2014

Creativity and Self Concept of Secondary School Students as Function of Gender, Academic Achievement and Socio-Economic Status

Ahmed, Rasel

University of Rajshahi

CREATIVITY AND SELF CONCEPT OF SECONDARY SCHOOL STUDENTS AS FUNCTION OF GENDER, ACADEMIC ACHIEVEMENT AND SOCIO ECONOMIC STATUS

A Dissertation Submitted to the Institute of Education & Research (IER), University of Rajshahi, in fulfillment of the requirements for the degree of

Doctor of Philosophy

BY

Rasel Ahmed

Institute of Education & Research
University of Rajshahi
Rajshahi - 6205, Bangladesh.
June, 2014

CREATIVITY AND SELF CONCEPT OF SECONDARY SCHOOL STUDENTS AS FUNCTION OF GENDER, ACADEMIC ACHIEVEMENT AND SOCIO ECONOMIC STATUS

A Dissertation Submitted to the Institute of Education & Research (IER), University of Rajshahi, in fulfillment of the requirements for the degree of

Doctor of Philosophy

Researcher : **Rasel Ahmed**
Ph.D. Research Fellow
Session: 2008-2009
Roll No. 07
IER, Rajshahi University

Supervisor : **Dr. Md. Enamul Haque**
Professor
Department of Psychology
Rajshahi University

Institute of Education & Research
University of Rajshahi
Rajshahi - 6205, Bangladesh.
June, 2014

Dedicated

To

My Beloved Parents

ABSTRACT

The present study designed to investigate the creativity and self concept of secondary school students of Bangladesh with reference to gender, academic achievement and socio-economic status. Towards this end, the study was conducted on 320 secondary school students (160 Boys and 160 girls) selected purposively from Rajshahi City, Bangladesh. In light of the review of literature, it was hypothesized that 1) boys would possess more creative abilities and higher self concept than girls (H_1), 2) high achiever students would possess more creative abilities and higher self concept than low achiever students (H_2), 3) the respondents of upper middle SES would possess more creative abilities and higher self concept than the respondents belong to lower middle SES (H_3), 4) there would be a significant positive relationship between creativity and self concept of secondary school students (H_4), 5) secondary school students' creativity can be predicted by their self concept (H_5), 6) secondary school students' creativity can be predicted by different dimensions of self concept. (H_6) and 7) secondary school students' self concept can be predicted by different dimensions of creativity. (H_7). Following standard procedures, the measuring instruments used in this study were (i) Demographic and Personal Information Sheet, (ii) 'Creativity Scale' developed by the researcher (iii) 'Self Concept Scale' developed by the researcher. Obtained data were analyzed through mean, SD, *t*-value, correlation coefficients and regression analyses. Results of the study provided confirmation to the hypotheses. *t*-value indicated that secondary school students' creativity and self concept significantly differed with reference to academic achievement and socioeconomic status but with reference to gender, only the self concept of secondary school students significantly differed. Correlation coefficients indicated that secondary school students' creativity was significantly positively associated with their self concept. The value of adjusted R^2 through regression analyses revealed that creativity was one of the strongest predictors to explain 71.9% variance of self concept of secondary school students. Standardized Beta (β) coefficients also showed that the increases of 1 standard deviation unit in

creativity, increases .849 standard deviation unit in self concept. Furthermore, part correlation coefficient also indicated that the unique contribution of 'creativity' to explain the variance in self concept of secondary school students was 72.08%. The value of Adjusted R^2 through regression analysis also revealed that as predictor variables, physical self concept explained 48.5%, educational self concept explained 57.6%, scholastic competence explained 58.3%, moral self concept explained 56.7%, social self concept explained 58.0% and global self worth explained 59.4% variances of criterion variable or creativity. Thus, different dimensions of self concept (i.e. physical self concept, educational self concept, scholastic competence, moral self concept, social self concept and global self worth) were stronger predictors to explain secondary school students' creativity. Again as predictor variables, artistry explained 55.4%, intellectuality explained 60.5%, disciplined imagination explained 55.9%, self strength explained 49.9%, inquisitiveness explained 49.9% and environmental sensitivity explained 48.4% variances of criterion variable or self concept. Thus, different dimensions of creativity (i.e. artistry, intellectuality, disciplined imagination, self strength, inquisitiveness and environmental sensitivity) were stronger predictors to explain secondary school students' self concept.

DECLARATION

I hereby declare that the entire thesis is made on the basis of my own insight and investigation and this thesis has not been submitted or placed in anywhere for any award or degree or any profitable purpose.

(**Rasel Ahmed**)

University of Rajshahi

June, 2014

Institute of Education & Research

Rajshahi University
Rajshahi - 6205, Bangladesh.

CERTIFICATE

This is to certify that the dissertation entitled **"CREATIVITY AND SELF CONCEPT OF SECONDARY SCHOOL STUDENTS AS FUNCTION OF GENDER, ACADEMIC ACHIEVEMENT AND SOCIO ECONOMIC STATUS"** submitted by **Rasel Ahned** was done under my supervision and constitutes his own work. I feel proud to recommend this dissertation for evaluation.

SUPERVISOR

Dated: Rajshahi
June, 2014

(**Dr. Md. Enamul Haque**)
Professor
Department of Psychology
Rajshahi University
Rajshahi, Bangladesh

ACKNOWLEDGEMENT

I humbly express my gratitude to Almighty Allah as I am able to complete this thesis after prolonged laborious work. During this period many of my well wishers helped me directly or indirectly. I took it an opportunity to express my thanks and gratitude to all of them.

At first, I express my deepest sense of gratitude to Dr. Md. Enamul Haque, Professor, Department of Psychology, Rajshahi University. I am grateful to find him as my supervisor and guide. His gracious guidance, resourceful insights and wisdom guided and directed me the way to complete my research in time. In spite of his heavy engagements, he managed to associate with my work in harmony with the intermittent need of solving different problems. I got most of the solution by him in active participation of the progress of my research methodology and even provided me insights at every step by constructive criticisms. I particularly feel that I have been greatly rewarded by working under such a generous, kind, considerate and dynamic personality.

I would like to express my heartiest respect to Late Dr. Shawkat Ara, Ex-Professor, Department of Psychology, University of Rajshahi. I am grateful forever to her as she was my thesis supervisor till the last moment of her death. Losing her in such a valuable time was a great barrier for me to complete my research work smoothly in time. But I overcome this barrier under the sincere guidance of my present supervisor Prof. Dr. Md. Enamul Haque.

I am thankful to all the teachers of the Institute of Education & Research, Rajshahi University for their cooperation and encouragement to my research work. I am also thankful to all the officers and staffs of the Institute of Education & Research, Rajshahi University, for their sincere help in different times whenever I needed.

I am grateful to Professor Dr. Md. Golam Kabir, Director, Institute of Education & Research, Rajshahi University who helped me always whenever I approached him for any official prerogatives.

My thanks are also extended to Registrar and Controller of Rajshahi University who provided sincere cooperation to official formalities.

I cannot forget to remember the cooperation of Mohd. Ashik Shahrier, Lecturer, Dept. of Psychology, University of Rajshahi, who helped me a lot in preparing this dissertation, especially in data tabulating, scoring, result analysis, computer compose and other cosmetic works. I express him my sincere thanks as well. I also express my thanks to the respondents for their sincere co-operation.

My deep regards are expressed for my father Lal Mahmud and my mother Roji Mahmud who always gave blessing and inspired me to continue my student life successfully and to achieve goal of life. Specifically my mother played the role of an energy supplier and protector in the family affairs, where she was most urgently needed. I am very much proud of her.

I also express my deep regard to my dear wife Mrs. Ahmed who always gave me loved inspiration and encouraged me to do this task by curtailing her personal pleasure and happiness. Credits go to her and I believe that the success is due to her love for knowledge. My only sweet kid Riya showed great endurance and patience whenever I was heavily busy with my works. My heartiest love and affection is bestowed on her.

I express my thanks to all who have directly or indirectly helped me during this period.

I lovingly dedicate this Ph. D. thesis to my parents.

Rasel Ahmed

CONTENTS

LIST OF TABLE

LIST OF FIGURE

Chapter One

Introduction

Chapter Two

Review of Literature

Chapter Three

Method and Procedure

Chapter Four

Results

Chapter Five

Discussion

Bibliography

Appendices

CHAPTER ONE

INTRODUCTION

Creativity refers to the formation and development of new thoughts, concepts or images that involved innovation, inventions, inquisitiveness and solutions to pressing problems. On the other hand, self concept is the perception of individual about himself due to experience with external world and remarks of others about himself. Development of creativity and enhancement of self concept among pupils in educational environments as well as in societal and familial atmospheres have become a significant area of research among researchers of psychology all over the world (Fontana, 1977; Bradley, 1989; Hattie, 1992; Marsh et al., 1999, 2005; Fleith, 1999; El-Hassan, 2000; Rehman, 2001; Roberts et al., 2001; Ashworth, Hill and Walker, 2004; Shields et al, 2006; Chaudhary, 2006; Palaniappan, 2007; Perckel et.al., 2008; Kenny and McEachern, 2009; Habibollah et al., 2009; Bosede, 2010, Lister and Roberts, 2010). Students in different educational institutions of Bangladesh develop and utilize their creative potentialities at varied amounts through such creative abilities like artistry, intellectuality, disciplined imagination, self-strength, inquisitiveness and environmental sensitivity. In much the same way students also possess varied amounts of self concepts about themselves in several self concept dimensions like physical self-concept, social self-concept, moral self concept, scholastic competence and global self-worth. Variations in the development of creativity and self-concept among pupils in different creativity and self-concept dimensions may be resulted from pupils' material well-being, health and safety, education, peer and family relationships, behaviour and life styles, intelligence, coping skills, parental attachment and bonding, positive feedback from parents, teachers, society, emotional stability, socio-economic status, social context, gender differences, academic achievement, residence, social support, family history, practices of extra curricular activities, subjective well-being, good sense

of mental well-being etc. These factors determine whether pupils in society and educational atmosphere will foster their development of creativity and self-concept or not. By considering these important aspects in determining students' their creative potentialities and enhancement of self-concept, this study would be an attempt to investigate the relationships between creativity and self concept of secondary school students with reference to gender, academic achievement and socio-economic status in the present socio-cultural context of Bangladesh.

1.1. The Nature of Creativity

Creativity usually refers to the production of an idea, action, or object that is new and valued such that it changes the culture – the way we see and understand the world, the way we act and live. This includes innovations, inventions, and solutions to pressing problems, paradigm theft, influential works of art, and other creative products. By extension, a creative person is one who produces the above mentioned ideas, objects and actions.

Creativity at the conceptual level refers to the formation and development of new thoughts, concepts or images such as those found in poetry, paintings, scientific theories, mathematical formulas, inventions, technologies, production methods, even advertising schemes (John Young).

Robert E. Franken defines creativity as the tendency to generate or recognize ideas, alternatives, or possibilities that may be useful in solving problems, communicating with others, and entertaining ourselves and others.

According to Rogers (1980), creative potential is the capacity for the emergence in the action of a novel rational product growing out of the uniqueness of the individual, and the materials, events, people or circumstances of his life on the other.

According to Robert W. Weisberg… "Creative" refers to novel products of value, as in "The airplane was a creative invention". "Creative" also refers to the person who produces the work, as in "Picasso was creative". "Creativity", then refers both to the capacity to produce such works, as in "How can we foster our employees' creativity?" and to the activity of generating such products as in "Creativity requires hard work".

According to Mihaly Csikszentmihalyi (1996) the term creativity is commonly used for

- Persons who express unusual thoughts, who are interesting and stimulating – in short, people who appear to unusually bright.
- People who experience the world in novel and original ways. These are (personally creative) individuals whose perceptions are fresh, whose judgments are insightful, who may make important discoveries that only they know about.
- Individuals have changes our culture in some important way, because their achievements are by definition public, it is easier to write about them. (e.g., Leonardo, Edison, Picasso, Einstein, etc.)

Frank Barron (1969), one of the most important researchers in this field, offers a more articulate description of creativity. First, creativity is considered in terms of the characteristics of the creative product and the social acknowledgement it obtains. A criterion of usefulness is implied in, although not essential to, this definition. Secondly, the creative product can be considered in its own context: the difficulty of the problem resolved or identified, the elegance of the solution proposed, the impact of the product itself. Thirdly, creativity can be conceived on the basis of the abilities that favour it, as a skill or aptitude.

Thus, creativity may be said to be:-

An Ability: The ability to imagine or invent something new by combining, changing, or reapplying existing ideas. Some creative ideas are astonishing and brilliant, while others are just simple, good, practical ideas that no one seems to have thought of yet. Everyone has substantial creative ability. In children, it is quite evident. In adults, creativity has too often been suppressed through education, but it is still there and can be reawakened. Often all that's needed to be creative is to make a commitment to creativity and to take the time for it.

An Attitude: Creativity is also an attitude: the ability to accept change and newness, a willingness to play with ideas and possibilities, a flexibility of outlook, the habit of enjoying the good, while looking for ways to improve it. We are socialized into accepting only a small number of permitted or normal things. The creative person realizes that there are other possibilities.

A Process: Creative people work hard and continually to improve ideas and solutions, by making gradual alterations and refinements to their works. Contrary to the mythology surrounding creativity, very, very few works of creative excellence are produced with a single stroke of brilliance or in a frenzy of rapid activity. Much closer to the real truth are the stories of companies who had to take the invention away from the inventor in order to market it because the inventor would have kept on tweaking it and fiddling with it, always trying to make it a little better (Robert Harris, 1998).

Much of the thinking done in formal education emphasizes the skills of analysis - teaching students how to understand claims, follow or create a logical argument, figure out the answer, eliminate the incorrect paths and focus on the correct one. However, there is another kind of thinking, one that focuses on exploring ideas, generating possibilities, looking for many right answers rather than just one. Both of these kinds of thinking are vital to a successful working life, yet the latter one tends to be ignored until after college. We might differentiate these two kinds of thinking like this:

Critical Thinking	Creative Thinking
analytic	generative
convergent	divergent
vertical	lateral
probability	possibility
judgment	suspended judgment
focused	diffuse
objective	subjective
answer	an answer
left brain	right brain
verbal	visual
linear	associative
reasoning	richness, novelty
yes but	yes and

In an activity like problem solving, both kinds of thinking are important to us. First, we must analyze the problem; then we must generate possible solutions; next we must choose and implement the best solution; and finally, we must evaluate the effectiveness of the solution (Robert Harris, 1998).

Getzels (1964) classifies thought processes along a continuum between two poles. At one end of the continuum is presented problem solving, which involves situations where the definition of the problem is already known to all but the problem solver (Mihaly Csikszentmihalyi, 1996).

At the other end of the continuum, however, we have instances of discovered problem solving, where the problem, the method of solution, and the correct solution are all unknown. In such cases, not only the problem solver is ignorant of what the solution will be, but everyone is.

Hence, the term creativity may be defined as the potential capacity of human being to be multidimensional in thinking and the creation of something unique and new. This potential capacity is functionalised or expressed through the divergent thinking and creative productions but is clearly observable or otherwise represented through certain characteristics and behaviours traits.

1.2. The Psychological Aspects of Creativity

Creativity is not a theoretical construct but a general rubric, under which fall a variety of evaluative concerns. There are four major psychological aspects of Creativity which have been studied.

1) The Creative Product
2) The Creative Process
3) The Creative Person
4) The Creative Situation

1.2.1. The Creative Product

The first requirement of a creative product is that it should be novel and valuable, such that it changes the culture - the way we see and understand the world, the way we act and live. ***The second requirement*** is that a novel and valuable product should be adaptive to reality; i.e. it must serve to solve a problem, fit the requirements of a given situation, and accomplish some recognizable goal. Artistic creation, no less than scientific creation, involves the solving of a problem: eg., in painting to find a more appropriate expression of ones own experience; in dancing, to convey more adequately a particular mood or theme, etc. ***Thirdly*** a creative product should be aesthetically pleasing and elegant. ***Fourthly*** a Creative Product creates new conditions of human existence. ***Fifthly*** the insightful solution that underlies the Creative Product should be realized and it be evaluated and elaborated, developed to the full, and communicated to others i.e., the Creative Product must be produced.

1.2.2. The Creative Process

The first phase of the Creative Process involves ***a period of preparation***, during which one acquires the skills and techniques and the elements of experience that make it possible for one to pose a problem to oneself. In one sense the individual's life history up to the moment of posing a problem constitutes the first, protracted phase of the Creative Process. There follows next ***a period of concentrated attention*** in an attempt to solve the problem. This may involve a relatively brief period of time, during which attention is focused solely upon the problem, until it is solved; but perhaps more often, and especially when the highest levels of Creativity are reached, there is a blocking of one's efforts to solved the problem and the experiencing of so much frustration, tension, and discomfort that one is led, out of sheer self-protection, to the third phase, ***a period of withdrawal from the problem***, a psychological "going out of the field" a period of renunciation of the problem or recession from it. Following this phase, which is usually referred to as a period of incubation and which may be of quite variable length, there is the fourth, brief phase, ***a moment or period of insight***, accompanied by exhilaration, glow, and elation at the moment of insight. The fifth and final phase is ***a period of verification, evaluation, elaboration, realization and communication of the insight*** that has been experienced. These phases may be telescoped into a very brief period of time, as in musical improvisations, or may involve a considerable span of years as for Einstein's theory of relativity.

1.2.3. The Creative Person

General Profiles of the creative person are as follows:

1. Creative individuals have a great deal of energy, but they are also often quiet and at rest.
2. Creative individuals tend to be smart, yet also naive at the same time.
3. Creative individuals have a combination of playfulness and discipline, or responsibility and irresponsibility.
4. Creative individuals alternate between imagination and fantasy ant one end, and rooted sense of reality at the other.
5. Creative people seem to harbour opposite tendencies on the continuum between extroversion and introversion.
6. Creative individuals are also remarkable, humble and proud at the same time.
7. Creative individuals to a certain extent escape rigid gender role stereotyping and have a tendency toward androgyny.
8. Generally, creative people are thought to be rebellious and independent.
9. Most creative persons are very passionate about their work yet they can be extremely objective about it as well (Getzels & Csikszentmihalyi, 1976).
10. The openness and sensitivity of creative individuals often exposes them to suffering pain yet also a great deal of enjoyment.
11. Creative individuals may often be dominant. They are possessed of those qualities and attributes which underlie and lead to achievement of personal status; they may also be demanding, aggressive, self centered and persuasive.
12. Creative persons are poised, spontaneous and self confident in social interaction, although not very sociable and participative.
13. They are often outspoken, and mostly sharp witted and verbally fluent.
14. Creative people are relatively uninhibited in expressing his worries and complain.
15. Creative individuals are comparatively free from conventional restraints and inhibitions, not preoccupied with the impression he makes on others, and so he is capable of great independence and autonomy and is relatively ready to recognize and admit self views that are unusual and unconventional.

16. They are strongly motivated to achieve in situations in which independence in thought and action is called for but not inclined to strive for achievement where conforming behaviour is required.
17. They are more psychologically minded, are more flexible and show more femininity of interests.
18. They are extremely sensitive to all kinds of stimuli, including aversive ones (Piechowski 1991).
19. From reading biographies of famous scientists and musical composers, one common personality trait becomes clear: many of them are eccentric, but this is not a sine qua non of creativity. Rather this could be because creative people genuinely enjoy their work, instead of working only for material gains.
20. Many creative men were a hermit, recluse or loner. Only a few sought publicity (extroversion), which is contrary to what one would expect from ambitious men.
21. A large percentage of creative people where either atheists or agnostics, compared to the general population.
22. Highly creative men often had a monotonous diet or wore the same kind of clothes every day.
23. There seems to be a higher incidence of bipolar disorder (i.e., manic-depressive disease) in highly creative people than in the entire population. This disorder causes neither creativity nor intelligence, but it seems to enhance creativity, perhaps by removing inhibitions and barriers to radical or complex thought (Ronald B. Standler, 1998).

1.2.4. The Creative Situation

This refers to the kind of environment that is facilitating or inhibiting to Creativity. Life history studies of Creative Persons have given several diverse themes. For e.g. remembered unhappiness in Childhood. But with this is needed:

a. Sensitive awareness of one's own experience and of the world round.
b. Development of and attention to one's inner life.
c. An interest in ideational, imaginable and symbolic processes.

Many other factors were revealed by a study of creativity in architect (MacKinnon, 1962)

1) An extraordinary respect by the parent for the child.
2) Early granting to him of unusual freedom in exploring his universe and making decisions.
3) Expectation that the child will act independently but reasonably responsibly.
4) Lack of intense closeness between parent and child: - neither over dependence or feeling of rejection i.e. an interpersonal relation between parent and child that has a liberating effect upon the child.
5) Plentiful supply in the child's extended social environment of models for identification and promotion of ego ideals.
6) Presence within the family of clear standards of conduct and ideas as to what was right and wrong, but at the same time an expectation of active exploration and internalization of a framework of personal conduct.
7) Emphasis upon the development of an individual ethical code.
8) Experience of frequent moving within single communities or from community to community or country to country, which provides an enrichment of experience both cultural and personal and also contributes to experiences of aloneness, shyness, isolation, and solitariness during childhood and adolescence.
9) Possession of skills and abilities which although encouraged and rewarded, are nevertheless allowed to develop at their own pace.
10) Absence of pressures on the child to establish his professional identity, prematurely.

These factors are similar to those given by:-

1) **Otto Rank's set of life-history factors** which he thought so conductive to man's wining his own independence and realization of his creative potential.
2) **Erik Erikson's** interaction of the child and significant others in the environment of fullest development of ego.
3) **Robert W. White's theory** - those experiences which sustain and nurture the fullest development of competence.

The acknowledgement of the importance of the above mentioned factors in creativity has led to a shift in approach in the field of education also. An attitude which nurtures Creativity has been adopted.

1) In contrast to earlier emphasis in education, there in today, a tendency to stress freedom and autonomy for the child.
2) Substituting self discipline for discipline imposed from outside.
3) Openness to all ideas.
4) Postponing of judgment in choosing from among them.
5) Adoption of a more playful attitude towards study.
6) Engagement in imaginative play.
7) Nurturing of a feeling for analogies, similes and metaphors.
8) Searching for common principles in terms of which quite different domains of knowledge can be related.

1.3. Motivation for Creativity

Many psychologists and cognitive scientists have tried to apply a purely rational perspective to creative discoveries. This seems inadequate not only to explain creativity, but also cognition in general. The structuralist approach to thinking, which has achieved so much success in the past thirty years, needs to be reintegrated into a viewpoint that takes into account motivations and emotions. The complementary energistic approach recognizes the limits of human information processing capacity, and tries to define its dynamics within a perspective that considers the entire organism as an integrated unit. To explain the genesis of any creative act, the emotional and motivational dimensions must be included as well. Cognitive achievements cannot be predicted from knowledge of cognitive capacity alone. We must know whether the person is able to concentrate psychic energy on the actions and ideas relevant to the task. Above all else, we must know whether the person finds the cognitive operations within the domain intrinsically rewarding or not (Csikszentmihalyi, 1996).

Psychoanalysis has explained the motivation of creative individuals in terms of a sublimation of libidinal impulses that are relieved through “regression at the service of the ego” (Kris, 1952). Other explanations point to marginality and isolation in early childhood that prompts such persons to focus their energies on a divergent lifestyle.

Creative persons continue throughout life to exhibit a childlike curiosity and interest in their domains, value their work above conventional monetary or status rewards (Getzels and Csikszentmihalyi, 1976) and enjoy it primarily for intrinsic reasons (Amabile, 1983). Thus, it can be said that Creativity is its own reward and needs no other explanation than the feeling of joy one gets from shaping the process of evolution.

Creativity may be personally motivating as is the case when the creative process is initiated by the desire for self expression or self actualization.

According to Franken, three reasons why people are motivated to be creative are the:-

1. Need for novel, varied, and complex stimulation.
2. Need to communicate ideas and values.
3. Need to solve problems.

1.4. Importance of Creativity in Educational Environment

Educators and psychologists emphasize the importance of developing students' creativity. Interest in creativity as an area of educational research began in the second half of the 20th century. Since then, creativity research has had an impact on educational objectives, teaching strategies, and administrative practices (Torrance, 1983). Educators have emphasized the importance of promoting favorable conditions for developing the creative ability of students, and several studies have suggested ways to cultivate creativity in an educational environment (Alencar, 1993; Amabile, 1989; Daniels, 1997; Piirto, 1992; Starko, 1995; Sternberg & Williams, 1996; Timberlake, 1982; Torrance, 1983).

Recent studies (Amabile, 1983; Csikszentmihalyi, 1996) have shown that the environment has a strong impact on creative production. Finally, the notion that creativity can be compared to a crystallized structure has been effectively called into question by the expansion of several training programs around the world (Alencar, Fleith, Simabukuro, & Nobre, 1987; Necka, 1992; Parnes, Noller, & Biondi, 1977; Renzulli, 1973, 1986; Torrance, 1979), in which the main goal is enhancing creative abilities.

It is also posited that the creativity construct includes cognitive and affective components (Arieti, 1976; Davis, 1992; Martindale, 1989; Starko, 1995; Tardif & Sternberg, 1988; Vernon, 1989). Therefore, it is necessary to investigate the relationship between self-concept and creativity to better inform teachers about educational strategies that enhance both students' creativity and self-concept. Despite the recognition of the importance for fostering students' creative potential, teachers often give priority to the development of logical thinking that emphasizes knowledge, recall, and reproduction (De Bono, 1984; Von Oech, 1983). In this regard, it is important for teachers to learn how to implement educational strategies that promote the development and expression of students' creative abilities.

1.5. Creative Methods

Several methods have been identified for producing creative results. Here are the five classic ones:

i) Evolution: This is the method of incremental improvement. New ideas stem from other ideas, new solutions from previous ones, the new slightly improved over the old ones. Many of the very sophisticated things we enjoy today developed through a long period of instant incrimination. Making something a little better here, a litter better there gradually make it something a lot better-even entirely different from the original. Creative thinkers do not subscribe to the idea that once a problem has been solved, it can be forgotten.

ii) Synthesis: With this method, two or more existing ideas are combined into a third, new idea. Combining the ideas of a magazine and an audio tape gives the idea of a magazine we can listen to, one useful for blind people or freeway commuters.

iii) Revolution: Sometime the best new idea is a completely different one, a marked change from the previous ones, While an evolutionary improvement philosophy might cause a professor to ask, "How can I make my lectures better and better?" a revolutionary idea might be, "Why not stop lecturing and have the students teach each other, working as teams or presenting reports?

iv) Reapplication: Look at something old in a new way. Go beyond labels. Unfixate, remove prejudices, expectations and assumptions and discover how something can be reapplied. For example, a paperclip can be used as a tiny screwdriver if filed down: paint can be used as a kind of glue to prevent screws from loosening in machinery: dishwashing detergents can be used to remove the DNA from bacteria in a lab; general purpose spray cleaners can be used to kill ants.

v) Changing Direction: Many creative breakthroughs occur when attention is shifted from one angle of a problem to another. This is sometimes called creative insight. The goal is to solve the problem, not to implement a particular solution. When one solution path is not working, shift to another. There is no commitment to a particular path, only to a particular goal.

1.6. Models of Creativity

The systems Model of Creativity

1) The creative domain: This is nested in culture- the symbolic knowledge shared by a particular society or by humanity as a whole (e.g., visual arts).

2) The field: This includes all the systems of the domain (e.g., art critics, art teachers, curators of museums, etc).

3) The individual person: He uses the symbols of the given domain (such as music, engineering, business, mathematics), has a new idea or sees a new pattern, and when this novelty is selected by the appropriate field for inclusion into the relevant domain.

This architecture offers a linear visualization of the creative process regarding the solution of no- trivial problems. The visualization is offered this way to facilitate the didactic apprehension of the mode in the real life, the mental processes happen in parallel, in several areas of the brain. They were classified in three categories: the everyday problems, corresponding to the situations of daily life (how to change a lamp?) how to tie the shoes?); the difficult problems, which use the mental powers of convergent thought (Guilford, 1950) and find solutions by logical-deductive processes; and the complex problems, which require creative capacity for their resolution.

The "Domain" box represents the abilities and the individual's competences, according to the classification of Czikszentmihali (1988). In the initial evaluation and categorization of a problem, the domain is of fundamental relevance, because it will be a decisive factor in the definition of its priority ("urgency" degree). Usually, the smaller the domain involving a specific problem is, the smaller the individual's interest in solving it will be.

The box "Problem Fields" includes the concept and individual representations of the experienced problems (the scripts we use to live). It is a kind of "mental index" that classifies live situation and related them to general concepts "learned" through instruction or experience. As example, the professional of Management that needs to increase the sales through the communication of a sales promotion can classify this problem as belonging to the field "advertisement". The "Cognitive Universe" is associated to the long-term memory. In it are stored all the lived experience, as well as the acquired knowledge along the years. The box of "Emotions" represents the emotional factor, and it's is present in all moment of the process: it participates in the prioritization of the actions, in the control of the activities in the decision about continuity of the process. It is also influenced by the final solution.

The diagram of the process, facilitates the visualization of three types of problems: trivial, whose answer is easily found already in the initial processing, corresponding to the routing situations that we found in the daily life; the difficult problems, whose solution, although no-apparent, can be deduced through the use of a subsequent processing (that Piaget identifies as "reflecting abstraction") that would structure the knowledge without alter the space of researches; and the complex problems.

1.7. Measuring Creativity

Creativity is an area of cognitive functioning important in a wide variety of tasks, including not only the arts, but also research and development engineering, scientific achievements and other such endeavours. Given the importance of creativity, it is not surprising that psychologists are interested in measuring and studying this construct.

Most Creativity measures follow the work of J.P. Guilford's structure-of-intellect model, described in his book "The Nature of Human intellect Intelligence" (1967). According to Guilford, a distinction can be drawn between Convergent and Divergent production as intellectual operations; of these Divergent thinking is more closely allied to Creativity.

In convergent Thinking, people are required to "narrow" their thoughts to consider several options and choose the one best solution. Such thinking is found in multiple choice tests and most tests of General Intelligence. In contrast Divergent production requires the ability to think in many different directions and come up with novel solutions to problems. It is Divergent production which many creative measures attempt to assess. The Aptitude Research Project (ARP) in the University of Southern California under Guilford has led to the development of a number of tests of Divergent Production. Torrance's Tests of Creative Thinking is a distinct set of tests, also pattered after Guilford's contract of Divergent Production.

Measuring creativity is not an easy task: the methods used in the evaluating of creative aptitude and ability is numerous and as ingenious the argument investigated demands them to be. Summarizing the different criteria used for measuring creativity Dennis Hocevar reviewed ten main categories (1981):

i) Tests of divergent thinking
ii) Attitude and Interest inventories
iii) Personality inventories
iv) Biographical inventories
v) Teacher nominations
vi) Peer nominations
vii) Supervisor ratings
viii) Judgment of products
ix) Eminence
x) Self-reported creative activities and achievements

Most of these techniques are based on third person rating. Although inter-rater agreement is generally obtained, the problems of "*who judges the judges*", and what the judges should be looking for, remain unresolved.

A minority of methods rest on independent tests of measurement: these tests, like the tests of divergent thinking, are based on specific models of what creativity is, so any consideration of their results is based by the personal view of the researcher who reported them. However, as in the case of "intelligence", there is probably no way to avoid this dilemma. Ultimately, any discourse on creativity, or any other conceptual construct, must involve a description of the boundaries of the concept discussed.

Evaluation by third parties and comparison with biographies are the most used methods in large scale investigations. Personality inventories or tests for the evaluation of the individual's style of thought are frequently used with well selected samples of volunteers. One of the most ingenious methods of investigation was developed by Albert Routhenberg, who created a test of verbal associations in order to measure a type of cognitive thought called "janusian thinking". Janusian thinking is, in Routhenberg's words, the "tendency to conceptualize opposites in a free-response situation". This process involves "actively conceiving two or more opposites or antitheses simultaneously during the course of the creative process". This tendency favours the development of mental associations which are often unusual and uncommon, and according to Routhenberg's studies it seems widespread among creativity gifted people, particularly among those who are most productive, those who attain the eminence in their field.

1.8. Theories of Creativity

Many theories of creativity have been proposed, which try to explain the process of Creative Thinking.

1.8.1. Psychoanalytic Theory

Psychoanalytic theorists such as Kris (1952) and Woody (1977), emphasize the importance of preconscious processes. These processes are believed to occur when the ego, with its emphasis on logical rational thought, temporarily looses its control of the

thinking process, so that an unorganized, drive oriented type of thinking can occur. It is this preconscious level of thinking, that facilitates associations between ideas related to the immediate problem and other apparently unrelated but potentially useful ideas. The ideas produced in this way can later be evaluated in a logical, rigorous way. To engage in preconscious thinking, one must allow oneself to daydream and fantasize.

Freud (1963) believed that sublimation of repressed unconscious wishes, prudential and libidinal urges determine Creativity. Creativity originates in a conflict with the unconscious mind- 'The id'. Sooner or later the unconscious produces a solution to this conflict. If the solution is 'ego-synchronic' it reinforces an activity intended by the ego or conscious part of the personality and will result in creative behavior, if it is at odds with ego, either it will be repressed altogether or it will emerge as neurosis.

From a very different point of view, Woody (1977) emphasized the preconscious system, and Kris (1952) access to unconscious processes. Creativity may mean the ability to use preconscious and unconscious processes effectively. Such an ability implies that a creative individual is not bound by reality, conformity, logical processes, or repetitive unconscious difficulties. If the Creative act is associated with neurotic processes, it is apt to become stereotyped, as in the artist who repeats the same picture, or the novelist who repeats the same book. According to Wolman, creative artist, capable of developing into their unconscious, have more in common with Psychoanalysts than with clinical patients. Followers of psychoanalytic view generally explain the production of poets, artists, and writers based on sublimation.

1.8.2. Gestalt Theory

Gestalt psychologists (e.g. Kohler, 1959) use the term "productive thinking" and "problem solving" to refer to what others might call Creative Thinking. Wertheimer describes productive thinking as a process of successive restructurings of a problem. The structural features of a problem set up stresses and tensions; the thinker is led to a restructuring of the problem. Successive restructurings occur until a solution emerges. This theory also defines Creative thinking primarily as a reconstruction of 'Gestalt' or patterns that are structurally deficient. Creative thinking usually begins with a problematic situation which is incomplete in someway. The thinker grasps this problem

as a whole and after grasping the dynamics of the problem, the forces and tensions within the problem as a whole and after grasping the dynamics of the problem, the forces and tensions within the problem produce tension within the mind of the tinker, thus yielding vectors in the direction of change and improvement. Thinker transforms the problem situation, which is structurally incomplete and thus restores the harmony of the whole. In the words of Gestalt theorists, "Productive Thinking does not proceed by either the piecemeal operation of logic or piecemeal connection of association, but through the cognitive reorganization of gestalten".

1.8.3. Association Theories

Association theories involve the common assumption that creativity results from novel or unusual associations. Mednick (1968) defines the Creative Process as "the forming of associative elements into new combinations which either meet specified requirements or are in someway useful".

The degree of creativity depends on the relative remoteness of the elements used to form the new combination. When asked to respond to a stimulus word, creative people are likely to give some remote or uncommon responses. The "Remote Association Test" has been standardized on this definition. For all associations creativity is a chain of stimulus response connections. A problem initiates a succession of previously learnt response to be tried out in a new situation. There is no fundamental difference between the higher and lower mental functions, between trial and error, logical or creative thoughts. The creative thinking process consist simply or the forming of associative element into new combinations that are in someway useful; the more mutually remote the combination elements; the more creative the process or solution.

1.8.4. Factor Analytic Theory

Thurstone (1952) had distinguished four factors in various kinds of tests of tests of verbal fluency. Guilford in 1950 proved by his factor analytic studies that there is not only one factor or primary ability of Creativity that functions equally in all areas but there are surprisingly larger number of Creative abilities, each limited in scope and properties and undoubtedly in its application. In his model of "structure of intellect"

which he first presented in his presidential address to the American Psychological Association. Guilford lists nine factors of Creativity, viz 1) Word Fluency; 2) Ideational Fluency; 3) Semantic Spontaneous Flexibility; 4) Figural Spontaneous Flexibility; 5) Associational Fluency; 6) Expressional Fluency; 7) Symbolic Adaptive Flexibility; 8) Originality; 9) Elaboration.

1.8.5. Motivational Theory

This theory tries to explain the various sources that motivate a person to be creative. Various motivational forces have been demonstrated and it has been persistently indicated that the drive for intellectual competence and development is a natural source of motivation for creativity (Thorndike, 1931). Mead (1934) in his study of 710 inventors concluded that inventing carries its won intrinsic rewards. Exhilaration and feeling of mastery and superiority on the successful solution of problem motivates the inventor to look for new problems. Anne Roe found this to be true in case of scientists (1952). White (1959) asserts that organism has a natural drive to achieve competence by developing knowledge and skills. Related to this motive is the finding that creative people have a strong desire to realize their own potentialities i.e. self- actualization which means becoming everything one is capable of becoming. Maslow had asserted 'what a man can be, he must be' (1954). Golann (1962) is of the opinion that motivation for creative performance is in the form of a desire to make most of one's own perceptual, cognitive and expressive potentials. Rogers (1959) joins Golann in this contention. Creative people have shown preference for complexity also (Barron, 1963), may be because it provides challenges to their comprehension abilities and to the facility for establishing order out of disorder.

Another drive for creative behaviour has been indicated as an urge to do something different just because it is different (White, 1959; Barron, 1963). It coincides with the personality traits of creative people's preference of unusual. Interest for divergent thinking is yet another motive for creativity.

1.8.6. Interrelated Theories

A number of theories are composites in the sense that they combine principle from psychoanalytic, Gestalt and association theories. White (1959) focusing on mathematical creativity, developed a theory with psychoanalytic as well as association ideas. White proposed a sequence of four steps in the creative process; preparation, incubation, illumination and verification. The initial preparation period is conscious systematic and logical, but sets in motion some unconscious thinking processes that are essential to the incubation and illumination phases. The unconscious mind produces a vast number of associations. The potentially fruitful ides selected by the unconscious mind for their beauty and elegance. They are allowed to reach consciousness in the phase of illumination. The last step of the creative process, verification of the values of the idea and establishing its implication is entirely conscious.

Some theories combine psychoanalytic and associative elements. For example, Amabile (1983, 1989) developed a 'bisociation' theory of creativity. In bisociation, two independent matrices of ideas come into contact but this occurs only subconsciously, through a regression to the preconscious thinking processes stressed by psychoanalytic theorists. Rothenberg (1979) has proposed a psychoanalytically based theory that highlights two thinking processes that, like bisociation, facilitate association of independent ideas. Gruber's theory (1974) draws on the associationist and Gestalt positions, as well as on Piaget's theory of cognitive development. In Gruber's view, creative accomplishment are failed by conscious, purposeful action and unconscious processes are not critical rather, when people direct all their efforts toward some goal, the problems occupying their conscious thoughts well also spill out into imagery and dreams.

1.8.7. Sternberg's Theory of Creativity

Sternberg says that all of the following are essential for creativity: a lack of any one item in the list precludes creativity. These items given by Sternberg are as follows:

1.8.7.1. Intelligence

i) Synthetic Intelligence: The ability to combine existing information in new way.

ii) Analytic Intelligence: The ability to distinguish between new ideas that have potential, and new ideas that are not worth further work. This ability is essential to an effective allocation of resources, by evaluating the quality of new ideas.

iii) Practical Intelligence: The ability to sell one's ideas to funding agencies, managers, editors, reviewers, etc. Without "Practical Intelligence" the creative person will not be allocated resources to develop their ideas, and the creative person may achieve recognition only posthumously.

1.8.7.2. Knowledge

Knowledge gives the ability to recognize what is genuinely new. The history of science shows that many good ideas are discovered independently is more than one person. Knowledge is also important to provide skills necessary to design experiments, to design new products, to analyze the results of experiments, doe computations, etc.

1.8.7.3. Thinking Styles

Creative people question conventional wisdom, instead of passively accepting that wisdom. Creative people question common assumptions and rules, instead of mindlessly follow them. This style brings creative people into conflict with society around them, so it is also essential to have a personality that tolerates this conflict, as explained in the next item in this list.

1.8.7.4. Personality

Creative people take the *risk* to defy conventional wisdom and to be a nonconformist. Creative people have the courage to persist, even when the people around them provide objection, criticism, ridicule and other obstacles. Most people are too timid to be really creative.

1.8.7.5. Motivation

i) Intrinsic or Personal: Creative people genuinely enjoy their work and set their own goals.

ii) Extrinsic: here are a number of extrinsic motivators: money, promotions, prizes, praise, fame, etc. Extrinsic motivators mostly focus on an end result, not the process of discovery or creativity. In highly creative people, extrinsic motivators appear to be less important than intrinsic motivators.

1.9. Definitions of Self Concept

Self concept is the sum total of all an individual can call his own, including both physical and mental data. The self is the totality of our impressions, thoughts and feelings such that we have a continuing conscious sense of being. It is a composite of ideas, feelings and attitudes a person has about himself. It includes one's self esteem sense of personal worth, and one's sense of who or what one would like to be or one's ideal self.

Self-concept is the total picture of how an individual perceives or understands him or herself, his or her attributes, and how an individual perceives others' perceptions of him or her (Meggert, 2004; Rice and Dolgin, 2005; Schunk, 2000).

According to Taylor, Davis-Kean, and Malanchuk (2007), it is "the cognitive representation an individual has of him- or herself" (p. 131). Children's perceptions of their abilities affect their values, self-regard, and beliefs about their competence to achieve personal and academic goals (self-efficacy; Bandura, 1986). These beliefs and expectations of one's abilities are derived from reflections of interactions with the environment and significant individuals in one's life.

In order to reach a common definition of self-concept, the present study has taken the theoretical model and definition proposed by Shavelson, Hubner and Stanton (1976). These authors define the term self-concept as the "perception that each one has about him, formed from experiences and relationships with the environment, where significant people play an important role."

Hamachek (1981) defines self-concept as the "set of perceptions or reference points that the subject has about himself; the set of characteristics, attributes, qualities and deficiencies, capacities and limits, values and relationships that the subjects knows to be descriptive of himself and which he perceives as data concerning his identity" (Quoted by Machargo, 1991: 24). It is the set of knowledge and attitudes that we have about ourselves. Self-concept, in fact, refers to the perceptions that the individual assigns to himself. It is the characteristics for attitudes that we use to describe ourselves. It is understood to be fundamentally a descriptive assessment and has a very delicate difference cognitively.

William James (1990) argued that the self concept develops from social comparisons. He argued that we compare ourselves with significant others and use this information to develop an idea of what we are like. G.H. Mead (1934) also emphasized the importance of social interaction, in the development of the self concept. He saw the self concept as being informed directly through social expedients. Goffman (1959) saw the self concept as reflecting the collection of social roles played by the individual.

Self concept is our perception about our qualities and attributes. Rogers (1951) defined self concept as an organized configuration of perceptions of the self which are admissible to one's consciousness of one's characteristics and abilities, the percept and concepts of self in relation to others and to the environment the value qualities which are perceived as associated with experiences and objects and goals and ideas which are perceived as having positive or negative valence.

Coopersmith & Feldman (1974) defined the self concept as set of beliefs hypothesis and assumptions that the individual has about his characteristics and his most important or striking traits. It is person's view of himself as conceived by him. In many cases the self concept included an evaluation of self conceived qualities and attributes. This evaluative part of self concept is called as self esteem (Burns, 1982).

Sternberg & Williams (1996) said one's perception of oneself probably develops at the moment the child is aware of his or her separateness. Bruno (1986) has also stated that the terms of self concept and self esteem are very similar. Self esteem refers to how high or low one ranks one self in the terms of subjectively perceived personal status.

Markus & Nurius (1986) said that self concept is not simply an emotional response to experience, it is complex cognitive schema that individual creates from experience, just as we develop schemata for other concepts we develop the schema for self. Our self schema is cognitive structure we construct as we receive information about ourselves.

Markus & Nurius (1986) contended that most self concepts are working self concepts that are open to change as we encounter new experiences that provide us new feedback; how we imagine ourselves now and in the future determines our self concept.

Self concept is not only personal reality but it is social formation as well (Forsyth, 1987). The formation of self is a central of socialization process. It is not biologically given but emerges in the course of interaction with other people (Zanden, 1990). Bandura (1997) observes that self concept is a composite view of oneself that is presumed to be formed through direct experience and evaluations adopted from significant others.

The researchers Greenwold (1980); Fenigstein (1984); Greenealled & Pratkanis (1984); Goleman (1984); Kulik (1986) supported the view that self concept contributes to an egocentric bias in which we typically place ourselves at centre of events or actions. Due to this egocentric bias we experience life through a self-centred filter.

Self-concept has to do with social competence. It influences how the person feels, how he or she thinks, learns, values himself or herself, relates to others and ultimately, how he or she behaves (Clark, Clemes and Bean, 2000; Clemes and Bean, 1996). At last we can say, self concept is the perception of individual about himself due to experience with external world and remarks of others about himself. People who are performing successfully have better perception of their self.

1.10. Characteristics of Self Concept

Five critical characteristics of the self-concept can be highlighted: (a) the involvement of a descriptive and an evaluative component of self-description (Shavelson et al., 1976), (b) the existence of developmental differences in the structure of self-concept (children shift their focus from behavioral characteristics of the self in the early years, to trait-like constructs during middle childhood, and then to more abstract, psychological constructs during adolescence) (Harter, 1986), (c) the role of self-concept

as a mediating variable that facilitates the attainment of other desired outcomes (Byrne, 1996; Shavelson et al.), (d) the influence of cultural factors in the development of self-concept, and (f) involvement of both internal (cognitive) and external (social) forces operating to affect self-concept (Hoge & Renzulli, 1991).

Shavelson et al, (1976) identified seven features of self-concept construct.

1. Self-concept is organized or structured by the person and his environment. It is formed by vast amount of information about the person. They constitute categories. These categories are related with the person and environment.
2. The self-concept is multifaceted. The particular facets reflect a self-referent category. This category system is adopted by a particular individual and may be shared by a group.
3. Self-concept is hierarchical. This hierarchy is composed with perceptions of personal behaviour. It is occurred in specific situations. The base of the hierarchy is composed of inferences about self. The middle of the hierarchy is composed of broader domains such as social, physical and academic areas. At the apex of the hierarchy is found global and general self-concept. According to Shavelson *et al,* (1976). This hierarchy of self-concept may be likened with a hierarchical representation of intellectual abilities.
4. It is said that the apex of the hierarchy is stable. It is known as hierarchical general self-concept. But the lower steps of this hierarchy is situation-specific. Thus when we come down from the hierarchy, the self-concept becomes increasingly less stable.
5. Self-concept is a developmental process. It is gradually becomes multifaceted as the individual moves from infancy to adulthood. Infants have undifferentiated self-concept. They can not differentiate themselves from there environment. They can not differentiate their self from their environment. They have self-concepts that are global, undifferentiated and situation specific. The self-concept becomes differentiated with the increase in age. Moreover, self-concept becomes integrated into a multifaceted and hierarchical construct with the acquisition of verbal maturity through language.

6. Self-concept is characterised by descriptive as well as evaluative aspects. The individuals may describe themselves such as "I am happy." Again, the individuals may evaluate themselves such as "I do well in mathematics". Evaluations may be made against some absolute ideal. Comparisons with pairs or expectations with significant others may be used as relative standard for evaluation.
7. Self-concept can be differentiated from other constructs to which it is theoretically related. For example, academic achievement may be highly correlated with academic self-concept and may be less correlated with social and physical self-concept. Again, self-concepts specific to school subjects such as mathematics or English should be more highly correlated with achievement in matching school subjects than achievement in other subjects.

1.11. Elements of Self Concept

The term self concept is often regarded as consisting of three components; the self-perception, the self-image and the self-esteem.

1.11.1. Self-perception:

Bem (1967) suggested that how we perceive ourselves is an important part of the self concept. Self perception theory argues that we observe how we are acting, and draw conclusions from this about what we are like.

Rogers (1970), defines the self as an organized, consistent, concept gestalt, composed of perceptions of the characteristics of the 'I' or 'Me' and the perceptions of the relationships of the 'I' or 'Me' to others and to various aspects of life, together with the values attached to these perceptions.

1.11.2. Self-image:

The self image is a factual self portrait, including information about the body, its height, weight and build; the person's likes and dislikes; his past experiences and so on. This includes some sub factors of general self concept. They are as follows: Physical Self Image, Psychological Self Image, Field Self Image, Basic Self Image, Ideal Self Image, Situational Self Image, Social Self Image etc.

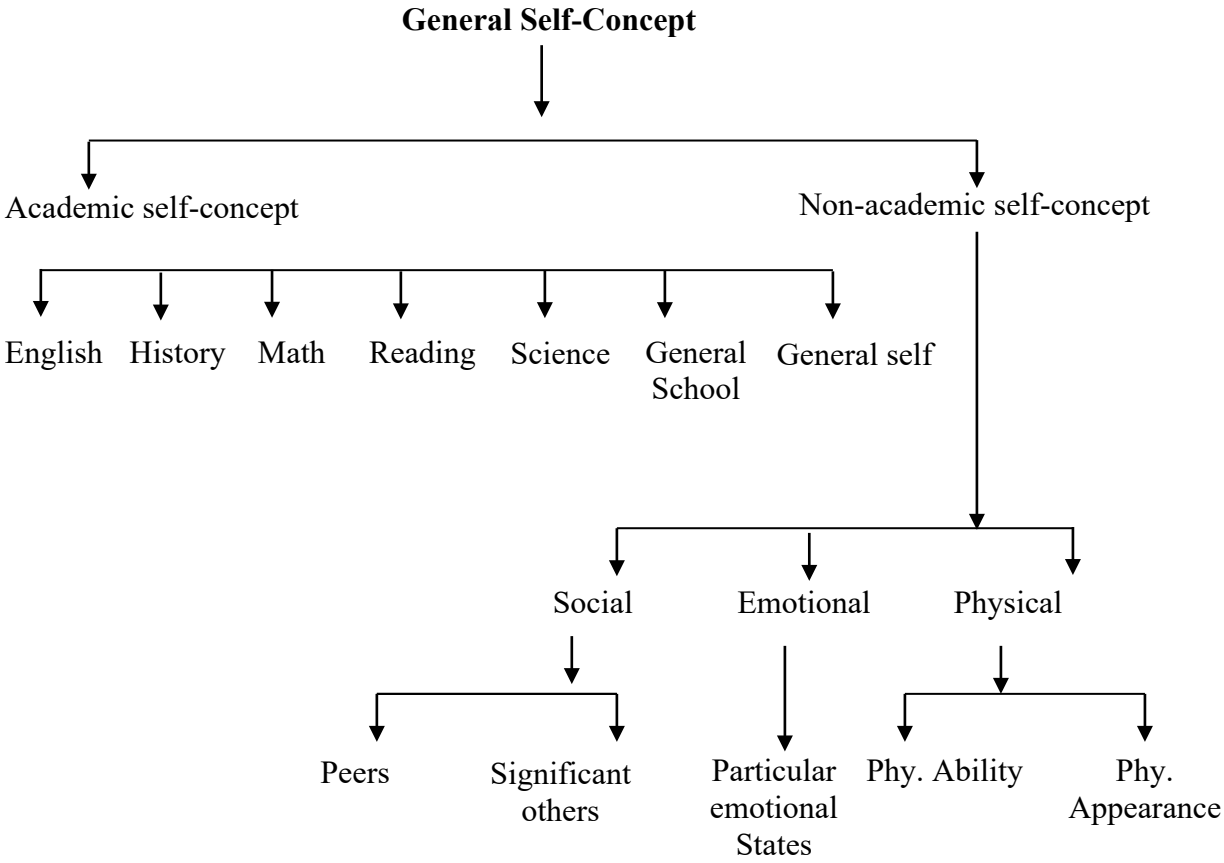
Rogers (1961) found that, a significant relationship existed between the general self concept and other self factors and achievement.

1.11.3. Self-esteem:

Self-esteem, on the other hand is the evaluative component of the self concept, and is concerned with internalized social judgments and ideas about how worthwhile our trait or personal quality is. Carl Rogers (1961) also saw self-esteem as a significant factor in psychological health. Rogers believed that self-esteem develops through childhood as we internalize social standards, or conditions of worth, which we learn through everyday social interaction. He argued that people have two fundamental psychological needs, the positive regard from other people and the need for self-actualization.

1.12. Multidimensional self-concept

Before discussing the various dimensions of self-concept in details, we will represent a diagram concerning the various dimensions of self-concept on the following section:



Source: Shavelson *et al.*, (1976) and Marsh and Shavelson (1985)

1.12.1. Academic self-Concept

(i) English: Self-concept is determined by the interests, skills and performance of the child in English. Acquiring skills in written and spoken English and free handwriting capabilities in English language indicate a positive self-concept of the child in English.

(ii) Reading: A child's interest, skills and abilities in reading determines his self-concept. When the child enjoys the task of reading various novels and creative books then it indicates an enriched organization of his reading self-concept.

(iii) History: When the child becomes able to keep the historical events in memory, learns to interpret and analyze them and enriched him through the application of these historical events in his practical life events then he will achieve a better perceptions of the self.

(iv) Science: The advanced knowledge of science and technology and the interests, skills and abilities in scientific areas indicate a positive self concept of the child in science and technology.

(v) Math: When the child shows his interests and skills in mathematics and when he enjoys it through the solutions of different mathematical problems then it indicates an enriched organization of self-concept of the child in terms of numerical abilities.

(vi) General School: When the child enjoys his courses which are taught at schools and shows his intensive interests and performance in his school subjects then it indicates an enriched organization of self-concept of the child in general school.

(vii) General Self: Through his self-perceptions, self-capabilities, his daily living activities and through the remarks of others about himself whether the child is satisfied or not in turn determines his self-concept.

1.12.2. Non-Academic Self-Concept:

(1) Social self-concept:

(i) Peer-Relations: The child's popularity among his peers, his skills to adjust with his peers and his peers' interest to get him in their activities determine the self-concept of the child.

(**ii) Parent relations:** The child's relationship with his parents, parental relationships, his importance to his parents, and whether he is neglected, rejected or overprotected to his parents determine his self-concept and how much the child is accepted to significant others of the society determine his self-concept to a great extent.

(2) Emotional Self-Concept:

The child's emotional stability, his expression of emotions, appropriate emotional expression in appropriate situations, emotional intelligence and emotional atmosphere of his surroundings indicate whether his self-concept will be enriched or not.

(3) Physical self-concept:

(i) Physical Ability: A child's physical activities such as his skills and abilities in different games, his body appropriateness to different types of physical exercises determine his self-concept.

(ii) Physical Appearance: A child's physical appearance is determined by the attractiveness of his appearance in comparison to his peers and the remarks of significant others about his physical appearance. This, in turn determines the child's self-concept.

Hence, from the above descriptions we may conclude that self-concept is a person's self-perception. It is formed through experience in different academic and non-academic atmospheres with his proper adjustment to different factors contributing to the formation of self-concept. It may be conceived as the sum total of an individual's experiential events and interpretations of involvement. It is potentially useful in explaining and predicting how a person acts. These acts influence the person's self-perceptions leading to the formation of self-concept.

