students belonging to under graduation only. More accurate results could be ascertained by using more diverse sample consisting of students of different grades. Thus the generalizability of the results is questionable.

- Only two variables have been used i.e. Curiosity and self-efficacy to study their relationship with academic achievement. If more variables were considered then certainly better comprehensive results could be obtained.

- The past academic record of the students was used to measure their academic achievement. None of the scales were used on the spot to measure their academic achievement.

- Only few college and university students were used in the sample. It has minimized the generalizability of the results.

- The major limitation of this research was the time constraint. More time was required to collect data from a larger and more diverse sample for better exploration of hypothesis and analysis of the results.

RECOMMENDATIONS

- This study should be conducted on a larger or more representative sample for more reliability and generalization of the results.
- More studies should be conducted to determine causal relationship between curiosity and academic achievement.
- Relationship of curiosity and academic achievement should be studied in schools also.
- The measuring tools should be administered in a more standardized environment.
- Measures should be taken in ways which decrease social desirability in participants.
- This research should be conducted on a variety of populations.
- The relationship of curiosity, exploratory tendencies and general self efficacy should be investigated with a number of other variables as well.

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Annexure-A

INFORMED CONSENT

I am conducting the present research to find a relationship of curiosity, exploratory tendencies and general self-efficacy with academic achievement. For this purpose you will have to complete following questionnaires. Your identity and information obtained from you during this research will remain confidential. The data obtained from you will be published without mentioning your identity. However there is no physical, psychological or social risk in participating in this study. Your cooperation is highly valuable and will assist to advance scientific knowledge.

Thanks

Consent

I am willing to participate in the study and I have no objection to above-mentioned process of publication of information obtained from me.

.....

(Signature)

Annexure-B

Demographic Information

1. Name (optional) _____
2. Gender _____
3. Present Class_____
4. Final Marks Obtained in F.A./F.Sc./I.Com by Board_____
5. Out of _____
6. Institute _____

Annexure-C

Curiosity and Exploration Inventory (CEI-II) *Instructions*: Rate the statements below for how accurately they reflect the way you generally feel and behave. Do not rate what you think you should do, or wish you do, or things you no longer do. Please be as honest as possible.		Very Slightly or Not At All	A Little	Moderately	Quite a Bit	Extremely
1.	I actively seek as much information as I can in new situations	1	2	3	4	5
2.	I am the type of person who really enjoys the uncertainty of everyday life	1	2	3	4	5
3.	I am at my best when doing something that is complex or challenging	1	2	3	4	5
4.	Everywhere I go, I am out looking for new things or experiences.	1	2	3	4	5
5.	I view challenging situations as an opportunity to grow and learn	1	2	3	4	5
6.	I like to do things that are a little frightening.	1	2	3	4	5
7.	I am always looking for experiences that challenge how I think about myself and the world	1	2	3	4	5
8.	I prefer jobs that are excitingly unpredictable.	1	2	3	4	5
9.	I frequently seek out opportunities to challenge myself and grow as a person.	1	2	3	4	5
10.	I am the kind of person who embraces unfamiliar people, events, and places.	1	2	3	4	5

Stretching: 1,3,5,7 Embracing: 2,4,6,8,10

Annexure-D

General Self-Efficacy Scale

Please rate each statement in terms of how true it is of you. Please tick (√) only one response for each question according to the following scale.

1 = Not at all true

2. = Barely true.

3. = Moderately True

4. = Exactly true

Item No.	Statement	1	2	3	4
1.	I can always manage to solve difficult problems if I try hard enough.				
2.	If someone opposes me, I can find the means and ways to get what I want.				
3.	It is easy for me to stick to my aims and accomplish my goals.				
4.	I am confident that I could deal efficiently with unexpected events.				
5.	Thanks to my resourcefulness, I know how to handle unforeseen situations.				
6.	I can solve most problems if I invest the necessary effort.				
7.	I can remain calm when facing difficulties because I can rely on my coping abilities.				
8.	When I am confronted with a problem, I can usually find several solutions.				
9.	If I am in trouble, I can usually think of a solution.				
10.	I can usually handle whatever comes in my way.