1.13. Development of Self Concept

Frandsen (1961) said that in the development of self concept the individual interjects into himself the roles and the attitudes of community. Shavelson & Bolus (1982) described that self concept develops through constant self-evaluation in different situations. Children and students are always asking themselves "How am I doing?" In the beginning they estimate by the reactions of parents and family members and by friends, school mates and teachers. In the later years when they make judgements, they compare their performance with their own standards and with performance of peers. Marsh (1990) said that students who are strong in math in an average school feel better about their math skills than the students of equal ability in high achieving schools. He calls this "Big-Fish-Little-Pond-Effect". Participation in a gifted and talented program seems to have an opposite "Little-Fish-in-a-Big-Pond-Effect". Students who participate in gifted programs compared to similar students who remain in regular classes show declines in academic self concepts over time, but no changes in non-academic self concepts.

Marsh (1994) said that both personal and social comparisons are very important in this regard, students compare their performance in different subjects to from the self concept in these areas. If the math is their best subject, their math self concept may be the most positive, even if their actual performance in math is poor. But social comparisons are also very important. Student's self concept in math is also shaped by the comparison with his other class mates in math classes.

There is also another trend in development of self concept, when a student goes to a new school especially to a high school. His self concept seems to become more negative and less stable because students grow more self conscious in this age. At this age feeling of self-worth are more closely tied to physical appearance and social acceptance so these years are very difficult for the students.

Thomas (1990) has told that many factors contribute to the development of self concept. He says overall it is related to the scope of experience that one accumulates with oneself. It is at first a simplistic awareness of one self and one's capacities generalized across all situations but as one grows older the self concept becomes more complex and differentiated into sub facets that have to do with self in different situations, such as "Physical self".

1.13.1. Factors Affecting the Development of Self Concept

1.13.1.1. Language

Language enables one to label the experiences and actions organizing experience into integrated conceptual categories. Some of the earliest words in child's vocabulary have to do with self and the physical body (me, my name, toe, finger etc.); soon the child being to label things and people that are especially important extension of him/herself (Mamma, Daddy, toy etc.) family the child learns to label the thoughts and action with such evaluative terms as good, bad, naughty, nice and so on. These labels facilitate the organization of experiences pertaining to the self.

1.13.1.2. Identification

It is a process through which beliefs and values are incorporated by young children into their own personalities from exposure to such agents of society as parents, teachers, or heroes. Beliefs about one self (self concept) and values for oneself (self esteem) are generated through identification process, which includes introjections and imitation. In the process of self actualization an individual selects admired and loved persons as model to follow. When a person incorporates characteristics of these role models in his personality his self concept increases to a satisfactory level. Self models may be admired parents, siblings, teachers, classmates or public figures.

1.13.1.3. Social Feedback

The self concept of a child is product of social feed back which includes different relationships i.e. parent-child relations, teacher-pupil relations, peers relations etc.

(i) **Parent-child Relationships:** those children whose parents love them and consider them contributing and worthy family members come to view themselves in the same way and the children whose parents convey them that they are unworthy, a burden and not feeling any responsibility often appraise themselves in the same way. Instead of recognizing the specific sources of their frustration they are prone to develop generalized attitude of aggression towards every thing and every one. Due to guilt and anxiety which such attitude creates they come to operate superficial self within them.

(ii) Teacher-pupil Relationships: it is observed that successful experience in school and teacher approval contributes significantly to children's positive self concept. When a child is able to help his class-mates & teachers, he leads in some class activity and enjoy the expressions of appreciation for his contributions. All these things enhance child's sense of personal worth. Instead of this if child comes with half finished problems, wrong answers or incomplete papers etc a child develops a self concept of inferiority and unworthiness. So we can conclude that teacher can help such children to change their self concept.

(iii) Peer Relationships: The child's self estimate also improves by appraisal of their peers. The self ratings of fourth to eighth grade pupils have been given on desirable social traits as courtesy, popularity, generosity, dependability, honesty, sociability and cooperativeness. It is found that it co-relates with rating of them by their peers.

(iv) Physique, Aptitude and Temperament: it is pointed out that child's degree of physical maturity is important in determining his self concept of adequacy and confidence in sports as football, basket ball or tennis etc. Enhancement of self concept may be based on any worthwhile talent in intellectual, artistic, musical and mechanical field. Different children achieve self esteem by whatever discovered and developed talents they have (Frandsen, 1961).

1.13.2. Role of Academic Performance in Self Concept Development

While discussing role of education in development of self concept there are two different thoughts. First one is that self concept affects academic experience and the other one is that education affects self concept. The study of literature shows positive correlation between self concept and academic performance, but we can't decide which comes first, positive self concept or high academic achievement.

James (1890) suggested that self esteem is determined by how successful we are in accomplishing the tasks or reaching the goals we value. If a skill or accomplishment is not important incompetence in that area does not threaten self esteem. Levition (1975) found a consistent moderate correlation between children's self concept and academic achievement. Classy & Kenny (1977) found that levels of academic achievement

reached by pupils had a greater effect upon their self concepts, it is further concluded that pupils come to see adults approval as being dependent upon their levels of academic achievement.

Fontana (1977) thinks that child's failure to master early skills renders him less able to master the latter ones. Failure like success breeds upon itself. With each experience of failure he becomes less sure of himself, less and less ready to tackle new things, less and less confident of his own abilities. It means that child who is developing competence should have continuous reassurance that his skills are an effective way of dealing with the world, and of keeping balance between its demands and his own needs.

Covington and Omelich (1979) have demonstrated how students faced with failure will attempt to defend an image of themselves as people with ability by attributing their failure to lack of efforts. Hatti (1992) noted after a research that academic achievement is more highly correlated with measures of academic self concept than with generalized measures of self concept. Hamachek (1995) concludes that positive change in one facilitates the other; it means doing well in school enhances positive self concept. Vice versa people who develop positive self concept feel better about their abilities and as a result they perform better academically.

Marsh (1987); Marsh (1990); Marsh and Holmes (1990) and Hansford and Hattie (1992) concluded that students with higher self esteem were somewhat more likely to be successful in schools. Kundu (1989) considers that along with intelligence age, socio-economic status, level of education also increase self concept. As the individual gets maturity he possesses more differentiations and becomes realistic. An integrated self concept acts as a motivational force in maintaining mental health and influencing learning situations. Marsh (1990) conducted a research to study the relationship between self concept and academic performance. The results of study indicate positive relationship between self concept score and GPA. Significant positive relationships were found in four subscales of the self concept scale. These were the subscales of identity, behaviour, personal self and family self.

Vasta et al., (1992) observed that major determinant of children's academic self concept is their academic performance; children who do well in school develop high opinion of the competence, and poor performance develop low opinions. The feed back

that children receive for their work and the way they interpret it also creates positive effects on their self images. Astin (1993) explored after a research that institutions of higher education generate more positive self concept than the institutions of lower level of education. Brookover and Colleagues (1996) found that self concept of ability was significantly correlated with school performance.

Urdan and Midgley (2001) found some students are so interested in protecting their self-worth and avoiding failure that they become distracted from pursuing learning goals and engage in ineffective learning strategies.

Maqbool (2002) made a study, the results showed that overall school achievement and self concept are significantly and positively correlated. The good reading achievement group displayed significantly better self concept rather than poor reading achievement group. Guay, Marsh and Boivin (2003) made a study to indicate that achievement has an effect on self concept and academic self concept has an effect on achievement. The results showed that as the children grow older their academic self concept responses become more reliable, more stable and more strongly correlated with academic achievement.

Nunez and Gonzalez-Pienda (1994) indicate the need to differentiate four possible patterns or causal models between self-concept and academic performance. These are discussed below.

1. **Academic performance determines self-concept:** This indicates that academic experiences of success or failure significantly affect the pupil's self-concept and self-image. This may be explained by the role of evaluation by significant others. This is also supported by social comparison theory developed by Tajfel and Turner (1986). Here the influencing variable is academic performance. This should give priority to modifying the students' level of achievement and this contributes for changing the level of self-concept.
2. **Levels of self-concept determine the degree of academic achievement:** This causal relationship model explains the implications for applying educational decisions. In fact, self-concept is what determines levels of academic achievements. In this context, self-concept may be strongly influenced by contingencies provided by significant others. This includes teachers also. It makes

possible to make inference that it would be possible to increase the levels of school performance by previously optimizing levels of self-concept and very specifically levels of perceived competence.

3. **Self-concept and academic performance influence and determine each other mutually:** This is the third model of causal relationship between self-concept and academic performance. It is said that self-concept may influence academic performance. Likewise, academic performance may influence self-concept. Thus both self-concept and academic performance are mutually related.
4. **Existence of additional variables may be the cause of both self-concept and academic performance:** This model supports that personal and environmental variables as well as academic and non-academic variables may influence the development of self-concept and academic performance.

In addition, a good level of self-concept may produce beneficial effects. For example Hay, Ashman and Van-Kraayenoord (1998) conducted studies on self-concept and academic achievement. They compared the subjects with a high self-concept and other subjects with low self-concept. The findings report that the teachers consider the high self-concept students as more popular, cooperative, persistent in class work, with lower anxiety levels, more supportive families and higher expectations of future success.

The findings showed that as persons become academically better, their self concept become more positive. Academic achievement has also been considered very important factor affecting self concept. Studies by Guay, Marsh & Boivin (2003), Maqbool (2002), Rehman (2001), Afzal (1998) and Kundu (1989) are very important in this connection.

1.14. Models of Self Concept

Disagreement among researchers exists not only involving conceptual issues of self-concept, but also with respect to the way in which the construct should be operationally defined. In this regard, three major models of self-concept have been proposed: unidimensional models, multidimensional models, and hierarchical models.

1.14.1. Unidimensional Model

The unidimensional perspective is represented by two models:

(i) Nomothetic Model: This model postulates that although there are various aspects to self-concept (such as academic achievement and athletic ability), the only meaningful way of conceptualizing the construct is in terms of a general construct of self-worth. Proponents of this model (Coopersmith, 1967; Piers and Harris, 1964) have argued that given the dominance of a global self-concept, it is impossible to differentiate among its subcomponents.

(ii) The "True" Unidimensional Model: This model (as termed by Byrne, 1996) assumes that global self-concept can be measured directly and, as a consequence, it is not necessary to measure specific self-concepts (Rosenberg, 1965). Both models have been widely criticized. Harter (1990) points out that important distinctions individuals make in their self-perceptions of adequacy related to various aspects of their lives can be masked by simply combining all self-concepts in one overall score. According to her, self-concept cannot be understood if its dimensionality is not taken into account. She believes that self-concept cannot be treated as a static, trait-like construct, but as a phenomenon susceptible to changes. Marsh and Hattie (1996) have also shown that there is an absence of empirical support for construct validity of unidimensional models. Statistical analyses have failed to identify only one dimension. As a consequence, the unidimensional models have relatively little appeal today (Hoge & Renzulli, 1991).

1.14.2. Multidimensional Model

The multidimensional perspective is represented by three models.

One approach of the multidimensional perspective postulates that self-concept is composed of a set of independent dimensions or factors (Marsh et.al., 1983). According to this model, multiple self-concepts develop independently as a consequence of one's daily experiences, capabilities, and interaction with significant others (Byrne, 1996). Furthermore, this model argued against the existence of a global self-concept. Hattie (1992) and Marsh and Hattie (1996), however, have criticized the statistical analyses used by the proponents of this model.

A second model of the multidimensional perspective allows the multiple, domain-specific self-concepts to be correlated both among themselves and with a facet of global self-concept (Harter, 1985). Within the framework of this model "Self-concept is conceptualized along a continuum of very specific to very global perceptions of one's competency and these approaches are not necessarily mutually exclusive" (Byrne, 1996, p. 16). Many studies (Harter, 1985; Marsh, 1990; Marsh and Gouvernet, 1989) have demonstrated support for the correlated-factor model.

The third multidimensional model, a compensatory model, postulates that once self-concept has been accounted for, remaining variation is explained by multiple bipolar facets that are inversely related (Winne and Marx, 1981). According to this model, in the unconscious attempt to maintain one's sense of well-being, self-perceptions of low status in one domain (e.g., academic) will be compensated by self-perceptions of high status in other domains (e.g., social, physical). Although the rationale underlying this model seems to be reasonable, research in support of this model has been strongly challenged (Byrne, 1996). Marsh and Hattie (1996), for example, concluded that support for the compensatory model was more an artifact of the use of rank order scales than a compensatory process underlying self-concept structure.

1.14.3. Hierarchical Model

The hierarchical model constitutes a third way of conceiving self-concept. This model adopts the multidimensional perspective as the starting point and postulates a hierarchical organization for the various facets of self-concept. The global perception of self as a person (general self-concept) is located at the apex of the hierarchy and the actual behaviour at the base; moving from the top to the bottom of the hierarchy, the structure became increasingly differentiated (Marsh, Byrne, & Shavelson, 1988; Shavelson, Hubner, and Stanton, 1976). According to this model, global self-concept splits into two branches: academic and non-academic (social, physical, and emotional) self-concepts. Each of these facets is divided into separate and more specific self-concepts (e.g., math, peers, and physical appearance).

Considering developmental changes in the life-span, Hattie (1992) states that self-concept is more unitary before the child reaches adolescence. In addition, Harter (1986) has pointed out that it is necessary to develop a theory specifying the way in

which the various components of self-concept organize themselves into a hierarchy. In fact, Marsh and Shavelson (1985) recognize that although there was strong support for the hierarchical model based on responses by younger children, "As the self-facets become more distinct as in the late-adolescent data, the utility of the hierarchical ordering becomes questionable" (p. 122). Finally, for Hoge and Renzulli (1991), there is an absence of meaning in the concept of global self-worth in the hierarchical model.

1.15. Theories of Self Concept

In order to clarify the phenomenon of self-concept, several theoretical assumptions have been stated below.

1.15.1. Psychological Theory of Self Concept

In psychology the early work for development of self concept was of Sigmund Freud (1923). Like social interactionist he believed that self is social product but unlike social interactionist he believes self and society in conflict not in harmony. He says by interacting with others we learn the expectations of society and then select behaviour that is most appropriate to our culture. Rogers (1951) considered that it is individual's perceptions and interpretations that determine subsequent behaviour. To understand some one's behaviour is not enough to know the objective external situation, we must understand how it looks subjectively to that person.

A differentiated portion of this field is self concept, which develops out of individual interaction with environment. People behave in ways that are consistent with their picture of themselves and tend to reject or distort incoming information that is threatening to the self. It means experience may be symbolized in which case it becomes clearly and consciously perceived, or it may be denied symbolization and remain below the level of consciousness or it may be ignored. Rogers (1951) stated that large gap between perceived self and ideal self is generally an unhealthy state of affairs. Individuals whose behaviour continually falls short of what they believe it should be are likely to be plagued by anxiety, self hate, and feelings of inferiority. Fisher and Greenberg (1977) stated that Freud's concepts represent ways of looking at personality but there is no simple empirical test to be used to determine whether the superego, ego, or id are the best possible concept in describing the component parts of human.

Kundu (1989) said the Freud gave a three part model of mental self i.e. 'Id', 'Ego' and 'Super ego'. The id stands for gratification of impulses, the ego for rational self preservation and super ego for conformity. Thus in the narrow sense ego represents ideal self. For Freud self concept (or ego) arises from interplay between biological and instinctual urges of 'Id' and modifying influences of culture and parental structures forming the 'Super ego'. The role of Ego in self concept, in the different terms, has been emphasized by Ramanuja in Indian psychological philosophy. He thought that consciousness or self could never be without ego. Knowledge does not appear to itself. Self is not more knowledge but the subject of it and the general principle is that whatever appears to itself appears as an I. According to Rogers (1980) people nurture their growth by being genuine, by being open with their own feelings and by being transparent and self disclosing.

1.15.2. Motivational theory of Self Concept

White (1959) and Piaget (1952) have formulated motivational theory of competence self-concept. They described self-concept as intrinsic urges or drives. According to motivational theory, individuals are born with an urge to engage effectively with environment. It is associated with exploratory, creative and playful activities. This provides opportunity for the acquisition of knowledge and skills for dealing effectively with environment. This helps the child to develop a desire for positive self-concept based on intrinsic motivation.

The motivational theory of self-concept aims at acquiring competence and it helps the child for goal setting. The goal setting involves level of aspiration and expectance for future Performance. It is said that goal oriented individuals demonstrate their abilities to themselves and others. These helps to acquire positive perception of personal competence.

The motivational theory of self-concept states that an individual may be motivated to work for earning a financial bonus. But he may also be motivated by the internally rewarding nature of the work. Thus one form of motivation may supplement the other. Thus intrinsic rewards such as grades can replace the intrinsic satisfaction of performing well in school. In fact, motivation may be instrumental in the development

of actual behavioural competence as well as perception of those competence. It is thus evident that motivational approach to competence self-concept may gradually expand to incorporate social as well as personal factors. This may be motivated by internal or external factors.

1.15.3. Social Theory of Self Concept

Social theory of Competence self-concept emphasizes the environment rather than the individual. It tends to explain competence in terms of symbolic interaction. It is also known as system responsiveness. Competence self-concept is presumed to develop as a result of responsiveness from significant others or on the system in general. Mead (1934) is the proponent of symbolic interaction theory. It emphasizes self-concept as an active and creative view of the self. Foote and Cotrell (1955) have explained self-concept as quality to gain mastery behaviour in an interpersonal context. Thus self-concept is the outcome of role performance and successful socialization. It helps to develop a sense of competence in social life. Thus competence is viewed as the ability to control the outcomes of interaction among different episodes in social context. In this sense, competence self-concept is conceived as a multidimensional construct. It is composed of health, intelligence, empathy, autonomy, judgement and creativity.

According to Gladwin (1967), Competence self-concept develops from three interrelated sets of abilities. This are (i) Effective use of appropriate goal directed behaviours (ii) Effective use of social systems to achieve personal goals and (iii) effective use of reality testing to determine the success of one's efforts.

There are several elements of self-concept. Franks and Marolla (1976) distinguish between inner self-esteem and outer self-esteem. The inner self-esteem involves personal competence. The outer self-esteem involves reflected appraisals from others. Rosenberg (1979), on the other hand, postulates self-confidence as an effective dimension of self-concept. Self-confidence as element of self-concept refers to one's ability to behave effectively.

According to Giddens (1979), self-concept may be viewed in a structural context. It involves competence judgement in terms of social structure. It focuses on the adequacy of performance in the light of role requirements. It is inherent in the individual's social

network. It defines competence as an ability to attain and perform three kinds of roles. These are i) roles assigned to an individual by society, ii) roles in the social system that the individual may reasonably aspire and, iii) roles that the individual might develop for himself or herself. Finally, Giddens (1979) uses the term power instead of competence. He views the construct as capacity of social actors to achieve intended outcomes.

1.15.4. Cognitive Theory of Self Concept

Cognitive theory of self-concept may be explained in terms of expectancy. According to Harackiewicz *et al.* (1985), cognitive theory of self-concept involves social and personal elements. These are the basic elements of competence self-concept. Thus cognitive theory of self-concept is conditioned by performance appraisal. It is informational rather then evaluative. It is developed in the context of attribution and social learning theory. Cognitive theory of competence self-concept is based on beliefs about personal agency or control of social elements. It is the result of self-efficacy. It develops gradually due to direct and mediated transaction with the environment (Bandura, 1977, 1978, 1982). The interpretations of social transactions produce an affective reaction. Thus the competence self-concept has a temporal dimension. It involves attribution for past performance as well as future performance.

1.15.5. Affective Theory of Self Concept

Affective theory of self-concept states that self-evaluative responses provoke affective reaction. Thus the performance of the individual may affect the individual's motivation to engage in a given behaviour. For example, Wicklund (1978) postulates provocative power of performance outcome in a given situation. In this context, Harter (1978) has proposed a model of affective theory of self-concept. This model states that an infant's initial effectance urges may produce immediate outcomes. These are i) self-perception of success or failure and ii) a response from socializing agents in the environment. This involves personal control over outcomes. It also gets feedback from significant others. Thus an effective response is created in the child. This contributes directly to motivation. This model postulates that each incidence of mastery behaviour is combined with other behaviours. Thus Child's perceived sense of confidence is influenced directly by the impact of affective factors.

Thus affective and motivational consequences influence competence self-concept. This occurs in a circular way. First, perceived competence is produced by motivational orientation. This will modify initial mastery urges. It provokes new behaviours. Thus affective and motivational consequences influence competence self in a circular fashion.

Campos, Campos and Barrett (1989) have explained feeling components of competence self-concept. According to them, three elements make an action affectively significant. These are i) Relevance of an action to an individual's goal. ii) Intrinsically positive and negative feelings of actions. iii) Emotional reinforcement expressed through facial expression and organization. Thus interpersonal and intergroup regulatory consequences of behaviour may produce efficacy related emotions leading to the development of competence self-concept. This efficacy related affect is an impetus for goal directed behaviour. It is a way of generating expressive signals for the development of self-concept.

1.15.6. Personality Theories of Self Concept

The personality has been defined by psychologists as enduring, distinctive thoughts, emotions and behaviours that characterize the way an individual adapts to the world. Four perspectives on personality development are psychoanalytic, behavioural, cognitive and humanistic. They provide us total landscape of personality in all its richness together (Halonen & Santrock, 1996).

1.15.6.1. Psychoanalytic Perspective

It is considered by theorists of this perspective that personality is unconscious that is beyond awareness and it is heavily coloured by emotions. Psychoanalytic theorists consider that behaviour is merely a surface characteristic and that to understand some one's personality we have to look at symbolic meanings of behaviour and deep inner workings of the mind. They also believe that early experiences with our parents extensively shape our personalities (Freud, 1917).

1.15.6.2. Behavioural Perspective

It is believed that personality is sum of observable behaviour, learned through experiences with the environment. Behaviourists believe that we can examine only what can be directly observed and measured and also believe that rewards and punishment determine our behaviours (Skinner, 1938).

1.15.6.3. Cognitive Perspective

The cognitive perspective emphasizes the mental process involved in knowing how we direct our attention, how we perceive, how we remember and how we think and solve our problems. Cognitive psychologist wants to know how we can use mental images to plan for future. A cognitive psychologist views the mind as an active and aware problem solving system (Simon, 1990).

The psychologists of this perspective think that individuals constantly organize and assign meaning to their experiences. Kelly (1955) developed the concept of personal constructs, which are cognitive constructions of reality; these constructs serve as filters that explain why two people can experience the same event and not report the same experience.

1.15.6.4. Humanistic Perspective

The humanistic perspective stresses the importance of our perceptions of us and of our world in understanding personality; this world view emphasizes that for each individual reality is what that individual perceives.

The humanistic perspective emphasizes a person's capacity for personal growth, freedom to choose one's own destiny and positive qualities. The psychologists of this school of thought consider that every body has the ability to cope with stress, to control their lives and to achieve what he desires (Halonen and Santrock, 1996).

Carl Rogers and Abraham Maslow were two of the leading psychologists of humanistic perspective; Rogers (1961) believed that most of people have considerable difficulty in accepting their own feelings, which are innately positive. As the people grow up people who are central to their lives condition them to move away form these positive feelings.

Maslow (1954) described that we have the hierarchy of needs in which certain basic needs (physical needs for safety, love and belongingness) have to be satisfied before the highest needs, i.e. self esteem and the need for self actualization. He describes self actualization as a motivation to develop one's full potential as a human being.

Among all personality perspectives humanistic perspective is the one which believe that the way we perceive ourselves and the world around us is the element of personality. Humanistic psychologists are of the view that self is core of personality. Each of us contains a potential, that can be developed to it's fullest by positive perception of ourselves.

1.15.7. Looking-glass Theory of Self Concept

A particularly influential approach to the origin of self concept was 'symbolic interactionism'. Coolly (1902) introduced the concept of the 'looking-glass self', to represent the idea that "a person's self concept is in large part the result of interactions with others significantly". He, who saw feedback from others as being crucially important, developed this idea further. According to him the self concept is like a looking-glass, reflecting what we believe other people think of us. This self concept includes both evaluative and illustrative dimensions. The evaluative dimensions are the judgement that we believe other people are making about us, and illustrative dimensions are what we believe they see when they look at us.

1.16. Secondary Education Perspective for the Enhancement of Students' Creative Outcomes in regards to Certain Correlates

The fostering of creative thinking through schooling has been studied by researchers in diverse fields, who have proposed various sets of recommendations (e.g. Sternberg & Williams, 1996). Teachers are the professionals who are called upon to implement these creativity recommendations (CRs) in real classrooms. Actually the fostering of creative thinking can be considered a legitimate concern of the high school, if we examine carefully the most widely accepted goals of all education-including the high school. High schools are legitimately concerned about the mental health of students. High schools maintain that they are fully concerned about the full intellectual development and functioning of students. Certainly a person is not fully functioning mentally, if his skills in creative thinking remain undeveloped or if his creative thinking abilities are paralyzed.

The high schools' concern about solid educational achievement is undisputed. High school teachers and guidance workers are urged to help underachievers to achieve in line with their potentialities and to aid over achievers to become 'better rounded' personalities. High schools are legitimately concerned that their graduates make useful contributions to society. Graduates conditioned for brain washing and paralyzed in their creative thinking are not likely to make the contributions needed now by our society. If high school educators can accept the fostering of creative thinking as a legitimate goal, they have already taken the first big step. According to Torrance (1962), most important things that educators can do in fostering creative thinking among learners are:

(1) Provide opportunities for students to learn and think creatively.
(2) Develop skills in creative thinking and problem solving.
(3) Reward creative thinking.
(4) Reduce as many as possible of the common inhibitors of creative thinking.

Some educators maintained that there must be fundamental changes in the ways schools are organized, if they are to foster creativity, achieving such objectives as developing independent responsibility for learning, inquiring minds, and ability to solve problems in contrast to emphases on familiarity with facts. J. Lloyd Trump (1959) have suggested organizations involving team teaching, varied class size, provisions for individual study, resource centres and programs which emphasize creativity and develop independence in learning.

Torrance (1962) mentioned that there are certain forces in culture which inhibit creative thinking at all ages. These are: an extremely peer oriented culture, sanctions against questioning exploration, over emphasis or misplaced emphasis on sex roles, the equation of divergency with abnormality or delinquency, and a work play dichotomy. In contrast to these forces, many of the common facilitators of creative thinking include: rewarding a variety of kinds of talents and achievement, helping highly creative individuals become less obnoxious without sacrificing their creativity, reducing the isolation of creative individuals, providing equal opportunities and showing equal attitude towards learners irrespective of gender and SES variations, providing sponsors and patrons for creative students, helping them to develop values and purposes, and helping them learn to cope with the fears and anxieties which arise from so frequently being a minority of one. In studies involving high school students, many of the inhibiting and facilitating factors listed above are reflected in the work of Getzels and Jackson (1958), Coleman (1961), Drews (1961) and others.

1.17. Objectives of the Study

The main objective of the study was to investigate the creativity and self concept of secondary school students with reference to gender, academic achievement and SES. Available literature reviews and theoretical frameworks about creativity and self-concept make it possible to state several specific objectives of the study. These may be stated as follows.

1. To investigate the relationship between creativity and self-concept of secondary school students.
2. To investigate, as an important predictor how much variations creativity can create in explaining secondary school students' self concept and vice versa.
3. To investigate that as stronger predictors how much variances in creativity can different dimensions of self concept create in case of secondary school students.
4. To investigate that as stronger predictors how much variances in self concept can different dimensions of creativity create in case of secondary school students.
5. To investigate the gender differences in creativity and self-concept of secondary school students.
6. To investigate the academic achievement differences in creativity and self-concept of secondary school students.
7. To investigate the socio-economic status (SES) differences in creativity and self-concept of secondary school students.

1.18. Rationale of the Study

Students' success and failure in academic atmospheres result from the development of their creative abilities and enhancement of self-concept. From the earlier part of their lives if students can realize how much creative abilities and sense of self-worth they possess, it in turn will help them in future to detect the weaknesses or abilities of them in school environment and classroom atmospheres. In Bangladesh context, students' proper development of creativity and self-concept is accelerated or fostered through various psychosocial and socio-cultural factors. These include: social code, societal norms, cultural mores, interpersonal value system, school environments and practices, commitment to school, teacher-pupil relationships, educational infrastructure, qualification and competence of teachers, types of residence, socio-economic status, and family's emotional atmospheres. Proper financial support of the family, good parent-child interaction, proper parental education, good peer relations, positive acceptance of parents and teachers, stable emotional atmosphere, location where the family lives, services provided in the community, educational environment(i.e. cultivation of competition and cooperation in class room activities), involvement in extracurricular activities, parental bonding, positive social and academic feedback from parents, teachers and society, a good sense of physical and mental well-being etc. also are very important factors to ensure the development of pupils' creative abilities and to enhance their sense of worth through highly positive self-concept. The sufficiency and proper reflection of these above mentioned factors in a systematic manner help pupils to foster their self-concept, self-regard, self-confidence and also help them to prove their creative abilities through different creative works. But the insufficiency and improper reflection of these above mentioned factors create hindrance to the development of creative abilities and enhancement of self-concept. Several studies focusing on the creativity and self concept of secondary school students with reference to relevant variables have been conducted in international perspectives (Marsh et al., 1999, 2005; Bosede, 2010; Perckel et.al., 2008; Ashworth, Hill and Walker, 2004; Jabeen and Khan,2013; Kaur et al., 2009; Pishghadam et al., 2011; Anwar et al., 2012; Radmacher and Azmitia, 2006; Trivedi and Bhargava, 2010) but very few studies focusing on this area of interest have been conducted in Bangladesh perspective. Though some studies (Shahrier & Enam, 2012; Enam, 2006; Ahsan, 2007; Tarana,

2011) have been conducted in Bangladesh perspective but these are insufficient enough to emphasize directly on factors for the development of creative thinking and enhancement of self concept among learners of secondary education levels with reference to certain socio-demographics. For the scarcity or lack of studies being done in Bangladesh in such area, this study motivated the researcher to investigate the relationship between creativity and self concept of secondary school students with reference to gender, academic achievement and socio-economic status. The study would utilize the knowledge of creativity and self-concept in the learning process and extra curricular activities of educational institutions. This study would also emphasize on the role of parents, teachers, counsellors and significant others of the society to ensure the proper nurturance of pupils' creative abilities and to foster their self-esteem and highly positive self-concept. Finally, this study would help parents and teachers to explore the creative abilities and self referring beliefs of children in the pursuit of knowledge of their academic as well as non academic areas with reference to certain variables like gender, academic achievement and socio-economic status.

1.19. Hypotheses

Though it is an explorative study, some specific hypotheses have been formulated. These are as follows:

H_1: Boys would possess more creative abilities and higher self concept than Girls.

H_2: High achiever students would possess more creative abilities and higher self concept than low achiever students.

H_3: The respondents of upper middle SES would possess more creative abilities and higher self concept than the respondents belong to lower middle SES.

H_4: There would be a significant positive relationship between creativity and self concept of secondary school students.

H_5: Secondary school students' creativity can be predicted by their self concept.

H_6: Secondary school students' creativity can be predicted by different dimensions of self concept.

H_7: Secondary school students' self concept can be predicted by different dimensions of creativity.

CHAPTER TWO

REVIEW OF LITERATURE

Studies relating to creativity and self-concept show that creative abilities and formation of self-concept of secondary school students get influenced with reference to gender, academic achievement and socio-economic status. Some specific empirical studies in national and international perspectives relating to these variables are discussed in the sequel.

2.1. Creativity and Gender

The importance of examining creativity in relation to gender is based primarily on the socio-cultural differences among girls and boys (Abra, 1991). Many researchers have studied gender differences in creativity. Flaherty (1989) reported an investigation on the effects of a multimodal program on self-concept and cognitive and affective creativity on students in third grade. Forty-five children from a public elementary school in south-western Pennsylvania were divided into two classes. The experimental group consisted of 23 subjects with a male teacher and the control group contained 22 students with a female teacher. The mean age and IQ of the experimental group was 8.7 years and 100 respectively and 9.1 years and 105.9 for the control group. Three paper and pencil instruments were administered: The Torrance Test of Creative Thinking (TTCT, Torrance, 1974), the Piers-Harris Children's Self Concept Scale (Piers-Harris, 1969), and the Creative Assessment Packet (Williams, 1980). The results indicated that the girls in the experimental group made significant gains over the boys and the total experimental group scored significantly higher than the control group on the self-concept measure. On the TTCT, the experimental group made significant gains on the elaboration scale of the TTCT, and there were gender differences in overall creativity scores favouring girls.

Traditionally, girls in our society have been encouraged to conform, whereas boys are expected to be active and dominant risk-takers (Block, 1983). Furthermore, Davis and Rimm (1989) acknowledge that most boys are provided with toys that enhance their visual-spatial abilities, such as trucks, Legos™, and models, while Lever (1976) notes that the games of girls are often highly structured requiring turn-taking and rules. In addition, characteristic traits of American Indians such as non-assertiveness (Florey and Tafoya, 1988), group conformity (Bradley, 1989), and the need for modeling (Garrison, 1989) may further impact existent gender differences in creativity. Social expectations and conformity pressures may create "cultural blocks" to creativity in both girls and American Indians and requires further investigation.

In another study examining gender differences in creativity, Boling and Boling (1993) conducted an investigation with 40 students ages 10 through 13 in a private school using the Eisenman's Personal Opinion Survey. This survey measures creative attitudes; polygons, differing in complexity-simplicity; and an unusual uses measure. They found first-born males and later born females demonstrated the greatest creativity.

Dudek and Runco (1993) reported a difference in the mean score of creativity between males and females. They chose 1,500 students in 11 schools and explored the differences in sex in the development of the creativity potential. They found that the mean score of creativity was different between boys and girls and also reported that the creative potential improved with age.

Naderi et al., in 2009 explored the effect of a few predictors including gender, creativity, and age with academic achievement in 153 undergraduate students in Malaysian universities. The age of participants who completed the creativity test ranged from 18 to 27 years old. The results show that the females' mean score (33.21) was greater than the males' mean score (31.90) for creativity, however, no large differences in the standard deviations were found between females and males (females = 4.55 & males =4.36).

Trivedi and Bhargava (2010) found that in high achiever groups, when gender was differences, gender impact on creativity was observed. In other words, these groups of adolescents were more alike and shared similar traits that override the impact of gender.

In contrast, among the low achiever group on creativity there were differences in terms gender. They selected 240 students (120 male and 120 female), aged range of 15 to 17 years from senior secondary schools in Jodhpur city. Passi's Test of Creativity (PTC) and the percentage of aggregate marks were used for data collection.

However, in contrast to the above, over 20 years, researchers have determined that there is no difference in creativity in males and females (Samira, 2003). In 2003, research concerning the family and the emotional and creativity of children was conducted by Samira. In this research, male and female students from several Education regions were selected using random sampling. Data collection was used for the creativity test and the family emotional climate questionnaire, also statistical analysis – multiple regression methods and t-test – were conducted. According to the statistical analysis, the current study illustrated no significant different mean score of creativity between males and females.

Samira (2003) conducted her study on the psychological profile of creative and non-creative sciences and arts students in the public universities in Tehran. Participants were selected using the random sampling model; 300 students (150 males and 150 females) who enrolled in the universities in Tehran and completed the questionnaires were chosen as participants. The independent sample t-test and Pearson product-moment correlation were conducted as the analysis data in this study. The results illustrated that although arts students had higher scores there was no statistically significant difference between the science students and the arts students concerning the creativity in the universities. The results also showed that there was no difference in creativity between males and females.

Perceptions of creativity among peers have also been investigated. Lau and Li (1996) studied 633 Chinese students in grade five in Hong Kong. Based on peer nominations, the students were placed in five status groups: average, popular, neglected, rejected, and controversial. Through peer nominations and teacher ratings the perception of the students' degree of creativeness was obtained. Among students, boys were viewed to be more creative than girls. Contrasts of the average group with the others were significant except for the rejected group. With teacher ratings, the differences between the average and other groups were less extensive, with only the popular group a little higher than the average group. Peer status and perceived creativity were highly related.

Inconsistent findings have been discovered on gender differences and creativity. With younger students prior to grade three, Kogan (1974) and Tegano and Moran (1989) found a tendency for girls to score higher than boys. However, boys scored higher on originality in grade three. Coone (1969) and Warren and Luria (1972) found higher scores for girls in early adolescence on figural creativity. Likewise, Torrance (1983) found that gender differences in divergent thinking ability have changed over time. In the 1950's and 1960's boys outperformed girls on measures of originality, whereas girls surpassed boys on elaboration and most measures of verbal creativity (Torrance, 1962, 1965). Additionally, Bruce (1974) and Torrance (1963) report that the gender gap in differences in creativity began to diminish in the 1960's and 1970's.

Shutiva (1991) compared the scores on the Torrance Test of Creative Thinking (TTCT), Figural Form B of 150 eleventh grade, urban and reservation American Indian students representing twenty-one different tribes. The results indicated that urban students were more creative on originality, abstractness of title, resistance to closure, and average and creative index scores. In comparing males and females, the urban girls scored significantly higher than those on the reservation on all six variables. They also obtained scores ten to fifteen points higher than the reservation girls, reservation boys, and urban males on several of the variables.

A canonical correlation analysis (Ai, 1999) found that when operationalized by their grades, creativity was related to academic achievement for both boys and girls. For girls, elaboration related to four of the academic subject areas (Basque, Spanish, social science and English) and fluency related to natural science and mathematics. For boys, flexibility was the predominant factor that related to all six academic subject areas.

Nori (2002) studied the sex difference and the type of relationship between creativity and academic achievement among high school students in Shiraz city. There were 306 high school students (150 boys and 156 girls) in the research. To measure the rate of creativity, Nori (2002) used an Abedi questionnaire and CGPA for academic achievement. The results were analyzed by CGPA for academic achievement. The analysis revealed that there was no significant relationship between creativity and academic achievement, but the result was different for the two sexes. Other researchers, such as (Behroozi, 1997; Mayhon, 1966; Tanpraphat, 1976; Torrance, 1962) also supported the view that creativity was not related to academic achievement but was related to sex differences.

Friendships, peer relationships and social approval are important for the development of creativity. Radmacher and Azmitia (2006) mentioned that in adolescence, females use more expressive pathways to increase intimacy with friends whereas males use expressive and instrumental pathways equally. Thus, males possess more creative abilities in terms of friendships, peer relationships and social approval than their female counterparts.

Some studies (Ai, 1999; Habibollah, Rohani, Tengku Aizan and Jamaluddin, 2009; Palaniappan, 2005) show that males surpass females on some components of creativity, but females are generally better than males on others. Habibollah et al. (2009) found no gender differences on the overall factor scores for both 'What Kind Of Person Are You'? And 'Something about Myself', except for environmental sensitivity and initiative among Iranian students. Females scored significantly higher on environmental sensitivity than males and males scored significantly higher on initiative. This is consistent with the findings in Palaniappan (2005)'s study, which supported the view that there are no gender differences for general factor scores, with the exception of environmental sensitivity and initiative among Malaysian students. Palaniappan (2005) stated there was no significance difference on the factor environmental sensitivity between males and females, while males obtained higher scores on initiative than females.

DeMoss et al. (1993) examined the relationship among gender, creativity, depression, and attributional style among high-achieving adolescents. One hundred twenty-eight eighth-and ninth-grade high-achieving students completed the Torrance Test of Creative Thinking (TTCT), the Children's Depression Inventory (CDI), and the Children's Attribution Style Questionnaire — Revised (KASTAN-R CASQ). The results indicate that there were gender differences only on the verbal component of the TTCT, with females scoring significantly higher. For both sexes, there was a significant relationship between figural creativity and a depressogenic attributional style. However, for females, high verbal creativity was associated with low levels of depression and a positive attributional style.

Gupta et al. (2009) investigated the effect of gender and level of creativity on the mental health of adolescents (N=370) of Government as well as aided school of Jammu city. Using random sampling technique equal number of Male (N=185) and Female (N=185) adolescents were selected. Adapted version of Wallach and Kogan battery of creativity along with the mental health inventory by H. P. Magotra was administered personally to collect the data. High creative and low creative adolescents were identified on the basis of Quartile deviation. Results indicated a significant difference in the level of Mental Health in relation to creativity of male and female students.

2.2. Creativity and Academic Achievement

Educators have emphasized the importance of favorable conditions for developing students' creativity, and several studies have suggested ways to cultivate creativity in an educational environment (Alencar, 1993; Amabile, 1989; Daniels, 1997; Piirto, 1992; Starko, 1995; Sternberg & Williams, 1996; Timberlake, 1982; Torrance, 1983). However, the development of logical thinking, emphasizing knowledge, recall, and reproduction, is a priority in many schools which help in the high academic achievement of students in those schools (De Bono, 1984; Gardner, 1991; Von Oech, 1983). To make teachers aware of educational strategies promote the development and expression of students' creative abilities which help them to be high achievers in academic areas.

Torrance (1983) using sample of high school students, concluded that boys of high ability and creativity who had well-adjusted self perceptions had a higher academic achievement than equally able boys, who were not motivated for college work. From his study he further concludes that if the ability and potentialities are to be properly utilized their self concept and academic achievements are to be properly activated and boosted.

Studies on the relation between school achievement, creativity and self-concepts have shown that high achieving students at school have a more positive academic self-concept (Skaalvik, Valfins and Sletta, 1994), higher self-esteem (Korpinen, 1990), higher level of agency and control belief and more creative abilities (Little et al., 1995). They attribute their performance to effort rather than to ability or luck (Juvonen and Murdock, 1993), and express lower level of ego-defense (Skaalvik, 1990) than low achieving students.

Anwar et al. (2012) explored the relationship between Creative Thinking and Academic Achievements of Secondary School Students. The study was conducted using survey design method. A total number of 256 students participated in the study. Participants were selected using random table. Torrance Tests of Creative Thinking [TTCT] was used to measure creative potential of participants on four elements. Pearson Correlation and one-way ANOVA were used to verify hypothesis. Results revealed a statistically significant relationship between i) creative thinking and students' academic achievements on different aspects of test of creative thinking, ii) creative thinking and academic achievements.

Naderi et al. (2009) examined creativity, age and gender as predictors of academic achievement. Participants (N= 153, 105 = male & 48= female) completed creativity test. Cumulative grade point average (CGPA) was used to select the participants. A multiple regression analysis revealed creativity, age and gender explained 0.143 of the variance in academic achievement. The significance level was indicated by the F- value of 8.294. Multiple regression analysis showed interaction effects between creativity, age and gender as low predictors of academic achievement. The findings also show a lower correlation of CGPA and the independent variables of this study. No significant difference between CGPA and gender was observed.

Rosenberg (1965) found that when individuals are encouraged to think independently and take part in decision-making, their achievements in academic areas increase. He attributes this phenomenon to the enhancement of their perceptions about themselves and their abilities. According to this study, a good concept about the self and working environment will surely provide an opportunity to the concerned to function and activate their abilities especially the divergent and creative potentials.

Burrie (1961) demonstrated that improving creative potentials through a counselling programme help college students improve their achievement motivation and academic achievement.

Pallak, Brock and Kiesler (1967) found that when students are allowed to choice their academic work and activities, their academic performance increases because that allows their self-appraisal and freedom to work. He also found that the high academic achievement has a positive influence on the process of making the potentialities of a person.

The results of the study on 272 undergraduate students done by Pishghadam et al. (2011) demonstrate that there is relationship between cognitive creativity of participants and their academic achievement while estimated correlation is 0.36 which is interpreted as high measurement of creativity.

Devasta and Thomson (1973) found that a creative child gets irritated when strict discipline is enforced in the family. The study also pointed out those activities that permit the individual's freedom, independence, curiously, exploration and self-confidence are decisive to the development of creative ability.

Winterbottom (1973) has found that need achievement in male children is related to parental attitudes towards independence, training and personal autonomy, which are associated with high academic achievement. He set up three experiments to demonstrate that functional creativity test scores (fluency, flexibility and originality) may be influenced by task definition and changes in subject motivation. It was concluded that enhancement of creative production following deliberate training may be partly the result of improved task definition, heightened subject motivation and improved self concept.

Barron (1963) found that higher expectation from an individual in terms of goals to be achieved or time allocated for academic achievement has a positive impact on the individual performance of the potential creativity. Ames, et.al., (1984) found that children who worked in the individualistic (learning goal) context were less likely to attribute failure to ability and were more likely to engage in self-instruction than were children working in the competitive performance goal context. Wagner Stephan and Irwin (1985) used the academic performance as an indicator variable and showed that non-failing students had higher levels creative potentials than failing students because they maintained a good opinion about themselves. Their experiences have supported their self and boosted their morale to do well with their potentials and capacities.

Whitmore and Joanne (1986) found that school experience could be hazardous to the mental health of young gifted children. Rather than facilitating the development of the exceptional potential for learning and academic achievement, school experience can produce damaging effects on the child's perception of self and other attitudes towards

school and social competence and thereby may destroy their giftedness. Butler (1987) found that if adolescents are to be properly informed of their abilities and capacities then their creative potentials play an important role on their academic achievement.

Wang (2011) studied American students to demonstrate the relation between cognitive creativity and academic achievement of this group of participants. The results showed that these two variables are positively related to each other with the range of 0.37.

The study on a group of Taiwanese students, Wang (2011) observed that cognitive creativity and academic achievement are positively related to each other with the measurement about 0.24.

Atkinson (2004) studied 54 college students and 50 pupils. He intended to compare these two groups to signify whether the cognitive creativity and academic achievement are related or not. He concluded that there was 0.54 correlation between cognitive creativity and academic achievement of participants.

Jayasree (1988), declared, in her study among the higher secondary students that, attitude and perceptions about themselves along with high academic achievement have significant role in the development of creativity among adolescents.

Delcourt Marcia (1993) in the study of 18 highly reactive/productive secondary school students reveals subjects' insights into ways they obtained ideas for their projects, how interest in their investigations was sustained, and what they learned from projects. Data from school documents, students, and parents are examined in terms of demographics, family background, educational experiences, and students' perceptions. The study revealed that their perceptions about themselves have a positive relationship with their academic achievement and success in life. Getzels and Jackson (1962) compared a group of middle-class adolescent pupils who had scored well on intelligence tests with pupils who scored well on creativity tests designed by Guilford. They found that highly creative children were superior in scholastic achievement to pupils with high I.Q., although the high creative had 20 I.Q. points lower than the high I.Q. students - indicating a positive relationship between creativity and academic ability. The high creative, although having an average I.Q. 5 points less than their school population taken as a whole performed better in school achievement.

Yamamoto (1964a) replicated Getzels and Jackson's (1962) study on 272 ninth through twelfth grade students of the University of Minnesota High School. The students in each grade were grouped into three groups based on their level of creativity and intelligence scores. The groups were the high intelligence group (comprising students in the upper 20% on IQ but not in the upper 20% on creativity scores), the high creative group (comprising students in the upper 20% on creativity scores but not in the upper 20% on IQ) and the high intelligent-high creative group which comprised students in the upper 20% on both the I.Q. and creativity measures. On analyzing the academic achievement scores of these groups, Yamamoto (1964a) found no difference in academic achievement between the high creative and the high I.Q. groups although there was a mean difference of twenty I.Q. points. The creative seem to be able to "compensate" for what they lack in intelligence by their creative ability to attain similar level of academic achievement.

2.3. Creativity and Socio Economic Status

Fleith (1999) conducted a study considering the socio-emotional status of Brazilian children. He found that most of the Brazilian children were immigrants who had to adjust to a different cultural, social, linguistic, and educational environment. Many of these students, in the process of moving to another country, had to leave behind family members and friends. Moreover, because the Brazilian educational system structure was different from the American system, Brazilian children needed to internalize the new rules. This transition process was not completed in a short period of time. As a consequence, many teachers complained about the lack of discipline in Brazilian students. As observed by the researcher, many Brazilian children were routinely sent to the principal's office, and their parents were asked to come to the school. This suggested that their teachers were not knowledgeable about students' behavioural processes and characteristics, and they had limited ability to manage discipline problems in the classroom which hampered their development of creative potentials.

Parsasirat et al. (2013) conducted a study to examine the effect of socioeconomic status on emerging adolescent creativity. This exploratory correlational research study examined the relationship between family economic status, father's education and mother's education with adolescent creativity. The sampling method was employed to

select the proportion of participants using stratified and multi-stage cluster random sampling. The population of the sample was 546 high school students in Education Region 4, Tehran. The participants, 249 males and 297 females, completed two questionnaires. The adolescents completed a Demographic Characteristics Questionnaire and Abedi Creativity Questionnaire, which were used as the measuring tools in this study. The results showed a significant positive correlation between family economic status and creativity ($p < .01$), and between parent education and creativity ($p < .01$). Interestingly, the analyses revealed a strongly significant positive correlation between parent education and creativity ($p < .01$), although none was found between males and females on creativity.

Dudek and Runco (1993) conducted a research to explore the differences in creative thinking skills among children representing different socioeconomic levels. In their research, 1,500 students' from11 schools were chosen as participants. Ultimately, they found a statistically positive significance between the potential creativity in children and socioeconomic status. In other words, they demonstrated that high quality material environments increase the potential creativity.

Mohammad, K. (1995) demonstrated the impact of different socioeconomic levels (welfare, average and low social status) on creativity. He selected 225 male students who enrolled in the first year of secondary school. They used ANOVA, multivariate regression, and Tukey multiple comparisons to analyses the data collected. The results showed that there was a statistical difference between three socioeconomic levels (welfare, average and low social status) and creativity. Also, there was a statistically different mean of creativity between welfare socioeconomic level and average and low socioeconomic level; however, there was no statistically different mean of creativity between average socioeconomic level and low socioeconomic level.

Fleith (1999) also found that because Brazilian parents had to work in two or three jobs to provide a better quality of life for their family, they did not have the same amount of time to spend with their children as their American counterparts. This reduced time available to supervise homework and participate in the school activities. As a result, Brazilian students' emotional, social, and educational needs for the development of their creative abilities were not always satisfied as compared to African students.

Hellen (1999) selected 52 preschool students (29 males and 23 females) to explain influence of maternal attitudes on the creativity level of children who were three to six years old. Hellen reported differences between socioeconomic levels and creativity. The Pearson's product moment correlations revealed that significant creativity and control subscales were positively correlated with socioeconomic status.

Pepitone (1985) found that those children who come from an urban family with a higher socio-economic status are better achievers in school and posses a highly positive self concept and showed more creative abilities than rural students coming from a family with lower socio-economic status.

Other researchers that studied the effect of fathers' education on creativity were Ozgun et al. (2011). They chose 24 fathers who had children of 6-years-old and enrolled in a kindergarten in a public school setting in Turkey as participants. This study was a quasi-experimental multi-group in which12 fathers were assigned to an experimental group while 12 fathers were assigned to the control group, before the fathers in the experimental group enrolled in the fathers' education programs. In addition, both groups (experimental and control groups) completed a pre-test and post-test. After comparing the pre-test and post-test, the results showed a significant difference between the experimental and the control group concerning creativity.

Ramesan (1987) in his study on some social familial variables discriminating between creative and non-creative secondary school pupils found that social-familial variables like parental occupation level, parental education level, socio-economic status and birth order are capable of discriminating between creative and non-creative. He has also shown that a stimulative home environment has a role in the development and functioning of creativity among pupils.

Roscigno and Crowley (2001) noted that the academic performance and the development of creativity among lower-middle SES children typically lags behind that of upper-middle SES children because of inadequate facilities, difficulty in keeping highly qualified teachers and generally poor classroom environments.

A comparative study (Palaniappan, 2007) of 40 Malaysian and 32 American students' creativity was carried out. Creativity was measured using the Torrance Tests of Creative Thinking, Figural Form A while measures of academic achievement were obtained from two latest class assessments extracted from school records. Findings indicate that the American students are significantly superior compared to Malaysian students in overall Figural Creativity as well as in its components, namely Fluency, Flexibility, Originality and Elaboration.

Roberts et al. (2001) examined how measures of imagery, creativity, and socioeconomic status relate to performance in a stock-market trading game. The 368 participants were students enrolled in an administration studies curriculum. A multiple regression analysis showed imaging scores to be a predictor of stock-trading performance as were creativity and socioeconomic status to a lesser extent. High imagers and high scorers on creativity and socioeconomic status made several times more profit with their portfolios. Results were discussed in terms of imagery having multiple repercussions on learning, e.g., memory and problem-solving. It was concluded that scores on imagery, creativity, and socioeconomic status, being weakly correlated, were interdependent and likely associated with personality traits shaped within a stimulating home or social environment.

Anderman and Kimweli (1997) found that lower-middle SES background students reported being victimized and perceiving their schools as unsafe more than did students in upper-middle SES background. As a consequence, lower-middle SES background students in urban school develop less creative potentialities about school environments as compared to their upper-middle SES counterparts.

Easton and Ellerbruch (1985) found that the lower socioeconomic status students scored considerably lower on creative abilities and self-esteem than did students from upper socioeconomic communities.

Verma (1975) conducted a study to explore the differences between upper-middle SES and lower-middle SES secondary school students in their creativity, self-concepts, interests and personality adjustment. The same of the study consisted of 300 respondents (150 lower-middle SES, 150 upper-middle SES). The findings showed that

lower-middle SES students scored lower in terms of self-concept, creative abilities, interests and personality adjustment as compared to their upper-middle SES counterparts.

Maharjan (2008) measured the creativity and self-esteem of adolescents (n = 66) from Kathmundu and Rupandehi districts. The results of the study showed that the adolescents from both high SES and low SES area have high self-esteem and more creative potentialities and interestingly, low SES students have slightly higher scores than the high SES adolescents.

McCracken and Barcinas (1991) whose study of rural schools in Ohio revealed that rural students tended to be more homogeneous, come from larger families, and have lower socioeconomic status. Rural parents tended to have a lower educational attainment and were less likely to expect their children to attain an education beyond high school. These researchers maintained that these parental and home influences have a great impact within rural students to develop negative and lower self-concepts and poorer creative abilities as compared to their high SES urban counterparts.

Ezeilo (1983) conducted a study to determine the SES differences in creativity and self-concepts among Nigerian adolescents. The sample consisted of 200 male and female adolescents from low SES and high SES background secondary schools in Anambra State, Nigeria. Result revealed that low SES adolescents had poor self-concepts and possessed lower creative abilities as compared to high SES adolescents.

According to Ashworth, Hill and Walker (2004), both urban and rural lower-middle SES children are more likely to be isolated from the upper-middle SES in schools, neighbourhoods, and their communities. When a child is isolated due to his socio-economic status, it is hard to overcome that when the status does not improve. Therefore, lower-middle SES children have more tense relationships which results in poor creative abilities, low self-esteem, abnormal or other unexplained behaviours.

2.4. Self Concept and Gender differences

A large number of studies have demonstrated that gender contributes sufficient variance for the assessment of self-concept. For example, Hattie (1992) conducted an empirical study to show the differential effect of gender. It was found that females expressed more role conflict than males. The investigator identified several factors for these gender differences. This was due to minority group status in the society. Secondly, females were found socially and economically dependent as compared to males. In addition, cultural ideology in every society demands that females should be regarded as inferior to males. On the basis of these observations, the investigator has concluded that females possess lower self-concept than the males.

Piers (1984) has made an observational study and accumulated large number of evidences about male-female differences in self-concept. The investigator showed that gender differences are evident in domain specific self-concept. A self-concept measure was administered on a sample composed of boys and girls. It was found that boys expressed less anxiety and more problematic behaviour than girls. This indicates that boys possess higher rigidity in the frame work of self-concept. Girls, on the other hand, expressed higher flexibility in the frame work of self-concept. The study used a questionnaire consisting of eighty items. It was found that significant gender differences were highly evident on thirty three items. These findings appeared consistent with sex stereotypes.

Crain and Bracken (1994) explained gender as a moderating variable in self-concept. The findings of their study showed that boys rated their physical self-concept significantly in higher degree than the girls. Osborne and Legette (1982) used Self-Concept of Ability Scale for measuring domain specific self-concept. It was found that boys had significantly higher domain specific self-concept of physical appearance than the girls, but girls had better self-concept in behavioural social domains than the boys. Differences were also found on social class characteristics. Mboya (1994) developed Self Description Inventory in 1993. This inventory was used to measure the self-concept of boys and girls. The results showed that boys had higher self-concept than girls. In the domains of family, physical ability, physical appearance, music ability and health but girls had higher self-concept in general school and emotional stability domains. The results also showed that boys expressed higher levels of global self-concept than girls.

Marsh et al. (1991), examined children's domain specific self-concept. They used SDQ-I on a group of children between 5 to 8 years in age. The results showed that girls expressed lower self-concept in physical ability but higher self-concept in physical appearance and reading as compared to boys. This study showed that young girls had slight advantage over young boys in physical appearance but this was found to disappear with the increase in age. Byrne and Shavelson (1987) conducted an empirical study on self-concept. The results showed that boys expressed higher self-concept than girls in the areas of mathematics, general self, physical appearance and physical ability. But girls expressed higher self-concept in the areas of reading and general school. Similarly Marsh et al., (1983) reported that girls expressed higher self-concept than boys in their adolescent years. But boys expressed higher self-concept in physical abilities, physical appearance and mathematics. Additional evidences were reported by Meece et al. (1982). They showed that girls expressed lower mathematics and higher reading self-concept than boys.

In terms of behaviour, research indicated that males are likely to rate their behaviour more negatively than females (Harter, 1988) and white advantaged male adolescents typically describe their behaviour self-concept and perceived their behaviour more positively than their black and Hispanic disadvantaged female peers (Kenny and McEachern, 2009).

Perckel et al., (2008) conducted a study to investigate gender differences in 181 gifted and 181 average ability sixth graders in achievement, academic self concept, interest, and motivation in mathematics. Results revealed that in both ability groups, boys earned significantly higher test scores but there were no gender differences in grades. Girls scored lower on measures of self-concept, interest and motivation. Gender differences were larger in gifted than in average ability students. Ability group differences for self-concept and interest were only found for boys in favour of the gifted. Results supported the assumption that gender differences in self-concept, interest, and motivation in mathematics are more prevalent in gifted than in average ability students.

Moreno et al., (2007) conducted a study to examine the effect of gender in relation to the physical self concept of older primary school children in physical education classes. The sample was comprised of 1086 participants, 570 boys and 516 girls ranging in age from 10 to 11 years. Results indicated that boys had higher levels of perceived competence and greatest self-confidence than did girls in relation to sport activities, whereas the girls had a more favourable perception of their physical appearance and physical strength than did boys.

Brunner, Krauss and Kunter (2007) examined the performance on mathematics items of students in Germany. In their study they investigated the effect of gender differences on the self-concepts of students in overall mathematics ability and specific mathematics ability. They found that girls slightly outperformed boys on reasoning ability, but on specific mathematics ability, boys had higher math self-concepts over girls.

Hassan (1978) remarked by a series of studies that parents develop negative attitudes towards education of female children and they are socialized from the beginning that they are inferior to their male counterparts and their success and failure is useless. This is the reason that female internalize4 a negative image of themselves and their abilities. Herzog (1982) says that girls often surpass boy s in elementary schools and in high school by achieving high grades. But when they enter in adolescence, their perception about themselves may be affected by their choices.

Marland (1983) considered that female students feel passive shy and dependent and male students become self assured competitive and independent by the combination of courses, the content of text and by the interaction of teachers with students. Hassan (1983) conducted a series of studies; the results indicate that women rate themselves lower on self concept scales at the different age stages because of stereotyped boundaries of society. Linn & Petersen (1985) argue after the findings of a research that dependence in girls and high expectations of success from boys are found due to social training. The self report studies on dependence and success expectancy prove that girls score high in dependency and boys score constantly higher on success expectancy just due to social training.

Philips and Zimmerman (1990) said that in elementary grades, girls and boys have comparable perception of their own abilities but by the ninth grade, and continuing through the high school, on the average, girls gradually lower perceptions of their own abilities as compared to boys.

Zinner (1993) observed that an American study found that appearance, intelligence, and accomplishments contributed less to women's overall self esteem than to men's.

Huurre et al., (1999) carried out research in India with a sample of 100 disadvantaged students aged between 13 and 14 years (50 blind females and 50 sighted males). Results revealed no gender differences in the self concept of both groups.

Jackson et al., (1994) found no differences between boys and girls in several self-concept dimensions.

Macoby and Jacklin (1974) conducted a review of research of the self-concepts of boys and girls. The results of their analysis found that boys and girls have equivalent levels of self-concepts.

Wigfield et al., (1991) found that girls express stronger self-concept in language arts than do boys.

Watkins and Jiayuan (1993) in a research examined possible gender differences in the sources and levels of self esteem of 99 male and 90 female under-graduates from main land China. There was a little evidence of gender difference in the level of over all self-esteem, but gender differences were evident in the subject's ratings of the importance to their self concept and their self satisfaction with lower order facets of self, including the necessity for using multidimensional measures of the self and for preserving the self concept / self esteem distinction.

Woolfolk (1998) narrated that similar trends have been reported in a research conducted by American Association of University women in 1991. results showed that girls aged eight and nine reported feelings of confidence, were assertive and authoritative about themselves, but they emerged from adolescence with poor self image constrained views of future and their place in society and much less confidence

about themselves and their abilities. Afzal (1998) made a study, the results of this study reveal that female subjects scored lower than male subjects on self concept scale at three levels of education; formal education, secondary education and higher education.

Rehman (2001) concluded that the mean score of male students on self concept scale was greater than female students. In general, masculine attributes are more highly valued than feminine ones and female tend to incorporate aspects of feminity negatively evaluated by rest of society. In one recent study it was found both boys and girls had high self esteem in childhood but their self esteem dropped considerably in early adolescence, but it declined considerably more for girls than boys (Robins et al, 2002).

2.5. Self Concept and Academic Achievement

Several studies have attempted to investigate the effect of academic achievement on self-concept. For example, El-Hassan (2000) conducted a study on self-concept in Lebanon. The study used Arabic adaptation of the Self Description Questionnaire I (SDQ-I). The sample of this study constituted 392 children in grades 7 to 13. They were divided into boys (N=185) and girls (N=207). The purpose of these studies was to measure self-concept of Lebanese students as function of grade differences. The results showed that school achievement was important factor for the formation of self-concept. It was found that high achievers had significantly higher self-concept as compared to low achievers. This study also reported that there was significant difference in self-concept in reading due to mother's education. Children whose mothers had high education did well in readings than the children whose mothers had low education. Furthermore, children whose father had university education expressed significantly high self-concept in school and peer relation than the children whose father had only elementary education.

Al-Izbi (1985) conducted a study to investigate academic self-concept of high and low achievers and its relation to academic achievement and evaluation by others. It was found that high achievers expressed high academic self-concept as compared to low achievers. Nakadi (1995) conducted a study on self-concept in socially disadvantaged orphans. This study made a comparison across grade level and explored the relationship

between academic achievement and self-concept. The findings of the study reported significant positive correlations between academic achievement and self-concept of socially disadvantaged children.

Sardouk (1995) conducted a study in a sample of upper elementary private school students. The study reported positive correlations between academic self-concept and academic causal attribution. Teacher's evaluation feedback was found to account for high academic self-concept in children.

Abdul Khalik (1996) explored the relationship between self-concept and academic achievement. Results showed that academic achievement may account for the development of positive self-concept.

Al-Deeb (1994) investigated the development of self-concept and its relationships with academic achievement for children. The results showed positive relationships between academic achievement and self-concept.

DeFreitas and Rinn (2013) examined whether verbal and math self-concepts could help explain the academic performance of first generation college students. Participants were 167 ethnically diverse students at an inner city, commuter, open-enrolment, four-year university in the south western United States. Results indicated that students with lower verbal and math self-concepts had lower grade point averages. Furthermore, there were ethnic differences among first generation college students in grade point average with Whites performing better than African Americans and Latinos. In addition, Asians and Latinos had higher math self-concept than African Americans.

Lau and Leung (1992_a, 1992_b) conducted research on the self-concept of Chinese people. According to them, self-concept is positively related with academic performance. Thus the findings of this study reported self-concept to be positively related with academic achievement of the children.

Shields et al. (2006) conducted a study on self-concept of children with and without disability. The results showed that children with disability have a lower self-concept than the children without disability. Again, children with disability showed vulnerable self-concept. On the basis of their findings, investigators concluded that self-concept is

a multidimensional psychological construct. It attempts to capture what people thinks about them. These constitute personal awareness of their characteristics and attributes. Thus their perceived identity, their evaluation of these characteristics, and their global self-esteem or self-worth plays a vital role for the formation of self-concept. These include physical appearance, social acceptance, athletic competence, scholastic competence and behavioural conduct. Children evaluate these characteristics with reference to their high achievement and low achievement. In the perspective of these observations, self-concept may be regarded as a fundamental aspect of academic achievement. It is thus obvious that academic achievement may affect formation of self-concept.

Kao and Kellegrew (2000) examined the notion that an adolescent's self-concept and academic achievement are also related to the types and time expended in academic activities. Eighteen gifted achieving and underachieving Taiwanese junior high school students completed the multidimensional self-concept scale and a time diary for one week in the summer. The results indicated that self-concept, achievement and time expended in academic activities are positively related. Furthermore, there are differences between achiever and underachiever students in the time expended in academic and social activities.

Causgrove (2000) conducted a study on perceived competence of children with movement difficulties. The results showed that these children had lower self-concept with reference to their goal orientations and perceptions of motivational climate. Silver et al. (2000) conducted experiment on psychological symptoms in healthy female siblings with and without chronic conditions in the formation of self-concept. Janekovic (2003) made a comparative research on substance abuse and self-concept among adolescents with physical disabilities. It was observed that substance abuse may account for negative self-concept of children. Similar findings have been reported by Mrug et al. (2002). They made a study on self-concept of young people with physical disabilities. It was found that physical disability may account in negative direction for the development of self-concept.

Manuel el al. (2003) investigated the factors associated with self-esteem in pre-adolescents and adolescents. They observed that self-concept was negatively correlated with cerebral palsy. In other words, it is rightly argued that self-concept is inherently related with positive achievements of the people. Adamson (2003) reported similar findings and concluded that disability may form negative self image for the development of self-concept in adolescent boys and girls.

Guay, Marsh and Boivin (2003) conducted an experiment on academic self-concept and academic achievement. The purpose of this study was to explore developmental perspectives of academic self-concept and academic achievement on their causal ordering. The participants were students in Grades 2,3 and 4 from 10 elementary schools. The structural equation model for the total sample supported a reciprocal-effects model, indicating that achievement has an effect on self-concept (skill-development model) and the academic self-concept has an effect on achievement (self-enhancement model).

Marsh and Craven (1997) extensively studied academic self-concept in relation to academic achievement. They reported that there is a reciprocal relationship between these variables. Marsh, Byrne and Young (1999) examined the relationship between academic self-concept and academic achievement of young children from a developmental perspective. They investigated the developmental pattern in the causal ordering of these constructs. They recommended the use of cross-sectional and longitudinal research within the same study.

Marsh et al. (1999) attempted to make a more realistic compromise between the self-enhancement and skill-development model. In this approach, the investigators found that the prior self-concept may affect subsequent achievement. Similarly prior achievement may affect subsequent self-concept. This reciprocal effects model has major implication on academic self-concept as a means of facilitating other desirable outcomes.

Chapman and Tunmer (1997) conducted experimental study to establish the relationship between academic achievement and academic self-concept. The sample included adolescent boys and girls. The findings have provided good support for the reciprocal effects model for adolescent.

In another study Marsh et al. (1999) showed the reciprocal effects model as the important variable that may influence the relationship between academic achievement and academic self-concept. This study used early elementary school children as sample. They were second and third graders. The investigators have suggested that this is a critical time for young children to develop a positive academic self-concept.

Wigfield and Karpathian (1991) conducted an experiment on developmental perspectives of self-concept and showed that young children's understanding of competence changes with age, such that with increasing age. It was found that self-concepts of ability were likely to be less positive with increasing age. In addition, it was found that as children grow in age, their academic self-concept is likely to be more systematically related to external academic outcomes. From this developmental perspective, wigfield and karpathian argued that once ability perceptions are more firmly established, the relation becomes reciprocal. Thus students with high perception of ability are likely to approach new task with confidence. However the success on those tasks is likely to increase their confidence in their ability.

On the basis of these findings, the investigators (Harter, 1999; Marsh et al. 1998; Wigfield and Karpathian, 1991; Marsh et al., 1999) have suggested that young children possess very positive self-concepts but this may appear to be biased in relation to external indicators of self-concept. These very high self-concepts tend to become less positive and more differentiated as they grow older. This developmental pattern may lead to a skill development effect for younger children. As children's self-concept becomes more closely aligned with external indicators, a reciprocal-effects model may be obtained. This developmental trend may be explained by three factors. First, older children with higher cognitive abilities may improve their co-ordination between self-representations that were previously considered to be opposites. This leads to better agreements between self-concept ratings and external indicators. Secondly, the higher cognitive skills lead older children to use social comparison processes. This process fosters a more balanced view of the self. Thirdly, older children have internalised evaluative standards of others. This leads to less egocentric evaluations of others. These three developmental processes lead to greater accuracy among older children. This makes it possible for academic self-concept to predict changes in academic achievements.

Skaalvik and Hagtvet (1990) conducted an experiment on developmental perspective of self-concept. They used two cohorts of students of grade 3 and grade 6. They were evaluated on their academic self-concept and global self-concept on two occasions at an interval of 18 months. Achievement was measured using teacher ratings. Results showed that teachers' ratings were more substantively correlated with academic self-concept than with general self-concept. Results also showed reciprocal effects between achievement and academic self-concept for the older cohort but a skill development effect for the younger cohort.

Helmke and van Aken (1995) examined the relation between achievement in mathematics and mathematics self-concept. They used three-way design such as Grade 2, Grade 3 and Grade 4. The investigators inferred the achievement in mathematics on the basis of test scores and school marks. The test scores and school marks were considered as two latent constructs of achievement. The results showed that one of the four effects of prior self-concept on subsequent achievement was statistically significant. On the basis of these findings, the investigators have suggested that elementary school self-concept is mainly a consequence of cumulative achievement related success and failure. This may not have a significant impact on later achievement, neither on marks nor on test performance.

Muijs (1997) conducted a study among Grade 4 students using a two-way design. Results revealed that the path from way 1 academic achievement to way 2 academic self-concept was stronger than the path from way 1 academic self-concept to way 2 academic achievements. However, both paths were significant. These findings showed that academic achievement had a stronger influence on subsequent academic self-concept. In the perspective of these analysis of results, the investigator concluded that the results point to a reciprocal relationship.

Villarroel (2001) found significant differences in self-concept and academic performance as a function of age and academic performance in English, sciences and history. Similar findings were reported by Mboya (1998). These findings reported (i) linear association between self-concept and academic performance; (ii) reciprocal influences between teachers' expectations, students' academic performance and students' self-concept as well as (iii) effects of students' academic performance on teachers' perception.

Alexander (1997) examined the relationship between academic performance and intelligence as well as learning strategies and academic performance. Data from this study showed a high degree of positive, significant association between global self-assessment and academic self-concept, and between academic performance and academic self-concept.

Clemente, Albinnana and Domenech (1997) conducted several studies and found positive relationships among similar variables such as intelligence, socialization, school maladaptation, self-concept and personality.

Studies by Acosta (2001) reported positive relationships between the school climate, academic self-concept and academic performance. Acosta conducted multiple regressive analyses and explained the predicting variables as much as 18% of the variance in academic achievement. However, the variance explained by self-concept was statistically significant.

In another study, Boulter (2002) used self-concept as a predictor of academic performance. Furthermore, Age emerged as important variable and supported the idea that total self - concept may predict academic performance but non-academic self-concept was negatively related with school achievement. Above all, academic self-concept was found powerfully and positively related with general achievement as well as language, arts and mathematics. The predictive value of mathematics and reading was highly positive. An individual may perceive himself competent in those areas in order to improve academic performance. Thus language, arts and mathematics were generally and specifically important for achieving competent self-concept. The statistical effect found in factor mathematics was highly predictive. It was important to note that mathematics may exert differential influence on students. Thus the students who tend to over-estimate their own ability make a lesser effort. But the student who under-estimate their own ability make the most effort.

Fantuzzo, Tighe and Childs (2000) conducted a study on self-concept in relation to parents. The results showed that self-concept in relation to parents acts as a positive predictor of general academic performance. This finding gives an idea that self-concept may be enhanced due to family support and other psychological variables in the academic performance of children. Similar findings have been reported by Morvitz and Motta (1992) Fantuzzo *et al.*(1995) and Castejon and Perez (1998).

Gonzalez- Pienda et al. (2002) showed that affective and motivational variables strongly influence students' academic performance. They also found significant predictive relationships between the constructs of self-concept and academic performance. Furthermore, this study showed a uni-directional model in which the influence of self-concept on academic achievement is statistically significant.

Nunez et al. (1998) conducted a study on the relationship between self-concept and academic achievement. They conducted a longitudinal study and confirmed reciprocal relationships between self-concept and academic achievement. The results indicated that self-concept is the immediate cause of academic achievement. Thus the influence or relevance of achievement was found at the base of long-term relationships. Hence, The investigator considered academic self-concept as a powerful motivating factor for the students' immediate achievement. The investigators have suggested that this level of achievement may not affect students' self-concept immediately. But it may be an important source of information for the development of self-concept in the long term.

Fernandez (2001); Torrego (2000); Merrell et al. (2001) conducted several studies at school level on the development of self-concept and other related variables. These studies focused on training and development in the areas of pupil's personal and social competence. The findings of these studies showed that teachers' development plans may help pupil's personal and social competence leading to the development of self-concept, self-esteem, social abilities, personal development, school mediation, living together and conflict resolution. These findings have been supported by Castejon et al. (1996) and Gonzalez (1999). Accordingly, these investigators have suggested that teachers should be offered methodological guidance in order to work on these throughout the educational process. This type of psycho-educational intervention may serve as an avenue to improve academic performance.

Marsh and Ayotte (2003) conducted a study to explore the skill development of students in different academic domains. The purpose of this study was to examine the level of academic achievement of children in schools. It was found that academic achievement monitored by Grades, report cards and achievement tests was positively correlated with the self-concept of children at their very early age. Thus domain-specific self-concept emerged as basic factors in educational achievement.

Jacobs et al. (2002) conducted a study with subjects having a high domain specific ability self-concept. The study used three components of school related achievement, perceptions and performance. The results showed that the intra individual association between domain specific academic achievements is closely related with the development of self-concept in children. In other words, school related subjects may be regarded as intellectual and motivational resources for the construct of self-concept.

Fredricks and Eccles (2002) have conducted a comprehensive study on achievement related variables of self-concept. They have taken into account the previous and current achievement and other important factors such as significant others in the environment. The study showed that developmental process of differentiation over time may account for the development of self-concept. Thus high level of persistence and effort were found positively correlated with high level of achievement. On the basis of these findings, the investigator have suggested that children do better and are more motivated to seek challenging tasks when they believe that they are capable of accomplishing such tasks.

A recent study by Marsh et al. (2005) investigated associations between self-concept and achievement in two large German samples and found significant relationship between self-concept and academic achievement in the seventh Grade students. Similarly Renninger (2000) showed that interest may influence task choice and tasks investments which in turn may influence achievement.

Also Harackiewicz and Sansone (2000) found that positive competence feedback may reflect a person's level of achievement. This may increase intrinsic motivation. Thus a construct of self-concept may emerge from the level of achievement intrinsic motivation and individual interest.

Additional analysis by Eccles and her colleagues (1992) have shown that the association between school achievement and interest increases over the primary and secondary school years. They used hierarchical linear model and added competency beliefs as an explanatory variable to the model of task values. They found that perceptions of competence explained between 38% and 71% of the variance in stable individual differences in task value in the domains of mathematics, language, arts and sports. They also showed that changes in competence beliefs accounted for age related declines in task values for mathematics, Language, arts and sports.

Recent findings by Marsh et al. (2005) have provided supports in favour of significant influence of academic achievement on the development of self-concept. On the basis of these findings, it has been suggested that school achievement will increase with age across the elementary and secondary school years. Thus specific social factors may influence school related outcomes leading to the development of self-concept.

Harackiewicz et al. (2002) found that self-concept of students may be moderated by success and failure in elementary and secondary school years.

Corbin (1984) has reported that academic achievement is an important factor for the boys and girls in maintaining their emotional stability. Both boys and girls get opportunity to relate their ability through academic achievement. Girl's ability in sports, dance and gym activities provide an opportunity to interact with boys as well as with same sex. Thus both boys and girls get an opportunity to work cooperatively through academic achievement. Achievement in sports, dance, gym and academic performance enhance the general sense of self-worth in pre-adolescent boys and girls. These activities in educational institutions play an important role for the development of self-concept in terms of high achievements and low achievements.

Biddle (1997) and Mahony (1985) reported experimental findings about the relationship between academic achievement and self-concept. These investigators showed that competition and cooperation are important factors for the development of self-concept. It is believed that academic achievement may help to nurture competition and cooperation. When a student is motivated to attain an ambitious goal, he should develop the virtue of cooperation and competition. These two qualities are regarded as key to success. If the student can successfully cross the barrier through the cultivation of cooperation and competition, he is regarded as a high achiever. This helps to enhance his self-concept. If the student fails to cross the hindrances on the way to success, he is neglected by teachers, parents and peer groups. This indicates that the student is not cooperative and competitive. As a result he fails to fulfil the expectations of his parents, teachers and peer groups. Consequently, he may be ridiculed in the society. This becomes a great hindrance to the formation of self-esteem and self-regards. This lack of self-esteem leads the low achiever students to develop self-concept at a lower rate of intensity.

2.6. Self Concept and Socio Economic Status

Fontana (1977) concluded that working class children, especially working class boy are lower generally in self esteem than are those from middle class. The boys and girls both of working class show more personality characteristics normally associated with low self esteem, such as aggression, withdrawal, depression and hostility to adults than to the middle class children. He also concluded that working class children are handicapped in their search for competence, doubtless by higher level of maternal and parental deprivation, the poorer amenities and facilities, the less clearly defined standards and values go with membership of their class. By all these discussion Fontana (1977) does not mean that all the working class children have poorer backgrounds, or all the middle class children come from stimulating and loving homes. Many working class homes are excellent and many middle class homes are barren alike of material and emotional support. It is concluded on the basis of statistics that incidence of deprivation is higher in working class than in middle class ones.

Marsh et al. (2003) found that students having higher socio economic status showed higher scores on the self concept scale than those having low income. In today's material oriented world money and socio economic status provide more confidence and more trust in oneself.

Fuad (1985) examined the relationships between self-concept and socio-economic environmental variables for kindergarten children. Results of the study reported positive relationships between self-concept and socio -economic level and a negative relationship between self-concept and the number of children in the family. But Shihab (1996) in his study reported no significant differences in self-concept due to differences in socio -economic status.

Kaur et al. (2009) found a significantly positive relationship of high SES home environment components of protectiveness, conformity, reward, and nurturance with self-concept thereby meaning that use of rewards and nurturance from parents should be done for positive self-concept development among adolescents. However, the correlation of social isolation, deprivation of privileges and rejection components of low SES home environment is significantly negative with self-concept among low SES

adolescents indicating that for positive self concept development among high SES adolescents, there should be less or no use of social isolation, deprivation of privileges and rejection. The study has implications for educationists and parents as well.

A study by Chaudhary (2006) was undertaken to explore the self concept of adults. The study also explored the effects of different demographic variables like gender, socio economic status, education, locality nature of job and employment of spouse on self concept of adults. Population of the study was all the 25 -45 years old citizens of Rawalpindi & Islamabad. Six hundred individuals including male and female were requested to participate in the study but only 453 responded back. The data was collected through an instrument originally developed by Jayne E Stake in 1994. Researcher translated the scale into Urdu and used it after pilot testing and getting formal permission from author. The demographic portion of the instrument was developed by the researcher to sort out the demographic information. Major findings of the study showed that gender, age, education, locality nature of job and socio economic status all affect the self concept of adults, but employment of spouse does not affect it. Giftedness sub scale of self concept was scored lowest in each group of demographic variables while morality sub-scale was scored highest in each group of demographic variables.

Nwogugu (1990) found that in Nigerian lower socio-economic areas, family norms, societal and cultural codes, and the adolescents' own expectations and conscience subtly mold and negotiate the self-concept in childhood, adolescence and throughout adult life. Thus, children and adolescents in lower socio-economic areas have lower self-concepts than in upper-middle SES background.

Trickett (1978) suggests that students who attend upper-middle SES background schools report a greater sense of belonging or relatedness and possess higher self-concepts than do students who attend lower-middle SES schools.

Bosede (2010) investigated the relationship between male & female student problems and academic performance. It also examined the relationship between student problems and self-concepts in academic spheres of high SES and low SES students. A total of 300 junior school students from Akure north and Akure south local government areas

were used as sample. The results showed that there was a significant negative relationship between student problems and academic performance that resulted in lower self concepts among male, female, high SES and low SES students.

A research by Sweeney and Bracken (2000) explored the relationships between students' multidimensional self-concepts as a function of students' family structure. Participants were 815 adolescent and preadolescent children, ages 9 to 19, selected from 17 sites across the four major regions of the United States. Students were classified into five family types (i.e., intact, reconstituted mother-headed, reconstituted father-headed, single parent mother-headed, single parent father-headed). Results indicated that the total self-concepts of students from single-parent families were significantly lower than the global scores of students from intact families. Family self-concepts of students from reconstituted families were significantly lower than students from intact families. This finding highlights the sensitivity of domain-specific self-concepts.

Commonalities in the developmental patterns of both narcotic addiction and negative self-attitudes motivated this controlled study (Lindblad, 1977) of 70 White, middle socioeconomic status (WMSES) addicts and 70 WMSES non-addicts. The hypothesis that measures of self-attitudes would distinguish addicts from non-addicts was confirmed with highly significant differences. The hypothesis that antecedent conditions purported to result in positive self-attitudes would distinguish addicts from controls was also supported.

Maqsud and Rouhani (1991) examined the relationships between socioeconomic status, locus of control, self-concept, and academic achievement were explored in secondary school pupils in the Mmabatho area of Bophuthalswana (Southern Africa). The analyses of data revealed the following: (a) both male and female Batswana adolescents were found significantly more externally oriented when compared against the normative data; (b) socioeconomic status was significantly positively associated with internality, self-concept, and academic achievement in English; (c) externality was significantly negatively related to self-concept and achievement in English; (d) self-concept was significantly positively correlated to measures of achievement in English and mathematics; and (e) mathematics achievement of male students was significantly higher than female ones.

The relationship among socio-economic status, sibling variables, social-psychological home environment, parent involvement in intervention programs, and child self-concept and achievement were empirically investigated by Revicki (1981) to determine the importance and kind of parent participation most closely related to children's' cognitive and affective development. A sample of 321 second-grade children and their families from two Parent Education Follow Through Program (PEFTP) sites were studied. Data were collected using semi-structured interviews and program records, and were statistically analyzed using LISREL. Reciprocal relationships were discovered between: (1) parent involvement in the PEFTP and the SES; (2) self-concept and achievement and; (3) achievement and home environment. Active parent involvement in the program, reinforcement, stimulation, expectation, and the social-psychological family environment (SES) were related to increased achievement performance and self-concept.

2.7. Relationship between Creativity and Self Concept

Self-concept has been posited as a mediating variable that facilitates the attainment of other desired outcomes (Byrne, 1996; Marsh and Hattie, 1996), and improvements in self-concept lead to improved desirable academic outcomes (Marsh and Craven, 1997). The relationship between self-concept and creativity has been the focus of many studies. In the 1950s, investigations about the characteristics of creative individuals indicated that highly creative individuals had stronger self-concept than their less creative peers (Barron, 1969; Getzels and Jackson, 1962; MacKinnon, 1962). However, although some studies have pointed out that there is a strong, positive relationship between self-concept and creative behaviour; different findings have also been reported. Divergent results about the relationship between self-concept and creativity are discussed below.

Jabeen and Khan (2013) conducted a study to focus on the creative thinking abilities and self-concept of high and low achievers of 9th grade students. The sample for the study was high achievers (N = 300) and low achievers (N =300) selected randomly from two educational zones (Budgam and Soibugh) of district Budgam (J and K, India). For the measurement of creative thinking abilities Mehdi's (1973) verbal test of creative thinking abilities and for the measurement of self-concept Sharma's (1972) self-concept inventory was administered for the collection of data. The results of the

study high light that in comparison to low achievers high achievers possess significantly high creativity potential, in comparison to low achievers, high achievers are significantly high in different areas of creativity, viz. fluency, flexibility and originality and also in comparison to low achievers high achievers possess significantly high self-concept. The study also revealed that there is a positive and significant relationship between creativity and academic achievement and self-concept and academic achievement and creativity and self concept of high and low achiever groups.

Felker and Treffinger (1971) have found that fourth grade students with high self concept scored significantly higher than those with low self-concept on self-evaluation of creative abilities and on creativity measures such as verbal fluency, flexibility, and originality.

Similar results were obtained by Tegano and Moran (1989), using college students as a sample. Students who displayed better performance on a creativity inventory also scored higher in six of the eleven dimensions of a self-image questionnaire (emotional tone, social relationships, sexual attitudes, mastery of the external world, vocational and educational goals, and superior adjustment) than students who scored lower in creativity.

Sears (1963) also found that children of superior intellectual ability had higher self-concepts, as well as higher ability to think in original, creative ways, than children of lesser intellectual ability.

Conversely, some studies have failed to support the relationship between self-concept and creativity. Sexton (1984), for example, found no significant relationship between self-concept and creativity (e.g., fluency, flexibility, originality, and elaboration) of Black and Hispanics fourth graders. Likewise, Williams, Poole, and Lett (1977) indicated that there was no significant difference between self-concept scores of high creative children and low creative Australian children.

Deo and Mohan (1972) also found no differences between creativity and self-concept of tenth and eleventh grade Indian students. Studies involving the relationship between self-concept and creativity of gifted and non-gifted students suggested that there were

no differences with respect to creativity between gifted students with higher self-concept and students with lower self-concept (Gilbert, 1991; Quaglino, 1979). Quaglino (1979) found that non-gifted students with high self-concept scored significantly higher on the creativity measure than did those with lower self-concept.

Interesting results were obtained by Bennett (1982) with respect to the influence of a creative experience in drama upon the creativity and self-concept of fifth and sixth grade students. In this study, the treatment group had a significant gain in creativity, while the control group experienced a decline. However, both treatment and control groups experienced significant gains in self-concept.

Fults (1980) investigated the effectiveness of an instructional program for developing creative thinking, positive self-concept, and leadership among intellectually and academically gifted students in grades 4, 5, and 6. The intervention process included stimulation of individual interest, provision of enriched experiences, and emphasis on the development of cognitive and affective skills. The treatment group improved with respect to creativity, while the control group had gains in self-concept.

Many studies have evaluated the impact of creativity/enrichment programs on self-concept and creativity of students. The results have shown an improvement of creative abilities, but few significant changes related to self-concept. Blankenship (1975) investigated the effects of 10 hours of creativity training on the creative performance and self-concept of first grade students. He found that the treatment group displayed significant improvement in creative abilities such as fluency, flexibility, originality, and elaboration, but no effect was observed with respect to students' self-concept.

Similar results were obtained by Meador (1994) who implemented a program using synectics with kindergarten children. Camp (1994) conducted a 12 year longitudinal study involving the Williams Cognitive Affective Interaction model-based enrichment program with creative children. The effect of the program on students' creativity varied over the years. Figural measures of fluency, flexibility, and originality indicated maintenance of high scores or an increase in scores up through grade 6 and then a decline through grade 12. The verbal measures also indicated declines in scores in the sixth to twelfth grade period.

Kolloff and Feldhusen (1984) also assessed the effects of an enrichment program, called the Program for Academic and Creative Enrichment, on self-concept and creative thinking of third, fourth, fifth, and sixth grade gifted students. They found that the treatment group had gains in verbal and figural originality, but no significant main effect was observed with respect to self-concept.

It seems clear that further research is necessary to investigate the extent to which self-concept and creativity are related to better advice teachers with respect to educational strategies that can enhance both students' creativity and self-concept.

Olenchak (1995) investigated the effects of a highly structured, personally tailored enrichment program on self-concept and creative productivity of fourth, fifth, and sixth grade gifted/learning disabled students. Results suggested that year-long participation in the program had a significant positive impact on self-concept and creative production of the students sampled in this study.

This short review indicates that creativity and self-concept have multidimensional characteristics. Moreover, the findings regarding creativity and self-concept with reference to certain independent variables used in this study are consistent. Few studies show that girls possess higher self-concept and more creative abilities than boys. But there are many studies that show the development of more creative potentialities and higher self-concepts in boys than girls. Similarly, most studies show more creative abilities and higher self-concepts among upper-middle SES students than their lower middle SES counterparts.

2.8. Relevant Reviews in Bangladesh Perspective

Very few studies emphasizing on creativity and self concept of secondary school students with reference to gender, academic achievement and socio-economic status have been conducted in Bangladesh perspective. Following section will describe these relevant reviews in Bangladesh perspective with reference to the specific variables considered for the present study.

Shahrier and Enam (2012) conducted a study to explore the effects of social context and academic achievement on the self-concept of children. Purposively selected 240 respondents constituted the sample of the study. Bengali version of SDQ-I (Enam, 2005) was used for the collection of data. The sample was equally divided into socially advantaged and disadvantaged (N=120 for each group) on the basis of social context. Again, they were equally divided into high achiever and low achiever (N=60 for each group) in terms of academic achievement. Results analyzed through ANOVA revealed that the main effects for social context and academic achievement were statistically significant. That is, socially advantaged children expressed significantly higher self-concept than socially disadvantaged children and high achievers possessed significantly higher self-concepts as compared to low achievers. Again interaction effect of a two-way analysis of variance involving social context and academic achievement was also statistically significant.

Sagar (2014) conducted a study to investigate whether self-concept has any significant relationship with academic achievement of the secondary school students. In order to achieve this end, 92 secondary school students were chosen conveniently from different schools in Dhaka city. The Bangla version of the Piers Harris Children's self-concept scale was used in this study. Results indicated that self-concept was only slightly positively associated with academic achievement of the students. Adjusted R^2 in the model explained that there is no significant variation in academic achievement due to the variations in self-concept of the students.

Enam, Islam and Kayesh (2011) conducted an empirical investigation on self-concept as related to gender, parental profession and academic achievement among early-adolescent boys and girls in various institutions of Rajshahi city. A total of 160 respondents constituted the sample of the study. The results showed significantly higher

self-concept of girls than boys. In case of academic achievement high achievers expressed significantly more positive self -concept than low achievers. In case of the children of service holder parents, high achiever boys and high achiever girls expressed significantly more positive self-concept followed by their counterpart low achievers. In case of the children of business doer parents, it was found that high achiever girls expressed significantly more positive self-concept than low achiever girls. However no significant difference was found between high and low achiever boys in case of the children of business doer parents.

Enam (2006) found that children of middle class family expressed highest self-concept followed by the children of high class family and least by the children of low class family. She also found that boys from middle class family expressed highest self-concept than their counterparts from high and low class family. But girls of low class family showed highest self-concept followed by their counterpart high and middle class family.

Chowdhury and Ahmed (2013) explored the side effects of assessment in secondary schools and its impact on students. The study was descriptive in nature and the researchers used a qualitative approach to collect and analyze data. For collecting relevant evidence and data from respondents, the researchers used tools like classroom observation, in-depth interview and focus group discussion. From the study it was found that, some noticeable side effects of assessment are: suffering from self-inferiority complex, losing self- confidence, disregard for school and teachers, attempt of hurting them, selecting wrong path, increase of competitive behaviour etc. - all of which according to several previous studies (Getzels & Jackson, 1958; Coleman, 1961; Drews, 1961; Torrance, 1962) are responsible for paralyzing the creative thinking of secondary school students and lowered their self referring beliefs.

According to Ahsan (2007), the purpose of classroom questioning to the teachers was not always found to be for assessment and or for learning. Sometimes the teachers had been using it as a technique to punish the students who create chaotic situation and interruption in the classrooms. Students were also found in fear mood in question asking session. Questioning was proved to be a state of fear to the students, who were sitting in the back benches and low or average achievers.

Ahsan (2007) also stated that, the teachers also expressed some prejudicial concepts about the students in many cases and were found to be engaged in displaying discriminating behaviour based on the differences in socio-economic background while assessing them. There were always some students in a class who get advantage of the assessment system and some students who were deprived from it. The privileged group is mainly the students who are the high achievers. There were also some students who were average achiever, but have other qualities, such as, proficiency in oratory or debating, or any other quality. These students were always in spotlight. They became captains or leaders in different formal or informal groups among peers. Sometimes they got less punishment than others for similar faults. They were praised in the class and they were given different responsibility of classroom management. On the other hand, there were also some students, mainly low average achievers with any unexpected qualities, such as being pugnacious or talkative, who were also in spotlight. Sometimes they were punished more than the others for the same faults. They were rebuked openly and often their peers reject them from formal and informal groups. There were some implicit or explicit conflicts between two groups. However, when the students could not answer the question they feel extremely ashamed. They said that, sometimes the teachers let them sit as they usually could answer in class but sometimes give punishment. Students also like ranking system, because they thought that it give recognition to the good student so that they could be encouraged to do better in exams and also alerts the students with poor scores that they could try harder to improve their position in the rank. Sometimes after analyzing the class positions of the friends given by the students, an internal system of grouping could be identified. It was seen that almost all the high achievers had the friends who were also high achievers. Few of them had friends who are average students and very few of them had low achievers. Students also like to memorize the answer rather than understanding the answers.

It was also revealed from Ahsan (2007)'s study that assessment increased the competitive mood among the students. For this competitive mood, students sometimes refused to help each other or work in a group. Students also feel jealousness and selfishness in their mind; because they thought if they help others, the other students might get more number in examination paper than them. The findings of Ahsan (2007)'s study revealed that the overall environment of secondary schools in Bangladesh is not in favour for the enhancement of creative thinking and development of positive self concept among learners of this level of education.

Similar findings were found in the study of Islam (2007). According to Islam (2007), teachers' assessment activity in the classroom encouraged students to answer perfectly in any way rather than qualitative learning. This creates a competitive mentality among the students rather than co- operative attitude. As a result, students did not share their learning among themselves. They also did not want to help each other. This tendency also encourages them only to memorize the subject matter well. Islam (2007) also mentioned that, students memorize their subject matter in order to get teachers praise or good marks. He also mentioned that, they do it just for pleasing their teachers and getting good marks. Also our assessment system made students a cue seeker. Most of the time the assessment techniques were remains same. So students only try to learn their lessons according to assessment system rather than understanding the topic. These practices of students and teachers in secondary school level according to Islam (2007)'s finding again reflect a very frustrating scenario to involve learners on the enhancement of their creativity and self concept.

The impacts of classroom attitude of teachers towards students and publication of results through grading systems on the intellectual development of secondary level students have been studied by Rahman (2009) and Tarana (2011). Findings of their studies again give an alarming message that the present teaching-learning practices of secondary education system in Bangladesh are great hindrance for the development of creativity and positive self concept among learners. Findings of their studies are as follows.

Tarana (2011) states that grading system is considered as a faulty system and it deserves to be modified. The system aims at ensuring the upper grade, not the intellectual development of the learners. But about grading type Todd L. Cherry and Larry V. Ellis said that student performance is significantly improved when facing a grading system based on student ranking (norm-reference grading) rather than performance standards (criterion-reference grading). The improved outcomes from rank-order grading largely arise among the high performers, but not at the expense of low performers. Results indicate rank-ordering may eliminate the incentive for high performing students to "stop" once they achieve a stated objective, while not diminishing the incentive for lower performing students. Tarana (2011) also stated that,

students suggested that there are some halo effects in assessment where students are known to be meritorious got good marks and who are engaged as weak students got poor marks. Moreover, bias in giving marks on SBA (School Based Assessment), content narrowing and lick of question paper is also highlighted in their responses. In addition, they expressed their concern about the teachers being unapproachable when it comes to understanding assessment question which made things difficult for them. She also mentioned that, some students also questioned the valid use of assessment in public exam where students were given good or bad marks based not on their subject knowledge but their hand writing. In another study, Rahman (2009) stated similar behaviour that, teachers ask questions to particular students, they hardly threw questions to the whole class. High achievers and front benchers got more priority in classroom for replying questions. Teachers favoured good student, on the other hand, weak students failed to draw teachers' attention. Majority questions were asked to high achievers and few were passed to low achievers.

CHAPTER THREE

METHOD AND PROCEDURE

The present study is an empirical investigation to determine the creativity and self-concept of secondary school students with reference to gender, academic achievement and socio-economic status. For this purpose, a representative sample was selected. Moreover, appropriate instruments were used for measuring creativity and self-concept of secondary school students. This section gives a description of target population, sample, criteria of sample selection, sampling technique and background of sample settings, description of instruments used for data collection and the procedure of data collection.

3.1. Target Population

The secondary school students of Rajshahi city, Bangladesh were regarded as the target population of the present study.

3.2. Sample

A total of 320 respondents constituted the sample of the present study. The respondents were secondary school students of Rajshahi City studying at different educational institutions. They were students reading in class six to ten. The sample was equally divided into boys and girls (N=160 for each group) based on gender. Each group was again equally divided into high achiever and low achiever (N=80 for each group) on the basis of their academic achievement. Each subdivision was again equally divided into upper middle SES and lower middle SES (N=40 for each group) on the basis of socio-economic status (SES). Thus, the total respondents were selected purposively from different educational institutions of Rajshahi City of Bangladesh. The age of the respondents ranged from 11 to 16 years. The sample distribution is presented in table-3.1.

Table-3.1

Showing sample distribution of the present study

		Upper Middle SES	Lower Middle SES	Total
Boy	High Achiever	40	40	80
	Low Achiever	40	40	80
Girl	High Achiever	40	40	80
	Low Achiever	40	40	80
Total		160	160	320

3.3. Criteria of Sample Selection

The present study used a sample characteristically divided into gender, academic achievement and socio-economic-status. Criteria of Sample Selection are as follows:

3.3.1. Gender

In this study, 160 boys and 160 girls of secondary levels of different educational institutions of Rajshahi City, Bangladesh were selected for data collection purpose whose age range lied between 11 to 16 year-old and who were students of class six to ten.

3.3.2. Academic Achievement

In this study, academic achievement of students was determined by the Grade Point Average (GPA) obtained at PSC and JSC exams. GPAs of PSC exams were counted for those students studying at class six, seven & eight and for students of class nine and ten, GPAs of their JSC exams were taken into consideration. Students who achieved GPA 4.00 or above (i.e. ‘A’ grade or above), fall under the category of high achievers and who achieved GPA of below 4.00 (i.e. below ‘A’ grade) , fall under the category of low achievers.

3.3.3. Socio-Economic Status

Based on their socio-economic status students were separated as upper middle SES and lower middle SES. Upper middle SES background students may be regarded as those who have a good parental income i.e. economically solvent, a good level of parental education, get all the advantages of science, technology, industrialization, modernization and live competitive, cooperative and comfortable life with each other in daily living activities. On the other hand, lower middle SES background students may be regarded as those who have poor parental income, economically insolvent, deprived of the advantages of science and technology, live simple and traditional lives and face struggles to meet the basic needs of daily living activities. In this study while determining respondents' socio-economic status, their family's monthly income were taken into consideration. Various numerical weights were assigned for determining respondents' different levels of family income. That means, respondents whose monthly family income were Tk. 5,000 assigned a weight of 5, whose monthly family income were Tk. 10,000 assigned a weight of 10, whose monthly family income were Tk. 35,000 were assigned a weight of 35 and so on. The weighted SES scores of the respondents assigned in this manner ranged from 5 to 75.This range were then divided into two categories as 5 to 40 in one category and 41 to 75 into the other. Thus, the respondents who have weighted SES scores that fall within the range of 41 to 75 were regarded as upper middle SES and respondents who have weighted SES scores that fall within the range of 5 to 40 were regarded as lower middle SES respondents.

By considering these above mentioned criteria regarding gender, academic achievement and socio-economic status, sample were selected in this study.

3.4. Sampling Technique and Background of Sample Settings

The present study used a sample characteristically divided into gender, academic achievement and SES. The respondents were secondary school students. They were selected purposively from different educational institutions of Rajshahi city. These educational institutions were: 1) Rajshahi University School & College, 2) Agrani School, RUET, 3) Rajshahi Model School & College, 4) Rajshahi Education Board Model School & College. These educational institutions have several characteristics in

common. First common characteristic is that coeducation is permitted in these educational institutions which can create variations on the formation of creativity and self-concept of secondary school students with reference to gender. The second common characteristic is that the students of these institutions came from higher as well as lower educated family and upper middle SES as well as Lower middle SES background which may create variations on the formation of creativity and self-concept of secondary school students with reference to SES. The third common characteristic of these educational institutions is that admission is highly competitive. The fourth common characteristic is that these institutions are run by highly qualified teachers. So, the third and fourth common characteristics revealed that after being admitted, academic achievement play an important role in creating variations on the formation of creativity and self-concept of secondary school students with reference to academic achievement. However, there are certain dissimilarities among these educational institutions. Firstly, children of Rajshahi university employees are permitted to get admission in Rajshahi University School & College. Similarly, children of RUET employees are permitted to get admission in Agrani School. However, children outside RUET employees may also get admission in vacant seats. In case of Rajshahi University School & College, admission is almost restricted for the outside students. But in case of Agrani School, admission for outside students is relaxed. However, admission is free to every citizen in case of Rajshahi Model School & College and Rajshahi Education Board Model School & College. In perspective of this background of sample setting, a total of 320 respondents were included in sample according to our research purpose. Thus, the purposive sampling procedure was followed in sample selection.

3.5. Description of Instruments

Three instruments were used in this study to measure the creativity and self-concept of secondary school students with reference to gender, academic achievement and socio-economic status. These instruments include: 1) Demographic and Personal Information Sheet, 2) Creativity Scale and 3) Self-Concept Scale developed by the researcher. Following is a description of the instruments.

3.5.1. Demographic and Personal Information Sheet

- Name of Institution
- Age
- Gender
- Class
- Roll No.
- GPA obtained in PSC Exam (For Class Six, Seven and Eight)
- GPA obtained in JSC Exam (For Class Nine and Ten)
- Father's Occupation
- Mother's Occupation
- Father's Educational Qualification
- Mother's Educational Qualification
- Father's Monthly Income
- Mother's Monthly Income
- Family's Monthly Income

3.5.2. Construction of the Creativity Scale

Due to the non-availability of a suitable test for the measurement of creativity of secondary school students in Bangladesh context, the need for the construction of creativity scale arose. Creative ability is explained as an urge of directed thinking in which the individual may discover new relationships, achieve new solutions to problems, invent methods or devices, produce new artistic objects or forms, strive to satisfy a creative motive, challenge the accepted old, become sensitive to problems, deficiencies, gaps in knowledge or missing elements etc. Creativity suggests that it becomes functional of the constellation of certain psychological attributes, such as, affective, motivational and personality characteristics. It is one of the bases of this assumption that the Creativity Scale should develop.

The creativity scale consists of statements about the potential aspects of creativity. The statements are about both positive and negative qualities of the potentially creative individuals that are regarded as the special characteristics, capable of differentiating creative individuals from the non-creative population. These creative positives and

creative negatives are derived from a large pool of characteristics reported in the creativity literature as possessed by creative children and adolescents. Only those aspects of behaviour that are most frequently observable among potentially creative children are included in this test.

The rationale underlying the creativity scale is that the presence of considerable number of these qualities in an individual is an indication of he/she is endowed with an urge to generate original, novel and unique products, associations or ideas. The test is mainly intended as a device for screening and assessing the levels of the creativity of secondary school students.

The creativity scale provides six separate dimensions of creativity, which include artistry, intellectuality, disciplined imagination, self-strength, inquisitiveness and environmental sensitivity. These dimensions provide a total creativity score. The operational definitions of different dimensions of creativity scale are given below:

1. **Artistry** relates to production of objects, models, paintings, carvings, musical composition, receiving awards or prizes or holding exhibitions, production of stories, plays, poems and other literary pieces.
2. **Intellectuality** relates to intellectual curiosity, enjoyment of challenging tasks, preference or adventure over routine, liking for reconstruction of things and ideas to form something different, and dislike for doing things in a prescribed routine.
3. **Disciplined imagination** relates to being imaginative in gathering creative knowledge inside and outside curriculum, inquisitive to stimulate group conversation for generating creative ideas, being tolerable to accept constructive criticisms to know thyself properly.
4. **Self-strength** relates to self-confidence in matching talents against others, resourcefulness, versatility, willingness to take risks, desire to excel and organizational ability.
5. **Inquisitiveness** relates to always asking questions, being self-assertive, feeling strong emotions, being talkative and obedient.
6. **Environmental sensitivity** relates to being open to ideas of others, relating ideas to what can be seen, touched, or heard, interest in beautiful and humorous aspects of experiences, and sensitivity to meaningful relations.

3.5.2.1. Technique and Method Used

Certain methods for the measurement of personality have been suggested (Bird, 1940). The two frequently used methods are the 'Methods of Equal Appearing Intervals' developed by Thurstone and Chave (1929) and the 'Methods of summated Ratings' developed by Likert (1932). Both the methods have been widely used and both of the methods yield high correlation (Edwards and Kenney, 1946). Investigators who have used the Likert method seem to be in agreement that it is simpler than the methods of Equal Appearing Intervals. It has also been found that reliability co-efficient can be computed even with using fewer number of items in Likert's method whereas Thurstone's method requires relatively more number of items. Likert technique is also less time consuming and less laborious than Thurstone technique. In this light it was thought best to use Likert technique and method for the construction of creativity scale. In the Likert method five alternatives are provided and the subject is asked to choose one alternative, ranging from 'Strongly agree' to 'strongly disagree', for each statement. Thus each item in the test is a rating device designed to reveal both the direction of the individual's stand on the issue and intensity the individual possesses.

3.5.2.2. Initial Item Construction and Selection

After the decision of inclusion of six dimensions to the creativity scale, the next step was to formulate and construct items for those chosen dimensions. This step, therefore, involved gathering a large number of statements of opinion relating to the said six numbers of dimensions. Initially total 120 statements were constructed related to artistry, intellectuality, disciplined imagination, self-strength, inquisitiveness and environmental sensitivity on the basis of reviews of literature and observations in the context of Bangladesh. 20 items were included in each dimension. The initial list of 120 statements underwent revisions many times. Two teachers and four research scholars of the Psychology department of Rajshahi University criticized the statements. Unimportant and irrelevant items were discarded. For each item the investigator first decided whether it indicates favourable/unfavourable concerning the issue in question. The items which were ambiguous or appeared to indicate neutral were eliminated. 48 items thus remained for further analysis. Thus, items were distributed as follows: artistry = 9, intellectuality = 8, disciplined imagination = 9, self-strength = 7, inquisitiveness = 8 and environmental sensitivity = 7.

3.5.2.3. Pilot Study:

The retained 48 items were administered directly to an incidental sample of 50 secondary school students of Rajshahi University School for pilot study. Subjects were asked to respond to each item in terms of five point scale ranging from strongly agree to strongly disagree. The following instruction was given to subjects in the pilot study: "I am interested to know for my research purpose what you think about several statements which are very much important for the development of your creativity. I am sure that you will find the questionnaire interesting. Remember there are no 'right' or 'wrong' responses. The best answer is your own personal opinion. You can be sure that whatever your opinion may be on a certain issue, there will be many people who will agree, and many who will disagree with it. There are five alternatives in each statement. These are: (i) strongly agree, (ii) agree, (iii) neutral, (iv) disagree and (v) strongly disagree. So your choices for any of these alternatives by giving a tick (√) mark on the box given with each statement. Do as quickly as possible and return the answer sheet as soon as you finished the task of giving opinion. If any of the statements or meaning of words is not clear, please feel free to ask me. Please be sincere and accurate as far as possible."

These instructions helped the subjects to give their opinion accurately and ensured more involvement in giving answers.

After obtaining the data from 50 subjects scoring was done. The creativity scale was comprised of both positive and negative statements. Its positive statements directly express more creative abilities but its negative statements express less creative abilities. Strong agreement with positive items is given a score of 5 and strong disagreement with positive items was given a score of 1. Scoring was reversed for negative items such that strong agreement with negative items was scored as 1 and strong disagreement with negative items was given a score of 5. Thus, for 48 items the scores ranged from (48×1)=48 to (48×5)=240. Thus the highest score indicated more creative abilities and the lowest score indicated less creative abilities of the respondents. Hence, the mid point was

$$= \frac{Highest\ Possible\ Score - Lowest\ Possible\ Score}{2} + Lowest\ Possible\ Score = \frac{240-48}{2} + 48 = 144$$

The scores above this mid point were indicative of more creative abilities and the scores under this mid point were indicative of less creative abilities.

Based on the informal criteria as suggested by Wang (1952), Bird (1940), Edwards and Kilpatric (1948), Krech and Crutchfield (1947), the following precautions were taken while editing these statements.

1. The statements which referred to the past rather than the present were avoided.
2. Factual statements were not included.
3. The statements irrelevant to the psychological object under consideration were not included.
4. Such statements were chosen as were believed to cover the entire ranges of the effective scale of interest.
5. Those statements were not included which were likely to be endorsed by almost every one or by almost none.
6. The statements which might be interpreted in more than one way were avoided.
7. The language of the statements was very simple, clear and direct.
8. Statements were short and rarely exceeded twenty words.
9. Statements containing universals such as all, always, none ever were avoided as they often cause ambiguity.
10. Attention was given to sentence structure and proper choice of words.
11. Uncommon vocabulary words were not used.
12. Double negatives were avoided.
13. Double barreled statements were not included in the list.
14. Words, such as only, merely, just and others of similar nature were avoided.

3.5.2.4. Item Analysis:

Likert scale requires the elimination of items that do not reflect the aim to be measured. To be retained in the questionnaire, an item must meet Likert's criterion of internal consistency. To measure internal consistency, data can be scored in two ways either by computing the correlation between each item and the total scores or by comparing items scores of highest 25% and lowest 25% subjects. The investigator used the former method of analysis i.e. by computation of the correlation between each item and the total scores.

The score of each subject was obtained by summing up all the item scores. The highest possible score could be 48×5=240 and the lowest possible score for the same could be 48×1=48. Thus, relatively higher score in the creativity scale is the indicator of more creative potentialities and the relatively lower score is the indicator of less creative potentialities. Thus, a given item meets the criteria of internal consistency if the item score correlates significantly with the total score. According to this criterion, the more creative a person, the more likely he should be to endorse with favourable items and the less likely he should be to endorse with unfavourable items. Therefore, the bi-serial correlation between each item score with total test score was computed. Out of 48 items, 35 items were retained as yielding significant positive correlations. These 35 items showed internal consistency since each item differentiated in the same direction. To make the size of the scale short, 30 items were retained on the basis of high correlation having 0.01 level of significance. The correlation coefficients of these items ranged from 0.34 to 0.79. Among six dimensions each dimension constituted five items.

3.5.2.5. Reliability and Validity of Creativity Scale:

The split-half reliability was computed with odds and even numbers of 30 items' scores and the Pearson 'r' was found to be 0.85. To find out the reliability of the scale, correlations between the total creativity score with the scores of each dimension were computed which ranged from 0.46 to 0.82 (table-3). On the basis of reliability and validity, the creativity scale comprised of 30 items. However, the reliability and validity of the scale were again computed after final data collection of total sample (N=320) of which 160 Ss were boys and 160 Ss were girls. This procedure was adopted in order to find out whether the change in sample size and change of place during sample selection will affect the reliability and validity of the scale and secondly to confirm and obtain the construct validity of the best items. Since Creativity Scale is a homogenous test as proved by item analysis the data were split into half for cross validation purpose. Now, the co-efficient correlation through Pearson method was obtained 0.92 which was found higher than that of the pilot study which was 0.85. After applying Spearman-Brown formula the co-efficient was found to raise from 0.92 to 0.97 which is very high. Correlations of each dimension with the total scores were

computed which ranged from 0.61 to 0.96 (Table – 3.3). The correlation co-efficient of each dimension with the total scores was found higher than that of pilot study. Inter dimensional correlations were also computed which ranged from 0.22 to 0.77 (Table – 3.4). All the coefficients of correlations were significant at 0.01 level (Table – 3.3 & 3.4).

Table – 3.2

Correlation of the scores of each dimension with the total scores of creativity.

Dimensions	Pearson r for pilot study (N=50)	Pearson r for final study (N=320)
Artistry	0.56**	0.81**
Intellectuality	0.46**	0.68**
Disciplined Imagination	0.77**	0.86**
Self-Strength	0.80**	0.96**
Inquisitiveness	0.54**	0.61**
Environmental Sensitivity	0.82**	0.91**

Table – 3.3

Inter Dimensional Correlations of Pilot Study (N=50)

	Ar	In	DI	Ss	Inq	ES
Artistry		0.62**	0.29**	0.77**	0.32**	0.39**
Intellectuality			0.36**	0.68**	0.65**	0.41**
Disciplined Imagination				0.59**	0.69**	0.52**
Self-Strength					0.51**	0.56**
Inquisitiveness						0.22**
Environmental Sensitivity						

The predictive validity of the creativity scale was also obtained for final data and concurrent validity was also obtained from other sources i.e. by computing creativity scores with the scores of other creativity scale like Torrance Tests of Creative Thinking and Khatena-Torrance Creative Perception Inventory and 'r' was found with TCT (r = 0.62) and with CPI (r = 0.59).

3.5.3. Construction of the Self Concept Scale

The development of self-concept scale has a long history. In its initial stage, self-concept originated in philosophy, sociology and then it came in psychology. William James (1890/1892) measured conscious self as potentials of successful individuals. Cooley (1902) described self-concept as the looking glass of self. Rogers (1951) and Sarbin (1962) explained self-concept as cognitive and affective construct. Mead (1934) and Sullivan (1953) developed instrument for measuring self. Rosenberg (1989) constructed instruments for measuring self-concept as a psychological construct in cognitive and affective areas.

Specific forms of self-concept assessment include semantic differentials, adjective check list, drawing task, Projective test and questionnaires. For example, Osgood Semantic Differential Technique consists of bipolar presentation of adjectives such as happy-sad, strong-weak etc. The adjective checklist as a technique for measuring self-concept requires an examinee to indicate adjectives that are self-describing. Projective tests have been used in the assessment of the self. Most important of these techniques are Rorschach Ink-Block Test, TAT and Behavioural Interpretation Inventory. These procedures are considered peripheral measures of self-concept. Drawing tasks are also used to infer self-concept among young children. The child is instructed to draw a picture of a person. Child's self-concept is inferred from this drawing. However, the most widely used technique for assessing self-concept is the self-report questionnaire. The self-report questionnaire is appropriate for younger children, adolescents and adults. This measure is stronger and directly assesses the self-concept more accurately than other methods.

Several researchers found seven characteristics of self-concept as psychological instrument. These are i) organization, ii) multifaceted nature, iii) hierarchical structure, iv) stability, v) developmental progression, vi) an evaluative component and (vii) differentiable characteristics.

The self-concept scale provides six separate dimensions which include physical self-concept, educational self-concept, scholastic competence, moral self-concept, social self-concept and global self-worth. These dimensions also give a total self-concept score. The operational definitions of self concept dimensions are given below:

1. **Physical Self-Concept:-** Individuals' view of their body, health, physical appearance and strength.
2. **Educational Self-Concept:-** Individuals' view of themselves in relation to school, teachers and extra curricular activities.
3. **Scholastic Competence:-** Individual's verbal and numerical ability in solving intellectual problems, his rational and flexible thinking and cognitive processes determine his scholastic competence.
4. **Moral Self-Concept:-** Individuals' estimation of their moral worth; right and wrong activities.
5. **Social Self-Concept:-** Individuals' sense of worth in social interactions.
6. **Global Self-worth:-** Individual's self-perceptions, self-capabilities, daily living activities, remarks of others about himself determine his global self-worth.

3.5.3.1. Technique and Method Used:

Certain methods for the measurement of personality have been suggested (Bird, 1940). The two frequently used methods are the 'Methods of Equal Appearing Intervals' developed by Thurstone and Chave (1929) and the 'Methods of summated Ratings' developed by Likert (1932). Both the methods have been widely used and both of the methods yield high correlation (Edwards and Kenney, 1946). Investigators who have used the Likert method seem to be in agreement that it is simpler than the methods of Equal Appearing Intervals. It has also been found that reliability co-efficient can be computed even with using fewer number of items in Likert's method whereas Thurstone's method requires relatively more number of items. Likert technique is also less time consuming and less laborious than Thurstone technique. In this light it was thought best to use Likert technique and method for the construction of creativity scale. In the Likert method five alternatives are provided and the subject is asked to choose one alternative, ranging from 'Strongly agree' to 'strongly disagree', for each statement. Thus each item in the test is a rating device designed to reveal both the direction of the individual's stand on the issue and intensity the individual possesses.

3.5.3.2. Initial Item Construction and Selection:

After the decision of inclusion of six dimensions to the self-concept scale, the next step was to formulate and construct items for those chosen dimensions. This step, therefore, involved gathering a large number of statements of opinion relating to the said six dimensions. Initially total 108 statements were constructed related to physical self-concept, educational self-concept, scholastic competence, moral self-concept, social self-concept and global self-worth. On the basis of review of literatures and observations in the context of Bangladesh, 18 items were included in each dimension. The initial list of 108 statements underwent revisions many times. Two teachers and four research scholars of the psychology department of Rajshahi University criticized the statements. Unimportant and irrelevant items were discarded. For each item the investigator first decided whether it indicates favourable/unfavourable concerning the issue in question. The items which were ambiguous or appeared to indicate neutral were eliminated. 48 items thus remained for further analysis. Thus, items were distributed as follows: physical self-concept = 9, educational self-concept = 8, scholastic competence = 9, moral self-concept = 7, social self-concept = 8 and global self-worth = 7.

3.5.3.3. Pilot Study:

The retained 48 items were administered directly to an incidental sample of 50 secondary school students of Rajshahi University School for pilot study. Subjects were asked to respond to each item in terms of five point scale ranging from strongly agree to strongly disagree. The following instruction was given to subjects in the pilot study: "I am interested to know for my research purpose what you think about several statements which are very much important for the development of your self-concept. I am sure that you will find the questionnaire interesting. Remember there are no 'right' or 'wrong' responses. The best answer is your own personal opinion. You can be sure that whatever your opinion may be on a certain issue, there will be many people who will agree, and many who will disagree with it. There are five alternatives in each statement. These are: (i) strongly agree, (ii) agree, (iii) neutral, (iv) disagree and (v) strongly disagree. So your choices for any of these alternatives by giving a tick (√) mark on the box given with each statement. Do as quickly as possible and return the

answer sheet as soon as you finished the task of giving opinion. If any of the statements or meaning of words is not clear, please feel free to ask me. Please be sincere and accurate as far as possible."

These instructions helped the subjects to give their opinion accurately and ensured more involvement in giving answers.

After obtaining the data from 50 subjects scoring was done. The self concept scale was comprised of both positive and negative statements. Its positive statements directly express higher self concept but its negative statements express lower self concept. Strong agreement with positive items is given a score of 5 and strong disagreement with positive items was given a score of 1. Scoring was reversed for negative items such that strong agreement with negative item was scored as 1 and strong disagreement with negative items were given score of 5. Thus for 48 items the scores ranged from (48×1)=48 to (48×5)=240. Thus the highest score indicated higher self concept and the lowest score indicated lower self concept. Hence, the mid point was

$$= \frac{Highest\ Possible\ Score - Lowest\ Possible\ Score}{2} + Lowest\ Possible\ Score = \frac{240-48}{2} + 48 = 144$$

The scores above this mid point were indicative of higher self concept and the scores - under this mid point were indicative of lower self-concept.

Based on the informal criteria as suggested by Wang (1952), Bird (1940), Edwards and Kilpatric (1948), Krech and Crutchfield (1947), the following precautions were taken while editing these statements.

1. The statements which referred to the past rather than the present were avoided.
2. Factual statements were not included.
3. The statements irrelevant to the psychological object under consideration were not included.
4. Such statements were chosen as were believed to cover the entire ranges of the effective scale of interest.
5. Those statements were not included which were likely to be endorsed by almost every one or by almost none.

6. The statements which might be interpreted in more than one way were avoided.
7. The language of the statements was very simple, clear and direct.
8. Statements were short and rarely exceeded twenty words.
9. Statements containing universals such as all, always, none ever were avoided as they often cause ambiguity.
10. Attention was given to sentence structure and proper choice of words.
11. Uncommon vocabulary words were not used.
12. Double negatives were avoided.
13. Double barreled statements were not included in the list.
14. Words, such as only, merely, just and others of similar nature were avoided.

3.5.3.4. Item Analysis:

Likert scale requires the elimination of items that do not reflect the aim to be measured. To be retained in the questionnaire, an item must meet Likert's criterion of internal consistency. To measure internal consistency, data can be scored in two ways either by computing the correlation between each item and the total scores or by comparing items scores of highest 25% and lowest 25% subjects. The investigator used the former method of analysis i.e. by computation of the correlation between each item and the total scores.

The score of each subject was obtained by summing up all the item scores. The highest possible score could be 48×5=240 and the lowest possible score for the same could be 48×1=48. Thus, relatively higher score in the self concept scale is the indicator of higher self concept and the relatively lower score is the indicator of lower self concept. Thus, a given item meets the criteria of internal consistency if the item score correlates significantly with the total score. According to this criterion, the higher self concept a person possesses, the more likely he should be to endorse with favourable items and the less likely he should be to endorse with unfavourable items. Therefore, the bi-serial correlation between each item score with total test score was computed. Out of 48 items, 36 items were retained as yielding significant positive correlations. These 36 items showed internal consistency since each item differentiated in the same direction. To make the size of the scale short, 30 items were retained on the basis of high correlation having 0.01 level of significance. The correlation coefficients of these items ranged from 0.34 to 0.79. Among six dimensions each dimension constituted five items.

3.5.3.5. Reliability and Validity of Self Concept Scale:

The split-half reliability was computed with odds and even numbers of 30 items' scores and the Pearson 'r' was found to be 0.82. To find out the reliability of the scale, correlations between the total self concept score with the scores of each dimension were computed which ranged from 0.43 to 0.79 (table-5). On the basis of reliability and validity, the self concept scale comprised of 30 items. However, the reliability and validity of the scale were again computed after final data collection of total sample (N=320) of which 160 Ss were boys and 160 Ss were girls. This procedure was adopted in order to find out whether the change in sample size and change of place during sample selection will affect the reliability and validity of the scale and secondly to confirm and obtain the construct validity of the best items. Since self concept scale is a homogenous test as proved by item analysis the data were split into half for cross validation purpose. Now, the co-efficient correlation through Pearson method was obtained 0.89 which was found higher than that of the pilot study which was 0.82. After applying Spearman-Brown formula the co-efficient was found to raise from 0.89 to 0.94 which is very high. Correlations of each dimension with the total scores were computed which ranged from 0.58 to 0.93 (Table – 3.5). The correlation co-efficient of each dimension with the total score was found higher than that of pilot study. Inter dimensional correlations were also computed which ranged from 0.19 to 0.74 (Table – 3.6). All the coefficients of correlations were significant at 0.01 level (Table – 3.5 & 3.6).

Table – 3.4

Correlation of the scores of each dimension with the total scores of self concept.

Dimensions	Pearson r for pilot study (N=50)	Pearson r for final study (N=320)
Physical	0.53**	0.78**
Educational	0.43**	0.65**
Scholastic Competence	0.74**	0.83**
Moral	0.77**	0.93**
Social	0.51**	0.58***
Global Self-worth	0.79**	0.89**

Table – 3.5

Inter Dimensional Correlations of Pilot Study (N=50)

	Phy	Edu	SC	Mo	So	GS
Physical		0.59**	0.26**	0.74**	0.29**	0.36**
Educational			0.33**	0.65**	0.62**	0.38**
Scholastic Competence				0.56**	0.66**	0.49**
Moral					0.48**	0.53**
Social						0.19**
Global Self-worth						

The predictive validity of the self concept scale was also obtained for final data and concurrent validity was also done from other sources i.e. by computing self concept scores with the scores of other self concept scale like Marsh SDQ-1 and Saraswat Self Concept Questionnaire and 'r' was found with SDQ-1 (r = 0.59) and with SCQ (r = 0.56).

3.6. Scoring Procedure

The data of the present study were collected through Creativity Scale and Self-Concept Scale. Creativity Scale used in this study contains 30 items. These items were divided into six dimensions. Each dimension contains five items. There are five alternatives in each item. These are: (i) strongly agree, (ii) agree, (iii) neutral, (iv) disagree and (v) strongly disagree. Item no. 5, 8, 12, 14, 18, 20, 21, 26 & 28 were negative items in this scale. The responses to various positive items are scored in such a way that 5, 4, 3, 2 & 1 is respectively given for the five above mentioned alternatives. The responses to various negative items are scored in such a way that 1, 2, 3, 4 & 5 is respectively given for the five above mentioned alternatives. Then the total score of each respondent is obtained by adding all 30 items' scores. Thus for 30 items, the score ranged from (30×1)=30 to (30×5)=150. Thus the highest score indicates most creative potentialities and the lowest score indicates least creative potentialities of the respondents. Hence, the creative ability score is obtained through the following formula:

$$\text{Creative ability score} = \frac{\textit{Highest Possible Score} - \textit{Lowest Possible Score}}{2} + \textit{Lowest Possible Score}$$

$$= \frac{150 - 30}{2} + 30 = 90$$

The scores above this creative ability score are indicative of more creative abilities and the scores below creative ability score are indicative of less creative abilities.

Similarly, Self-Concept Scale used in this study contains 30 items. These items were divided into six dimensions. Each dimension contains five items. There are five alternatives in each item. These are: (i) strongly agree, (ii) agree, (iii) neutral, (iv) disagree and (v) strongly disagree. Item no. 1, 3, 4, 6, 10, 12, 17, 18, 22, 23, 24, 27 & 29 were negative items in this scale. The responses to various positive items are scored in such a way that 5, 4, 3, 2 & 1 is respectively given for the five above mentioned alternatives. The responses to various negative items are scored in such a way that 1, 2, 3, 4 & 5 is respectively given for the five above mentioned alternatives. Then the total score of each respondent is obtained by adding all 30 items' scores. Thus for 30 items, the score ranged from (30×1)=30 to (30×5)=150. Thus the highest score indicates highly positive self-concept and the lowest score indicates lower self-concept of the respondents. Hence, the self-concept score is obtained through the following formula:

$$\text{Self concept score} = \frac{\textit{Highest Possible Score} - \textit{Lowest Possible Score}}{2} + \textit{Lowest Possible Score}$$
$$= \frac{150-30}{2} + 30 = 90$$

The scores above this self-concept score are indicative of highly positive self-concept and the scores below self-concept score are indicative of lower self-concept.

3.7. Procedure of Data Collection

The data of the present study were collected from three schools such as Rajshahi University School & College, Agrani School, RUET and Rajshahi Model School & College. The respondents were students reading in class six to ten. The investigator contacted each student individually in their class rooms. For this purpose, the investigator had to seek permission from the heads of each institution. While collecting data from each institution the investigator gave the following instructions to the respondents: "I am interested to know for my research purpose what you think about several statements which are very much important for the development of your creativity and self-concept. Two questionnaires will be successively provided to you. I am sure that you will find each questionnaire interesting. Remember there are no 'right' or 'wrong' responses. The best answer is your own personal opinion. You can be sure that whatever your opinion may be on a certain issue, there will be many people who will agree, and many who will disagree with it. There are five alternatives in each

statement. These are: (i) strongly agree, (ii) agree, (iii) neutral, (iv) disagree and (v) strongly disagree. So your choices for any of these alternatives by giving a tick (√) mark on the box given with each statement. Do as quickly as possible and return the answer sheet as soon as you finished the task of giving opinion. If any of the statements or meaning of words is not clear, please feel free to ask me. Please be sincere and accurate as far as possible."

After getting permission, the investigator first approached the principal of Rajshahi University School & College. In this institution, 88 respondents were available. Among them, boys-high achiever-upper middle SES were 20, boys-high achiever-lower middle SES were 6, boys-low achiever-upper middle SES were 4 and boys-low achiever-lower middle SES were 2. Thus, a total 32 boys were found to fulfill the criteria of present investigation. Similarly girls-high achiever-upper middle SES were 32, girls-high achiever-lower middle SES were 6, girls-low achiever-upper middle SES were 12 and girls-low achiever-lower middle SES were 6 in numbers. Thus 56 girls respondents were available. The investigator approached each respondent in his/her class room. Each respondent was given Questionnaire and also answer sheet. They were asked to read the instruction carefully and to answer each question. Then each respondent was required to fill up the answer sheet with due attention. The same procedure was followed in case of Agrani School, RUET and Rajshahi Model School & College.

In Agrani School RUET, boys-high achiever-upper middle SES were 4, boys-high achiever-lower middle SES were 20, boys-low achiever-upper middle SES were 6 and boys-low achiever-lower middle SES were 10. Thus, boys from Agrani school were 40 in numbers. Similarly, girls-high achiever-upper middle SES were 6, girls-high achiever-lower middle SES were 10, girls-low achiever-upper middle SES were 10 and girls-low achiever-lower middle SES were 10. Thus total number of girls from Agrani School was 40. The investigator approached each respondent in his/her class room with due permission of the principal and the class teacher. Then each student was supplied with a questionnaire and answer sheet. They were asked to fill-up the questionnaire and the answer sleets. As soon as the fill up of answer sheets were completed, both questionnaire and answer sheet were collected.

In case of Rajshahi Model School & College, it was found that boys-high achiever-upper middle SES were 8, boys-high achiever-lower middle SES were 7, boys-low achiever-upper middle SES were 15 and boys-low achiever-lower middle SES were 14. Thus a total of 44 boys were from Rajshahi Model School & College. Similarly, girl-high achiever-upper middle SES was 1, girls-high achiever-lower middle SES were 12, girls-low achiever-upper middle SES were 9 and girls-low achiever-lower middle SES were 10. Thus a total of 16 girls were selected from Rajshahi model school & college. Similar procedure of data collection was followed in this case also. It should be mentioned that some of the upper middle SES belonged to the rank of first class gazetted officers and the rest were the university teachers.

In case of Rajshahi Education Board Model School & College, it was found that boys-high achiever-upper middle SES were 8, boys-high achiever-lower middle SES were 7, boys-low achiever-upper middle SES were 15 and boys-low achiever-lower middle SES were 14. Thus a total of 44 boys were from Rajshahi Education Board Model School & College. Similarly, girl-high achiever-upper middle SES was 1, girls-high achiever-lower middle SES were 12, girls-low achiever-upper middle SES were 9 and girls-low achiever-lower middle SES were 10. Thus a total of 16 girls were selected from Rajshahi Education Board model school & college. Similar procedure of data collection was followed in this case also. It should be mentioned that some of the upper middle SES belonged to the rank of first class gazetted officers and the rest were the university teachers.

Thus, the data collection business was ended. The investigator gave thanks to the principal, teachers and participant students for their active cooperation and participation in this investigation.

3.8. Data Processing and Statistical Analyses

The responses of the participants were scored according to the scoring systems of Creativity Scale and Self Concept Scale developed by the researcher. Each participant received an average creativity score and self concept score. To analyze these scores, the field data were assembled, coded and recorded. Then the variables were defined and accordingly data were input into the SPSS program (Version 15.0). As the present research is correlational in its nature and in its design, the obtained data were analyzed through simple regression analyses. Besides this, to analyze the collected data, correlation coefficients between creativity and self concept, and mean, SD, t-test with reference to gender, academic achievement and socio-economic status were also used. Before carrying out the regression analyses, the assumption of linearity was examined by partial regression plots, the assumption of normality by histogram and normal p-p plot, the assumption of homoscedasticity by scatter plots and co-linearity by tolerance values.

CHAPTER FOUR

RESULTS

The present study was an empirical investigation to determine the creativity and self-concept of secondary school students with reference to gender, academic achievement and socio-economic status. Towards this end, data were collected from 320 secondary school students (160 boys and 160 girls).To analyze the collected data, mean, standard deviation, t-test, correlation coefficients and regression analyses were used. The results of the present study are illustrated below in three sections.

Section-1: Mean, SD and t-value

Table-4.1

Differences in Creative Abilities of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	107.54	13.065	1.033	318	.988	.324
Girls	160	106.15	12.144	.960			

Results in Table-4.1 showed that the mean and std. deviation derived from boy respondents' creativity scores were 107.54 and 13.065 and girl respondents' creativity scores were 106.15 and 12.144. The results revealed no significant difference in creative abilities of secondary school students in terms of gender. The result has been graphically plotted in figure-4.1.

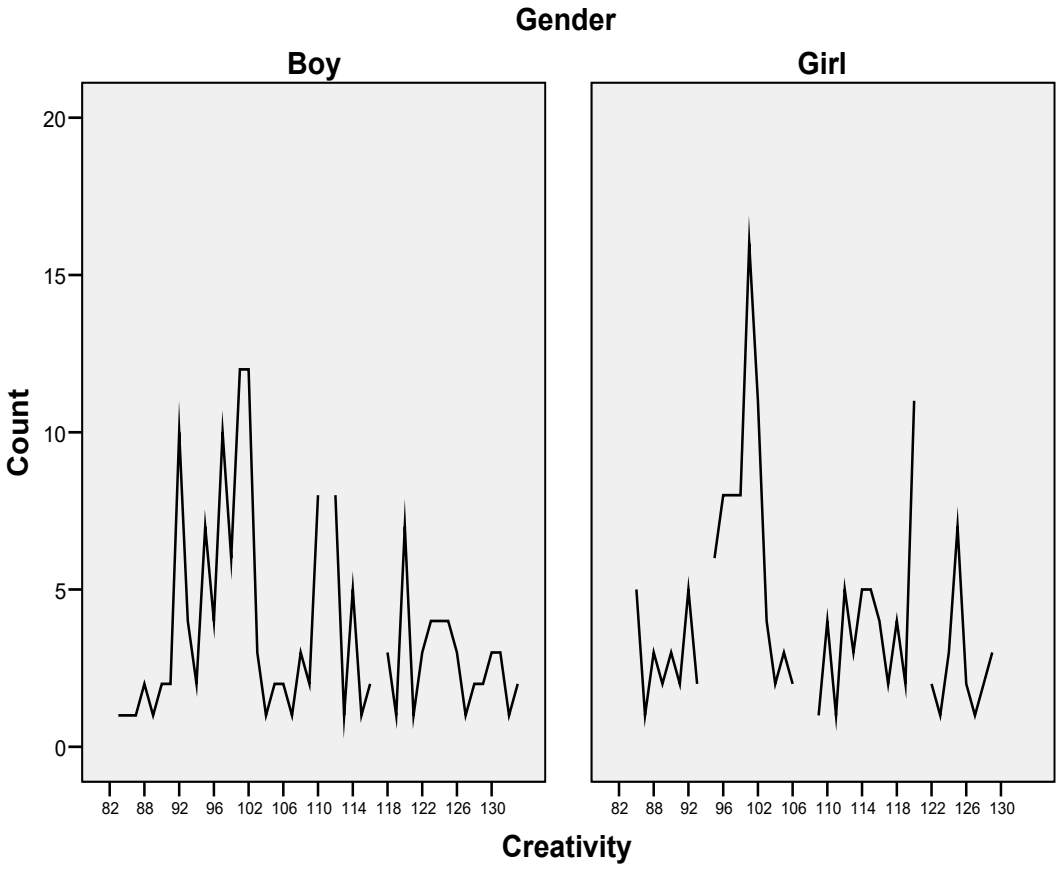


Figure-4.1: Showing the Differences in Creative Abilities of Secondary School Students according to Gender

Table-4.2

Differences in Creative Abilities of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	116.91	9.017	.713	318	24.679	.000**
Low Achiever	160	96.79	5.848	.462			

** = p<0.01

Results in Table-4.2 showed that the mean and std. deviation derived from high achiever respondents' creativity scores were 116.91 and 9.017 and low achiever respondents' creativity scores were 96.79 and 5.848. The results revealed that there is a significant difference (df =318, t=23.679, p<0.01) in creative abilities of secondary school students in terms of academic achievement. That is, high achievers expressed more creative abilities as compared to low achiever secondary school students. The result has been graphically plotted in figure-4.2.

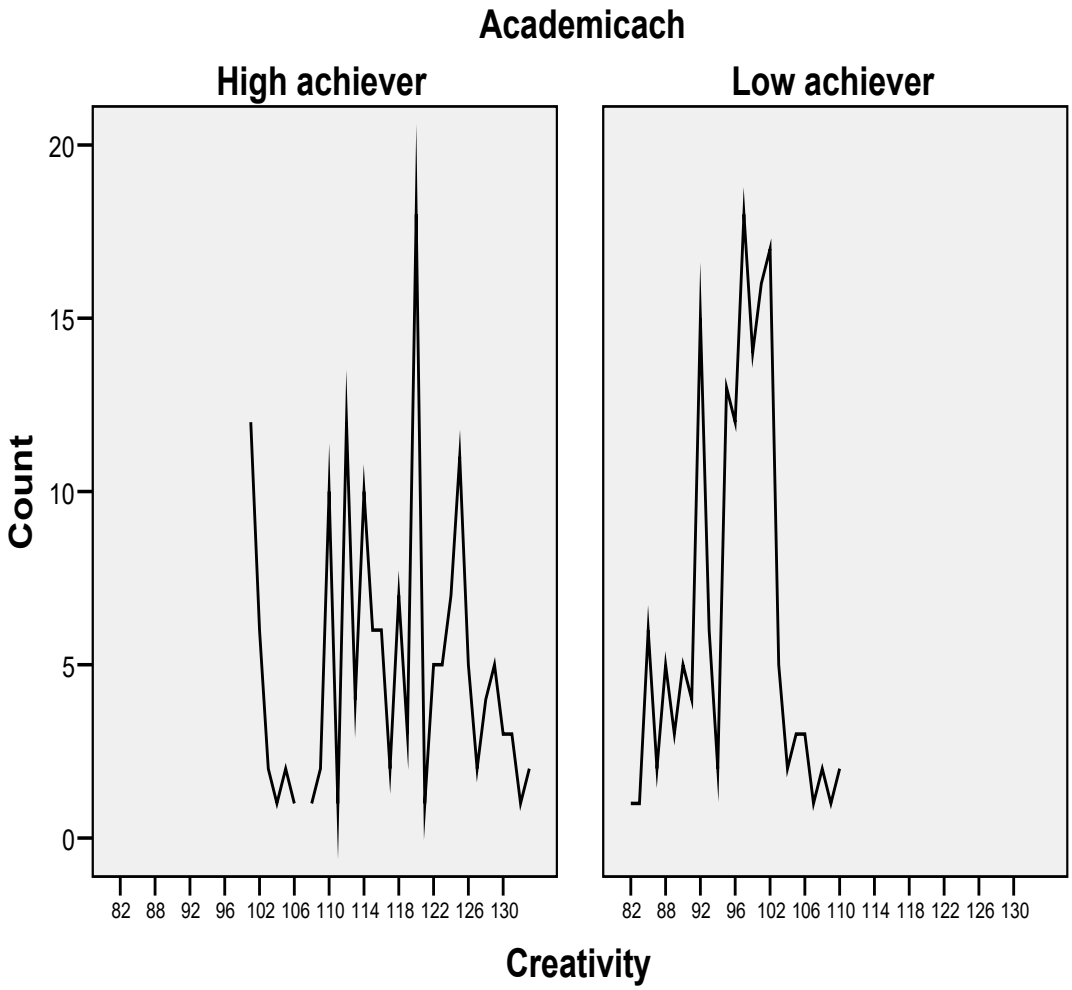


Figure-4.2: Showing the Differences in Creative Abilities of Secondary School Students in terms of Academic Achievement

Table-4.3

Differences in Creative Abilities of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	111.60	12.488	.987	318	7.268	.000**
Lower Middle	160	102.09	10.850	.858			

** = p<0.01

Results in Table-4.3 showed that the mean and std. deviation derived from upper middle SES respondents' creativity scores were 111.60 and 12.488 and lower middle SES respondents' creativity scores were 102.09 and 10.850. The results revealed that there is a significant difference (df =318, t= 7.268, p<0.01) in creative abilities of secondary school students in terms of SES. That is, upper middle SES secondary school students expressed more creative abilities as compared to their lower middle SES counterpart. The result has been graphically plotted in figure-4.3.

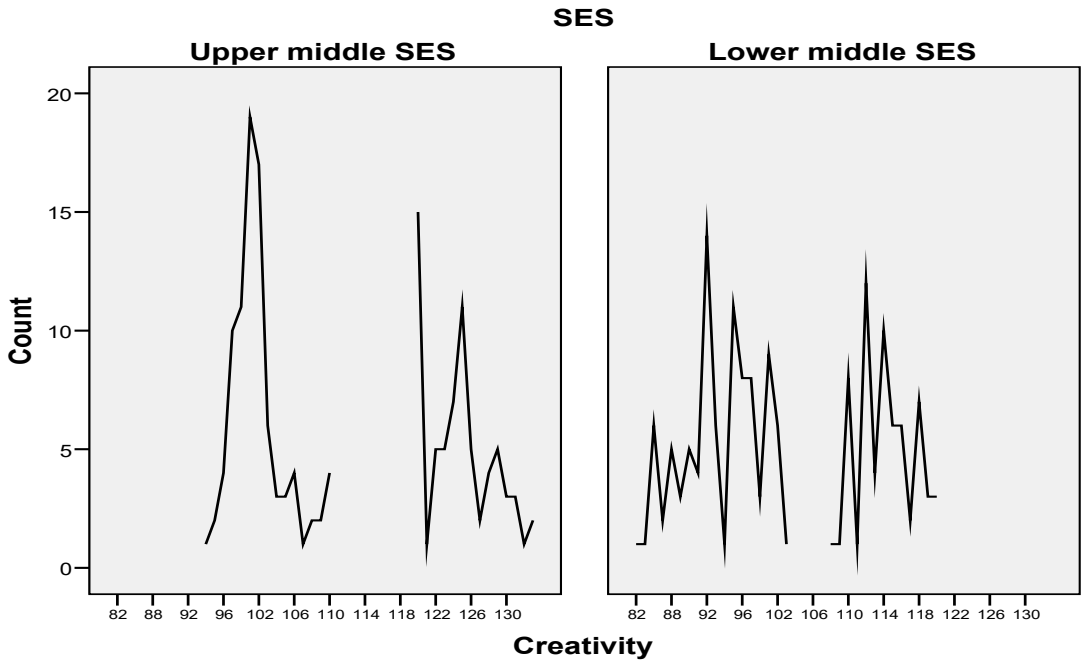


Figure-4.3: Showing the Differences in Creative Abilities of Secondary School Students according to SES

Table-4.4

Differences in Self Concept of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	112.00	13.571	1.073	318	2.171	.031*
Girls	160	108.76	13.104	1.036			

* = p<0.01

Results in Table-4.4 showed that the mean and std. deviation derived from boy respondents' self concept scores were 112.00 and 13.571 and girl respondents' self concept scores were 108.76 and 13.104. The results revealed that there is a significant difference (df =318, t= 2.171, p<0.05) in self concept of secondary school students in terms of gender. That is, boy secondary school students possessed higher self concept as compared to their girl counterpart. The result has been graphically plotted in figure-4.4.

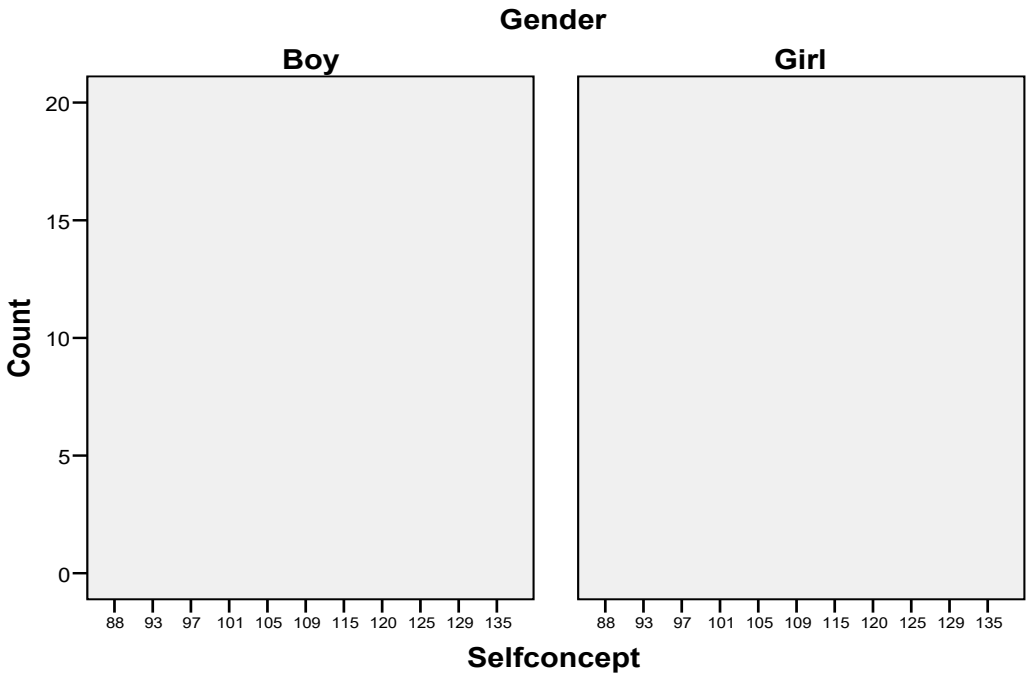


Figure-4.4: Showing the Differences in Self Concept of Secondary School Students according to Gender

Table-4.5

Differences in Self Concept of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	121.86	7.962	.629	318	29.606	.000**
Low Achiever	160	98.91	5.723	.452			

** = p<0.01

Results in Table-4.5 showed that the mean and std. deviation derived from high achiever respondents' self concept scores were 121.86 and 7.962 and low achiever respondents' self concept scores were 98.91 and 5.723. The results revealed that there is a significant difference (df =318, t= 29.606, p<0.01) in self concept of secondary school students in terms of academic achievement. That is, high achiever secondary school students possessed higher self concept as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.5.

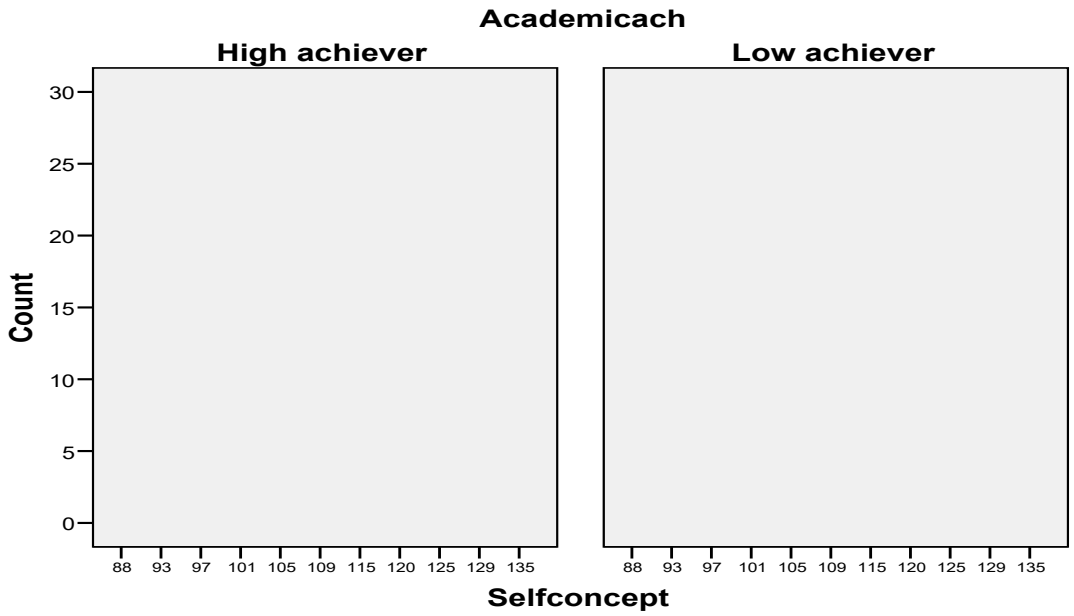


Figure-4.5: Showing the Differences in Self Concept of Secondary School Students in terms of Academic Achievement

Table-4.6

Differences in Self Concept of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	114.35	13.206	1.044	318	5.532	.000**
Lower Middle	160	106.41	12.452	.984			

** = p<0.01

Results in Table-4.6 showed that the mean and std. deviation derived from upper middle SES respondents' self concept scores were 114.35 and 13.206 and lower middle SES respondents' self concept scores were 106.41 and 12.452. The results revealed that there is a significant difference (df =318, t= 5.532, p<0.01) in self concept of secondary school students in terms of SES. That is, upper middle SES secondary school students possessed higher self concept as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.6.

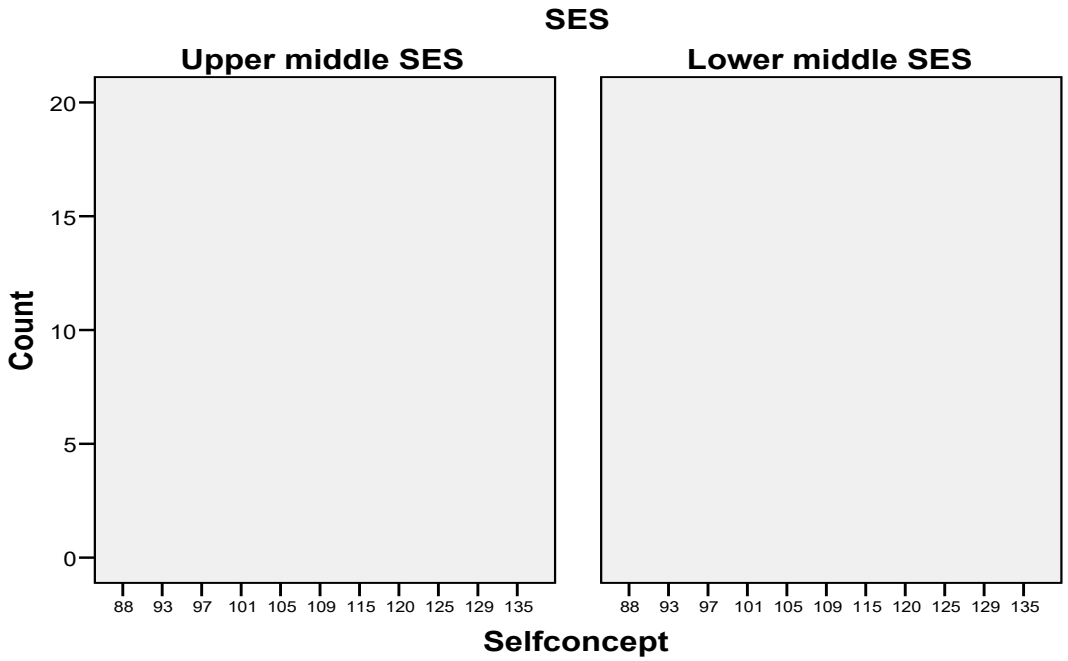


Figure-4.6: Showing the Differences in Self Concept of Secondary School Students according to SES

Table-4.7

Differences in Artistic Abilities of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	18.03	2.485	.196	318	1.965	.05*
Girls	160	17.47	2.577	.204			

* = p<0.05

Results in Table-4.7 showed that the mean and std. deviation derived from boy respondents' artistry scores were 18.03 and 2.485 and girl respondents' artistry scores were 17.47 and 2.577. The results revealed that there is a significant difference (df =318, t= 1.965, p=0.05) in artistic abilities of secondary school students in terms of gender. That is, boy secondary school students expressed more artistic abilities as compared to their girl counterpart. The result has been graphically plotted in figure-4.7.

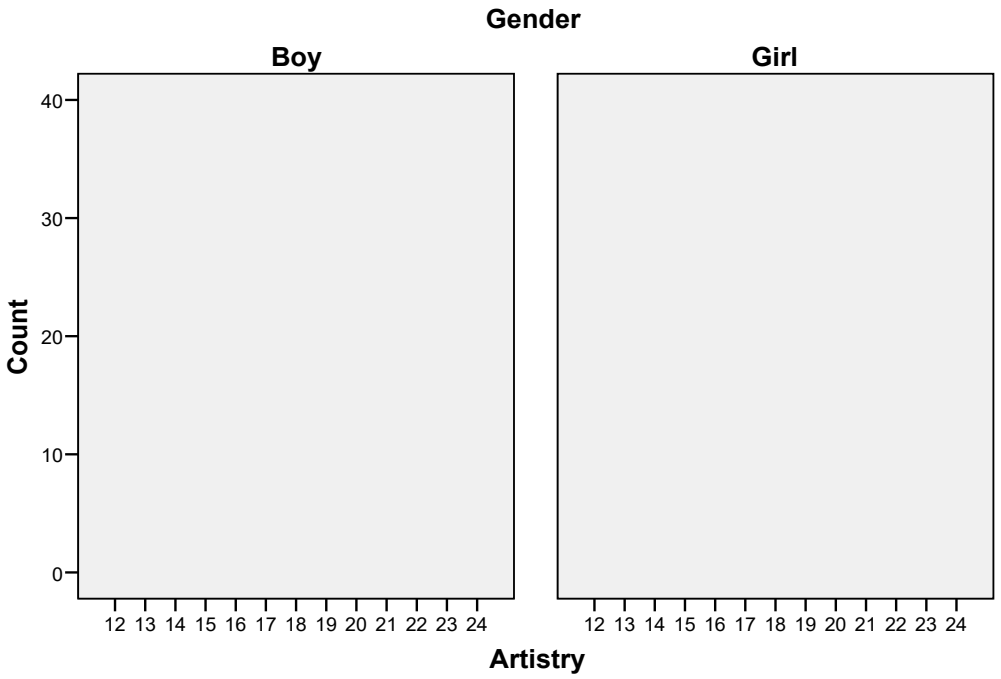


Figure-4.7: Showing the Differences in Artistic Abilities of Secondary School Students according to Gender

Table-4.8

Differences in Artistic Abilities of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	19.46	2.116	.167	318	16.240	.000**
Low Achiever	160	16.04	1.617	.128			

** = p<0.01

Results in Table-4.8 showed that the mean and std. deviation derived from high achiever respondents' artistry scores were 19.46 and 2.116 and low achiever respondents' artistry scores were 16.04 and 1.617. The results revealed that there is a significant difference (df =318, t= 16.240, p<0.01) in artistic abilities of secondary school students in terms of academic achievement. That is, high achiever secondary school students expressed more artistic abilities as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.8.

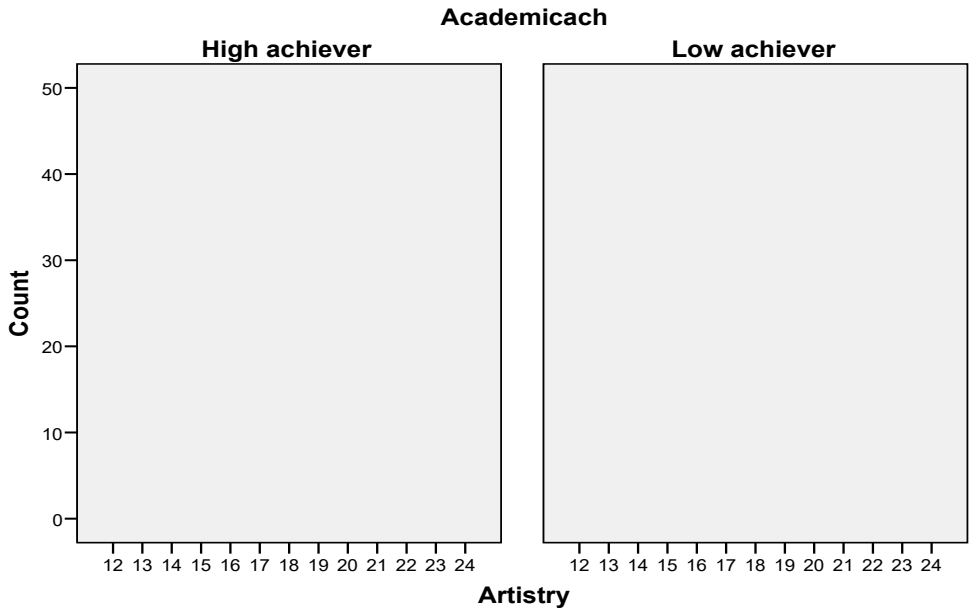


Figure-4.8: Showing the Differences in Artistic Abilities of Secondary School Students in terms of Academic Achievement

Table-4.9

Differences in Artistic Abilities of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	18.53	2.470	.195	318	5.793	.000**
Lower Middle	160	16.96	2.374	.188			

** = p<0.01

Results in Table-4.9 showed that the mean and std. deviation derived from upper middle SES respondents' artistry scores were 18.53 and 2.470 and lower middle SES respondents' artistry scores were 16.96 and 2.374. The results revealed that there is a significant difference (df =318, t= 5.793, p<0.01) in artistic abilities of secondary school students in terms of SES. That is, upper middle SES secondary school students expressed more artistic abilities as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.9.

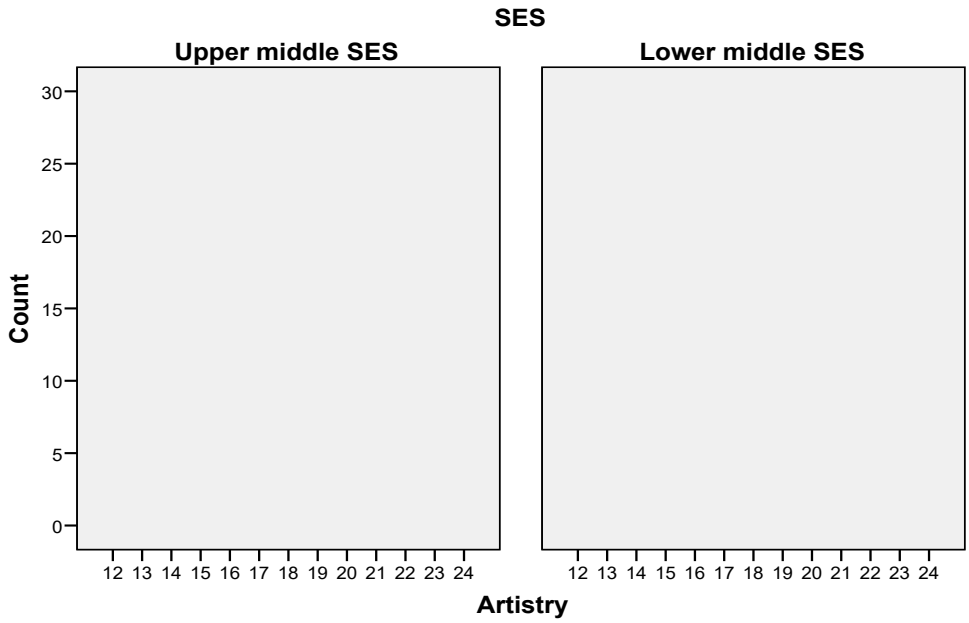


Figure-4.9: Showing the Differences in Artistic Abilities of Secondary School Students according to SES

Table-4.10

Differences in Intellectuality of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	t	p
Boys	160	17.72	2.563	.203	318	1.089	.277
Girls	160	17.41	2.466	.195			

Results in Table-4.10 showed that the mean and std. deviation derived from boy respondents' intellectuality scores were 17.72 and 2.563 and girl respondents' intellectuality scores were 17.41 and 2.466. The results revealed no significant difference in intellectual abilities of secondary school students in terms of gender. The result has been graphically plotted in figure-4.10.

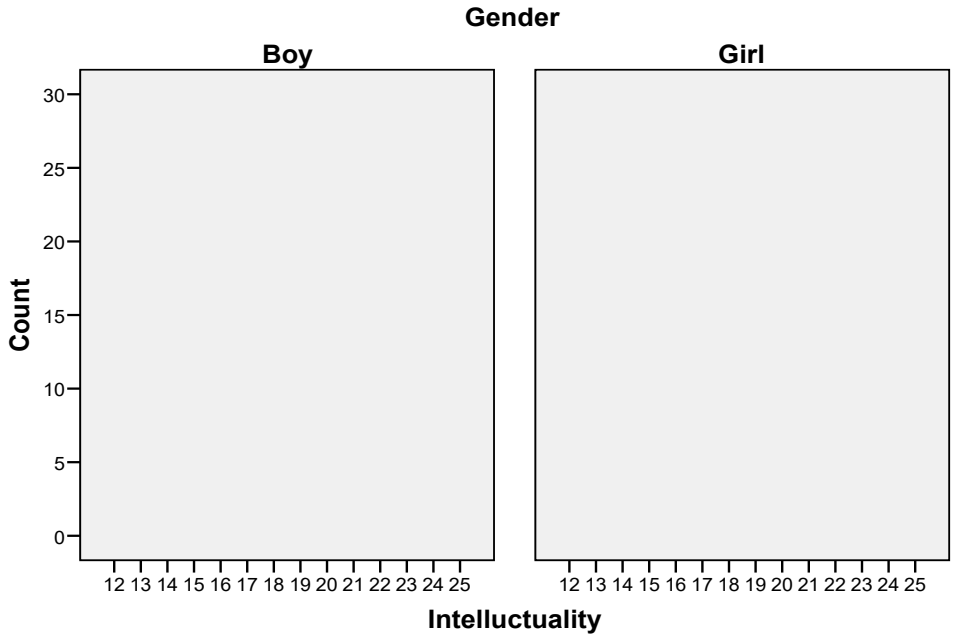


Figure-4.10: Showing the Differences in Intellectuality of Secondary School Students according to Gender

Table-4.11

Differences in Intellectuality of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	19.40	1.966	.155	318	19.067	.000**
Low Achiever	160	15.73	1.435	.113			

** = p<0.01

Results in Table-4.11 showed that the mean and std. deviation derived from high achiever respondents' intellectuality scores were 19.40 and 1.966 and low achiever respondents' intellectuality scores were 15.73 and 1.435. The results revealed that there is a significant difference (df =318, t= 19.067, p<0.01) in intellectual abilities of secondary school students in terms of academic achievement. That is, high achiever secondary school students expressed more intellectual abilities as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.11.

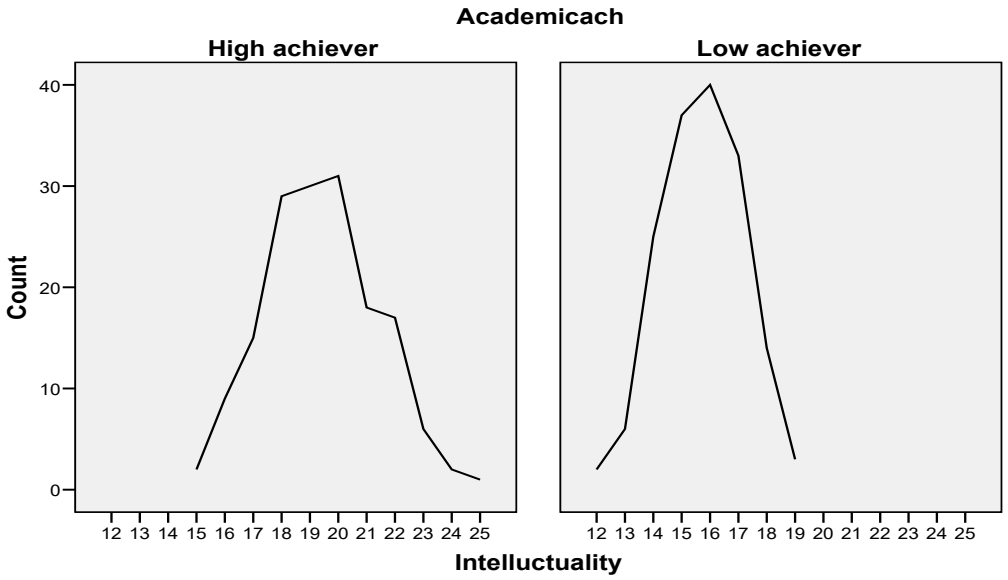


Figure-4.11: Showing the Differences in Intellectuality of Secondary School Students in terms of Academic Achievement

Table-4.12

Differences in Intellectuality of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	18.35	2.695	.213	318	5.862	.000**
Lower Middle	160	16.78	2.049	.162			

** = p<0.01

Results in Table-4.12 showed that the mean and std. deviation derived from upper middle SES respondents' intellectuality scores were 18.35 and 2.695 and lower middle SES respondents' intellectuality scores were 16.78 and 2.049. The results revealed that there is a significant difference (df =318, t= 5.862, p<0.01) in intellectual abilities of secondary school students in terms of SES. That is, upper middle SES secondary school students expressed more intellectual abilities as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.12.

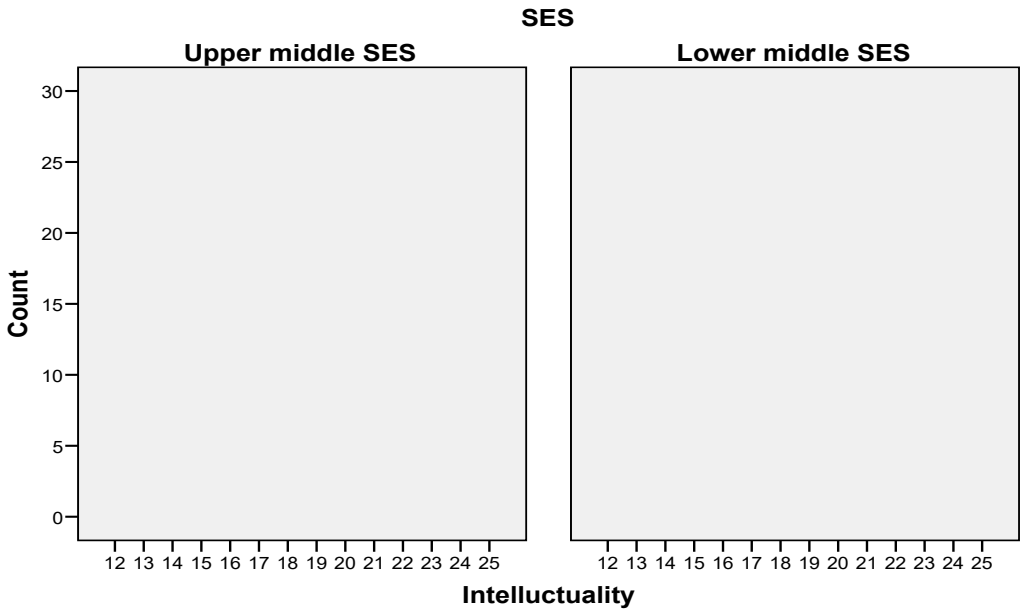


Figure-4.12: Showing the Differences in Intellectuality of Secondary School Students according to SES

Table-4.13
Differences in Disciplined Imagination of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	17.88	2.341	.185	318	1.311	.191
Girls	160	17.51	2.599	.205			

Results in Table-4.13 showed that the mean and std. deviation derived from boy respondents' disciplined imagination scores were 17.88 and 2.341 and girl respondents' disciplined imagination scores were 17.51 and 2.599. The results revealed no significant difference in disciplined imagination of secondary school students in terms of gender. The result has been graphically plotted in figure-4.13.

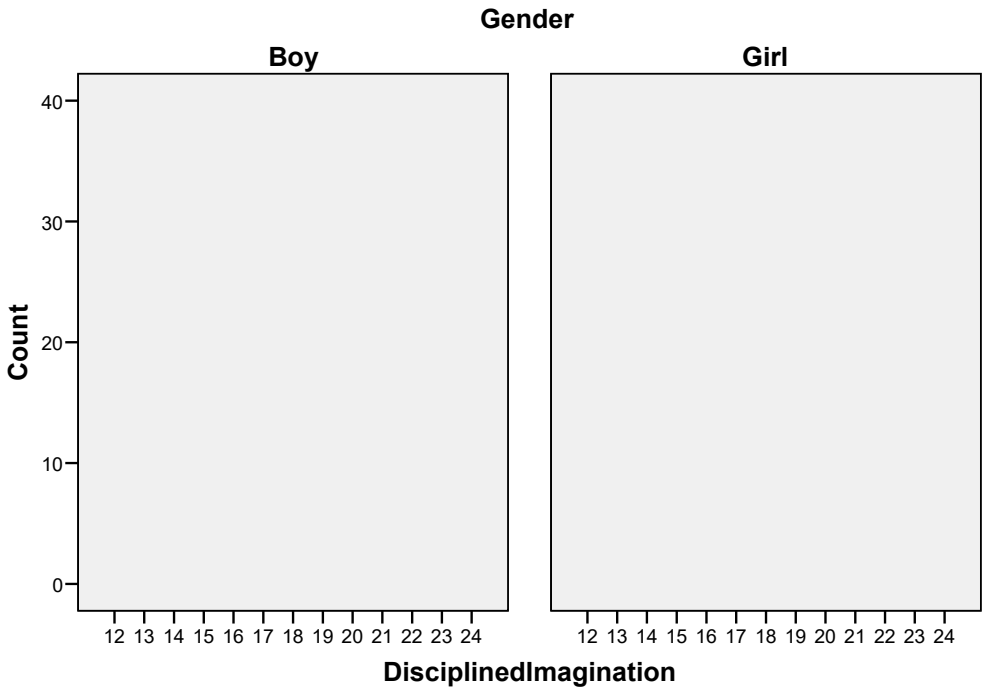


Figure-4.13: Showing the Differences in Disciplined Imagination of Secondary School Students according to Gender

Table-4.14

Differences in Disciplined Imagination of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	19.45	1.859	.147	318	17.998	.000**
Low Achiever	160	15.94	1.624	.128			

** = p<0.01

Results in Table-4.14 showed that the mean and std. deviation derived from high achiever respondents' disciplined imagination scores were 19.45 and 1.859 and low achiever respondents' disciplined imagination scores were 15.94 and 1.624. The results revealed that there is a significant difference (df =318, t= 17.998, p<0.01) in disciplined imagination of secondary school students in terms of academic achievement. That is, high achiever secondary school students expressed more disciplined imagination as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.14.

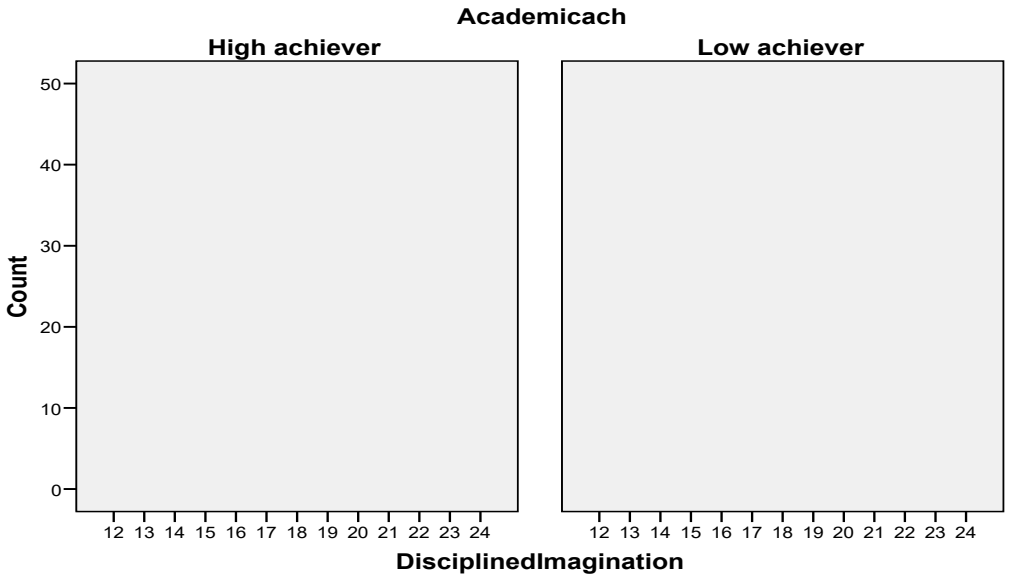


Figure-4.14: Showing the Differences in Disciplined Imagination of Secondary School Students in terms of Academic Achievement

Table-4.15

Differences in Disciplined Imagination of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	18.51	2.339	.185	318	6.205	.000**
Lower Middle	160	16.88	2.346	.185			

** = p<0.01

Results in Table-4.15 showed that the mean and std. deviation derived from upper middle SES respondents' disciplined imagination scores were 18.51 and 2.339 and lower middle SES respondents' disciplined imagination scores were 16.88 and 2.346. The results revealed that there is a significant difference (df =318, t= 6.205, p<0.01) in disciplined imagination of secondary school students in terms of SES. That is, upper middle SES secondary school students expressed more disciplined imagination as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.15.

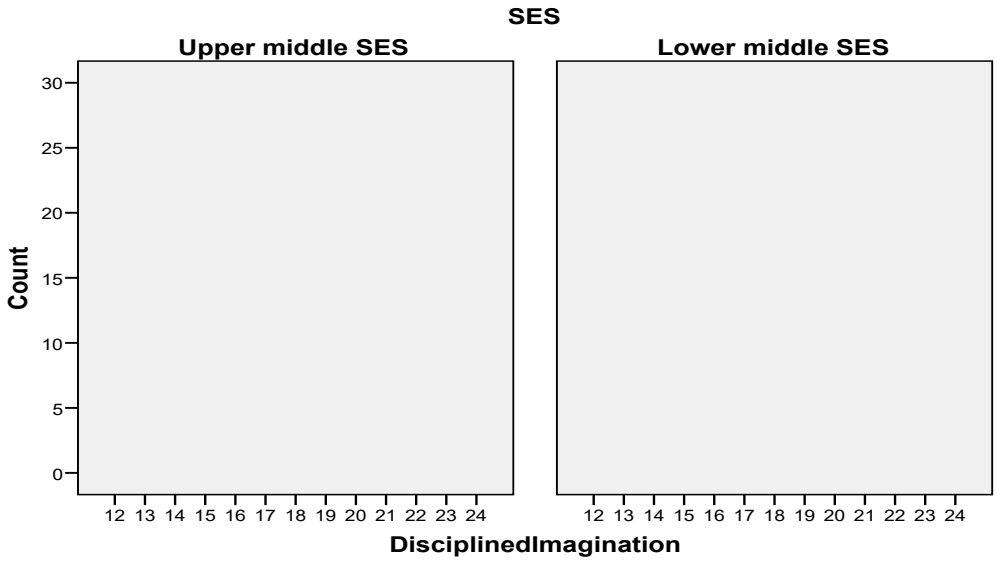


Figure-4.15: Showing the Differences in Disciplined Imagination of Secondary School Students according to SES

Table-4.16

Differences in Self Strength of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	17.88	2.289	.181	318	.000	1.000
Girls	160	17.88	2.516	.199			

Results in Table-4.16 showed that the mean and std. deviation derived from boy respondents' self strength scores were 17.88 and 2.289 and girl respondents' self strength scores were 17.88 and 2.516. The results revealed no significant difference in self strength of secondary school students in terms of gender. The result has been graphically plotted in figure-4.16.

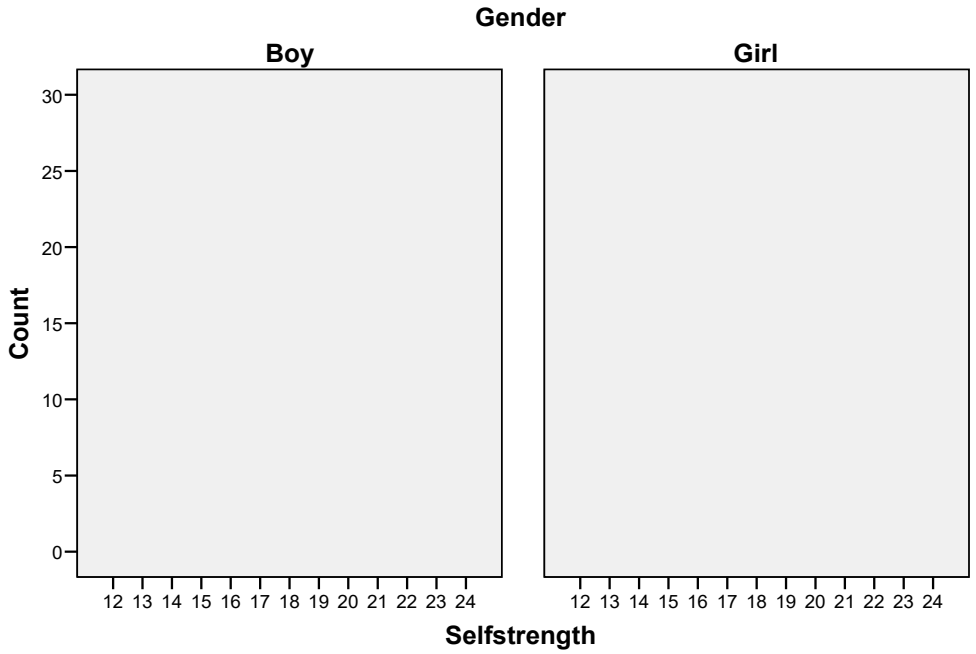


Figure-4.16: Showing the Differences in Self Strength of Secondary School Students according to Gender

Table-4.17

Differences in Self Strength of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	19.48	1.946	.154	318	15.867	.000**
Low Achiever	160	16.29	1.634	.129			

** = p<0.01

Results in Table-4.17 showed that the mean and std. deviation derived from high achiever respondents' self strength scores were 19.48 and 1.946 and low achiever respondents' self strength scores were 16.29 and 1.634. The results revealed that there is a significant difference (df =318, t= 15.867, p<0.01) in self strength of secondary school students in terms of academic achievement. That is, high achiever secondary school students expressed more self strength as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.17.

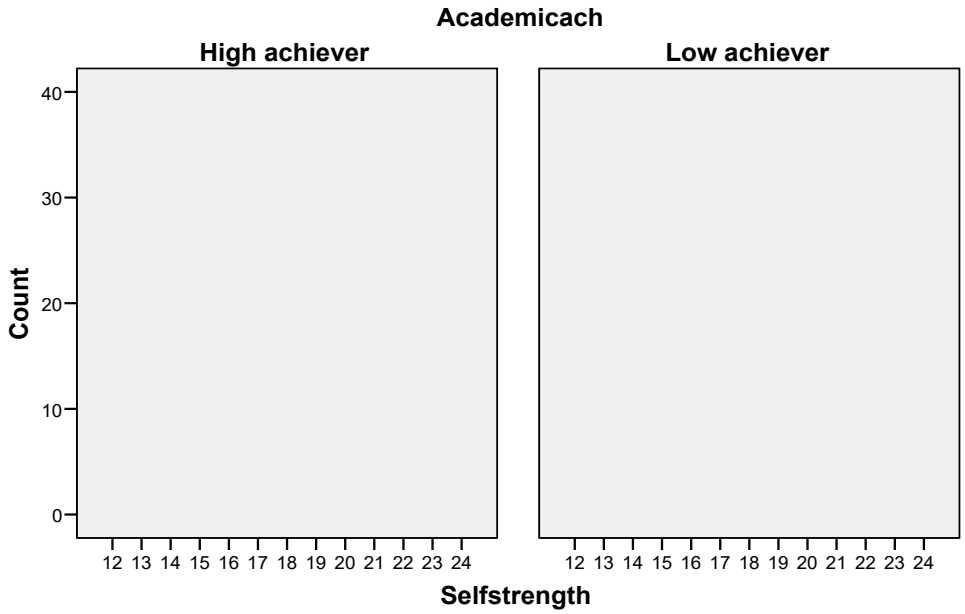


Figure-4.17: Showing the Differences in Self Strength of Secondary School Students in terms of Academic Achievement

Table-4.18

Differences in Self Strength of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	18.69	2.232	.176	318	6.423	.000**
Lower Middle	160	17.07	2.293	.181			

** = p<0.01

Results in Table-4.18 showed that the mean and std. deviation derived from upper middle SES respondents' self strength scores were 18.69 and 2.232 and lower middle SES respondents' self strength scores were 17.07 and 2.293. The results revealed that there is a significant difference (df =318, t= 6.423, p<0.01) in self strength of secondary school students in terms of SES. That is, upper middle SES secondary school students expressed more self strength as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.18.

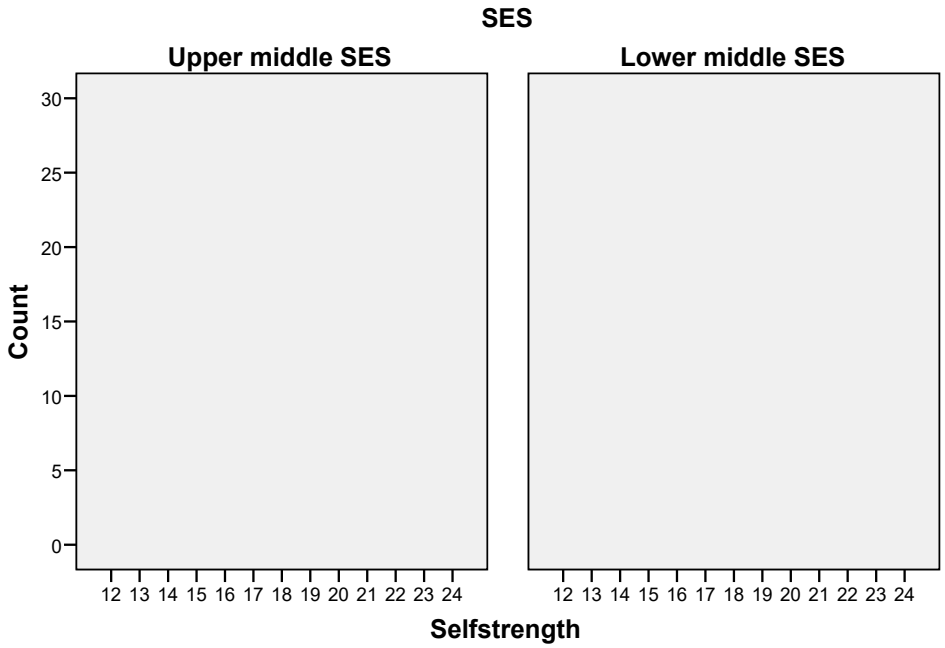


Figure-4.18: Showing the Differences in Self Strength of Secondary School Students according to SES

Table-4.19

Differences in Inquisitiveness of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	17.88	2.388	.189	318	.235	.184
Girls	160	17.82	2.363	.187			

Results in Table-4.19 showed that the mean and std. deviation derived from boy respondents' inquisitiveness scores were 17.88 and 2.388 and girl respondents' inquisitiveness scores were 17.82 and 2.363. The results revealed no significant difference in inquisitiveness of secondary school students in terms of gender. The result has been graphically plotted in figure-4.19.

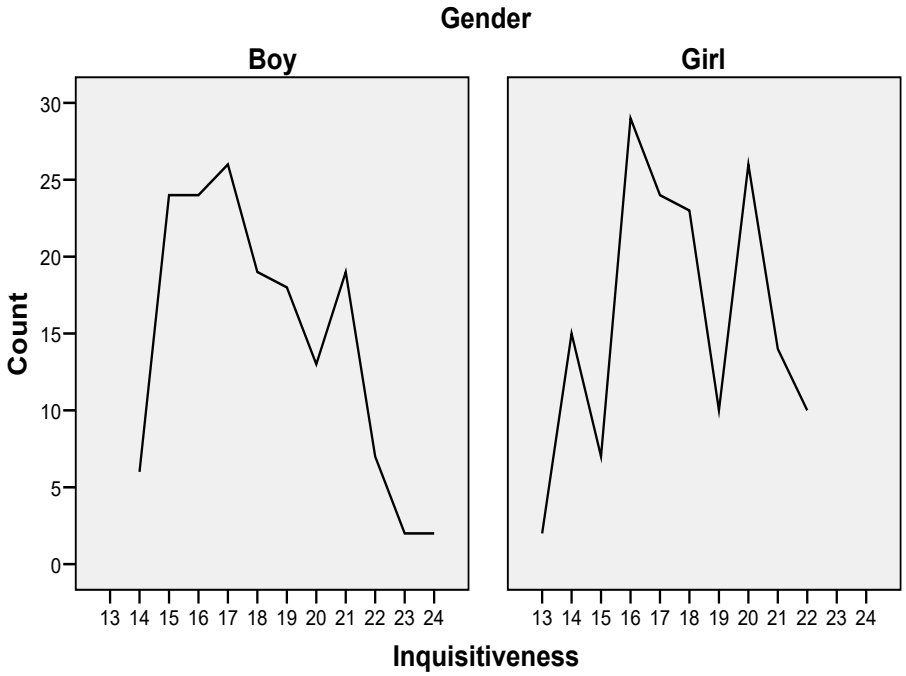


Figure-4.19: Showing the Differences in Inquisitiveness of Secondary School Students according to Gender

Table-4.20

Differences in Inquisitiveness of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	19.47	1.893	.150	318	16.698	.000**
Low Achiever	160	16.23	1.559	.123			

** = p<0.01

Results in Table-4.20 showed that the mean and std. deviation derived from high achiever respondents' inquisitiveness scores were 19.47 and 1.893 and low achiever respondents' inquisitiveness scores were 16.23 and 1.559. The results revealed that there is a significant difference (df =318, t= 16.698, p<0.01) in inquisitiveness of secondary school students in terms of academic achievement. That is, high achiever secondary school students expressed more inquisitiveness as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.20.

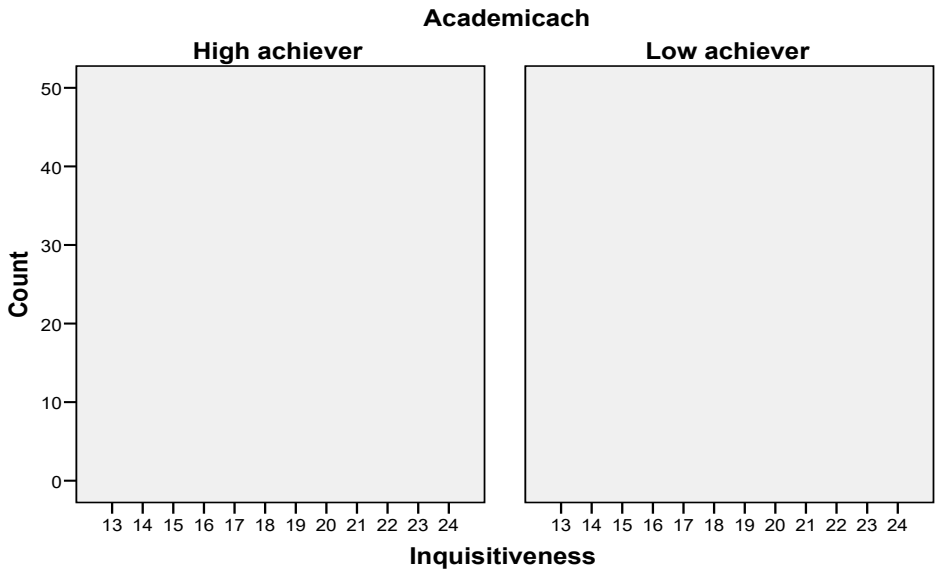


Figure-4.20: Showing the Differences in Inquisitiveness of Secondary School Students in terms of Academic Achievement

Table-4.21

Differences in Inquisitiveness of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	18.66	2.323	.184	318	6.457	.000**
Lower Middle	160	17.04	2.141	.169			

** = p<0.01

Results in Table-4.21 showed that the mean and std. deviation derived from upper middle SES respondents' inquisitiveness scores were 18.66 and 2.323 and lower middle SES respondents' inquisitiveness scores were 17.04 and 2.141. The results revealed that there is a significant difference (df =318, t= 6.457, p<0.01) in inquisitiveness of secondary school students in terms of SES. That is, upper middle SES secondary school students expressed more inquisitiveness as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.21.

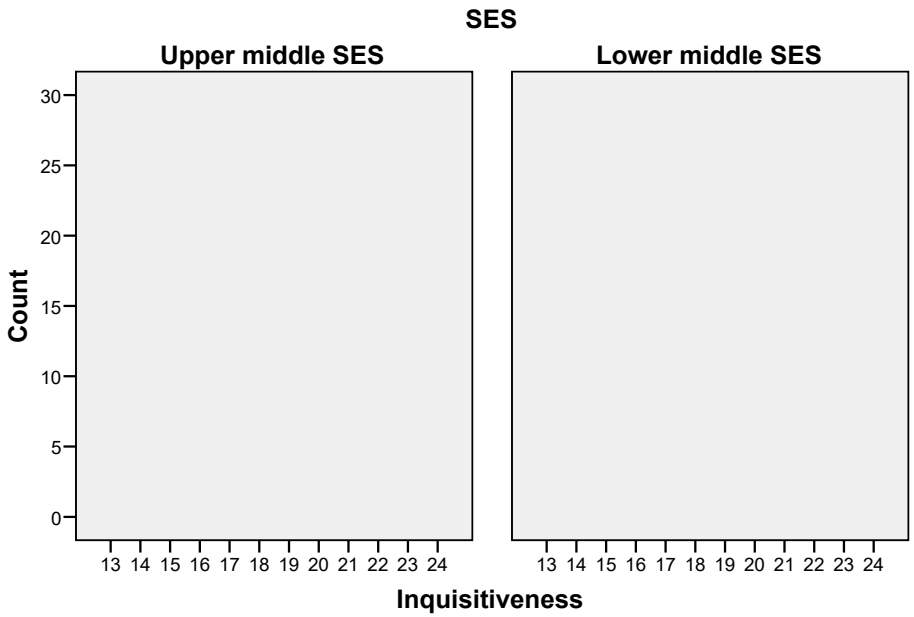


Figure-4.21: Showing the Differences in Inquisitiveness of Secondary School Students according to SES

Table-4.22

Differences in Environmental Sensitivity of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	18.01	2.412	.191	318	.164	.870
Girls	160	18.05	2.349	.186			

Results in Table-4.22 showed that the mean and std. deviation derived from boy respondents' environmental sensitivity scores were 18.01 and 2.412 and girl respondents' environmental sensitivity scores were 18.05 and 2.349. The results revealed no significant difference in environmental sensitivity of secondary school students in terms of gender. The result has been graphically plotted in figure-4.22.

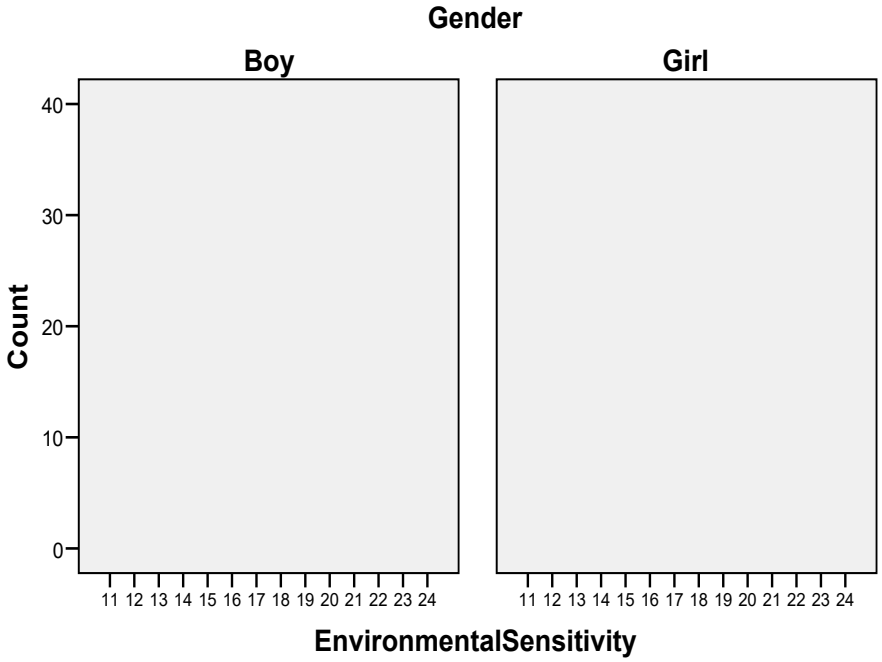


Figure-4.22: Showing the Differences in Environmental Sensitivity of Secondary School Students according to Gender

Table-4.23

Differences in Environmental Sensitivity of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	19.59	1.884	.149	318	15.650	.000**
Low Achiever	160	16.46	1.689	.134			

** = p<0.01

Results in Table-4.23 showed that the mean and std. deviation derived from high achiever respondents' environmental sensitivity scores were 19.59 & 1.884 and low achiever respondents' environmental sensitivity scores were 16.46 and 1.689. The results revealed that there is a significant difference (df =318, t= 15.650, p<0.01) in environmental sensitivity of secondary school students in terms of academic achievement. That is, high achiever secondary school students expressed more environmental sensitivity as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.23.

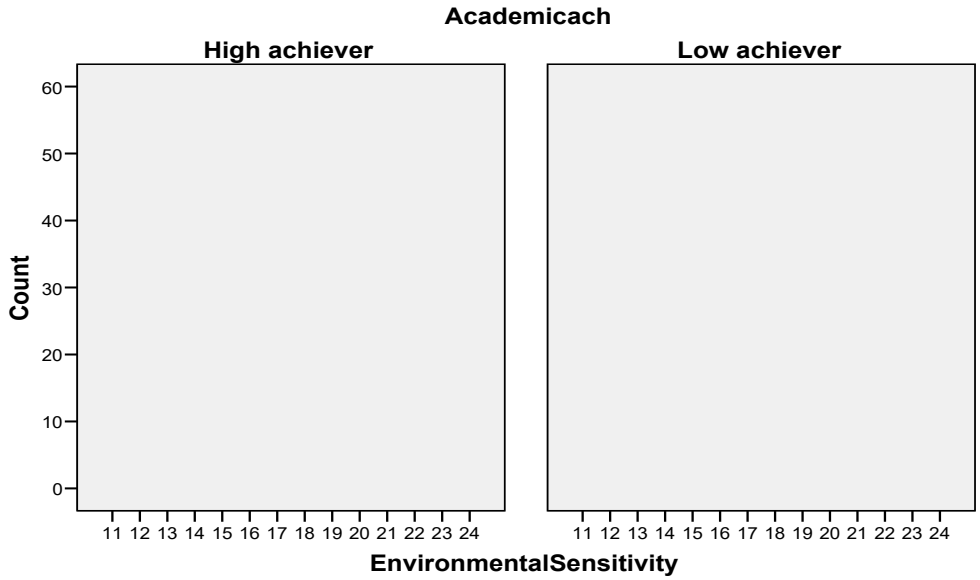


Figure-4.23: Showing the Differences in Environmental Sensitivity of Secondary School Students in terms of Academic Achievement

Table-4.24

Differences in Environmental Sensitivity of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	18.81	2.176	.172	318	6.188	.000**
Lower Middle	160	17.25	2.320	.183			

** = p<0.01

Results in Table-4.24 showed that the mean and std. deviation derived from upper middle SES respondents' environmental sensitivity scores were 18.81 & 2.176 and lower middle SES respondents' environmental sensitivity scores were 17.25 and 2.320. The results revealed that there is a significant difference (df =318, t= 6.188, p<0.01) in environmental sensitivity of secondary school students in terms of SES. That is, upper middle SES secondary school students expressed more environmental sensitivity as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.24.

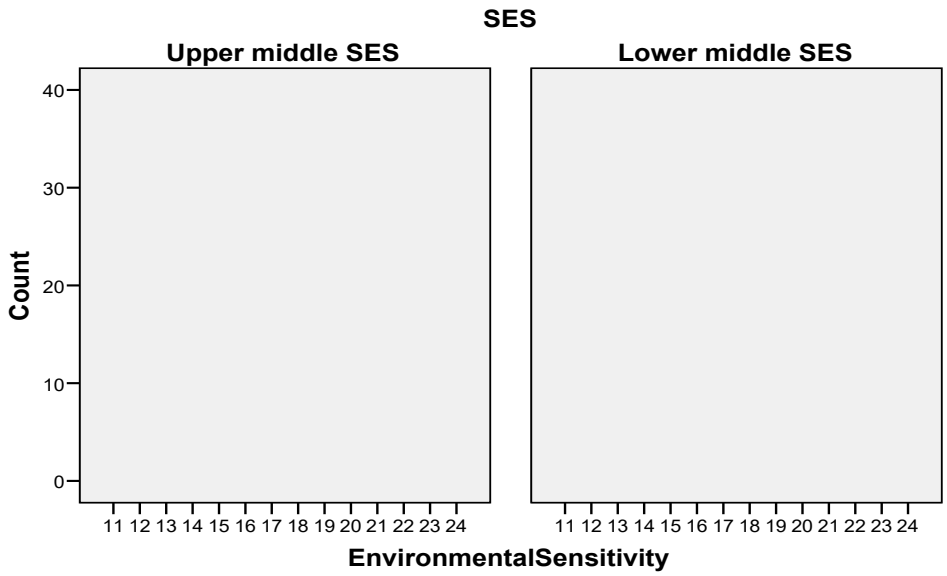


Figure-4.24: Showing the Differences in Environmental Sensitivity of Secondary School Students according to SES

Table-4.25

Differences in Physical Self Concept of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	18.73	2.434	.192	318	1.743	.082
Girls	160	18.24	2.569	.203			

Results in Table-4.25 showed that the mean and std. deviation derived from boy respondents' physical self concept scores were 18.73 & 2.434 and girl respondents' physical self concept scores were 18.24 and 2.569. The results revealed no significant difference in physical self concept of secondary school students in terms of gender. The result has been graphically plotted in figure-4.25.

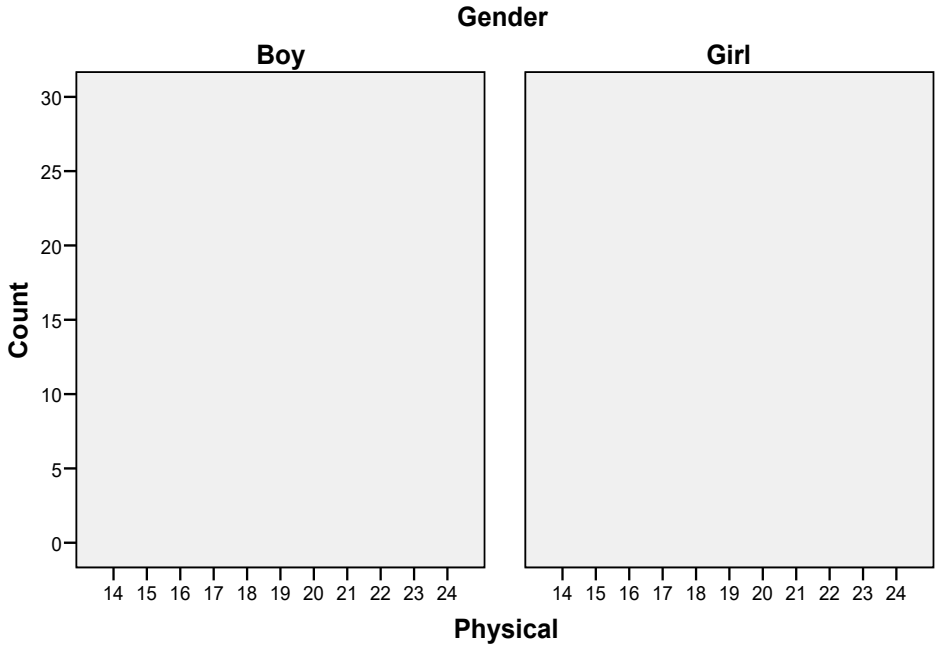


Figure-4.25: Showing the Differences in Physical Self Concept of Secondary School Students according to Gender

Table-4.26

Differences in Physical Self Concept of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	20.31	1.829	.145	318	18.947	.000**
Low Achiever	160	16.66	1.610	.127			

** = p<0.01

Results in Table-4.26 showed that the mean and std. deviation derived from high achiever respondents' physical self concept scores were 20.31 & 1.829 and low achiever respondents' physical self concept scores were 16.66 and 1.610. The results revealed that there is a significant difference (df =318, t= 18.947, p<0.01) in physical self concept of secondary school students in terms of academic achievement. That is, high achiever secondary school students possessed higher physical self concept as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.26.

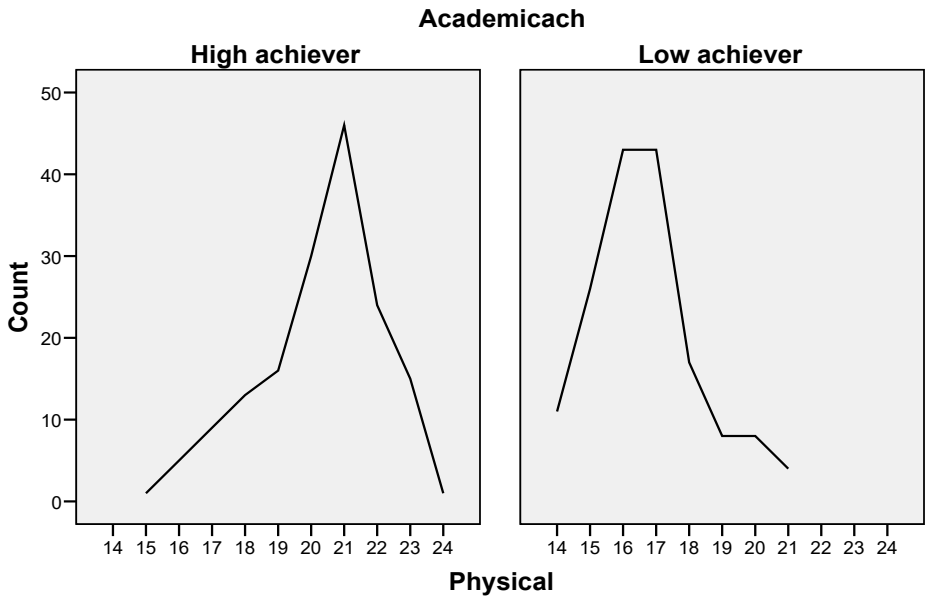


Figure-4.26: Showing the Differences in Physical Self Concept of Secondary School Students in terms of Academic Achievement

Table-4.27

Differences in Physical Self Concept of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	19.02	2.527	.200	318	3.916	.000**
Lower Middle	160	17.94	2.382	.188			

** = p<0.01

Results in Table-4.27 showed that the mean and std. deviation derived from upper middle SES respondents' physical self concept scores were 19.02 & 2.527 and lower middle SES respondents' physical self concept scores were 17.94 and 2.382. The results revealed that there is a significant difference (df =318, t= 3.916, p<0.01) in physical self concept of secondary school students in terms of SES. That is, upper middle SES secondary school students possessed higher physical self concept as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.27.

Figure-4.27: Showing the Differences in Physical Self Concept of Secondary School Students according to SES

Table-4.28

Differences in Educational Self Concept of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	18.70	2.520	.199	318	1.857	.064
Girls	160	18.20	2.292	.181			

Results in Table-4.28 showed that the mean and std. deviation derived from boy respondents' educational self concept scores were 18.70 & 2.520 and girl respondents' educational self concept scores were 18.20 and 2.292. The results revealed no significant difference in educational self concept of secondary school students in terms of gender. The result has been graphically plotted in figure-4.28.

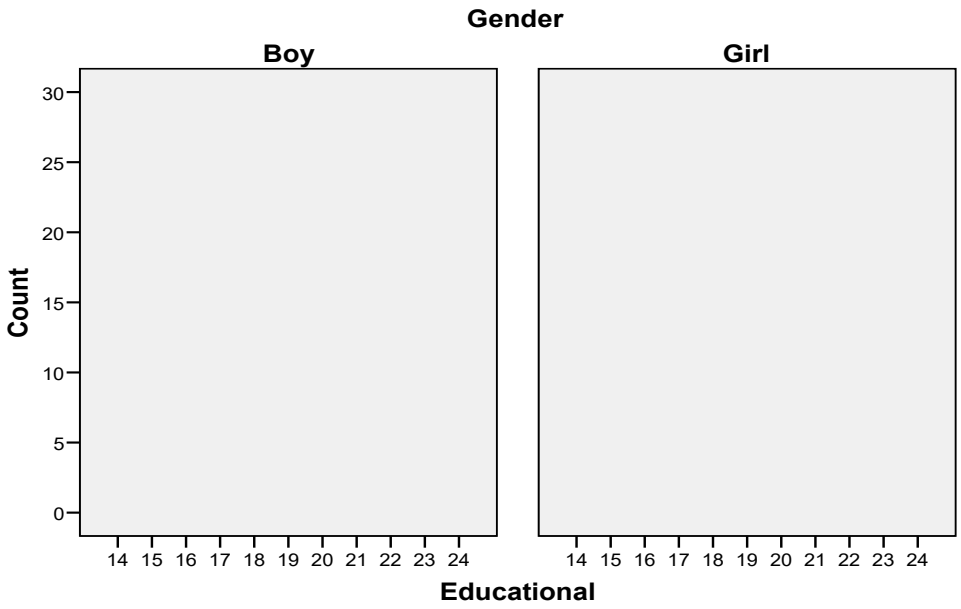


Figure-4.28: Showing the Differences in Educational Self Concept of Secondary School Students according to Gender

Table-4.29

Differences in Educational Self Concept of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	20.28	1.792	.142	318	20.756	.000**
Low Achiever	160	16.62	1.331	.105			

** = p<0.01

Results in Table-4.29 showed that the mean and std. deviation derived from high achiever respondents' educational self concept scores were 20.28 & 1.792 and low achiever respondents' educational self concept scores were 16.62 and 1.331. The results revealed that there exists a significant difference (df =318, t= 20.756, p<0.01) in educational self concept of secondary school students in terms of academic achievement. That is, high achiever secondary school students possessed higher educational self concept as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.29.

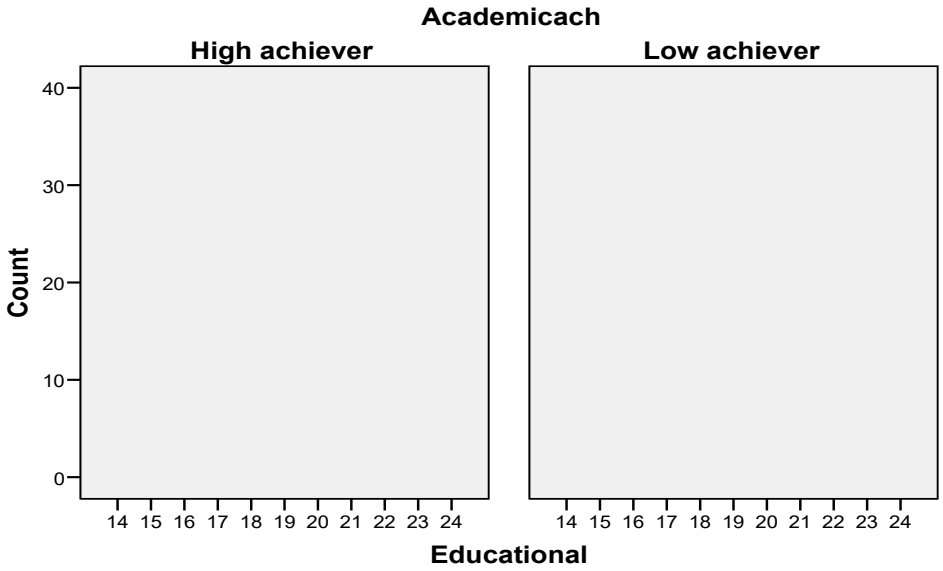


Figure-4.29: Showing the Differences in Educational Self Concept of Secondary School Students in terms of Academic Achievement

Table-4.30

Differences in Educational Self Concept of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	19.11	2.477	.196	318	5.037	.000**
Lower Middle	160	17.79	2.175	.172			

** = p<0.01

Results in Table-4.30 showed that the mean and std. deviation derived from upper middle SES respondents' educational self concept scores were 19.11 and 2.477 and lower middle SES respondents' educational self concept scores were 17.79 and 2.175. The results revealed that there is a significant difference (df =318, t= 3.916, p<0.01) in educational self concept of secondary school students in terms of SES. That is, upper middle SES secondary school students possessed higher educational self concept as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.30.

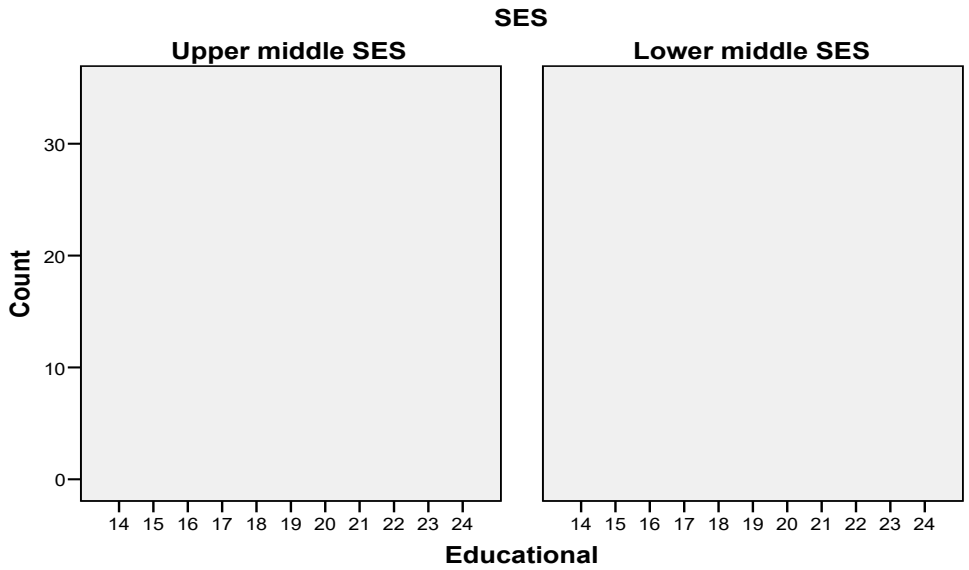


Figure-4.30: Showing the Differences in Educational Self Concept of Secondary School Students according to SES

Table-4.31

Differences in Scholastic Competence of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	18.58	2.549	.202	318	1.070	.285
Girls	160	18.29	2.356	.186			

Results in Table-4.31 showed that the mean and std. deviation derived from boy respondents' scholastic competence scores were 18.58 and 2.549 and girl respondents' scholastic competence scores were 18.29 and 2.356. The results revealed no significant difference in scholastic competence of secondary school students in terms of gender. The result has been graphically plotted in figure-4.31.

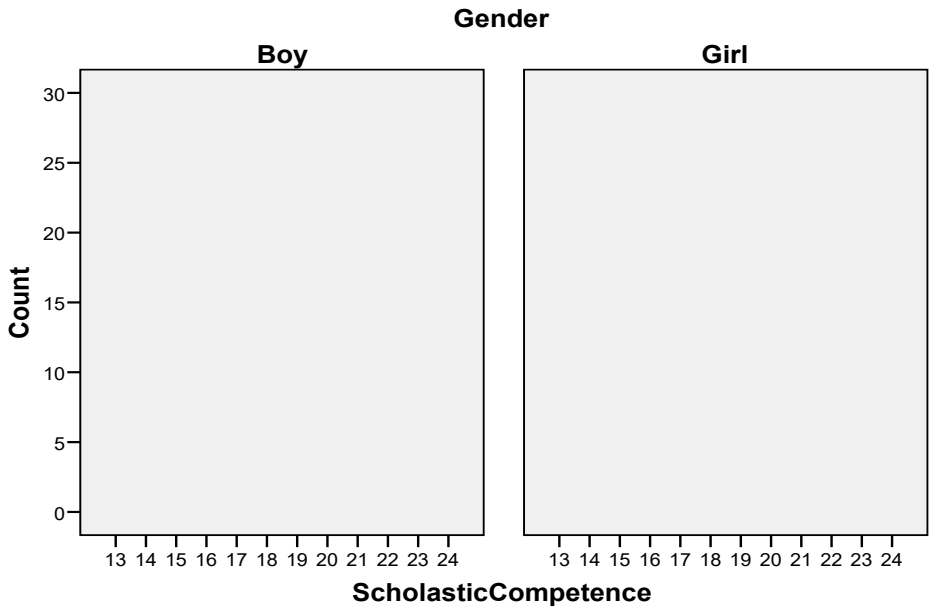


Figure-4.31: Showing the Differences in Scholastic Competence of Secondary School Students according to Gender

Table-4.32

Differences in Scholastic Competence of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	20.34	1.613	.128	318	21.969	.000**
Low Achiever	160	16.53	1.413	.117			

** = p<0.01

Results in Table-4.32 showed that the mean and std. deviation derived from high achiever respondents' scholastic competence scores were 20.34 and 1.613 and low achiever respondents' scholastic competence scores were 16.53 and 1.413. The results revealed that there is a significant difference (df =318, t= 21.969, p<0.01) in scholastic competence of secondary school students in terms of academic achievement. That is, high achiever secondary school students expressed more scholastic competence as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.32.

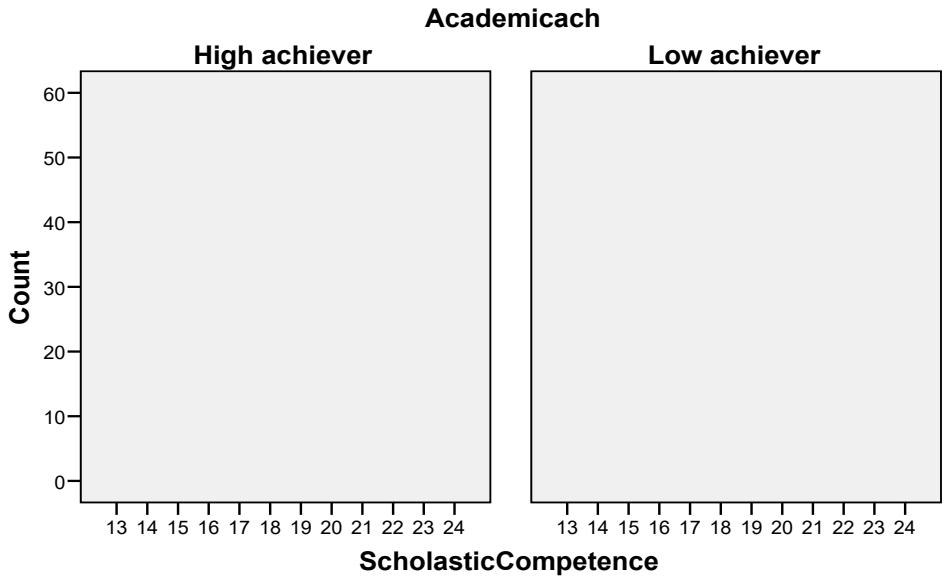


Figure-4.32: Showing the Differences in Scholastic Competence of Secondary School Students in terms of Academic Achievement

Table-4.33

Differences in Scholastic Competence of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	19.14	2.352	.186	318	5.392	.000**
Lower Middle	160	17.73	2.355	.186			

** = p<0.01

Results in Table-4.33 showed that the mean and std. deviation derived from upper middle SES respondents' scholastic competence scores were 19.14 and 2.352 and lower middle SES respondents' scholastic competence scores were 17.73 and 2.355. The results revealed that there is a significant difference (df =318, t= 5.392, p<0.01) in scholastic competence of secondary school students in terms of SES. That is, upper middle SES secondary school students expressed more scholastic competence as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.33.

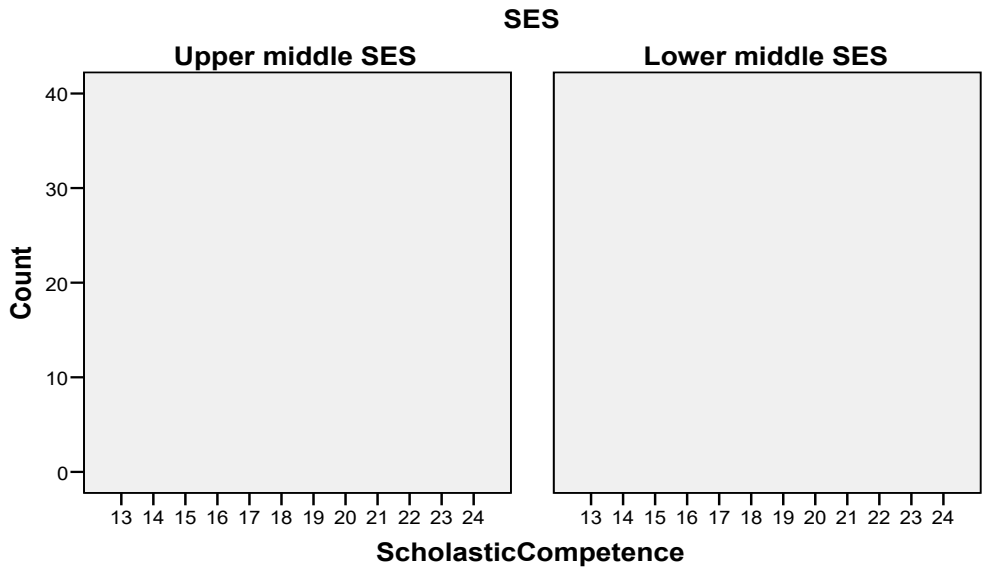


Figure-4.33: Showing the Differences in Scholastic Competence of Secondary School Students according to SES

Table-4.34

Differences in Moral Self Concept of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	18.44	2.584	.204	318	1.362	.174
Girls	160	18.06	2.503	.198			

Results in Table-4.34 showed that the mean and std. deviation derived from boy respondents' moral self concept scores were 18.44 and 2.584 and girl respondents' moral self concept scores were 18.06 and 2.503. The results revealed no significant difference in moral self concept of secondary school students in terms of gender .The result has been graphically plotted in figure-4.34.

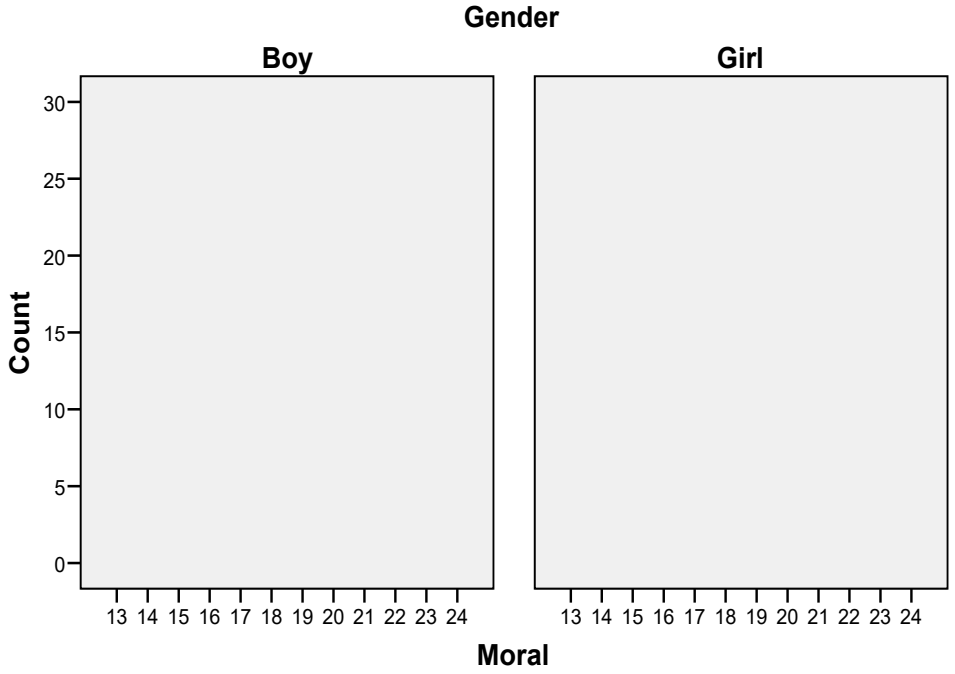


Figure-4.34: Showing the Differences in Moral Self Concept of Secondary School Students according to Gender

Table-4.35

Differences in Moral Self Concept of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	20.19	1.763	.139	318	20.969	.000**
Low Achiever	160	16.31	1.534	.121			

** = p<0.01

Results in Table-4.35 showed that the mean and std. deviation derived from high achiever respondents' moral self concept scores were 20.19 and 1.763 and low achiever respondents' moral self concept scores were 16.31 and 1.534. The results revealed that there is a significant difference (df =318, t= 20.969, p<0.01) in moral self concept of secondary school students in terms of academic achievement. That is, high achiever secondary school students possessed higher moral self concept as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.35.

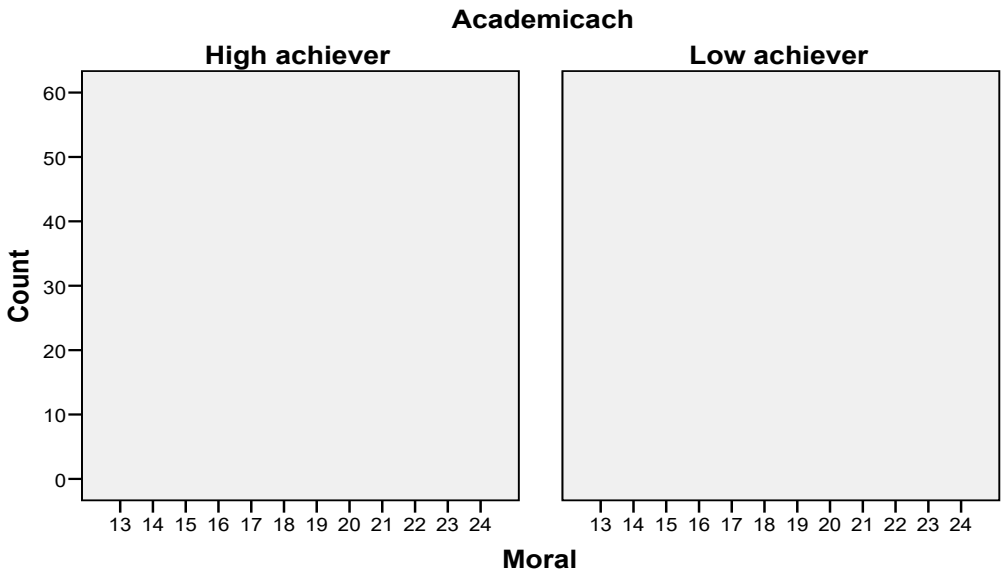


Figure-4.35: Showing the Differences in Moral Self Concept of Secondary School Students in terms of Academic Achievement

Table-4.36

Differences in Moral Self Concept of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	18.98	2.456	.194	318	5.353	.000**
Lower Middle	160	17.52	2.431	.192			

** = p<0.01

Results in Table-4.36 showed that the mean and std. deviation derived from upper middle SES respondents' moral self concept scores were 18.98 and 2.456 and lower middle SES respondents' moral self concept scores were 17.52 and 2.431. The results revealed that there is a significant difference (df =318, t= 5.353, p<0.01) in moral self concept of secondary school students in terms of SES. That is, upper middle SES secondary school students possessed higher moral self concept as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.36.

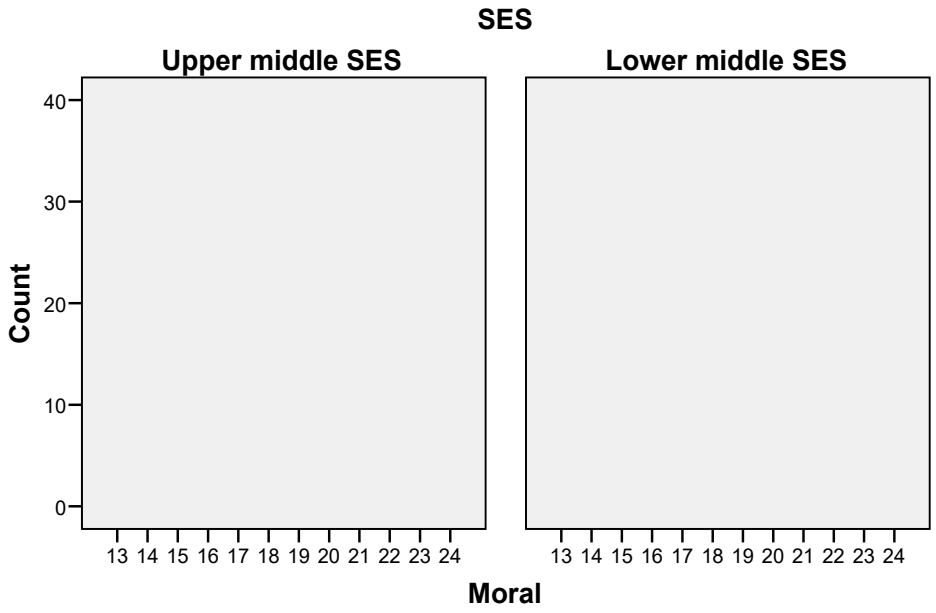


Figure-4.36: Showing the Differences in Moral Self Concept of Secondary School Students according to SES

Table-4.37

Differences in Social Self Concept of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	18.70	2.426	.192	318	2.420	.016*
Girls	160	18.03	2.562	.203			

* = p<0.05

Results in Table-4.37 showed that the mean and std. deviation derived from boy respondents' social self concept scores were 18.70 and 2.426 and girl respondents' social self concept scores were 18.03 and 2.562. The results revealed that there is a significant difference (df =318, t= 2.420, p<0.05) in social self concept of secondary school students in terms of gender. That is, boy secondary school students possessed higher social self concept as compared to their girl counterpart. The result has been graphically plotted in figure-4.37.

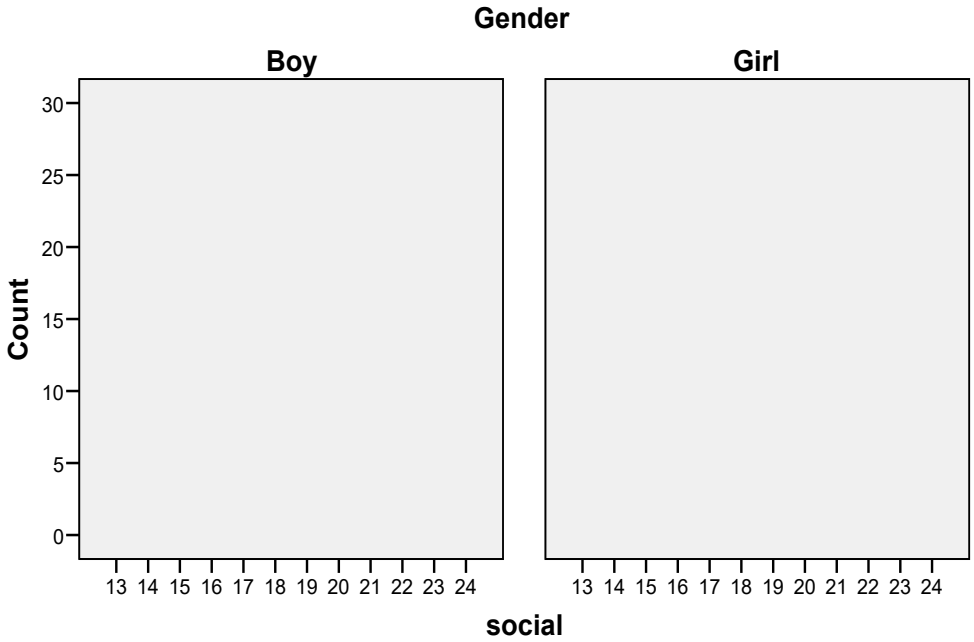


Figure-4.37: Showing the Differences in Social Self Concept of Secondary School Students according to Gender

Table-4.38

Differences in Social Self Concept of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	20.31	1.759	.139	318	21.828	.000**
Low Achiever	160	16.42	1.407	.111			

** = p<0.01

Results in Table-4.38 showed that the mean and std. deviation derived from high achiever respondents' social self concept scores were 20.31 and 1.759 and low achiever respondents' social self concept scores were 16.42 and 1.407. The results revealed that there is a significant difference (df =318, t= 21.828, p<0.01) in social self concept of secondary school students in terms of academic achievement. That is, high achiever secondary school students possessed higher social self concept as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.38.

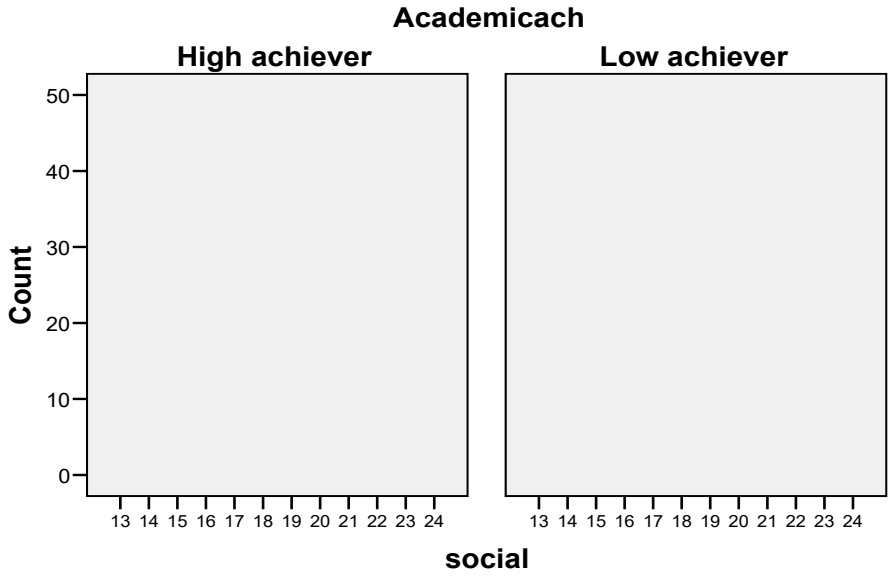


Figure-4.38: Showing the Differences in Social Self Concept of Secondary School Students in terms of Academic Achievement

Table-4.39

Differences in Social Self Concept of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	18.99	2.448	.194	318	4.634	.000**
Lower Middle	160	17.73	2.426	.192			

** = p<0.01

Results in Table-4.39 showed that the mean and std. deviation derived from upper middle SES respondents' social self concept scores were 18.99 and 2.448 and lower middle SES respondents' social self concept scores were 17.73 and 2.426. The results revealed that there is a significant difference (df =318, t= 4.634, p<0.01) in social self concept of secondary school students in terms of SES. That is, upper middle SES secondary school students possessed higher social self concept as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.39.

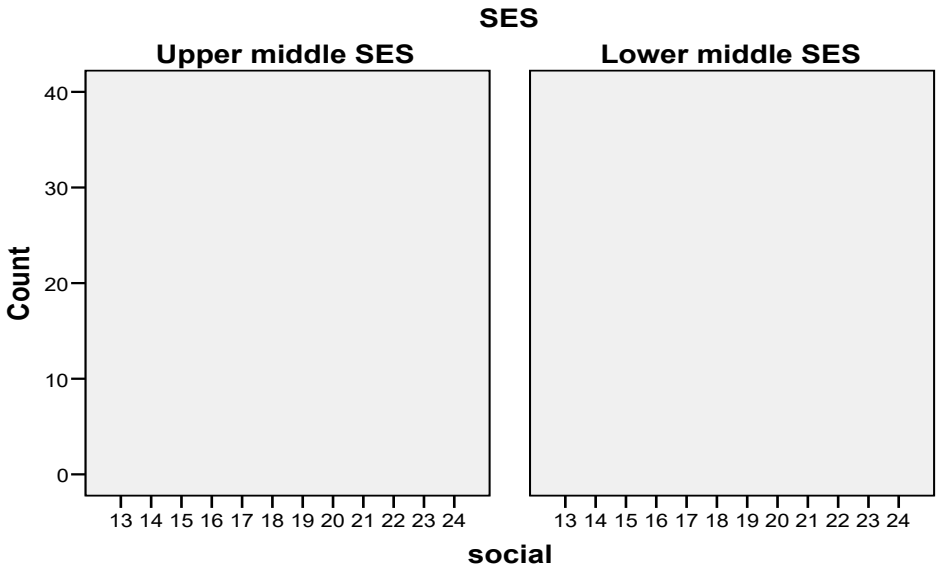


Figure-4.39: Showing the Differences in Social Self Concept of Secondary School Students according to SES

Table-4.40
Differences in Global Self worth of Secondary School Students according to Gender

Gender	N	Mean	Sd	Std. Error	df	*t*	p
Boys	160	18.73	2.705	.214	318	2.326	.021*
Girls	160	18.04	2.630	.208			

* = p<0.05

Results in Table-4.40 showed that the mean and std. deviation derived from boy respondents' global self worth scores were 18.73 and 2.705 and girl respondents' global self worth scores were 18.04 and 2.630. The results revealed that there is a significant difference (df =318, t= 2.326, p<0.05) in global self worth of secondary school students in terms of gender. That is, boy secondary school students expressed more global self worth as compared to their girl counterpart. The result has been graphically plotted in figure-4.40.

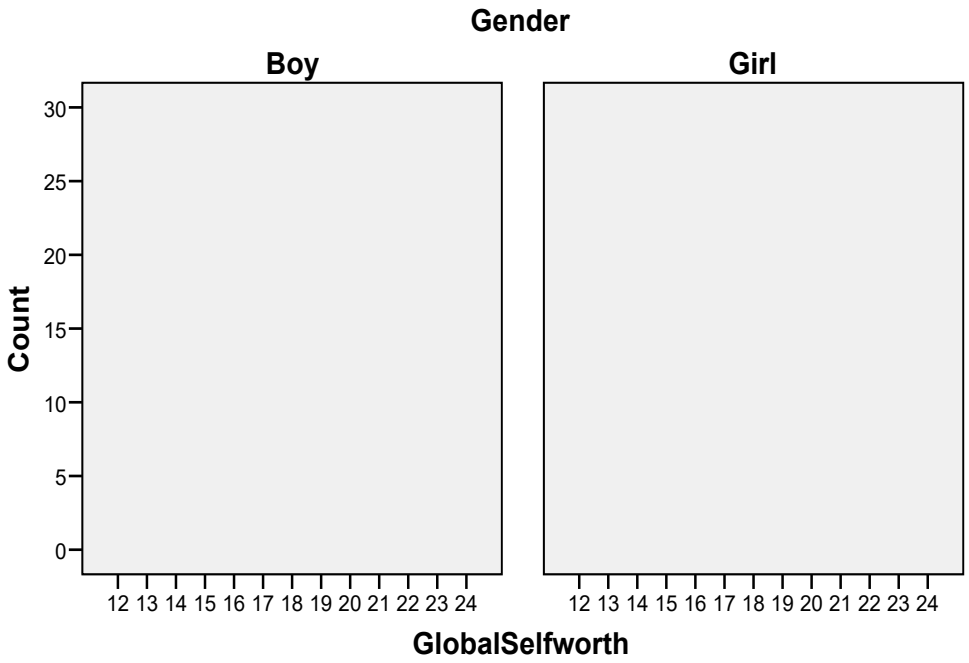


Figure-4.40: Showing the Differences in Global Self worth of Secondary School Students according to Gender

Table-4.41

Differences in Global Self worth of Secondary School Students in terms of Academic Achievement

Academic Achievement	N	Mean	Sd	Std. Error	df	*t*	p
High Achiever	160	20.39	1.850	.146	318	20.030	.000**
Low Achiever	160	16.38	1.726	.136			

** = p<0.01

Results in Table-4.41 showed that the mean and std. deviation derived from high achiever respondents' global self worth scores were 20.39 and 1.850 and low achiever respondents' social self concept scores were 16.38 and 1.726. The results revealed that there is a significant difference (df =318, t= 20.030, p<0.01) in global self worth of secondary school students in terms of academic achievement. That is, high achiever secondary school students expressed more global self worth as compared to their low achiever counterpart. The result has been graphically plotted in figure-4.41.

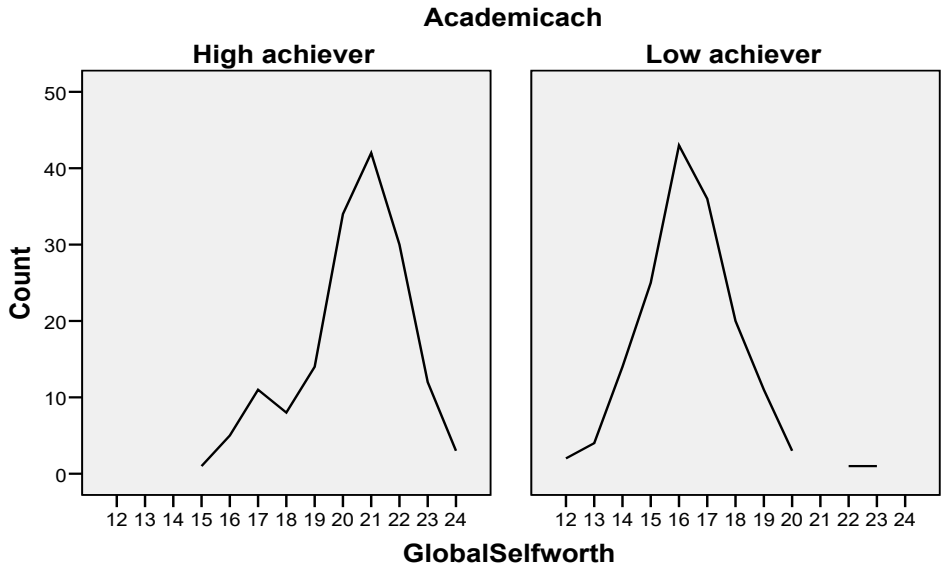


Figure-4.41: Showing the Differences in Global Self worth of Secondary School Students in terms of Academic Achievement

Table-4.42

Differences in Global Self worth of Secondary School Students according to SES

SES	N	Mean	Sd	Std. Error	df	*t*	p
Upper Middle	160	19.16	2.555	.202	318	5.406	.000**
Lower Middle	160	17.61	2.594	.205			

** = p<0.01

Results in Table-4.42 showed that the mean and std. deviation derived from upper middle SES respondents' global self worth scores were 19.16 and 2.555 and lower middle SES respondents' global self worth scores were 17.61 and 2.594. The results revealed that there is a significant difference (df =318, t= 5.406, p<0.01) in global self worth of secondary school students in terms of SES. That is, upper middle SES secondary school students expressed more global self worth as compared to their lower middle counterpart. The result has been graphically plotted in figure-4.42.

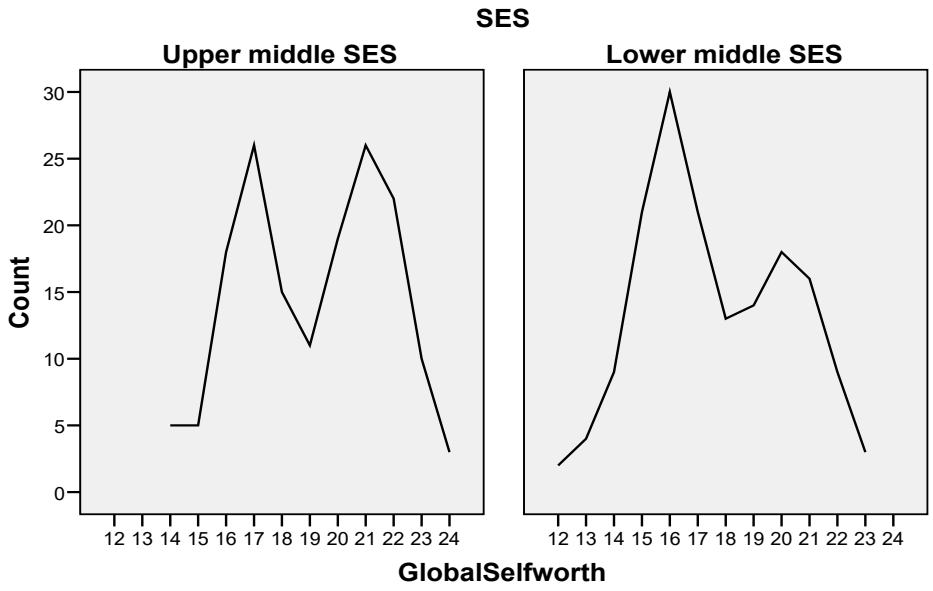


Figure-4.42: Showing the Differences in Global Self worth of Secondary School Students according to SES

Section-2: Correlation Coefficients among the Variables of the Study

Table-4.43

Correlation Coefficients between Creativity and Self Concept of Secondary School Students

Variables	Creativity	Self Concept
Creativity		
Self Concept	.849**	

** = p<0.01

Table-4.43 indicates that there is a significant positive correlation between creativity and self concept of secondary school students (r=.849, p<0.01).

Table-4.44

Correlation Coefficients between Male Secondary School Students' Creativity and Self Concept

Variables	Creativity	Self Concept
Creativity		
Self Concept	.880**	

** = p<0.01

Table-4.44 indicates that there is a significant positive correlation between creativity and self concept of male secondary school students (r=.880, p<0.01).

Table-4.45

Correlation Coefficients between Female Secondary School Students' Creativity and Self Concept

Variables	Creativity	Self Concept
Creativity		
Self Concept	.816**	

** = p<0.01

Table-4.45 indicates that there is a significant positive correlation between creativity and self concept of female secondary school students (r=.816, p<0.01).

Table-4.46

Correlation Coefficients between High Achiever Secondary School Students' Creativity and Self Concept

Variables	Creativity	Self Concept
Creativity		
Self Concept	.675**	

** = p<0.01

Table-4.46 indicates that there is a significant positive correlation between creativity and self concept of high achiever secondary school students (r=.675, p<0.01).

Table-4.47

Correlation Coefficients between Low Achiever Secondary School Students' Creativity and Self Concept

Variables	Creativity	Self Concept
Creativity		
Self Concept	.557**	

** = p<0.01

Table-4.47 indicates that there is a significant positive correlation between creativity and self concept of low achiever secondary school students (r=.557, p<0.01).

Table-4.48

Correlation Coefficients between Upper Middle SES Secondary School Students' Creativity and Self Concept

Variables	Creativity	Self Concept
Creativity		
Self Concept	.849**	

** = p<0.01

Table-4.48 indicates that there is a significant positive correlation between creativity and self concept of upper middle SES secondary school students (r=.849, p<0.01).

Table-4.49

Correlation Coefficients between Lower Middle SES Secondary School Students' Creativity and Self Concept

Variables	Creativity	Self Concept
Creativity		
Self Concept	.815**	

** = p<0.01

Table-4.49 indicates that there is a significant positive correlation between creativity and self concept of lower middle SES secondary school students (r=.815, p<0.01).

Table-4.50

Correlation Coefficients between Creativity and Physical Self Concept of Secondary School Students

Variables	Creativity	Physical Self Concept
Creativity		
Physical Self Concept	.697**	

** = p<0.01

Table-4.50 indicates that there is a significant positive correlation between creativity and physical self concept of secondary school students (r=.697, p<0.01).

Table-4.51

Correlation Coefficients between Creativity and Educational Self Concept of Secondary School Students

Variables	Creativity	Educational Self Concept
Creativity		
Educational Self Concept	.760**	

** = p<0.01

Table-4.51 indicates that there is a significant positive correlation between creativity and educational self concept of secondary school students (r=.760, p<0.01).

Table-4.52

Correlation Coefficients between Creativity and Scholastic Competence of Secondary School Students

Variables	Creativity	Scholastic Competence
Creativity		
Scholastic Competence	.765**	

** = p<0.01

Table-4.52 indicates that there exists a significant positive correlation between creativity and scholastic competence of secondary school students (r=.765, p<0.01).

Table-4.53

Correlation Coefficients between Creativity and Moral Self Concept of Secondary School Students

Variables	Creativity	Moral Self Concept
Creativity		
Moral Self Concept	.754**	

** = p<0.01

Table-4.53 indicates that there is a significant positive correlation between creativity and moral self concept of secondary school students (r=.754, p<0.01).

Table-4.54

Correlation Coefficients between Creativity and Social Self Concept of Secondary School Students

Variables	Creativity	Social Self Concept
Creativity		
Social Self Concept	.762**	

** = p<0.01

Table-4.54 indicates that there is a significant positive correlation between creativity and social self concept of secondary school students (r=.762, p<0.01).

Table-4.55

Correlation Coefficients between Creativity and Global Self worth of Secondary School Students

Variables	Creativity	Global Self worth
Creativity		
Global Self worth	.772**	

** = p<0.01

Table-4.55 indicates that there is a significant positive correlation between creativity and global self worth of secondary school students (r=.772, p<0.01).

Table-4.56

Correlation Coefficients between Self Concept and Artistry of Secondary School Students

Variables	Self Concept	Artistry
Self Concept		
Artistry	.745**	

** = p<0.01

Table-4.56 indicates that there is a significant positive correlation between self concept and artistry of secondary school students (r=.745, p<0.01).

Table-4.57

Correlation Coefficients between Self Concept and Intellectuality of Secondary School Students

Variables	Self Concept	Intellectuality
Self Concept		
Intellectuality	.779**	

** = p<0.01

Table-4.57 indicates that there is a significant positive correlation between self concept and intellectuality of secondary school students (r=.779, p<0.01).

Table-4.58

Correlation Coefficients between Self Concept and Disciplined Imagination of Secondary School Students

Variables	Self Concept	Disciplined Imagination
Self Concept		
Disciplined Imagination	.748**	

** = p<0.01

Table-4.58 indicates that there is a significant positive correlation between self concept and disciplined imagination of secondary school students (r=.748, p<0.01).

Table-4.59

Correlation Coefficients between Self Concept and Self strength of Secondary School Students

Variables	Self Concept	Self strength
Self Concept		
Self strength	.748**	

** = p<0.01

Table-4.59 indicates that there is a significant positive correlation between self concept and self strength of secondary school students (r=.748, p<0.01).

Table-4.60

Correlation Coefficients between Self Concept and Inquisitiveness of Secondary School Students

Variables	Self Concept	Inquisitiveness
Self Concept		
Inquisitiveness	.708**	

** = p<0.01

Table-4.60 indicates that there is a significant positive correlation between self concept and inquisitiveness of secondary school students (r=.708, p<0.01).

Table-4.61

Correlation Coefficients between Self Concept and Environmental Sensitivity of Secondary School Students

Variables	Self Concept	Environmental Sensitivity
Self Concept		
Environmental Sensitivity	.697**	

** = p<0.01

Table-4.61 indicates that there is a significant positive correlation between self concept and environmental sensitivity of secondary school students (r= .697, p<0.01).

Section-3: Regression Analysis

Table-4.62

Regression of Secondary School Students' Creativity on Self Concept

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	18.779	3.100		6.058	.000		
Self Concept	.798	.028	.849	28.620	.000	.849	72.08

Adjusted R^2=0.719, ($F_{1, 318}$=819.120, P<0.001)

In table-4.62, self concept was the predictor variable and creativity was the criterion variable. The value of standardized beta (β= .849) reveals that the increases of 1 standard deviation unit in self concept, increases .849 standard deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.719, ($F_{1, 318}$=819.120, P<0.001)) in table-4.62 also reveals that the predictor variable or self concept explains 71.9% variance of criterion variable or creativity. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'self concept' to explain the variance in creativity of secondary school students was 72.08%. Thus, self concept was one of the strongest predictors to explain secondary school students' creativity. The scatter plot of the above table is given below:

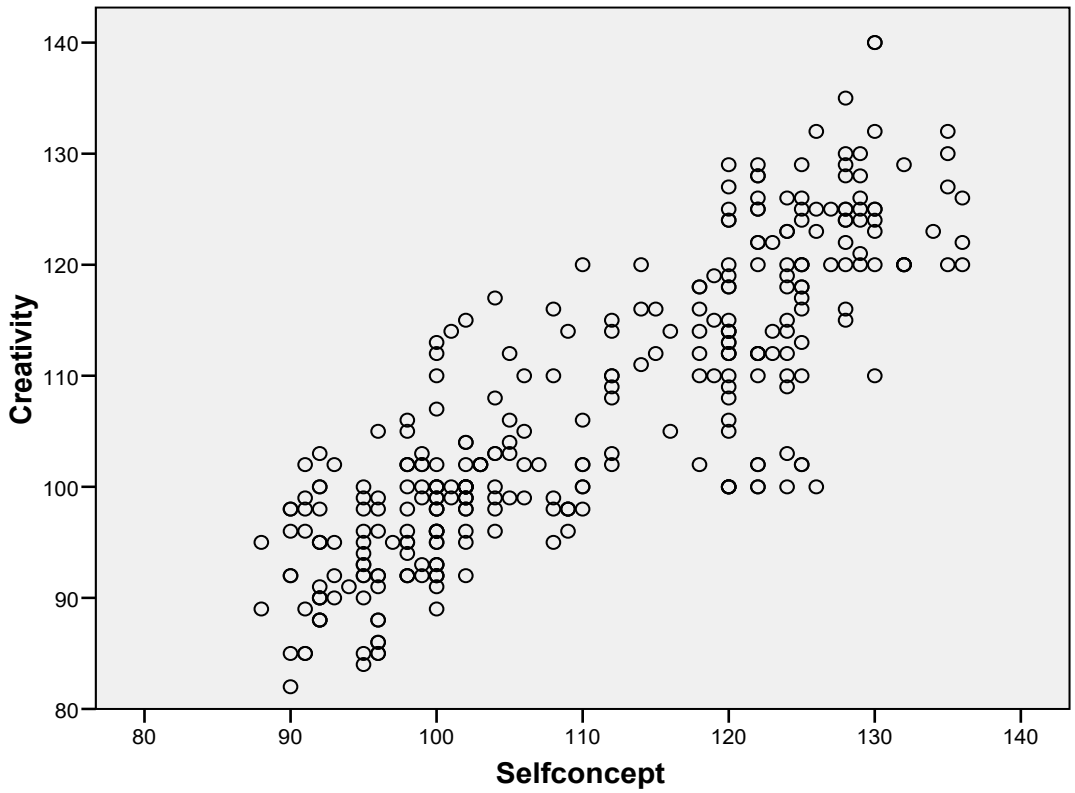


Figure-4.43: The Scatter Plot of Secondary School Students' Creativity on Self Concept

The estimated regression coefficient (intercept and slope) are given in table -4.62.The estimated value of creativity (B=18.779) means that if the value of self concept is kept constant, then the value of creativity is 18.779 on an average. Besides this, the estimated value of creativity (B= .798) implies that if we increase one unit in self concept score, then the value of creativity increases .798 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that there exists a significant positive correlation between creativity and self concept.

Table-4.63

Regression of Secondary School Students' Self Concept on Creativity

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	13.914	3.394		4.100	.000		
Creativity	.903	.038	.849	28.620	.000	.849	72.08

Adjusted R^2=0.719, ($F_{1, 318}$=819.120, P<0.001)

In table-4.63, creativity was the predictor variable and self concept was the criterion variable. The value of standardized beta (β= .849) reveals that the increases of 1 standard deviation unit in creativity, increases .849 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.719, ($F_{1, 318}$=819.120, P<0.001)) in table-4.63 also reveals that the predictor variable or creativity explains 71.9% variance of criterion variable or self concept. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'creativity' to explain the variance in self concept of secondary school students was 72.08%. Thus, creativity was one of the strongest predictors to explain secondary school students' self concept. The scatter plot of the above table is given below:

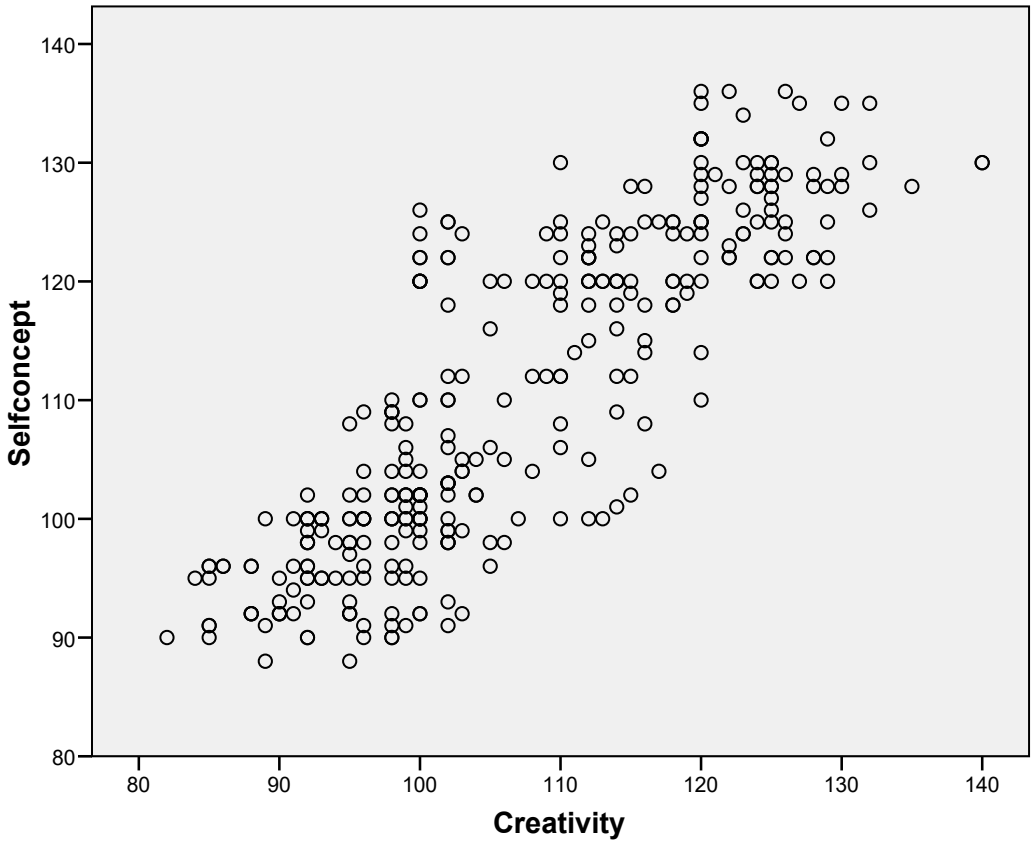


Figure-4.44: The Scatter Plot of Secondary School Students' Self Concept on Creativity

The estimated regression coefficient (intercept and slope) are given in table -4.63.The estimated value of self concept (B=13.914) means that if the value of creativity is kept constant, then the value of self concept is 13.914 on an average. Besides this, the estimated value of self concept (B= .903) implies that if we increase one unit in creativity score, then the value of self concept increases .903 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that self concept is positively associated with creativity.

Table-4.64

Regression of Secondary School Students' Creativity on their Physical Self Concept

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	42.089	3.767		11.174	.000		
Physical Self Concept	3.504	.202	.697	17.350	.000	.697	48.6

Adjusted R^2=0.485, ($F_{1, 318}$=301.025, P<0.001)

In table-4.64, physical self concept was the predictor variable and creativity was the criterion variable. The value of standardized beta (β= .697) reveals that the increases of 1 standard deviation unit in physical self concept, increases .697 standard deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.485, ($F_{1, 318}$=301.025, P<0.001)) in table-4.64 also reveals that the predictor variable or physical self concept explains 48.5% variance of criterion variable or creativity. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'physical self concept' to explain the variance in creativity of secondary school students was 48.6%. Thus, physical self concept was one of the strongest predictors to explain secondary school students' creativity. The scatter plot of the above table is given below:

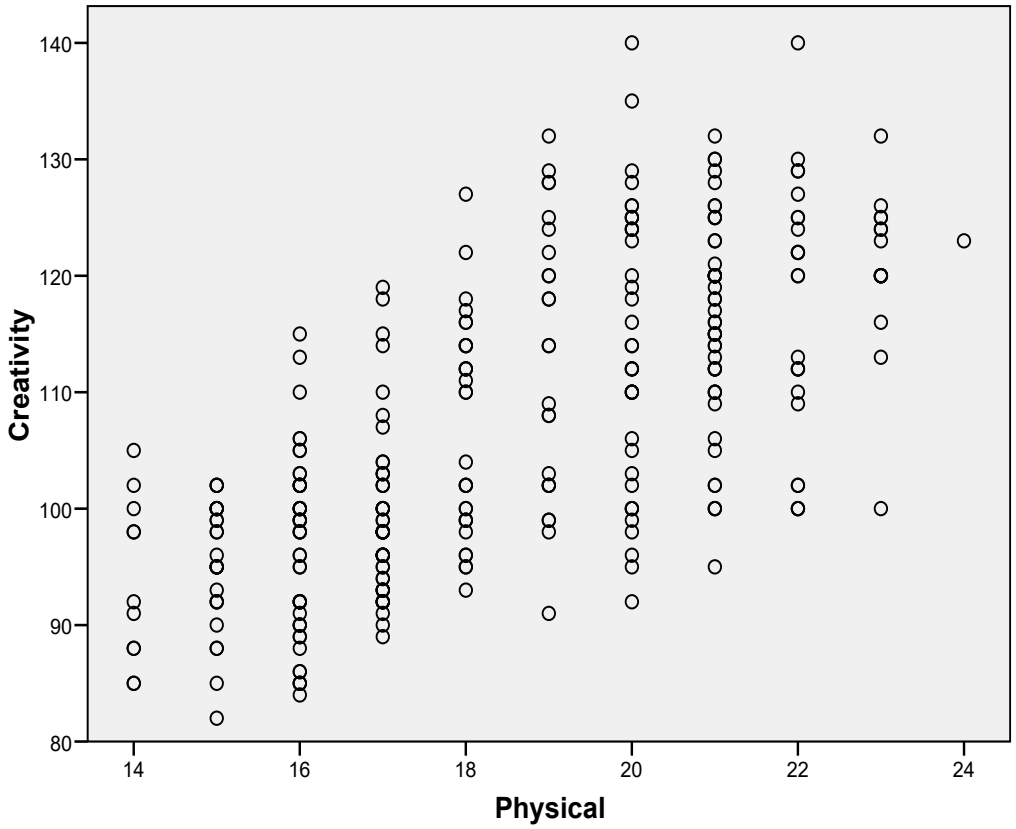


Figure-4.45: The Scatter Plot of Secondary School Students' Creativity on their Physical Self Concept

The estimated regression coefficient (intercept and slope) are given in table -4.64.The estimated value of creativity (B=42.089) means that if the value of physical self concept is kept constant, then the value of creativity is 42.089 on an average. Besides this, the estimated value of creativity (B= 3.504) implies that if we increase one unit in physical self concept score, then the value of creativity increases 3.504 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that there exists a significant positive correlation between creativity and physical self concept of secondary school students.

Table-4.65

Regression of Secondary School Students' Creativity on their Educational Self Concept

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	33.737	3.539		9.532	.000		
Educational Self Concept	3.963	.190	.760	20.834	.000	.760	57.76

Adjusted R^2=0.576, ($F_{1, 318}$=434.041, P<0.001)

In table-4.65, educational self concept was the predictor variable and creativity was the criterion variable. The value of standardized beta (β= .760) reveals that the increases of 1 standard deviation unit in educational self concept, increases .760 standard deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.576, ($F_{1, 318}$=434.041, P<0.001)) in table-4.65 also reveals that the predictor variable or educational self concept explains 57.6% variance of criterion variable or creativity. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'educational self concept' to explain the variance in creativity of secondary school students was 57.76%. Thus, educational self concept was one of the strongest predictors to explain secondary school students' creativity. The scatter plot of the above table is given below:

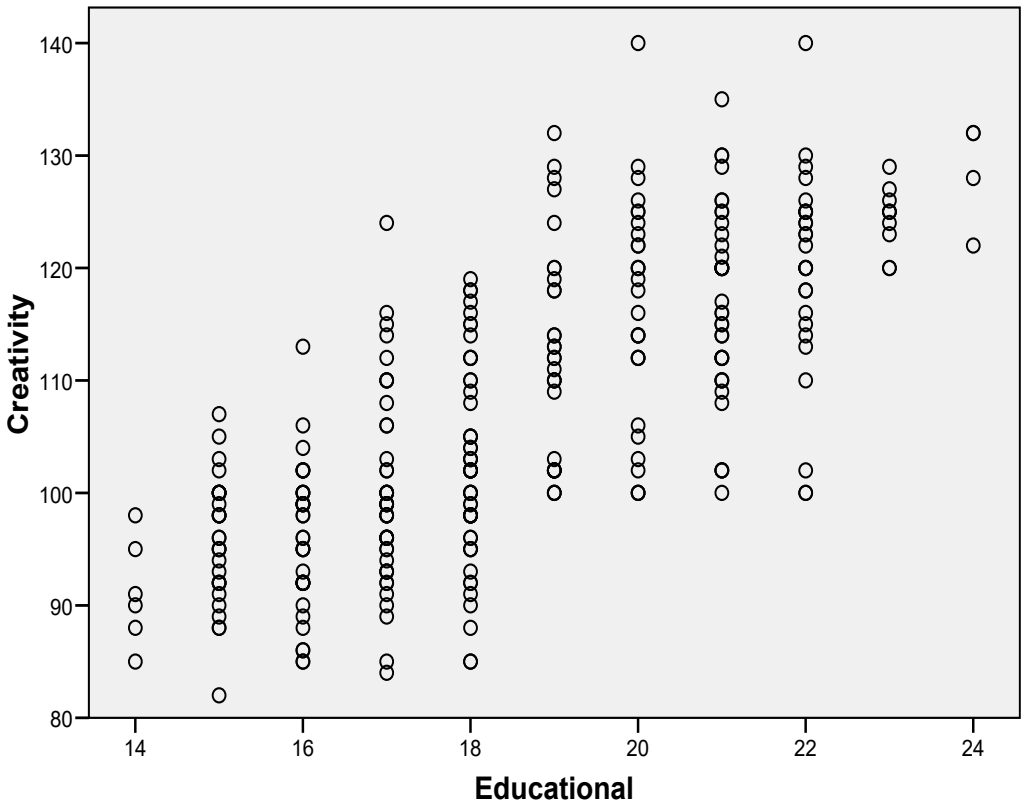


Figure-4.46: The Scatter Plot of Secondary School Students' Creativity on their Educational Self Concept

The estimated regression coefficient (intercept and slope) are given in table -4.65.The estimated value of creativity (B=33.737) means that if the value of educational self concept is kept constant, then the value of creativity is 33.737 on an average. Besides this, the estimated value of creativity (B= 3.963) implies that if we increase one unit in educational self concept score, then the value of creativity increases 3.963 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that there exists a significant positive correlation between creativity and educational self concept of secondary school students.

Table-4.66

Regression of Secondary School Students' Creativity on their Scholastic Competence

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	34.434	3.453		9.972	.000		
Scholastic Competence	3.928	.186	.765	21.155	.000	.765	58.52

Adjusted R^2=0.583, ($F_{1, 318}$= 447.543, P<0.001)

In table-4.66, scholastic competence was the predictor variable and creativity was the criterion variable. The value of standardized beta (β= .765) reveals that the increases of 1 standard deviation unit in scholastic competence, increases .765 standard deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.583, ($F_{1, 318}$= 447.543, P<0.001)) in table-4.66 also reveals that the predictor variable or scholastic competence explains 58.3% variance of criterion variable or creativity. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'scholastic competence' to explain the variance in creativity of secondary school students was 58.52%. Thus, scholastic competence was one of the strongest predictors to explain secondary school students' creativity. The scatter plot of the above table is given below:

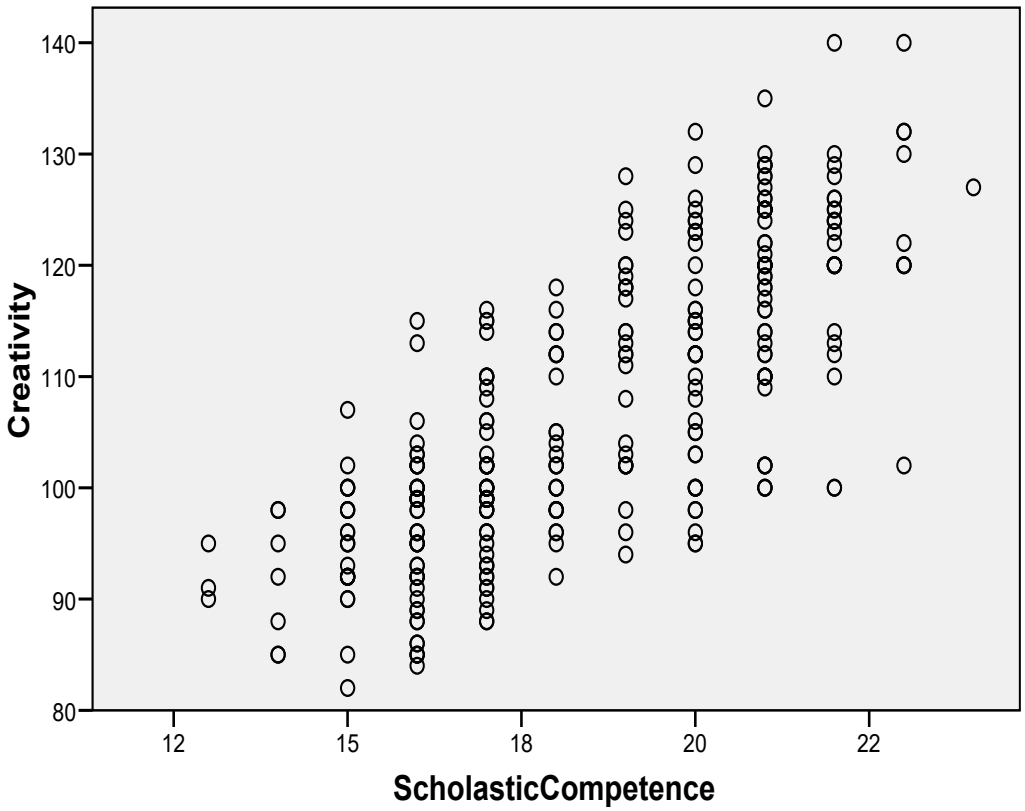


Figure-4.47: The Scatter Plot of Secondary School Students' Creativity on their Scholastic Competence

The estimated regression coefficient (intercept and slope) are given in table -4.66.The estimated value of creativity (B=34.434) means that if the value of scholastic competence is kept constant, then the value of creativity is 34.434 on an average. Besides this, the estimated value of creativity (B= 3.928) implies that if we increase one unit in scholastic competence score, then the value of creativity increases 3.928 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that there exists a significant positive correlation between creativity and scholastic competence of secondary school students.

Table-4.67

Regression of Secondary School Students' Creativity on their Moral Self Concept

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	38.711	3.360		11.520	.000		
Moral Self Concept	3.733	.182	.754	20.472	.000	.754	56.85

Adjusted R^2=0.567, ($F_{1, 318}$= 419.107, P<0.001)

In table-4.67, moral self concept was the predictor variable and creativity was the criterion variable. The value of standardized beta (β= .754) reveals that the increases of 1 standard deviation unit in moral self concept, increases .754 standard deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.567, ($F_{1, 318}$= 419.107, P<0.001)) in table-4.67 also reveals that the predictor variable or moral self concept explains 56.7% variance of criterion variable or creativity. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'moral self concept' to explain the variance in creativity of secondary school students was 56.85%. Thus, moral self concept was one of the strongest predictors to explain secondary school students' creativity. The scatter plot of the above table is given below:

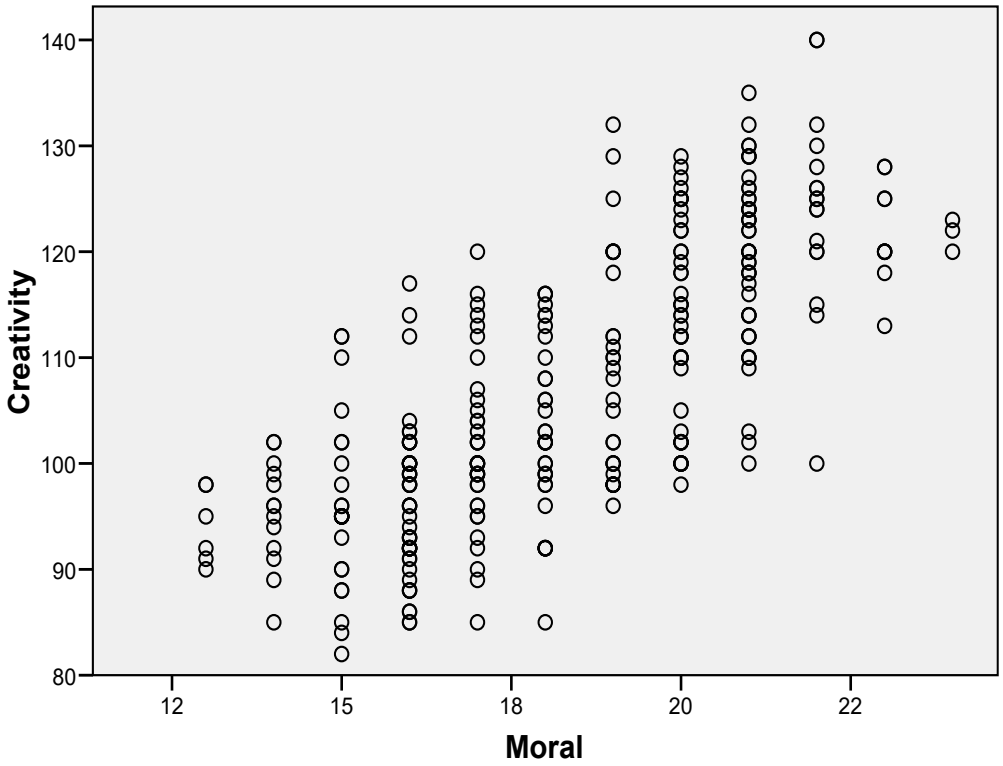


Figure-4.48: The Scatter Plot of Secondary School Students' Creativity on their Moral Self Concept

The estimated regression coefficient (intercept and slope) are given in table -4.67.The estimated value of creativity (B=38.711) means that if the value of moral self concept is kept constant, then the value of creativity is 38.711 on an average. Besides this, the estimated value of creativity (B= 3.733) implies that if we increase one unit in moral self concept score, then the value of creativity increases 3.733 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that there exists a significant positive correlation between creativity and moral self concept of secondary school students.

Table-4.68

Regression of Secondary School Students' Creativity on their Social Self Concept

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	36.622	3.375		10.851	.000		
Social Self Concept	3.824	.182	.762	21.000	.000	.762	58.06

Adjusted R^2=0.580, ($F_{1, 318}$= 441.019, P<0.001)

In table-4.68, social self concept was the predictor variable and creativity was the criterion variable. The value of standardized beta (β= .762) reveals that the increases of 1 standard deviation unit in social self concept, increases .762 standard deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.580, ($F_{1, 318}$= 441.019, P<0.001)) in table-4.68 also reveals that the predictor variable or social self concept explains 58.0% variance of criterion variable or creativity. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'social self concept' to explain the variance in creativity of secondary school students was 58.06%. Thus, social self concept was one of the strongest predictors to explain secondary school students' creativity. The scatter plot of the above table is given below:

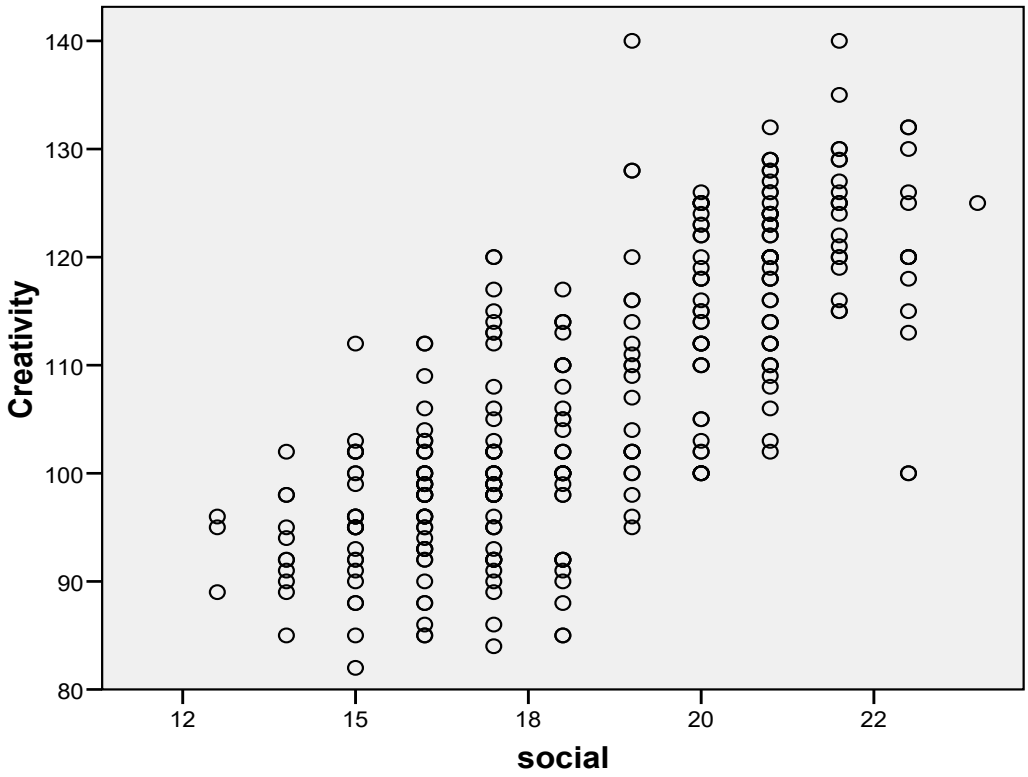


Figure-4.49: The Scatter Plot of Secondary School Students' Creativity on their Social Self Concept

The estimated regression coefficient (intercept and slope) are given in table -4.68.The estimated value of creativity (B=36.622) means that if the value of social self concept is kept constant, then the value of creativity is 36.622 on an average. Besides this, the estimated value of creativity (B= 3.824) implies that if we increase one unit in social self concept score, then the value of creativity increases 3.824 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that there exists a significant positive correlation between creativity and social self concept of secondary school students.

Table-4.69

Regression of Secondary School Students' Creativity on their Global Self Worth

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	40.243	3.112		12.932	.000		
Global Self Worth	3.623	.167	.772	21.629	.000	.772	59.6

Adjusted R^2=0.594, ($F_{1, 318}$= 467.832, P<0.001)

In table-4.69, global self worth was the predictor variable and creativity was the criterion variable. The value of standardized beta (β= .772) reveals that the increases of 1 standard deviation unit in global self worth, increases .772 standard deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.594, ($F_{1, 318}$= 467.832, P<0.001)) in table-4.69 also reveals that the predictor variable or global self worth explains 59.4% variance of criterion variable or creativity. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'global self worth' to explain the variance in creativity of secondary school students was 59.6%. Thus, global self worth was one of the strongest predictors to explain secondary school students' creativity. The scatter plot of the above table is given below:

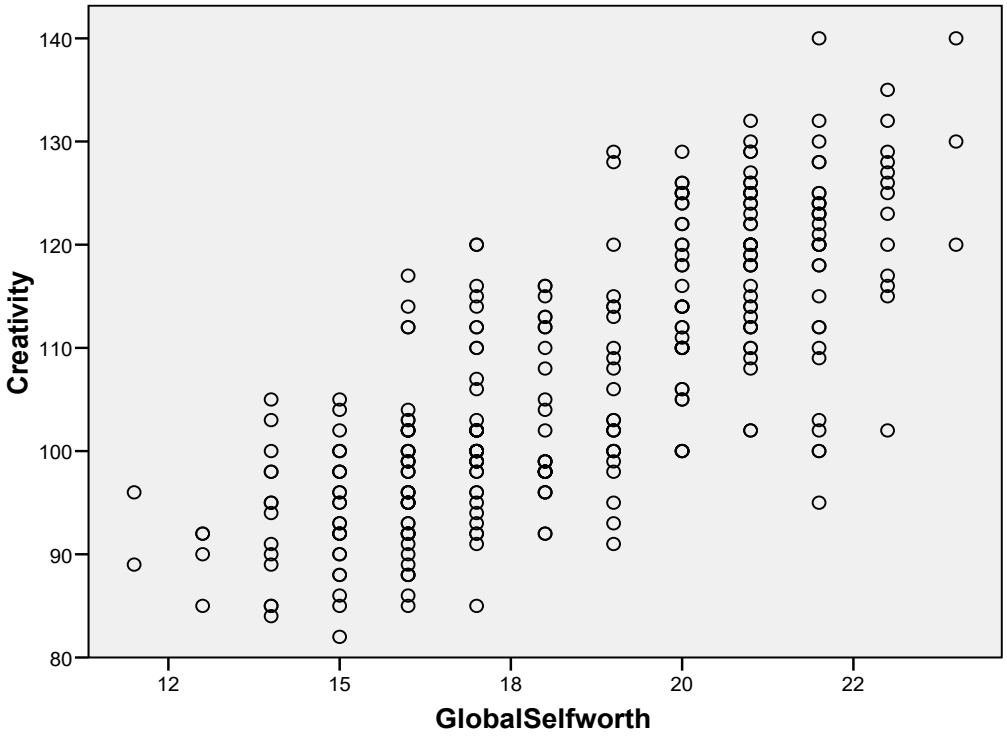


Figure-4.50: The Scatter Plot of Secondary School Students' Creativity on their Global Self Worth

The estimated regression coefficient (intercept and slope) are given in table -4.69.The estimated value of creativity (B=40.243) means that if the value of global self worth is kept constant, then the value of creativity is 40.243 on an average. Besides this, the estimated value of creativity (B= 3.623) implies that if we increase one unit in global self worth score, then the value of creativity increases 3.623 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that there exists a significant positive correlation between creativity and global self worth of secondary school students.

Table-4.70

Regression of Secondary School Students' Self Concept on their Artistic Abilities

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	40.599	3.537		11.477	.000		
Artistry	3.932	.197	.745	19.928	.000	.745	55.5

Adjusted R^2=0.554, ($F_{1, 318}$= 397.127, P<0.001)

In table-4.70, artistry was the predictor variable and self concept was the criterion variable. The value of standardized beta (β= .745) reveals that the increases of 1 standard deviation unit in artistry, increases .745 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.554, ($F_{1, 318}$= 397.127, P<0.001)) in table-4.70 also reveals that the predictor variable or artistry explains 55.4% variance of criterion variable or self concept. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'artistry' to explain the variance in self concept of secondary school students was 55.5%. Thus, artistry was one of the strongest predictors to explain secondary school students' self concept. The scatter plot of the above table is given below:

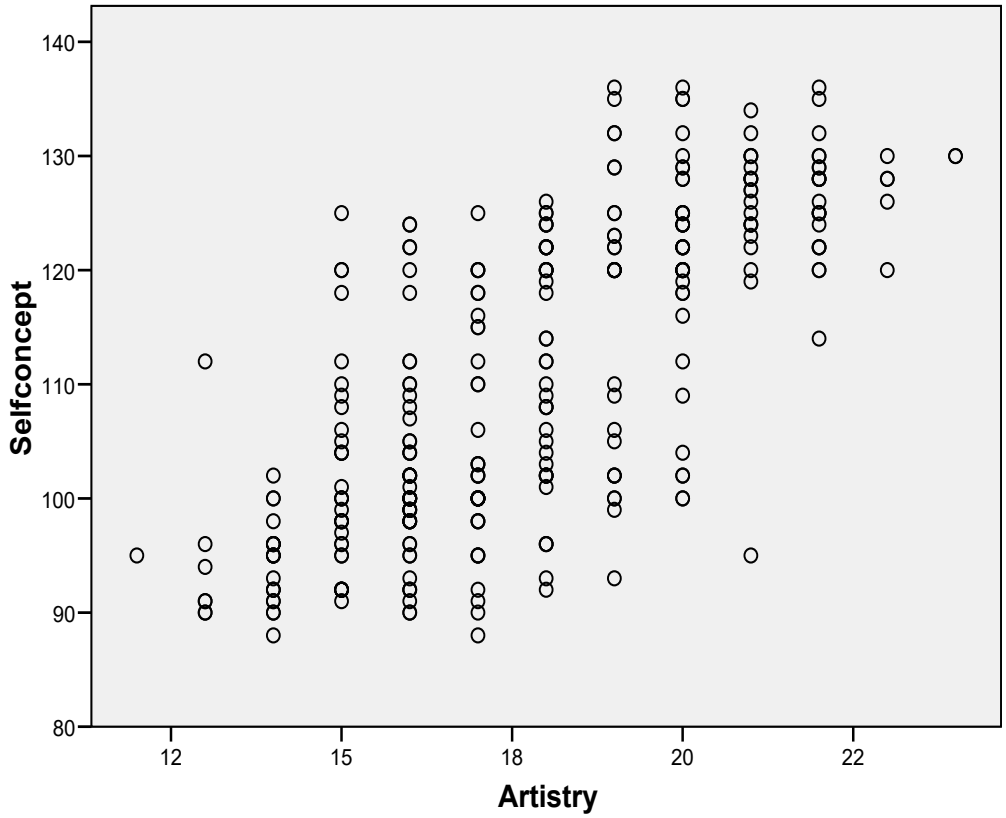


Figure-4.51: The Scatter Plot of Secondary School Students' Self Concept on their Artistic Abilities

The estimated regression coefficient (intercept and slope) are given in table -4.70.The estimated value of self concept (B=40.599) means that if the value of artistry is kept constant, then the value of self concept is 40.599 on an average. Besides this, the estimated value of self concept (B=3.932) implies that if we increase one unit in artistry score, then the value of self concept increases 3.932 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that self concept is positively associated with artistry.

Table-4.71

Regression of Secondary School Students' Self Concept on their Intellectuality

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	37.417	3.329		11.240	.000		
Intellectuality	4.154	.188	.779	22.141	.000	.779	60.68

Adjusted R^2=0.605, ($F_{1, 318}$= 490.219, P<0.001)

In table-4.71, intellectuality was the predictor variable and self concept was the criterion variable. The value of standardized beta (β= .779) reveals that the increases of 1 standard deviation unit in intellectuality, increases .779 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.605, ($F_{1, 318}$= 490.219, P<0.001)) in table-4.71 also reveals that the predictor variable or intellectuality explains 60.5% variance of criterion variable or self concept. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'intellectuality' to explain the variance in self concept of secondary school students was 60.68%. Thus, intellectuality was one of the strongest predictors to explain secondary school students' self concept. The scatter plot of the above table is given below:

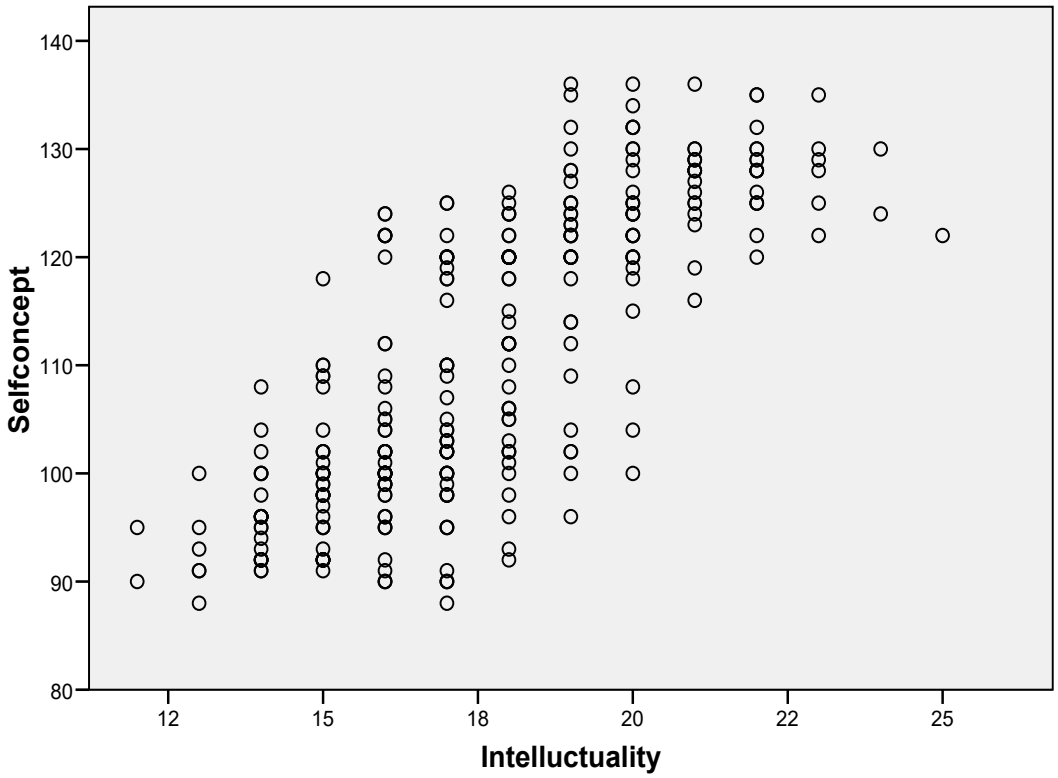


Figure-4.52: The Scatter Plot of Secondary School Students' Self Concept on their Intellectuality

The estimated regression coefficient (intercept and slope) are given in table -4.71.The estimated value of self concept (B=37.417) means that if the value of intellectuality is kept constant, then the value of self concept is 37.417 on an average. Besides this, the estimated value of self concept (B=4.154) implies that if we increase one unit in intellectuality score, then the value of self concept increases 4.154 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that self concept is positively associated with intellectuality.

Table-4.72

Regression of Secondary School Students' Self Concept on their Disciplined Imagination

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	38.635	3.600		10.730	.000		
Disciplined Imagination	4.055	.202	.748	20.121	.000	.748	55.95

Adjusted R^2=0.559, ($F_{1, 318}$ = 404.837, P<0.001)

In table-4.72, disciplined imagination was the predictor variable and self concept was the criterion variable. The value of standardized beta (β= .748) reveals that the increases of 1 standard deviation unit in disciplined imagination, increases .748 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.559, ($F_{1, 318}$ = 404.837, P<0.001)) in table-4.72 also reveals that the predictor variable or disciplined imagination explains 55.9% variance of criterion variable or self concept. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'disciplined imagination' to explain the variance in self concept of secondary school students was 55.95%. Thus, disciplined imagination was one of the strongest predictors to explain secondary school students' self concept. The scatter plot of the above table is given below:

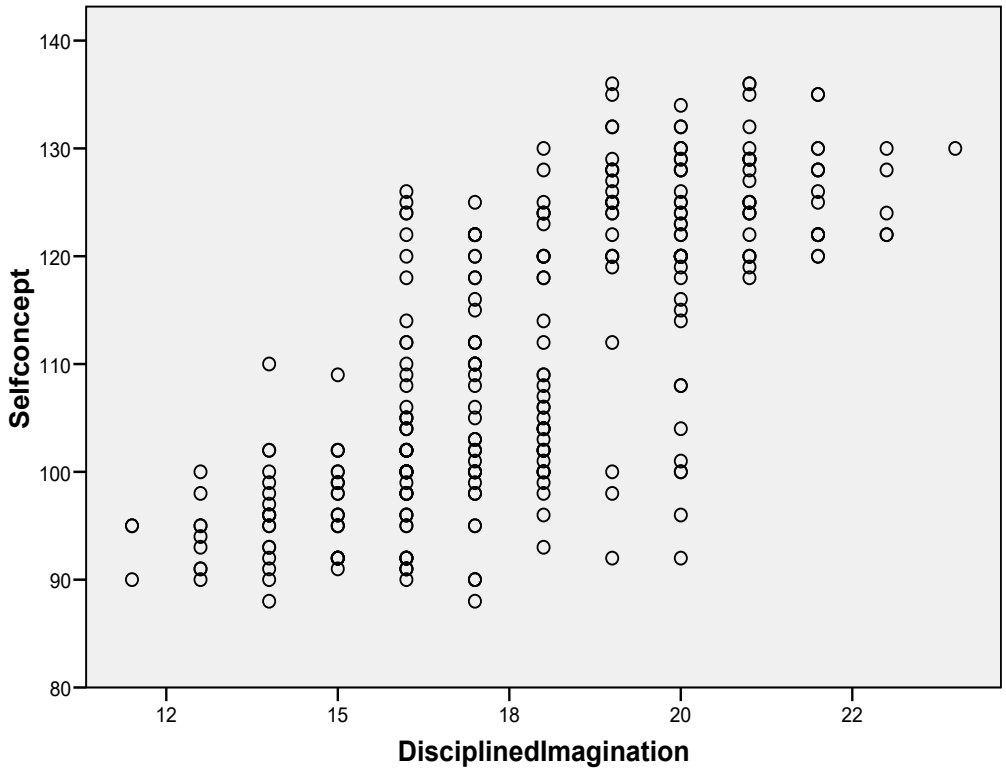


Figure-4.53: The Scatter Plot of Secondary School Students' Self Concept on their Disciplined Imagination

The estimated regression coefficient (intercept and slope) are given in table -4.72.The estimated value of self concept (B=38.635) means that if the value of disciplined imagination is kept constant, then the value of self concept is 38.635 on an average. Besides this, the estimated value of self concept (B=4.055) implies that if we increase one unit in disciplined imagination score, then the value of self concept increases 4.055 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that self concept is positively associated with disciplined imagination.

Table-4.73:

Regression of Secondary School Students' Self Concept on their Self Strength

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	39.677	3.994		9.935	.000		
Self Strength	3.954	.221	.708	17.863	.000	.708	50.13

Adjusted R^2=0.499, ($F_{1, 318}$ = 319.070, P<0.001)

In table-4.73, self strength was the predictor variable and self concept was the criterion variable. The value of standardized beta (β= .708) reveals that the increases of 1 standard deviation unit in self strength, increases .708 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.499, ($F_{1, 318}$ = 319.070, P<0.001)) in table-4.73 also reveals that the predictor variable or self strength explains 49.9% variance of criterion variable or self concept. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'self strength' to explain the variance in self concept of secondary school students was 50.13%. Thus, self strength was one of the strongest predictors to explain secondary school students' self concept. The scatter plot of the above table is given below:

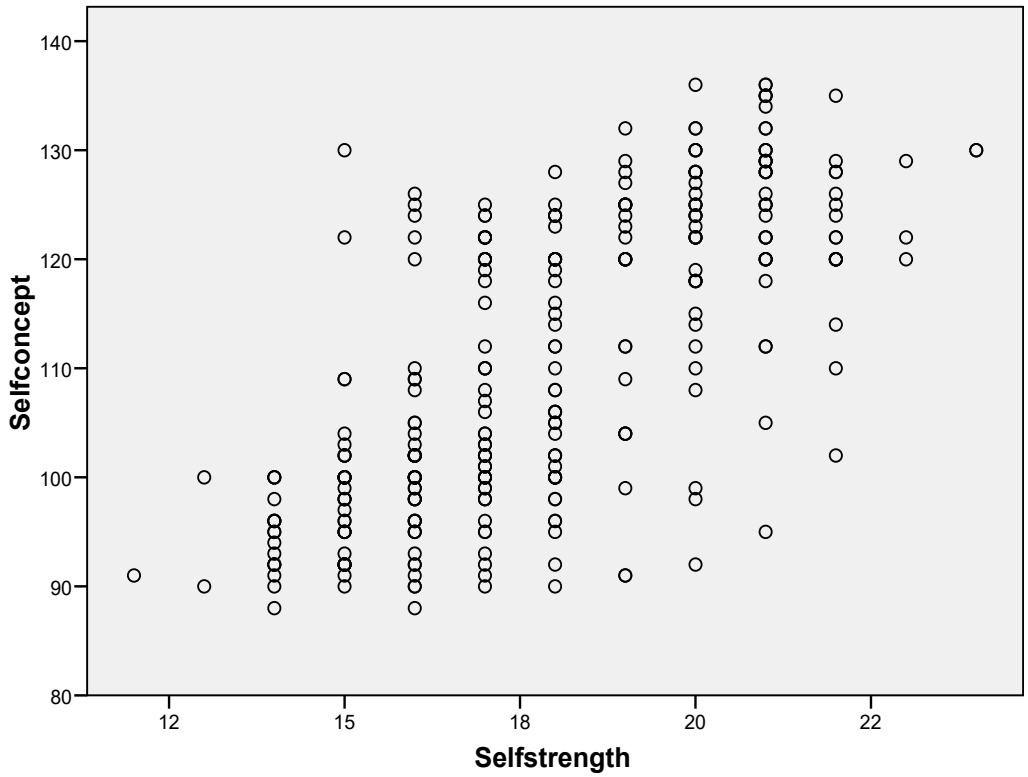


Figure-4.54: The Scatter Plot of Secondary School Students' Self Concept on their Self Strength

The estimated regression coefficient (intercept and slope) are given in table -4.73.The estimated value of self concept (B=39.677) means that if the value of self strength is kept constant, then the value of self concept is 39.677 on an average. Besides this, the estimated value of self concept (B=3.954) implies that if we increase one unit in self strength score, then the value of self concept increases 3.954 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that self concept is positively associated with self strength.

Table-4.74

Regression of Secondary School Students' Self Concept on their Inquisitiveness

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	38.931	4.035		9.647	.000		
Inquisitiveness	4.003	.224	.708	17.861	.000	.708	50.13

Adjusted R^2=0.499, ($F_{1, 318}$ = 319.018, P<0.001)

In table-4.74, inquisitiveness was the predictor variable and self concept was the criterion variable. The value of standardized beta (β= .708) reveals that the increases of 1 standard deviation unit in inquisitiveness, increases .708 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.499, ($F_{1, 318}$ = 319.018, P<0.001)) in table-4.74 also reveals that the predictor variable or inquisitiveness explains 49.9% variance of criterion variable or self concept. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'inquisitiveness' to explain the variance in self concept of secondary school students was 50.13%. Thus, inquisitiveness was one of the strongest predictors to explain secondary school students' self concept. The scatter plot of the above table is given below:

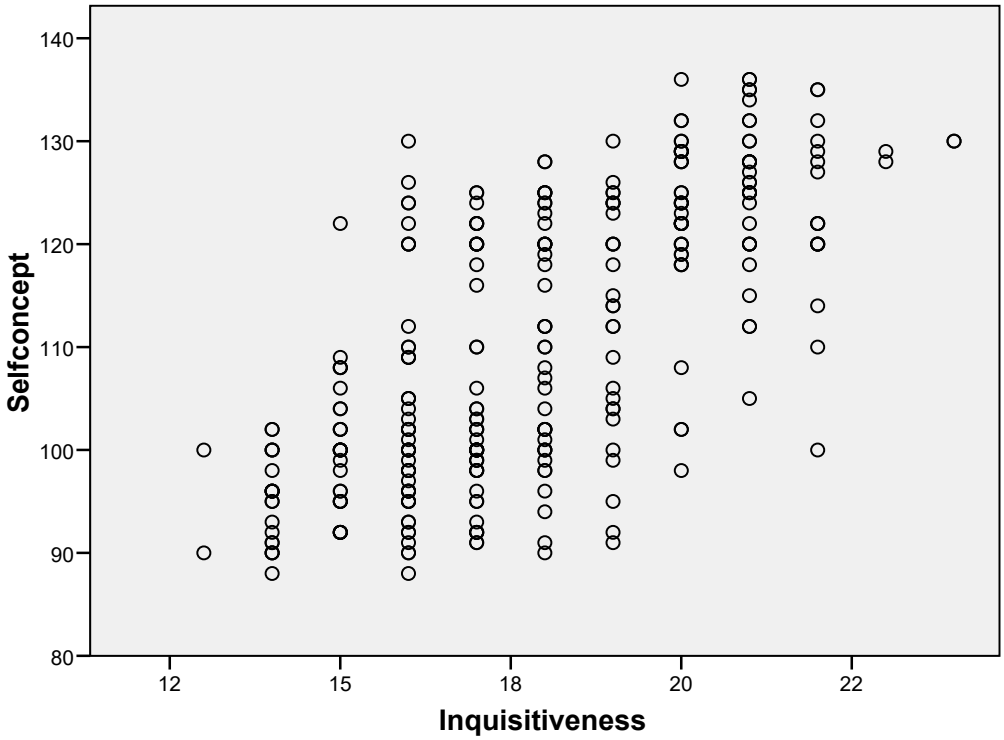


Figure-4.55: The Scatter Plot of Secondary School Students' Self Concept on their Inquisitiveness

The estimated regression coefficient (intercept and slope) are given in table -4.74.The estimated value of self concept (B=38.931) means that if the value of inquisitiveness is kept constant, then the value of self concept is 38.931 on an average. Besides this, the estimated value of self concept (B=4.003) implies that if we increase one unit in inquisitiveness score, then the value of self concept increases 4.003 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that self concept is positively associated with inquisitiveness.

Table-4.75

Regression of Secondary School Students' Self Concept on their Environmental Sensitivity

Predictor	Un standardized coefficients		Standardized coefficients	t	p	Part Correlation (r_p)	$r^2_p \times 100$
	B	SE	β				
(Constant)	39.473	4.127		9.564	.000		
Environmental Sensitivity	3.933	.227	.697	17.328	.000	.697	48.58

Adjusted R^2=0.484, ($F_{1, 318}$ = 300.275, P<0.001)

In table-4.75, environmental sensitivity was the predictor variable and self concept was the criterion variable. The value of standardized beta (β= .697) reveals that the increases of 1 standard deviation unit in environmental sensitivity, increases .697 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.484, ($F_{1, 318}$ = 300.275, P<0.001)) in table-4.75 also reveals that the predictor variable or environmental sensitivity explains 48.4% variance of criterion variable or self concept. Furthermore, part correlation coefficient in the above table indicates that the unique contribution of 'environmental sensitivity' to explain the variance in self concept of secondary school students was 48.58%. Thus, environmental sensitivity was one of the strongest predictors to explain secondary school students' self concept. The scatter plot of the above table is given below:

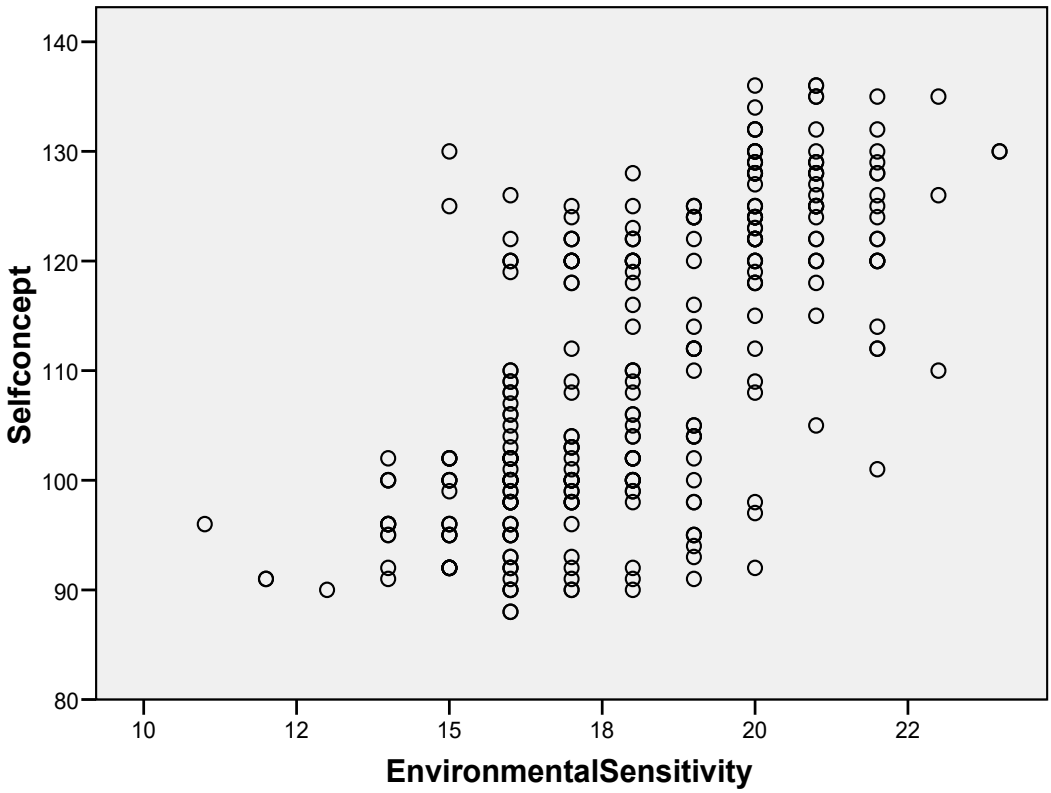


Figure-4.56: The Scatter Plot of Secondary School Students' Self Concept on their Environmental Sensitivity

The estimated regression coefficient (intercept and slope) are given in table -4.75.The estimated value of self concept (B=39.473) means that if the value of environmental sensitivity is kept constant, then the value of self concept is 39.473 on an average. Besides this, the estimated value of self concept (B=3.933) implies that if we increase one unit in environmental sensitivity score, then the value of self concept increases 3.933 units. Thus, the numerical analysis and the above scatter plot give the same conclusion that self concept is positively associated with environmental sensitivity.

Summary of Main Findings

Gender Differences in Creativity and Self-Concept

- From results it was seen that no significant difference exists in creative abilities of secondary school students in terms of gender. But in case of self concept it was found that boy secondary school students possessed higher self concept as compared to their girl counterpart.

Academic Achievement Differences in Creativity and Self Concept

- High achiever secondary school students possessed more creative abilities and higher self concept as compared to their low achiever counterparts.

SES Differences in Creativity and Self concept

- Upper middle SES secondary school students expressed more creative abilities and higher self concept as compared to their lower middle SES counterpart.

Relationship between Creativity and Self Concept

- There existed a significant positive correlation between creativity and self concept of secondary school students. It was also found that secondary school students' creativity was significantly positively associated with different dimensions of self concept and secondary school students' self concept was significantly positively associated with different dimensions of creativity.

Creativity as Predictor Variable

- As predictor variable, creativity explained 71.9% variance of criterion variable or self concept. Thus, creativity was one of the strongest predictors to explain secondary school students' self concept. As predictor variables, artistry explained 55.4%, intellectuality explained 60.5%, disciplined imagination explained 55.9%, self strength explained 49.9%, inquisitiveness explained 49.9%, and environmental sensitivity explained 48.4% variances of criterion variable or self concept. Thus, artistry, intellectuality, disciplined imagination, self strength, inquisitiveness and environmental sensitivity as the dimensions of creativity were stronger predictors to explain secondary school students' self concept.

Self Concept as Predictor Variable

- As predictor variable, self concept explained 71.9% variance of criterion variable or creativity. Thus, self concept was one of the strongest predictors to explain secondary school students' creativity. As predictor variables, physical self concept explained 48.5%, educational self concept explained 57.6%, scholastic competence explained 58.3%, moral self concept explained 56.7%, social self concept explained 58.0%, and global self worth explained 59.4% variances of criterion variable or creativity. Thus, physical self concept, educational self concept, scholastic competence, moral self concept, social self concept, and global self worth as the dimensions of self concept were stronger predictors to explain secondary school students' creativity.

CHAPTER FIVE

DISCUSSION

The purpose of the present study was to investigate the relationships between creativity and self concept of secondary school students with reference to gender, academic achievement and socioeconomic status. Reviewing the relevant literature in detail, several hypotheses had been formulated. In order to test these hypotheses the present study was conducted on 320 secondary school students selected purposively (160 boys and 160 girls) from different educational institutions of Rajshahi City, Bangladesh.

Demographic and Personal Information Sheet, Creativity Scale and Self Concept Scale developed by the researcher were used to demonstrate the current study. Following standard procedures, these scales were administered to the mentioned number of secondary school students to investigate the relationships between creativity and self concept of secondary school students with reference to related variables. Obtained data were analyzed using mean, standard deviation, *t*-test, correlation coefficients and regression analyses.

Consistent with previous research findings in different cultures, the present study identified self concept as important predictor of creativity and vice versa. The present study also identified various dimensions of self concept as important predictors of creativity as well as various dimensions of creativity as important predictors of self concept. Moreover, the present study also identified that secondary school students' creativity was significantly positively associated with their self concept. It was also identified from this study that secondary school students' creativity and self concept significantly differed with reference to academic achievement and socioeconomic status but only the self concept of secondary school students significantly differed with reference to gender. The important features of the findings are discussed below in a coherent manner.

5.1. Gender Differences in Creativity and Self Concept of Secondary School Students

Results reported in Table-4.1 revealed no significant difference in creative abilities of secondary school students in terms of gender. Again, results reported in Table-4.4 showed that boy secondary school students possessed higher self concept as compared to their girl counterpart. It was also found from the results of the study that boys and girls did not differ significantly at different dimensions (intellectuality, disciplined imagination, self strength, inquisitiveness, environmental sensitivity, physical self concept, scholastic competence, moral self concept) of creativity and self concept (Table- 4.10, 4.13, 4.16, 4.19, 4.22,4.25, 4.31, 4.34) but significant differences were found in case of artistry, educational self concept, social self concept and global self worth of secondary school students (Table-4.7, 4.29, 4.37, 4.40). Thus the results provided partial confirmation to the first hypothesis (H_1). The results are consistent with the previous finding of Shahrier & Enam (2012) and Enam (2006) in Bangladsh perspective. The results are also consistent with several previous studies in international perspectives. Dudek and Runco (1993) reported a difference in the mean score of creativity between males and females. They chose 1,500 students in 11 schools and explored the differences in sex in the development of the creativity potential. They found that the mean score of creativity was different between boys and girls and also reported that the creative potential improved with age. Several Researchers found no difference in creativity in males and females (Samira, 2003). In 2003, research concerning the family and the emotional and creativity of children was conducted by Samira. In this research, male and female students from several Education regions were selected using random sampling. Data collection was used for the creativity test and the family emotional climate questionnaire, also statistical analysis – multiple regression methods and t-test – were conducted. According to the statistical analysis, the current study illustrated no significant different mean score of creativity between males and females. Some studies (Ai, 1999; Habibollah, Rohani, Tengku Aizan and Jamaluddin, 2009; Palaniappan, 2005) show that males surpass females on some components of creativity, but females are generally better than males on others. Habibollah et al. (2009) found no gender differences on the overall factor scores for both 'What Kind Of Person Are You'? And 'Something about Myself', Palaniappan (2005) stated there was no significance difference on the factor environmental sensitivity between males and females, while males obtained higher scores on initiative than females.

Mboya (1994) developed Self Description Inventory in 1993. This inventory was used to measure the self-concept of boys and girls. The results showed that boys had higher self-concept than girls in the domains of family, physical ability, physical appearance, music ability and health but girls had higher self-concept in general school and emotional stability domains. The results also showed that boys expressed higher levels of global self-concept than girls. Byrne and Shavelson (1987) conducted an empirical study on self-concept. The results showed that boys expressed higher self-concept than girls in the areas of mathematics, general self, physical appearance and physical ability. But girls expressed higher self-concept in the areas of reading and general school. Perckel et al., (2008) conducted a study to investigate gender differences in 181 gifted and 181 average ability sixth graders in achievement, academic self concept, interest, and motivation in mathematics. Results revealed that in both ability groups, boys earned significantly higher test scores but there were no gender differences in grades. Girls scored lower on measures of self-concept, interest and motivation. Gender differences were larger in gifted than in average ability students. Moreno et al., (2007) conducted a study to examine the effect of gender in relation to the physical self concept of older primary school children in physical education classes. The sample was comprised of 1086 participants, 570 boys and 516 girls ranging in age from 10 to 11 years. Results indicated that boys had higher levels of perceived competence and greatest self-confidence than did girls in relation to sport activities, whereas the girls had a more favourable perception of their physical appearance and physical strength than did boys.

In case of Bangladesh, it is observed that girls are getting equal priority like boys in home as well as in school. Parents now take care of their sons as well as their daughters in an equal manner. Environmental and cultural conditions in Bangladesh encourage parents to diminish gender differences at every field of life. Government is patronizing female education through rewards to the female students. Similarly, girls are getting legal support through the activities of government. Cultural factors and role of media are also in favour to treat girls with greatest emphasis like boys at every field of life. This is helpful to increase the self-esteem of both boys and girls leading to the development of their creative abilities equivalent to boys. In the socio-economic, political and cultural context of Bangladesh, now it is seen that both boys and girls are

engaged in different types of social, academic, physical and extracurricular activities. Girls are now taking challenge to accept high risk jobs and performing social responsibility with boys in an equal manner. Family and society now expect equal efforts from both boys and girls. As a consequence, from their pre-adolescence period, girls are observing that they are in the same position like boys in the family and societal atmospheres to perform different duties and responsibilities. These in turn help to create greater confidence, self-esteem and self-efficacy among both boys and girls. As a result, they both develop equivalent level of creative abilities and achieve better performance in academic atmosphere and school environments. Hence it is plausible to argue that equal treatment of parents and teachers towards boys and girls may cause no gender difference in the development of their creative abilities.

Several studies (Peterson et al., 1991; Casper et al., 1996; Eklund et al., 1997; Guimond, 2006) have reported that boys have higher self-concepts than girls. Self-concept of boys and girls may be dominated by value cooperation, value independence and parental autonomy. Moreover, self-worth, emotional stability and interaction between boys and girls may determine the self-concept of relevant groups. Hence, it is obvious that the socio-cultural context, economic development and religious value patterns may appear as specific factors for shaping the self-concept of boys and girls and also in create variations in their self concept in a particular national context. In case of Bangladesh, it is found that in adolescence, boys use expressive and instrumental pathways to maintain friendships, peer relations, social approval and social interactions, while girls use expressive ways to increase intimacy with friends or significant others of the society. Moreover, girls tend to be more concerned with expectations and moral issues, to depend more on external approval and in consequence to develop more easily less positive self-concepts than boys. Boys, on the other hand, tend to explore their environment with greater confidence, more adaptive in heterogeneous environment, enjoy greater independence, emotionally more stable, more positive about physical appearance and ability, more positive about feedback in classroom and extracurricular activities of school environments and as a consequence, have significantly higher self-concepts than girls.

5.2. Academic Achievement Differences in Creativity and Self Concept of Secondary School Students

Results reported in Table-4.2 revealed that there exists a significant difference (df =318, t=23.679, p<0.01) in creative abilities of secondary school students in terms of academic achievement. That is, high achievers expressed more creative abilities as compared to low achiever secondary school students. Results reported in Table-4.5 results also revealed that there exists a significant difference (df =318, t= 29.606, p<0.01) in self concept of secondary school students in terms of academic achievement. That is, high achiever secondary school students possessed higher self concept as compared to their low achiever counterpart.

It was also found from the results of the study that high achievers expressed more creative abilities and higher self concept than low achievers at different dimensions of creativity and self concept (Table- 4.8, 4.11, 4.14, 4.17, 4.20, 4.23, 4.26, 4.29, 4.32, 4.35, 4.38, and 4.41). Thus, the results provided confirmation to the second hypothesis (H_2). The results are consistent with the previous findings of Ahsan (2007), Islam (2007), Rahman (2009) and Tarana (2011) in Bangladesh perspective. The results are also consistent with several previopus findings in international perspectives. The results of the study on 272 undergraduate students done by Pishghadam et al. (2011) demonstrate that there is relationship between cognitive creativity of participants and their academic achievement while estimated correlation is 0.36 which is interpreted as high measurement of creativity. Naderi et al. (2009) examined creativity, age and gender as predictors of academic achievement. Participants (N= 153, 105 = male & 48= female) completed creativity test. Cumulative grade point average (CGPA) was used to select the participants. A multiple regression analysis revealed creativity, age and gender explained 0.143% variance in academic achievement. The significance level was indicated by the F- value of 8.294.

Wagner, Stephan and Irwin (1985) used the academic performance as an indicator variable and showed that non-failing students had higher levels creative potentials than failing students because they maintained a good opinion about themselves. Their experiences have supported their self and boosted their morale to do well with their potentials and capacities. Atkinson (2004) studied 54 college students and 50 pupils. He

intended to compare these two groups to signify whether the cognitive creativity and academic achievement are related or not. He concluded that there was 0.54 correlation between cognitive creativity and academic achievement of participants. Wang (2011) studied American students to demonstrate the relation between cognitive creativity and academic achievement of this group of participants. The results showed that these two variables are positively related to each other with the range of 0.37. The study on a group of Taiwanese students, Wang (2011) observed that cognitive creativity and academic achievement are positively related to each other with the measurement about 0.24.

High achieving students experienced the classroom atmosphere positively, possess more creative abilities, have higher self-concepts, had emotional stability and felt less social anxiety than low achievers (Malmberg and Sumra, 2001). Achievement in extracurricular activities like sports, dance, song and gym enhance the general sense of self-worth in pre-adolescent boys and girls. These activities in educational institutions may play an important role for the development of their creative abilities and self-concept in terms of high achievements and low achievements.

The findings of a study (Reis et al., 1995) indicate that high achieving students had a strong belief in self and were resilient about negative aspects of their families and their environment. But students who underachieved in school did not exhibit the same belief in self, often came from families in which problems were evident, and were not resilient enough to overcome environmental factors such as gangs and drugs. Results regarding the relationship between self-concept and academic achievement showed that academic achievement may account for the development of positive self-concept (Abdul Khalik, 1996). According to self-enhancement model (Calsyn and Kenny, 1977), the best way to enhance academic self-concept is to develop stronger academic skills. A large number of studies (Lau and Leung, 1992a, 1992b; Al-Deeb, 1994; Marsh, Wen and Hau, 2004) showed the impact of academic achievement on the development of self-concept. For example, Marsh et al., *(2004)* have reported that academic achievement is an important factor for boys and girls in maintaining their emotional stability. Both boys and girls get opportunity to relate their ability through academic achievement. Girl's ability in sports, dance, and gym activities provide an opportunity to interact with boys as with same sex. Thus, both boys and girls get an opportunity to work cooperatively through academic achievement.

It is said that education is a significant step to increase the self-concept of boys and girls. Parents are very ambitious about their children. High achiever boys and girls are capable to fulfill the ambition of their parents. Moreover, high achiever students have higher levels of aspiration. They have fewer records of failure at different stages of education. Instead, they are rewarded and nurtured differently for their superior achievement. All these activities are helpful to increase self-esteem, self-regard and self-efficacy. These may account for superior creative abilities and highly positive self-concept for high achievers as compared to low achievers. When a need for academic achievement is present within an individual it presupposes in him an awareness of two essential conditions, i.e. his performance will be evaluated on the basis of a certain standard of excellence and that the outcome of his effort will be either success or failure. Competition and cooperation are important factors for the development of creativity and self-concept. When a student is motivated to attain an ambitious goal, he should develop the virtue of cooperation and competition. If the student can successfully cross the academic barrier through the cultivation of cooperation and competition, he is regarded as a high achiever. This helps to enhance his creative abilities and self-concept. If he fails to cross the barriers on the way to achieve success, he is neglected by teachers, parents and peer groups. As a result, he fails to fulfill the expectations of teachers, parents and peer groups. Consequently he may be ridiculed in the society. This becomes a great hindrance to the formation of self-esteem and self-regards. This lack of self-esteem may lead the low achiever students to develop less positive academic self-concept low creative abilities. High achievers in this study expressed more creative abilities and higher self-concepts because they get positive feedback from parents, teachers or significant others of the society for their good performance in academic atmospheres. These types of feedback enhance their self-esteem and confidence and lead them to form a highly positive self-concept more creative potentials. Students who get high grade, show good performance in classrooms and participate in extracurricular activities of the school are highly accepted at home as well as at school. This positive acceptance by the significant others may help to get honourable position in the society. These activities create favourable atmosphere for the students and add new extent to their creativity and self-concept. So, it is perfectly fair to conclude that academic achievement is an important moderating variable to create variations in the formation of creativity and self-concept of secondary school students. These empirical findings and personal observations provide support to the hypothesis that High achiever students would possess more creative abilities and higher self concept than low achiever students.

5.3. SES Differences in Creativity and Self Concept of Secondary School Students

Results reported in Table-4.3 revealed that there is a significant difference (df =318, t= 7.268, p<0.01) in creative abilities of secondary school students in terms of SES. That is, upper middle SES secondary school students expressed more creative abilities as compared to their lower middle SES counterpart. Again, results reported in Table-4.6 revealed that there exists a significant difference (df =318, t= 5.532, p<0.01) in self concept of secondary school students in terms of SES. That is, upper middle SES secondary school students possessed higher self concept as compared to their lower middle counterpart. It was also found from the results of the study that upper middle SES students expressed more creative abilities and higher self concept than lower middle SES students at different dimensions of creativity and self concept (Table- 4.9, 4.12, 4.15, 4.18, 4.21, 4.24, 4.27, 4.30, 4.33, 4.36, 4.39, and 4.42). Thus, the results provided confirmation to the third hypothesis (H_3). The results are consistent with findings of Shahrier & Enam (2012) and Ahsan (2007) in Bangladesh perspective. The results are also in accordance with several previous findings in international perspectives. Parsasirat et al. (2013) conducted a study to examine the effect of socioeconomic status on emerging adolescent creativity. This exploratory correlational research study examined the relationship between family economic status, father's education and mother's education with adolescent creativity. The sampling method was employed to select the proportion of participants using stratified and multi-stage cluster random sampling. The population of the sample was 546 high school students in Education Region 4, Tehran. The participants, 249 males and 297 females, completed two questionnaires. The adolescents completed a Demographic Characteristics Questionnaire and Abedi Creativity Questionnaire, which were used as the measuring tools in this study. The results showed a significant positive correlation between family economic status and creativity ($p < .01$), and between parent education and creativity ($p < .01$). Interestingly, the analyses revealed a strongly significant positive correlation between parent education and creativity ($p < .01$), although none was found between males and females on creativity. Dudek and Runco (1993) conducted a research to explore the differences in creative thinking skills among children representing different socioeconomic levels. In their research, 1,500 students' from11 schools were chosen as participants. Ultimately, they found a statistically positive significance between the potential creativity in children and socioeconomic status. In other words, they

demonstrated that high quality material environments increase the potential creativity. Mohammad, K. (1995) demonstrated the impact of different socioeconomic levels (welfare, average and low social status) on creativity. He selected 225 male students who enrolled in the first year of secondary school. They used ANOVA, multivariate regression, and Tukey multiple comparisons to analyses the data collected. The results showed that there was a statistical difference between three socioeconomic levels (welfare, average and low social status) and creativity. Also, there was a statistically different mean of creativity between welfare socioeconomic level and average and low socioeconomic level; however, there was no statistically different mean of creativity between average socioeconomic level and low socioeconomic level.

Marsh et al. (2003) found that students having higher socio economic status showed higher scores on the self concept scale than those having low income. In today's material oriented world money and socio economic status provide more confidence and more trust in oneself. Kaur et al. (2009) found a significantly positive relationship of high SES home environment components of protectiveness, conformity, reward, and nurturance with self-concept thereby meaning that use of rewards and nurturance from parents should be done for positive self-concept development among adolescents. However, the correlation of social isolation, deprivation of privileges and rejection components of low SES home environment is significantly negative with self-concept among low SES adolescents indicating that for positive self concept development among high SES adolescents, there should be less or no use of social isolation, deprivation of privileges and rejection. The study has implications for educationists and parents as well. Trickett (1978) suggests that students who attend upper-middle SES background schools report a greater sense of belonging or relatedness and possess higher self-concepts than do students who attend lower-middle SES schools. Nwogugu (1990) found that in Nigerian lower socio-economic areas, family norms, societal and cultural codes, and the adolescents' own expectations and conscience subtly mold and negotiate the self-concept in childhood, adolescence and throughout adult life. Thus, children and adolescents in lower socio-economic areas have lower self-concepts than in upper-middle SES background.

In case of Bangladesh, it is seen that students of upper middle SES background get proper educational environments and they are enriched with effective educational opportunities and resources. In a upper middle SES setting students get skilled teachers, enjoy effective teaching-learning process and get proper guidance of teachers and parents. Parents education level, high living standard, acceleration of science and technology, parental supervision, emotional stability in family atmospheres, good peer relations, advantages of modernization and industrialization, available educational institutions with appropriate infrastructure, practices of our national cultures through different extracurricular activities, a good sense of mental well-being and various other socio-cultural factors may be most important reasons for upper middle SES students to develop high self-esteem, self-regard and high self-efficacy. These in turn may help them to develop more creative abilities and highly positive self-concept with greater confidence.

On the other hand, in Bangladeshi perspective, it is also seen that students of poor socio-economic status background have the inadequacy of science and technology, do not get proper educational environments with respect to effective classroom practices, peer relations, skilled teachers, effective teaching-learning process and extracurricular activities. Parents in lower middle socio-economic status are ignored about the outcome of their children's educational attainment because they possess low educational qualification and they live under poor living standards. Here people live very simple and traditional lives and are dependent mainly on agriculture. Low household income, limited parental education, emotional instability, lack of parental supervision, poor school culture, academic failure, low commitment to school, punitive child rearing, faulty parent- child relationships and various other factors create a feeling of inferiority among lower middle SES children. As a result, they may develop very low self-esteem, self-regard with low self-efficacy. These factors perhaps contribute to the development of a negative self-concept and less creative abilities among lower middle SES children as compared to their upper middle counterpart. These findings of the previous studies provide the cardinal point that supports the findings of the current study. Finally, these empirical findings and personal observations provide support to the hypothesis that the respondents of upper middle SES would possess more creative abilities and higher self concept than the respondents belong to lower middle SES.

5.4. Secondary School Students' Creativity is significantly positively associated with their Self Concept

Results reported in Table-4.43 indicates that there is a significant positive correlation between creativity and self concept of secondary school students (r=.849, p<0.01).

It was also found from the results of the present study that there exist significant positive correlations between creativity and self concept of male secondary school students (r=.880, p<0.01), creativity and self concept of female secondary school students (r=.816, p<0.01), creativity and self concept of high achiever secondary school students (r=.675, p<0.01), creativity and self concept of low achiever secondary school students (r=.557, p<0.01), creativity and self concept of upper middle SES secondary school students (r=.849, p<0.01),creativity and self concept of lower middle SES secondary school students (r=.815, p<0.01),creativity and physical self concept of secondary school students (r=.697, p<0.01),creativity and educational self concept of secondary school students (r=.760, p<0.01),creativity and scholastic competence of secondary school students (r=.765, p<0.01),creativity and moral self concept of secondary school students (r=.754, p<0.01), creativity and social self concept of secondary school students (r=.762, p<0.01), creativity and global self worth of secondary school students (r=.772, p<0.01), self concept and artistry of secondary school students (r=.745, p<0.01), self concept and intellectuality of secondary school students (r=.779, p<0.01), self concept and disciplined imagination of secondary school students (r=.748, p<0.01), self concept and self strength of secondary school students (r=.748, p<0.01), self concept and inquisitiveness of secondary school students (r=.708, p<0.01), self-concept and environmental sensitivity of secondary school students (r= .697, p<0.01) [Table-4.44, 4.45, 4.46, 4.47, 4.48, 4.49, 4.50, 4.51, 4.52 ,4.53, 4.54, 4.55, 4.56, 4.57, 4.58, 4.59, 4.60, 4.61]. Thus, the results provided confirmation to the fourth hypothesis (H_4). The results are consistent with several previous findings. Jabeen and Khan (2013) conducted a study to focus on the creative thinking abilities and self-concept of high and low achievers of 9th grade students. The sample for the study was high achievers (N = 300) and low achievers (N =300) selected randomly from two educational zones (Budgam and Soibugh) of district Budgam (J and K, India). For the measurement of creative thinking abilities Mehdi's (1973) verbal test of creative

thinking abilities and for the measurement of self-concept Sharma's (1972) self-concept inventory was administered for the collection of data. The results of the study high light that in comparison to low achievers high achievers possess significantly high creativity potential, in comparison to low achievers, high achievers are significantly high in different areas of creativity, viz. fluency, flexibility and originality and also in comparison to low achievers high achievers possess significantly high self-concept. The study also revealed that there is a positive and significant relationship between creativity and academic achievement, self-concept and academic achievement and creativity and self concept of high and low achiever groups. Smith and Tegano (1992) used college students as a sample. Students who displayed better performance on a creativity inventory also scored higher in six of the eleven dimensions of a self-image questionnaire (emotional tone, social relationships, sexual attitudes, mastery of the external world, vocational and educational goals, and superior adjustment) than students who scored lower in creativity. In Bangladesh context, it is seen that students who possess more creative abilities also possess higher self concept because their highly positive self referring belief create greater confidence, self regard, high self efficacy to deal effectively with school environments and to maintain proper interactions with family members, peers, teachers and significant others of the society. As a result, students with higher self concept achieve greater acceptance from family and school environments that enhance them to nurture their creative abilities properly and to develop more creative abilities at different academic and extracurricular activities. S0 it is perfectly fair to conclude that secondary school students' creativity and self concept is positively associated. These empirical findings and personal observations provide support to the hypothesis that there would be a significant positive relationship between creativity and self concept of secondary school students.

5.5. Creativity is Important Predictor to Explain Secondary School Students' Self Concept

Standardized beta coefficient (β= .849) from regression analysis in table 4.62 revealed that the increases of 1 standard deviation unit in creativity, increases .849 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.719, ($F_{1, 318}$=819.120, P<0.001)) in table-4.62 also revealed that the predictor variable or

creativity explains 71.9% variance of criterion variable or self concept. Furthermore, part correlation coefficient in table-4.62 indicated that the unique contribution of 'creativity' to explain the variance in self concept of secondary school students was 72.08%. Thus, creativity was one of the strongest predictors to explain secondary school students' self concept. The results obtained from table-4.62 supported our fifth hypothesis (H_5). The result is in accordance with the previous study of Quaglino (1979) who found that non-gifted students with high self-concept scored significantly higher on the creativity measure than did those with lower self-concept. Sears (1963) also found that children of superior intellectual ability had higher self-concepts, as well as higher ability to think in original, creative ways, than children of lesser intellectual ability. Felker and Treffinger (1971) have found that fourth grade students with high self concept scored significantly higher than those with low self-concept on self-evaluation of creative abilities and on creativity measures such as verbal fluency, flexibility, and originality. The results obtained from table 4.65 to support the fifth hypothesis (H_5) are also consistent with other previous findings in national and international perspectives (Marsh and Craven, 1997; Byrne, 1996; Jabeen and Khan, 2013; Sagar, 2014).

5.6. Different Dimensions of Self Concept are Stronger Predictors of Secondary School Students' Creativity

Standardized beta coefficient (β= .697) from regression analysis in table-4.64 revealed that the increases of 1 standard deviation unit in physical self concept, increases .697 standard deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.485, ($F_{1, 318}$=301.025, P<0.001)) in table-4.64 also revealed that the predictor variable or physical self concept explains 48.5% variance of criterion variable or creativity. Furthermore, part correlation coefficient in table-4.64 indicated that the unique contribution of 'physical self concept' to explain the variance in creativity of secondary school students was 48.6%. Thus, physical self concept was one of the strongest predictors to explain secondary school students' creativity. Again, the standardized beta coefficient (β= .760) from regression analysis in table-4.65 revealed that the increases of 1 standard deviation unit in educational self concept, increases .760 standard deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.576, ($F_{1,}$

$_{318}$=434.041, P<0.001)) in table-4.65 also revealed that the predictor variable or educational self concept explains 57.6% variance of criterion variable or creativity. Furthermore, part correlation coefficient in table-4.65 indicated that the unique contribution of 'educational self concept' to explain the variance in creativity of secondary school students was 57.76%. Thus, educational self concept was one of the strongest predictors to explain secondary school students' creativity. In table-4.66, the value of standardized beta (β= .765) revealed that the increases of 1 standard deviation unit in scholastic competence, increases .765 standard deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.583, ($F_{1, 318}$= 447.543, P<0.001)) in table-4.66 also revealed that the predictor variable or scholastic competence explains 58.3% variance of criterion variable or creativity. Furthermore, part correlation coefficient in the above table indicated that the unique contribution of 'scholastic competence' to explain the variance in creativity of secondary school students was 58.52%. Thus, scholastic competence was one of the strongest predictors to explain secondary school students' creativity. In table-4.67, the value of standardized beta (β= .754) revealed that the increases of 1 standard deviation unit in moral self concept, increases .754 standard deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.567, ($F_{1, 318}$= 419.107, P<0.001)) in table-4.67 also revealed that the predictor variable or moral self concept explains 56.7% variance of criterion variable or creativity. Furthermore, part correlation coefficient in the above table indicated that the unique contribution of 'moral self concept' to explain the variance in creativity of secondary school students was 56.85%. Thus, moral self concept was one of the strongest predictors to explain secondary school students' creativity. Again the standardized beta coefficient (β= .762) from regression analysis in table 4.68 revealed that the increases of 1 standard deviation unit in social self concept, increases .762 standard deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.580, ($F_{1, 318}$= 441.019, P<0.001)) in table-4.68 also revealed that the predictor variable or social self concept explains 58.0% variance of criterion variable or creativity. Furthermore, part correlation coefficient in the above table indicated that the unique contribution of 'social self concept' to explain the variance in creativity of secondary school students was 58.06%. Thus, social self concept was one of the strongest predictors to explain secondary school students' creativity. In table-4.69, the value of standardized beta (β= .772) revealed that the increases of 1 standard deviation unit in global self worth, increases .772 standard

deviation unit in creativity. The value of adjusted R^2 (Adjusted R^2=0.594, ($F_{1, 318}$= 467.832, P<0.001)) in table-4.69 also revealed that the predictor variable or global self worth explains 59.4% variance of criterion variable or creativity. Furthermore, part correlation coefficient in the above table indicated that the unique contribution of 'global self worth' to explain the variance in creativity of secondary school students was 59.6%. Thus, global self worth was one of the strongest predictors to explain secondary school students' creativity. The results provided confirmation to the sixth hypothesis (H_6) of the present study. The results obtained from table-4.64 to table-4.69 to support the sixth hypothesis (H_6) are consistent with other previous findings which shown that high achieving students at school have a more positive academic self-concept (Skaalvik, Valfins and Sletta, 1994), higher self-esteem (Korpinen, 1990), higher level of agency and control belief and more creative abilities (Little et al., 1995). They attribute their performance to effort rather than to ability or luck (Juvonen and Murdock, 1993), and express lower level of ego-defense (Skaalvik, 1990) due to their higher self concept in different areas which create variance in their creative abilities as compared to their low achieving counterparts.

5.7. Different Dimensions of Creativity are Stronger Predictors of Secondary School Students' Self Concept

Standardized beta coefficient (β= .745) from regression analysis in table-4.70 revealed that the increases of 1 standard deviation unit in artistry, increases .745 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.554, ($F_{1, 318}$= 397.127, P<0.001)) in table-4.70 also revealed that the predictor variable or artistry explains 55.4% variance of criterion variable or self concept. Furthermore, part correlation coefficient in table-4.70 indicated that the unique contribution of 'artistry' to explain the variance in self concept of secondary school students was 55.5%. Thus, artistry was one of the strongest predictors to explain secondary school students' self concept. Again, standardized beta coefficient (β= .779) from regression analysis in table-4.71 revealed that the increases of 1 standard deviation unit in intellectuality, increases .779 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.605, ($F_{1, 318}$= 490.219, P<0.001)) in table-4.71 also revealed that the predictor variable or intellectuality explains 60.5% variance of criterion variable or self

concept. Furthermore, part correlation coefficient in table-4.71 indicated that the unique contribution of 'intellectuality' to explain the variance in self concept of secondary school students was 60.68%. Thus, intellectuality was one of the strongest predictors to explain secondary school students' self concept. In table-4.72, The value of standardized beta (β= .748) revealed that the increases of 1 standard deviation unit in disciplined imagination, increases .748 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.559, ($F_{1, 318}$ = 404.837, P<0.001)) in table-4.72 also revealed that the predictor variable or disciplined imagination explains 55.9% variance of criterion variable or self concept. Furthermore, part correlation coefficient in table-4.72 indicated that the unique contribution of 'disciplined imagination' to explain the variance in self concept of secondary school students was 55.95%. Thus, disciplined imagination was one of the strongest predictors to explain secondary school students' self concept. Again, standardized beta coefficient (β= .708) from regression analysis in table-4.73 revealed that the increases of 1 standard deviation unit in self strength, increases .708 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.499, ($F_{1, 318}$ = 319.070, P<0.001)) in table-4.73 also revealed that the predictor variable or self strength explains 49.9% variance of criterion variable or self concept. Furthermore, part correlation coefficient in the above table indicated that the unique contribution of 'self strength' to explain the variance in self concept of secondary school students was 50.13%. Thus, self strength was one of the strongest predictors to explain secondary school students' self concept. In table-4.74, the value of standardized beta (β= .708) revealed that the increases of 1 standard deviation unit in inquisitiveness, increases .708 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.499, ($F_{1, 318}$ = 319.018, P<0.001)) in table-4.74 also revealed that the predictor variable or inquisitiveness explains 49.9% variance of criterion variable or self concept. Furthermore, part correlation coefficient in the above table indicated that the unique contribution of 'inquisitiveness' to explain the variance in self concept of secondary school students was 50.13%. Thus, inquisitiveness was one of the strongest predictors to explain secondary school students' self concept. Again, the value of standardized beta (β= .697) in table-4.75 revealed that the increases of 1 standard deviation unit in environmental sensitivity, increases .697 standard deviation unit in self concept. The value of adjusted R^2 (Adjusted R^2=0.484, ($F_{1, 318}$ = 300.275, P<0.001)) in table-4.75 also revealed that the predictor variable or

environmental sensitivity explains 48.4% variance of criterion variable or self concept. Furthermore, part correlation coefficient in the above table indicated that the unique contribution of 'environmental sensitivity' to explain the variance in self concept of secondary school students was 48.58%. Thus, environmental sensitivity was one of the strongest predictors to explain secondary school students' self concept. The results provided confirmation to the seventh hypothesis (H_7) of the present study. The result is in accordance with the previous study of Fernandez (2001); Torrego (2000); Merrell et al. (2001) who conducted several studies at school level on the development of self-concept and other related variables. These studies focused on training and development in the areas of pupil's personal and social competence. The findings of these studies showed that teachers' development plans may help pupil's personal and social competence leading to the development of more creative abilities which create variance in self-concept, self-esteem, social abilities, personal development, school mediation, living together and conflict resolution. These findings have been supported by Castejon et al. (1996) and Gonzalez (1999). Accordingly, these investigators have suggested that teachers should be offered methodological guidance in order to work on these throughout the educational process. This type of psycho-educational intervention may serve as an avenue to improve academic performance through more creative potentials and higher self concept. The results obtained from table-4.72 to table-4.77 to support the seventh hypothesis (H_7) are consistent with other previous findings in national and international perspectives (Palaniappan, 2007; Wigfield and Karpathian, 1991; Villarroel, 2001; Fults, 1980; Mboya, 1998; Sagar, 2014; Shahrier & Enam, 2012).

5.8. Implication of the Study

The present study makes several important contributions to different areas. Some specific implications of this study have been stated below.

1. In the empirical vein, it adds to the literature by finding a relationship between creativity and self concept of secondary school students. By uncovering the fundamental role of creativity and self concept on the personality development and academic performance of secondary school students, this study makes psychologists to understand the relationships of self concept with secondary school students' proper development of creative abilities and could imply proper initiative to develop more creative abilities and highly positive self concept among secondary school students.
2. The study would reflect on the impact of socio-economic status, cultural factors, social norms, societal codes, school environment and practices, academic achievement and family atmospheres of children on the formation of their creativity and self concept.
3. The study would emphasize on the role of parents, teachers, counselors and significant others of the society to enhance the creativity and self concept of secondary school students.
4. The study would reflect on the opportunities and techniques to develop more creative potentials and a positive self concept.
5. The study would reflect on effective programs for prevention of school failure and drop out of secondary school students.
6. The study would help the parents and teachers to explore the academic performance of their children in the pursuit of knowledge in their academic areas.
7. The study would focus on risk factors associated with familial, social and school environments of secondary school students and would emphasize on protective factors to enhance their creativity and self concept through good parent-child interactions, good teacher-pupil relationships, good peer relationships, good social interactions and positive feedback from significant members of the society.

8. The study would focus on differences in creativity and self concept with reference to gender, academic achievement and socio-economic status that could provide a guideline to psychologists especially to educational counselors to ensure proper interventions and support to the secondary school students in order to adapt them properly with classroom practices, school environments and to the growing expectations of parents and teachers.
9. The study on creativity and self concept of secondary school students would provide a basic foundation for future research in this area.
10. The study is a concerted effort to compile the discrete information of empirical findings about creativity and self concept with relevant variables in a single framework.

5.9. Limitations and Suggestions for Further Research

Although the present study tried to maintain a sound methodology and analysis of collected data, nevertheless it is not free from certain limitations.

The data of secondary school students in this study were collected only from Rajshahi City, Bangladesh but if it was collected covering different educational institutions' secondary school students from different regions of Bangladesh by taking a relatively large sample size, the sample would be more representative and the results of this study would become more accurate. Moreover, the significant findings of the study could not be emphatically generalized without substantial empirical researches on creativity and self concept of secondary school students of Bangladesh with reference to relevant variables. Here, the basic necessity for future research lies. Notwithstanding, the number of studies regarding this issue is not enough and most of what come from the western countries. However, it is worthwhile to suggest further in-depth research in this area on a large and representative sample including secondary level students of different educational institutions from different areas of Bangladesh. It throws light into the area, which needs further studies and exploration. And while doing this task, further studies should be designed as to find out the effects of other relevant variables on the development of creativity and self concept of students of different education levels.

5.10. Concluding Remarks

Students are the future of every nation. So, from their earlier stages of life they need support not only for their physical growth, but also for social, emotional and cognitive development. Family and school environment i.e. parents, teachers, peers and significant others provide the most immediate and the most important environment for children where they can develop creative abilities and self concept to their full capacities in these domains. The family and school have the key responsibility to ensure children's fundamental rights, as these are the main settings within which children are cared for and protected. Bangladesh is a third world's developing country where remains the inequality of resources. Poverty, ineffective social policies, low financial circumstances, availability of drugs or weapons, social crimes, poor law and order situation, poor family relations, faulty parent-child interactions, punitive child-rearing practices, child abuse, marital discord, unstable emotional atmosphere, etc. create a great hindrance for secondary school students to grow up properly with the sufficiency and proper reflection of various psychological and socio-cultural factors. In spite of these hindrances remained in our society if we can raise public awareness through the dedicated efforts of Govt. and significant others of the society, it would be possible for us to ensure a better physical and mental health for secondary school students of Bangladesh. Positive school cultures and various opportunities remain in the education system of Bangladesh, should be properly utilized through the proper roles of parents, teachers, educational psychologists and significant others of the society to initiate the proper development of creativity and self concept among secondary school students. Positive familial, social and emotional support network are essential for the proper nurturance of students' creativity and self concept. Feeling of love, affection, appreciation and attention by significant members of the society can create a network of stable interpersonal relationships which in turn may help secondary school students to enhance their self-confidence, self-regard, creative abilities and a more positive self concept. Through public awareness, Govt. initiatives, and from their moral responsibilities if the policy makers of our country can ensure the equal distribution of our resources then poverty, malnutrition, social crimes would be alleviated and the malpractices of various psychological and socio-cultural circumstances that secondary school students from different socio-economic status face could be positively dealt to a large extent. This will in turn help our nation to get the real talents who could contribute at every sectors of our society through their creativity and innovation.

Appendix

Personal Information Sheet (PIS)

(ব্যক্তিগত তথ্যাবলী)

১. শিক্ষা প্রতিষ্ঠানের নামঃ

২. বয়স ঃ

৩. লিঙ্গ ঃ বালক/বালিকা (প্রযোজ্য শব্দের উপর টিক (√) চিহ্ন দাও)।

৪. শ্রেণী ঃ

৫. রোল নম্বর ঃ

৬. পি,এস,সি পরীক্ষায় প্রাপ্ত জিপিএ (ষষ্ট, সপ্তম ও অষ্টম শ্রেনীর জন্য) ঃ

৭. জে,এস,সি পরীক্ষায় প্রাপ্ত জিপিএ (নবম ও দশম শ্রেনীর জন্য) ঃ

৮. পিতার পেশা ঃ

৯. মাতার পেশা ঃ

১০. পিতার শিক্ষাগত যোগ্যতা ঃ

১১. মাতার শিক্ষাগত যোগ্যতা ঃ

১২. পিতার মাসিক আয় ঃ

১৩. মাতার মাসিক আয় ঃ

১৪. পরিবারের মাসিক আয় ঃ

Personal Information Sheet (PIS)

(English Version)

1. Name of Institution
2. Age
3. Gender
4. Class
5. Roll No.
6. GPA obtained in PSC Exam (For Class Six, Seven and Eight)
7. GPA obtained in JSC Exam (For Class Nine and Ten)
8. Father's Occupation
9. Mother's Occupation
10. Father's Educational Qualification
11. Mother's Educational Qualification
12. Father's Monthly Income
13. Mother's Monthly Income
14. Family's Monthly Income

Creativity Scale

নির্দেশাবলী

"নির্দেশনাটির দিকে তাকাও। এই গবেষণার মাধ্যমে নিজ সম্পর্কে জানার একটি সুযোগ এসেছে। এটা কোন পরীক্ষা নয়। এখানে সত্য বা মিথ্যা বলে কোন উত্তরও নেই। বরং একই প্রশ্নের জন্য বিভিন্ন ব্যক্তি বিভিন্ন ধরনের উত্তর দিতে পারে। তবে উত্তর দেবার পূর্বে তুমি অবশ্যই নিশ্চিত হবে যে এর উত্তর তোমার সম্পর্কে সঠিক অনুভূতি প্রকাশ করছে। তোমার উত্তরের গোপনীয়তা রক্ষা করা হবে এবং এগুলো অন্য কাউকে দেখানো হবে না। প্রত্যেক বাক্য মনোযোগ সহকারে পড় এবং একটি উত্তর পছন্দ কর। প্রত্যেক প্রশ্নের সঙ্গে ৫টি সম্ভাব্য উত্তর দেওয়া আছে। এগুলো হলো সম্পূর্ন একমত = সএ, একমত = এ, নিরপেক্ষ=নি, একমত নই= এন, একেবারে একমত নই = এএন। প্রত্যেক বাক্যের পাশে পাঁচটি সম্ভাব্য উত্তর লেখা আছে এবং তোমার পছন্দের উত্তরটি টিক (✓) চিহ্ন দিয়ে প্রকাশ কর। যদি তুমি কোন উত্তর পরিবর্তন করতে চাও তবে চিহ্নিত উত্তরটি কেটে দাও এবং একই লাইনের অন্য একটি ঘরে টিক চিহ্ন (✓) দাও। প্রত্যেক বাক্যের জন্য কেবলমাত্র একটি উত্তর দিতে হবে। কোনও বাক্যের উত্তর বাদ দিওনা। কাজ আরম্ভ করার পর কথা বলো না। কাজ আরম্ভ কর।"

১।	অবসর সময়ে আমি বিভিন্ন গল্পের বই পড়তে পছন্দ করি।	সত্র	এ	নি	এন	এএন
২।	বন্ধু-বান্ধব এবং আত্মীয়দের নিকট অবসরে গল্প বা কবিতা শোনাতে আমার ভাল লাগে।	সত্র	এ	নি	এন	এএন
৩।	আমি বিভিন্ন ছোটগল্প তৈরি করে সেগুলো লিখে রাখতে ভালবাসি।	সত্র	এ	নি	এন	এএন
৪।	আমি আমার নিজস্ব অনুভূতির আলোকে ছবি অংকন করতে পছন্দ করি।	সত্র	এ	নি	এন	এএন
৫।	বিভিন্ন ঘটনাবলী নিয়ে আমি কবিতা লিখতে পছন্দ করিনা।	সত্র	এ	নি	এন	এএন
৬।	নতুন কিছু আবিষ্কার করতে আমি সদা আগ্রহী।	সত্র	এ	নি	এন	এএন
৭।	নির্বিঘ্নে কাজ করতে আমি স্বাচ্ছন্দবোধ করি।	সত্র	এ	নি	এন	এএন
৮।	নতুন এবং বৈচিত্রময় বিষয়ে জ্ঞান অর্জনে আমি আগ্রহী নই।	সত্র	এ	নি	এন	এএন
৯।	আমি অজানা বিষয়ে অনুসন্ধান করতে ভালবাসি।	সত্র	এ	নি	এন	এএন
১০।	আমি বুদ্ধিদীপ্ত আলোচনায় অংশগ্রহণ করতে ভালবাসি।	সত্র	এ	নি	এন	এএন
১১।	পাঠ্যক্রমের বাইরেও কিভাবে সৃজনশীল জ্ঞান আহরণ করা যায় সে চিন্তা করতে ভালবাসি।	সত্র	এ	নি	এন	এএন
১২।	শিক্ষাক্ষেত্রে জ্ঞানের পারস্পরিক আদান-প্রদান সৃজনশীল চিন্তার বিকাশে বাধা বলে মনে করি।	সত্র	এ	নি	এন	এএন

১৩।	শিক্ষক ছাত্রের অংশগ্রহনমূলক দলীয় উদ্দীপনা চিন্তার জগতকে প্রসারিত করে বলে মনে করি।	সত্র	এ	নি	এন	এএন
১৪।	শিক্ষামূলক একটি দলে অন্য সদস্যদের গঠনমূলক সমালোচনা নিজেকে নিয়ে নতুন করে চিন্তা করতে শেখায়।	সত্র	এ	নি	এন	এএন
১৫।	সৃজনশীল কোনও ঘটনা বা বিষয়বস্তুকে সুসংগঠিত রুপদান আমাকে সখানুভূতি দেয়।	সত্র	এ	নি	এন	এএন
১৬।	বেশিরভাগ সময়ই আমি অন্যের সাহায্য না নিয়ে নিজস্ব চিন্ড়া-ধারা কাজে লাগিয়ে কাজ করি।	সত্র	এ	নি	এন	এএন
১৭।	আমি যেকোন কাজ নিজের সবটুকু ক্ষমতা কাজে লাগিয়ে করার চেষ্টা করি।	সত্র	এ	নি	এন	এএন
১৮।	আমি কোন কাজে সাময়িক অকৃতকার্য হলে তা নিয়ে দুশ্চিন্ড়াগ্রস্ড় হই।	সত্র	এ	নি	এন	এএন
১৯।	আমি অনুভব করি আমার মধ্যে ভাল কিছু করার ক্ষমতা সদা বিদ্যমান।	সত্র	এ	নি	এন	এএন
২০।	পরাজয় মেনে নিতে আমি কখনোই প্রস্তুত নই।	সত্র	এ	নি	এন	এএন
২১।	আমি অনেক বিষয়েই কখনো কখনো শিশুসুলভ আচরণ প্রদর্শন করি।	সত্র	এ	নি	এন	এএন
২২।	পড়াশুনার বিষয়ে বন্ধুদের কাছ থেকে নতুন নতুন তথ্য সংগ্রহে আমি সদা ব্যস্ড় থাকি।	সত্র	এ	নি	এন	এএন
২৩।	অসম্পূর্ণ ও অস্বচ্ছ ধারণাসমূহ আমার মধ্যে নানা কৌতুহলী প্রশ্ন তৈরি করে।	সত্র	এ	নি	এন	এএন
২৪।	আমি অন্যদের দ্বারা চালিত হতে পছন্দ করিনা।	সত্র	এ	নি	এন	এএন
২৫।	ক্লাসে কোন বিষয় বুঝতে সমস্যা হলে আমি বন্ধুদের কাছ থেকে বুঝিয়ে নিই।	সত্র	এ	নি	এন	এএন
২৬।	চারপাশের প্রাকৃতিক সৌন্দর্যমন্ডিত বিষয়গুলো দেখতে এবং তা নিয়ে ভাবতে আমার ভাল লাগেনা।	সত্র	এ	নি	এন	এএন
২৭।	পরিবেশের অবর্ণনীয় সৌন্দর্যের প্রতি আমি সহজেই আকৃষ্ট হই।	সত্র	এ	নি	এন	এএন
২৮।	আমার চারপাশে ঘটমান ঘটনাবলীর প্রতি আমি উদাসীন।	সত্র	এ	নি	এন	এএন
২৯।	পারিপার্শ্বিক পরিবেশ আমার মধ্যে অজানাকে জানবার কৌতুহল তৈরী করে।	সত্র	এ	নি	এন	এএন
৩০।	আমি কৌতুক বলতে এবং তা উপভোগ করতে ভালবাসি।	সত্র	এ	নি	এন	এএন

Creativity Scale (English Version)

1. I like to read different novels at leisure times.
2. I feel good to tell stories and poems to friends and relatives at leisure.
3. I like to make tales and write them down.
4. I like to draw pictures from my own feelings.
5. I don't feel good to write poems about various events.
6. I am always inquisitive to innovate something new.
7. I feel comfort to do work in an unimpeded way.
8. I am not interested to acquire knowledge about innovative and diverse areas.
9. I like to investigate about adventuring topics.
10. I like to participate in intellectual activities.
11. I like to think about gathering creative knowledge outside the curriculum.
12. Interactive knowledge exchange in education hinders creative thinking.
13. Participatory group stimulation of student-teachers expands the arenas of thinking.
14. Other members' rational criticisms in teaching team stimulate oneself to think newly.
15. Presenting a creative event or material in an organized form give me inner pleasures.
16. Maximum times I do my work utilizing my own thinking instead of taking others' help.
17. I try to do any task utilizing my highest potentials.
18. I get worried while face momentary failures in any task.
19. I feel I always deserve the ability to do something good.
20. I am never prepared to accept failure.
21. Sometimes I show childish attitude in many things.
22. I remain always busy to collect new information about study from my friends.
23. Incomplete and ambiguous topics create different inquisitive questions within me.
24. I do not like to be driven by others.
25. While facing difficulties in understanding any topic of the class, take help from my friends.
26. I do not like to see and think about different beautiful scenarios of the surroundings.
27. I get attracted easily to the surprising beauty of nature.
28. I am apathetic about the events occurring at my surroundings.
29. Surrounding environment creates inquisitiveness within me to know the unknown.
30. I love to tell jokes and enjoy it.

Self Concept Scale

নির্দেশনা

"নির্দেশনাটির দিকে তাকাও। এই গবেষণার মাধ্যমে নিজ সম্পর্কে জানার একটি সুযোগ এসেছে। এটা কোন পরীক্ষা নয়। এখানে সত্য বা মিথ্যা বলে কোন উত্তরও নেই। বরং একই প্রশ্নের জন্য বিভিন্ন ব্যক্তি বিভিন্ন ধরনের উত্তর দিতে পারে। তবে উত্তর দেবার পূর্বে তুমি অবশ্যই নিশ্চিত হবে যে এর উত্তর তোমার সম্পর্কে সঠিক অনুভূতি প্রকাশ করছে। তোমার উত্তরের গোপনীয়তা রক্ষা করা হবে এবং এগুলো অন্য কাউকে দেখানো হবে না। প্রত্যেক বাক্য মনোযোগ সহকারে পড় এবং একটি উত্তর পছন্দ কর। প্রত্যেক প্রশ্নের সঙ্গে ৫টি সম্ভাব্য উত্তর দেওয়া আছে। এগুলো হলো সম্পূর্ন একমত = সএ, একমত = এ, নিরপেক্ষ=নি, একমত নই= এন, একেবারে একমত নই = এএন। প্রত্যেক বাক্যের পাশে পাঁচটি সম্ভাব্য উত্তর লেখা আছে এবং তোমার পছন্দের উত্তরটি টিক (✓) চিহ্ন দিয়ে প্রকাশ কর। যদি তুমি কোন উত্তর পরিবর্তন করতে চাও তবে চিহ্নিত উত্তরটি কেটে দাও এবং একই লাইনের অন্য একটি ঘরে টিক চিহ্ন (✓) দাও। প্রত্যেক বাক্যের জন্য কেবলমাত্র একটি উত্তর দিতে হবে। কোনও বাক্যের উত্তর বাদ দিওনা। কাজ আরম্ভ করার পর কথা বলো না। কাজ আরম্ভ কর।"

১।	আমি আমার মুখাবয়ব নিয়ে দুশ্চিন্ড়াগ্রস্ড় হই।	সত্র	এ	নি	এন	এএন
২।	শারীরিক পরিশ্রমে আমি অত্যন্ড় স্বাচ্ছন্দবোধ করি।	সত্র	এ	নি	এন	এএন
৩।	আমি আমার শরীরের ওজন নিয়ে দুশ্চিন্ড়াগ্রস্ড় হই।	সত্র	এ	নি	এন	এএন
৪।	আমি আমার কণ্ঠস্বর নিয়ে বিচলিত হই।	সত্র	এ	নি	এন	এএন
৫।	আমি সুন্দর নাক, চোখ ও চুলের অধিকারী।	সত্র	এ	নি	এন	এএন
৬।	শ্রেনীকক্ষে শিক্ষকের বক্তৃতা কখনো কখনো আমার বুঝতে সমস্যা হয়।	সত্র	এ	নি	এন	এএন
৭।	আমি শ্রেনীকক্ষে প্রদত্ত পাঠ্যক্রম অনুসারে পড়াশুনা বজায় রাখি।	সত্র	এ	নি	এন	এএন
৮।	আমি পরীক্ষার সময় কঠোরভাবে অধ্যয়ন করি।	সত্র	এ	নি	এন	এএন
৯।	বিদ্যালয়ের কাজের ব্যাপারে আমি অত্যন্ড় আগ্রহী।	সত্র	এ	নি	এন	এএন
১০।	স্কুলে পঠিত বিষয়গুলো আমার কাছে কঠিন মনে হয়।	সত্র	এ	নি	এন	এএন
১১।	আমি ক্লাসে আমার পড়াশুনার বর্তমান অবস্থা নিয়ে সন্তুষ্ট।	সত্র	এ	নি	এন	এএন
১২।	বিদ্যালয়ের পরীক্ষাসমূহে আমি নিয়মিত অংশগ্রহণ করিনা।	সত্র	এ	নি	এন	এএন
১৩।	আমি আমার ক্লাস পরীক্ষাগুলোতে প্রথম স্থান অধিকার করতে চেষ্টা করি।	সত্র	এ	নি	এন	এএন

১৪।	আমি মনে করি ক্লাশে অন্যান্য ছাত্রদের চেয়ে আমি বেশি বুদ্ধিমান।	সত্র	এ	নি	এন	এএন
১৫।	আমি আমার সহপাঠিদের পাঠ্যপুস্ড়কের বিভিন্ন বিষয়াদি বুঝাতে সক্ষম।	সত্র	এ	নি	এন	এএন
১৬।	কোন কাজ করার পূর্বে আমি তার ভাল এবং খারাপ দিকগুলো ভেবে দেখি।	সত্র	এ	নি	এন	এএন
১৭।	পরীক্ষায় কোনো প্রশ্নের উত্তর না পারলে আমি সুযোগ পেলে পাশে রাখা বই দেখে উত্তরটি লিখে নিই।	সত্র	এ	নি	এন	এএন
১৮।	আমি আমার বন্ধুর মধ্যে কোনো অনৈতিক কার্যকলাপ লক্ষ্য করলেও তার সাথে বন্ধুত্ব ছিন্ন করিনা।	সত্র	এ	নি	এন	এএন
১৯।	বিদ্যালয়ের নিয়মনীতির প্রতি অনুগত থাকতে এবং সদা সত্য কথা বলতে আমি পছন্দ করি।	সত্র	এ	নি	এন	এএন
২০।	আমি সততার সাথে কাজ করতে এবং রাষ্ট্রের নিয়মনীতি পালনে সদা তৎপর।	সত্র	এ	নি	এন	এএন
২১।	আমি ধর্মীয় রীতিনীতি এবং প্রথার প্রতি আস্থাবান।	সত্র	এ	নি	এন	এএন
২২।	আমি অন্যদের সমালোচনা করি।	সত্র	এ	নি	এন	এএন
২৩।	আমি বিপরীত লিঙ্গের বন্ধুদের সাথে মিশতে ইতঃস্ড়ত বোধ করি।	সত্র	এ	নি	এন	এএন
২৪।	শিক্ষকেরা কোনো বিষয়ে আমাকে প্রশ্ন করলে আমি ভীত হই।	সত্র	এ	নি	এন	এএন
২৫।	আমি সমাজের বিভিন্ন শ্রেনীর ব্যক্তিবর্গের সাথে মিশতে পছন্দ করি।	সত্র	এ	নি	এন	এএন
২৬।	যদি কঠোর পরিশ্রম করি তবে কাঙ্খিত সাফল্য আমি পাবই এটা বিশ্বাস করি।	সত্র	এ	নি	এন	এএন
২৭।	আমার মধ্যে আত্মবিশ্বাসের যথেষ্ট অভাব আছে বলে মনে হয়।	সত্র	এ	নি	এন	এএন
২৮।	আমি বিদ্যালয়ে পঠিত সব বিষয়ে দক্ষ।	সত্র	এ	নি	এন	এএন
২৯।	মোটের উপর আমি ভাল নই।	সত্র	এ	নি	এন	এএন
৩০।	মোটের উপর গর্ব করার মত আমার অনেক প্রতিভাই আছে।	সত্র	এ	নি	এন	এএন

Self Concept Scale (English Version)

1. I get worried about my facial appearance.
2. I feel comfort in physical labor.
3. I get worried about my body weight.
4. I feel nervous about my voice tone.
5. I have nice nose, eyes and hair.
6. I feel troubled to understand the lecture of the teacher in classroom.
7. I continue my studies according to the syllabus given in classroom.
8. I give continued effort in study during exam.
9. I am so much interested about the tasks of school environment.
10. Courses taught at school seem to be difficult to me.
11. I am satisfied about the present situation of my study in class.
12. I do not participate regularly in school exams.
13. I always try to secure first position in class examinations.
14. I think that I am more intelligent than other students in the class.
15. I am able to understand different topics of textbooks to my classmates.
16. Before doing any task I always think the positive and negative sides of that task.
17. If I do not know the answer of any question during exam, I try to give answer to see the book keeping besides me if get opportunity.
18. Though I find any immoral activities in my friend, I do not get detached from him.
19. I like to be obedient to the rules and regulations of the school and always speak the truth.
20. I am always active to do work honestly and abide by the rules of the state.
21. I am reliable to the manners and customs of the religion.
22. I criticize others.
23. I feel hesitate to interact with the friends of opposite sex.
24. I feel afraid while teachers ask me any question.
25. I like to interact with people of different social classes.
26. I believe that I will get the desired success if I work hard.
27. I think that I have the lack of desired confidence.
28. I am skilled in all courses taught at school.
29. After all I am not good.
30. Overall I have diverse talents to feel proud of.

BIBLIOGRAPHY

Abra, J. (1991). Gender differences in creative achievement: A survey of explanations. *Genetic, Social & General Psychology Monographs,* 117(3), 235-285.

Acosta, E. S. (2001). *The relationship between school climate, academic self-concept, and academic achievement.* Dissertation Abstracts International Section A: Humanities and Social Sciences. 62(5-A), 1717.

Adamson L. (2003). Self-image, adolescence, and disability. *American Journal of Occupation Therapy.* 57, 578-581.

Afzal, S. (1998). *A Study of Differential Effect of Educational* Levels *on Self-concept of Male & Female Subjects*. Unpublished Doctoral Thesis, University of Punjab, Lahore.

Ahsan, S. (2007). *Classroom Assessment in Secondary Education: Facilitator or Barrier to Learning?* Unpublished masters' thesis, Institute of Education and Research, University of Dhaka, Dhaka, Bangladesh.

Ai, X. (1999). Creativity and Academic Achievement: An Investigation of Gender Differences. *Creativity Research Journal,* 12 (4), 329-337.

Al-Deeb, M. A. (1994). Nomu mafhum alzat lada alatfal wa almurahikin min aljinsein wa alakatah biltahsil aldirasi [*Development of self-concept for children and adolescents of both sexes and relationship with academic achievement*]. Buhuth Fi Um Al-Nafs. Egypt: Egyptian Higher Organization for the Book.

Alencar, E. M. L. S. (1993). Criatividade [Creativity]. Brasília, Brazil: EDUnB.

Alencar, E. M. L. S., Fleith, D. S., Shimabukuro, L., and Nobre, M. A. (1987). Efeitos de um programa de treinamento de criatividade para professores do ensino de primeiro grau nas habilidades de pensamento criativo do aluno [Effects of a creativity training program for elementary school teachers on their pupils creative thinking abilities]. *Interamerican Journal of Psychology,* 21, 56-71.

Alexander, S. (1997). *The relationship of self-concept, IQ, academic performance, and stressors to coping abilities for urban African-American gifted students*. Dissertation Abstracts International Section A: Humanities and Social Sciences. 58 (5-A), 1575.

Al-Izbi, M. (1985). *Academic self-concept of high and low achievers and its relation to academic achievement and evaluation by others*. Paper presented in the First General Conference in Psychology, Cairo, Egypt.

Amabile, T. M. (1983). *The social psychology of creativity*. New York: Springer-Verlag.

Amabile, T. M. (1989). *Growing up creative. Buffalo*, NY: The Creative Education Foundation.

Ames, L., Gillesbie, C., Hains, J. and Ilg, F. (1984). *The Gesel Institute's Child from One to Six*. New York: Harper and Row.

Anderman, E. M., and Kimweli, D. (1997). Victimization and safety in schools serving early adolescents. *Journal of Early Adolescence*, 17, 408-436.

Anwar, M.N., Aness, M., Khizar, A. Naseer, M., Muhammad, G. (2012). Relationship of Creative Thinking with the Academic Achievements of Secondary School Students. *International Interdisciplinary Journal of Education* – April 2012, Volume 1, Issue 3, 44.

Arieti, S. (1976). *Creativity: The magic synthesis*. New York: BasicBooks.

Ashworth, K., Hill, M., and Walker, R. (2004). Patterns of Childhood Poverty: New challenges for policy. *Journal of Policy Analysis and Management,* 13(4).

Astin, A.W. (1993). *What Matters in college? Four critical years*. San Francisco: Jossey Bass.

Atkinson, S. (2004). "*A Comparison of the Relationship between Creativity, Learning Style Preference and Achievement at GCSE and Degree Level in the Context of Design and Technology Project Work,*" presented at DATA International Research Conference 2004, Creativity and Innovation, The Design and Technology Association: London.

Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioural change. *Psychological Review,* 84, 191-215.

Bandura, A. (1978). The self system in reciprocal determinism. *American Psychologist*, 33, 344-358.

Bandura, A. (1982). Self-efficacy mechanism in human agency: *American Psychologist*, 37, 122-147.

Bandura, A. (1986). *Social foundations of thought and action: A social sensitive theory.* Englewood Cliffs, NJ: Prentice Hall.

Bandura, A. (1997). *Self-Efficacy.* New York: W.H. Freeman & Company.

Barron, F. (1963). *Creativity and Psychological Health*. Princeton: Van Nostrand.

Barron, F. (1969). *Creative person and creative process*. New York: Holt, Rinehart and Winston.

Behroozi, N. (1997). *The Relationship between Personality, Creativity and Academic Achievement among Undergraduate Students*. University of Ahvaz, Ahvaz, Iran.

Bem, D.J. (1967). Self Perception: An Alternative Interpretation of Cognitive Dissonance Phenomena. *Psychological Review, 74, 183-200.*

Bennett, O. G. (1982). *An investigation into the effects of creative experience in drama upon the creativity, self-concept, and achievement of fifth and sixth grade students*. Abstract from: Silver Platter File: Dissertation Abstracts Item: AAG8226141.

Biddle, S.J.H. (1997). *Cognitive theories of motivation and the physical self.* In K.R. Fox (Ed.). The physical self: From motivation to well-being (pp. 59-82). Champaign, IL: Human Kinetics.

Bird, C. (1940). *Social Psychology*, New York: Appleton.

Blankenship, D. J. (1975). *A study of the effects of creativity training upon the self-concept, achievement and creative performance of first grade pupils.* Dissertation Abstracts International, 36, 7147A. (University Microfilms No. AAG76-11747)

Block, J.H. (1983). Issues, problems, and pitfalls in assessing sex differences: A critical review of "*The psychology of sex differences*". Merrill-Palmer Quarterly, 22(4), 283-308.

Boling, S.E. and Boling, J. L. (1993). Creativity and birth order/sex differences in children. *Education,* 114(2), 224-226.

Bosede, A. F. (2010). Influence of Sex and Location on Relationships Between Student Problems and Academic Performance, *Journal of the Social Sciences,* Vol. 5, no. 4, 340-345.

Boulter, L. T. (2002). Self-concept as a predictor of college freshman academic adjustment. *College student journal.* 36(2), 234-246.

Bradley, C. (1989). *Give me a bow, I've got the arrow*. In C. J. Maker and S. W. Schiever (Eds.), Critical issues in gifted education: Defensible programs for cultural and ethnic minorities (pp.133-137). Austin, TX: Pro-Ed.

Brookover, W. (1996). *Creating Effective Schools*, An in Service Programme for Enhancing School Learning Climate and Achievement. Holmes: Beach Fla Learning Publication.

Bruce, P. (1974). Reactions of preadolescent girls to science tasks. *Journal of Psychology*, 86 (2), 303-308.

Brunner, M., Krauss, S., and Kunter, M. (2007). Gender differences in mathematics self-concept: Does the gender differences in Math Performance story need to be rewritten? *Intelligence,* 36(5), 403-421.

Bruno, F.J. (1986). *Dictionary of key words in psychology*. London: Routledge & Kegan Paul.

Burns, R.B. (1982). *Self Concept, Theory Measurement, Development and Behavior*, London: Longman.

Burrie, R. (1961). *The Effect of Counseling on Achievement Motivation* As Reported in D.C. McClelland. The Achieving Society, Princeton: Van Nostrand.

Butler-Por, N. (1987). *Underachievers in school: Issues and intervention*. Chichester: John Wiley and Sons.

Byrne, B. M. (1996). *Measuring self-concept across the life span*. Washington, DC: American Psychological Association.

Byrne, B. M. and Shavelson, R. J. (1987). Adolescent self-concept of equivalence across gender. *American Educational Research Journal*, 24, 365-385.

Calsyn, R. and Kenny, D. (1977). Self-concept of ability and perceived evaluations by others: Cause or effect of academic achievement? *Journal of Educational Psychology,* 69, 136-145.

Camp, G. C. (1994). A longitudinal study of correlates of creativity. *Creativity Research Journal*, 7, 125-144.

Campos, J.J., Campos, R. G. and Barrett, K. C. (1989). Emergent themes in the study of emotional development and emotional regulation. *Developmental psychology*, 25, 394-402.

Casper, J., Belanoff, M., and Offer, C. (1996). Gender differences, but no racial group differences, in self-reported psychiatric symptoms in adolescents. *Journal of American Academic Child Adolescence Psychiaty,* 35, 500-508.

Castejon J. L. and Perez, A. M. (1998). Un modelo causal-explicativo sobre la influencia de las variables psicosociales en el rendimiento academico [*A causal-explicative model about the influence of psycho-social varibles on academic achievement*]. Bordon, 50, 171-185.

Castejon, J. L., Navas, L. and Sampascual, G. (1996). Un modelo estructural del rendimiento academico en mathematicos en la educacion secundaria [*A structural model of academic performance in mathematics in secondary education*]. Revista de psicologia General y Aplicada, 49(1), 27-43.

Causgrove D. J. (2000). Goal orientations, perceptions of the motivational climate, and perceived competence of children with movement difficulties. *Adaptive Physical Activity Quarterly*, 17, 1-19.

Chapman, J. W., and Tunmer, W. E. (1997). A longitudinal study of beginning reading achievement and reading self-concept. *British Journal of Educational Psychology,* 67, 279-291.

Chaudhary, N.A. (2006). *A Study of Differential Self-Concept Development of Adults*, National University of Modern Languages Islamabad.

Chowdhury, S. K. and Ahmed, S. S. (2013). Exploring the Side Effects of Assessment in Secondary Schools and Its Impact on Students: Perspective from Bangladesh. *American Journal of Educational Research,* Vol. 1(9), 380-390.

Clark, A., Clemes, H. and Bean, R. (2000). Como desarrollar la autoestima en adolescents. [*How to develop self-esteem in adolescents*] Madrid: Editorial debate.

Classy, R.J. and Kenny, D.A. (1977). Self Concept of Ability and Academic Achievement. *British Journal of Educational Psychology*, 69, 136-145.

Clemente, A., Albinana, P. and Domenech, F. (1997). Prediccion del rendimiento academico en estudiantes de secundaria a traves de los factores de Inteligencia, Socializacion, Desadaptacion Escolar, Autoconcepto y personalidad. [*Prediction of academic performance in secondary studients using factors of intelligence, socialization, school maladjustment, self-concept and personality*]. Revista de psicologia de la Educacion, 22, 55-68.

Clemes, H., and Bean, R. (1996). Como desarrollar la autoestima en los ninos. [*How to develop self-esteem in Children*]. Madrid: Editorial Debate.

Coleman, J. S. (1961). *The Adolescent Society,* Glencoe, Ill.: Free Press.

Cooley, C. H. (1902). *Human nature and the social order.* New York: Scribner's.

Coone, J.G. (1969). *A cross-cultural study of sex differences in the development of selected creative thinking abilities* (Doctoral dissertation, University of Georgia, 1968). Dissertation Abstracts International, 29, 4828B.

Coopersmith, S. (1967). *The antecedents of self-esteem.* San Francisco: W. H. Freeman.

Coopersmith, S. and Feldman, R. (1974). *Fostering Positive Self Concept and High Self Esteem in the Class Room.* New York: Harper & Row Publishers.

Corbin, C. B. (1984). Self-confidence of females in sports and physical activity. *Clinics in Sports Medicine,* 3, 895-908.

Covington, M.V. and Omelich, C.H. (1979). Casual Attribution. *British Journal of Personality and Social Psychology*, 37, 149-204.

Crain, R. M. and Bracken, B. A. (1994). Age, race and gender differences in child and adolescent self-concept: Evidence from a behavioural acquisition, context dependent model. *School Psychology Review,* 23, 496-511.

Csikszentmihalyi, M. (1988). *Society, culture, and person: A systems view of creativity*. In R. J. Sternberg (Ed.), The nature of creativity (pp. 325-339). New York: Cambridge University Press.

Csikszentmihalyi, M. (1996). *Creativity*. New York: HarperCollins.

Daniels, S. (1997). *Creativity in the classroom: Characteristics, climate, and curriculum.* In N. Colangelo and G. A. Davis (Eds.), Handbook of gifted education (2nd ed., pp. 292-307). Needham Heights, MA: Allyn and Bacon.

Davis, G. A. (1992). *Creativity is forever* (3rd ed.). Dubuque, IA: Kendall/Hunt.

Davis, G.A. & Rimm, S. B. (1989). *Education of the gifted and talented* (2nd edition). Englewood Cliffs, NJ: Prentice-Hall Inc.

De Bono, E. (1984). Po: Beyond yes and no. Harmondsworth, England: Penguin Books.

DeFreitas, S.C. and Rinn, A. (2013). Academic achievement in first generation college students: The role of academic self-concept. *Journal of the Scholarship of Teaching and Learning*, Vol. 13, No. 1, February 2013, pp. 57 – 67.

Delcourt, Marcia A. B. (1993). Creative Productivity among Secondary School Students: Combining Energy, Interest and Imagination. *Gifted Child Quarterly,* Vo. 37, No. 1, 23-31.

DeMoss, K., Milich, R. & DeMers, S. 1993. Gender, creativity, depression, and attributional style in adolescents with high academic ability, *Journal of Abnormal Child Psychology,* Volume 21, Number 4, 455-467.

Deo, P. and Mohan, A. (1972). Manuel for DEO- MOHAN, Achievement Motivation (N-Ach) Scale: Agra: *National Psychological Corporation.*

Devasta, J.F. and Thomson, G.G. (1973). *Educational Psychology. Instructional and Behavioural Change,* New York: Appleton Century Crofts.

Drews, E. M. (1961). A Critical Evaluation of Approaches to the Identification of the Gifted Students. In a Traxler (Ed.) Measurement and Evaluation in Today's Schools. Washington D. C.: American Council on Educatiuon, Pp. 47-51.

Dudek, S. Z., and Runco, M. A. (1993). Cumulative and proximal influences on the social environment and children's creative potential. *The Journal of Genetic Psychology, 154*(4), 487-499.

Easton, S. E., and Ellerbruch, L. W.(1985). *Update on the self-esteem, self-concept and creative development of lower-middle SES 13-year olds.* Bozeman: Montana State University. ED. 262946.

Eccles, J. S., and Harold, R. D. (1992). *Gender differences in educational and occupational patterns among the gifted.* In N. Colangelo, S.G. Assouline, and D. L. Amronson (Eds.), Talent development: proceedings from the 1991 Henry B. and Jocelyn Wallace national research symposium on talent development (pp. 3-29). Brisbane, CA: Trillium press.

Edwards, A. L. and Kenney, K. C. (1946). A comparison of the Thrustone and Likert technique of attitude scale construction. *Journal of Applied Psychology,* 30, 72-83.

Edwards, A. L. and Kilpatric, F. P. (1948). A technique for construction of attitude scales. *Journal of Applied Psychology,* 32, 374-384.

Eklund, R. C., Whitehead, J. R., and Welk, G. J. (1997). Validity of the children and youth physical self-perceptions profile: a confirmatory Factor analysis. *Research Quarterly for Exercise and Sport,* 68, 249-256.

El-Hassan, K. (2000). Structure and correlates of self-concept in Lebanon. Paper presented in International Symposium on Multiple Dimension of Academic self-concept. Forms of Reference, Transition and International Perspectives: Studies from the SELF Research Center. AERA Annual Muting, New Orleans.

Enam, S. (2006). Factors Influencing the Development of Self-Concept in Pre-Adolescent Boys and Girls. *Journal of Life and Earth Science,* Vol. 1(2): 55-59.

Enam, S., Islam, M. S. and Kayesh, K. I. (2011). Formation of Self-Concept of Early Adolescent Boys and Girls as a Function of Academic Achievement and Parental Profession. *Journal of Life and Earth Science,* Vol. 6: 97-103.

Ezeilo, B. N. (1983). "Sex and SES Differences in self-concepts and creativity among Nigerian Adolescents". *Journal of Psychology,* Vol. 114, P. 57-61.

Fantuzzo, J. W., Davis, G. Y. and Ginsburg M. D. (1995). Effects of parental involvement in isolation or in combination with peer tutoring on student self-concept and mathematics achievement. *Journal of Educational Psychology,* 87, 272-281.

Fantuzzo, J. W., Tighe, E. and Childs, S. (2000). Family involvement questionnaire: A multivariate assessment of family participation in early childhood education. *Journal of Educational psychology,* 92, 367-376.

Felkner, D. W., and Treffinger, D. J. (1971, February). *Self-concept, divergent thinking abilities, and attitudes about creativity and problem solving*. Paper presented at the meeting of the American Educational Research Association, New York.

Fenigstein, A. (1984). Self consciousness and over perception of self as a target. *Journal of Personality & Social Psychology*, 47, 560-870.

Fernandez, I. (2001). Guia para la convivencia en el aula [Guide for living together in the classroom]. Borcelona: Ciss-praxis.

Fisher, S. and Greenberg, R. (1977). *The Scientific Credibility of Freud's Theories and Therapy*. New York: Basic Books, Inc.

Flaherty, M.A. (1989). The effects of holistic creativity programs on the self-concept and creativity of third graders. *The Journal of Creative Behavior, 26(3)*, 165-171.

Fleith, D. S. (1999). Efeitos de um programa de treinamento em estudantes normalistas [*Effects of a creativity training program on teacher trainees*]. Unpublished master's thesis, University of Brasília, Brazil.

Florey, J.E. and Tofoya, N. (1988). *Identifying gifted and talented American Indian students: An overview.* Las Cruces, NM: ERIC Clearinghouse on Rural Education and Small Schools. (ERIC Digest No. EDO-RC-88-14).

Fontana, D. (1977). *Personality and Education*, London: Open Books.

Foote, N. N. and Cottrell, L.S. (1955). *Identity and interpersonal competence: A new direction in family research.* Chicago: University of Chicago Press.

Forsyth, D.R. (1987). *Social Psychology,* California: Brooks Cole.

Frandsen, A,N. (1961). *Educational Psychology*. Tokyo: McGraw Hill.

Franks, D.D. and Marolla, J. (1976). Effications action and social approval as interacting dimensions of self-esteem: A tentative formulation through construct validation. *Sociometry*, 39, 324-341.

Fredricks, J., and Eccles, J. S. (2002). Children's competence and value beliefs from childhood through adolescence: Growth trajectories in two male-sex-typed domains. *Developmental Psychology,* 38, 519-533.

Freud, S. (1923). *The Ego and the Id,* New York: Norton.

Freud, S. (1963). *Introductory Lectures on Psychoanalysis*. New York: Macmillan; London: Hegarth.

Fuad V. (1985). *The relationship between self-concept and socio -economic environmental variables for kindergarten children*. Paper presented in the First General Conference in Psychology, Cairo, Egypt.

Fults, E. A. (1980). *The effect of an instructional program on the creative thinking skills, self-concept, and leadership of intellectually and academically gifted elementary students*. Abstract from: SilverPlatter File: Dissertation Abstracts Item: AAG8029001

Gardner, H. (1991). *The unschooled mind*. New York: BasicBooks.

Garrison, L. (1989). *Programming for the gifted American Indian student.* In C. J. Maker & S.W. Schiever (Eds.), Critical issues in gifted education: Defensible programs for cultural and ethnic minorities (pp.116-127). Austin, TX: Pro-Ed.

Getzels, J. W. and Jackson, P. J. (1962). *Creativity and Intelligence: Explorations with Gifted Students.* New York: John Wiley and Sons, Inc.

Getzels, J.W. (1964). *Creative Thinking, Problem Solving and Instruction*. In E.R. Hilgard (Ed.), Theories of Learning and Instruction. (pp. 240-267). Chicago: University of Chicago Press.

Getzels, J.W. and Csikszentmihalyi, M. (1976). *The creative vision*: *A longitudinal study of problem finding in art*. New York: Willey.

Giddens, A. (1979). *Central problems in social theory:* Berkeley, CA: University of California Press.

Gilbert, B. C. (1991). *An investigation of the relationship of creativity and self esteem between students selected for an academically gifted program and those nominated but not selected.* Abstract from: Silver Platter File: Dissertation Abstracts Item: AAG9129578

Gladwin, T. (1967). Social competence and clinical practice. *Psychiatry*, 30, 30-43.

Goffman, E. (1959). *The Presentation of Self in Everyday Life*. New York: Doubleday.

Goleman, D. (1984). A Bias Puts Self at Centre of Events. *New York Times, 19, 23-25.*

Gonzalez, E. (1999). Necesidades educativas especiales: intervencion psicoeducativa [*Special educational needs: psycho-educational intervention*] madrid: CCS.

Gonzalez-Pienda, J. A., Nunez, J. C. and Gonzalez-Pumariega, S. (2002). A structural equation model of parental involvement, motivational and aptitudinal characteristics, and academic achievement. *The Journal of Experimental Education* 70(3), 257-287.

Greenealed, A.G. and Pratkanis, A.R. (1984). '*The Self*' In R.S. Wyer and T.K. Srull (ed), Hand book of social cognition. Hillsdale: NJ. Erlbaum.

Greenwold, A.G. (1980). 'Is self esteem a central ingredient of self concept'? *Personality and Social Psychology Bulletin,* 14, 34-45.

Guay, F., Marsh, H. W., and Boivin, M. (2003). Academic self-concept and academic achievement: Developmental perspectives on their causal ordering. *Journal of Educational Psychology,* 95, 124-136.

Guilford, J.P. (1950). Creativity. *American Psychologist,* 5, 444-454.

Guilford, J.P. (1962). *Factors that Aid and Hinder Creativity*. Teachers College Record, 63, 380-392.

Guilford, J.P. (1967). *The Nature of Human Intelligence*. New York: McGraw Hill.

Guimond, S. (2006). Social comparison, Self-stereotyping, and gender differences in self-constructs. *Journal of Personality and Social Psychology,* 90(2), 221-242.

Gupta, G., Bakhshi, A., Dogra, P. and Kumar, K. (2009). *Effect of Gender and Creativity on Mental Health of Adolescents*, University of Jammu - Department of Psychology.

Habibollah, N., Rohani, A., Tengku Aizan, H., and Jamaluddin, S. V., K, Mallan. (2009). Gender Differences in Creative Perceptions of Undergraduate Students. *Journal of Applied Sciences,* 9(1), 167-172.

Halonen, J.S. and Santrock, J.W. (1996). *Psychology*. Boston: McGraw Hill.

Hamacheck, D. (1995). Self concept and school achievement: Interaction dynamics and a tool for assessing the self concept component. *Journal of Counseling and Development*, 73, 419-425.

Hamachek, D. E. (1981). Encuentros Con el Yo. [*Encounters with the ego*]. Mexico: Interamericana.

Hansford, B. C. and Hattie, J.A. (1992). The Relationship between Self Concept and Achievement/Performance Measures. *Review of Educational Research*, 52, 123-142.

Harackiewicz, J. M., and Sansone, C. (2000). *Rewarding Competence: The importance of goals in the study of intrinsic motivation*. In C. Sansone and J. M. Harackiewicz (Eds.), Intrinsic and extrinsic motivation: The search for optimal motivation and performance (pp. 79-103). San Diego, CA: Academic Press.

Harackiewicz, J. M., Barron, K. E., Tauer, J. M., and Elliot, A. J. (2002). Predicting success in college: A longitudinal study of achievement goals and ability measures as predictors of interest and performance from freshman year through graduation. *Journal of Educational Psychology*, 94, 562-575.

Harackiewicz, J. M., Sansone, C. and Manderlink, G. (1985). Competence, achievement-orientation and intrinsic motivation: A process anaysis. *Journal of Personality and Social Psychology*, 48, 493-508.

Harris, R. (1998). *Introduction to Creative Thinking*. At http://www.virtualsalt.com/crebook/.htm.

Harter, S. (1978). Effectance motivation reconsidered: Toward a developmental model. *Human Development,* 21, 34-64.

Harter, S. (1985). *Manual for the self-perception profile for children*. Unpublished manuscript, University of Denver, Colorado.

Harter, S. (1986). *Processes underlying the construction, maintenance, and enhancement of the self-concept in children*. In J. Suls and A. G. Greenwald (Eds.), Psychological perspectives on the self (Vol. 3, pp. 137-181). Hillsdale, NJ: Lawrence Erlbaum.

Harter, S. (1988). *Manual for the self-perception profile for adolescents*. Denver: University of Denver

Harter, S. (1990). *Issues in the assessment of the self-concept of children and adolescents*. In A. M. La Greca (Ed.), Through the eyes of the child: Obtaining selfreports from children and adolescents (pp. 292-325). Boston: Allyn and Bacon.

Harter, S. (1999). *The construction of the self: A developmental perspective.* New York: Guilford Press.

Hasan, I.N. (1978). *The Attitude of Rural Population toward Female Education*. Islamabad: National Institute of Psychology.

Hasan, I.N. (1983). *The Psychological Profile of Rural Women.* Islamabad: Women's Division, Govt. of Pakistan.

Hattie, J. (1992). *Self-concept*. Hillsdale, NJ: Erlbaum.

Hay, I., Ashman, A. F., Van-Kraayenoord, C. E. (1998). Educational characteristics of students with high or low self-concept. *Psychology in the Schools.* 35(4), 391-400.

Hellen, K. A. (1999). *Maternal attitudes and their influence on the creativity level of preschool children*. M.Sc. thesis, West Virginia University.

Helmke, K. G., and Van Aken M.A.G. (1995). The causal ordering of academic achievement and self-concept of ability during elementary school: A longitudinal study. *Journal of Educational Psychology.* 87, 624-637.

Herzog, A.R. (1982). High School Senior Occupational Plans and Values. Trends in Sex Differences 1976 Through 1980. *Sociology of Education,* 55, 11-15.

Hocevar, D. (1981). Measurement of creativity: Review and critique. *Journal of Personality Assessment,* 45, 450-464.

Hoge, R. D., and Renzulli, J. S. (1991). *Self-concept and the gifted child* (Research Based Decision Making Series No. 9104). Storrs, CT: University of Connecticut, The National Research Center on the Gifted and Talented.

Huston, A. C. (1983). Sex-typing. In P. Mussen and E. M. Hetherington (Eds.), *Handbook of Child Psychology* (Vol. 4, pp. 387-467). New York: Wiley.

Huurre, T., Komulainen, E., Aro, H. (1999). Social support and self-esteem among adolescents with visual impairments. *J. Vis. Impair. Blind.* 93: 26-37.

Islam, M. M. (2009). *Effects of Classroom Assessment on Students'Learning at Junior Secondary Level*. Unpublished masters' thesis, Institute of Education and Research, University of Dhaka, Dhaka, Bangladesh.

Jabeen, S. and Khan, M. A. (2013). 'A study on creative thinking abilities and self-concept of high and low achievers'. Unique Journal of Educational Research, Vol. 1(1), pp.001-011.

Jackson, L. A., Hodge, C. N., and Ingram, J. M. (1994). Gender and self-concept: A reexamination of stereotypic differences and the role of gender attitudes. *Sex Roles,* 30(9), 615-630.

Jacobs, J. E., Lanza, S., Osgood, D. W., Eccles, J. S., and Wigfield, A. (2002). Changes in children's self-competence and values: Gender and domain differences across grades one through twelve. *Child development,* 73, 509-527.

James, W. (1890). *The principles of psychology (Vol. 1*). New York: Henry Holt and Co.

James, W. (1892). *Psychology*: The briefer course. New York: Holt, Rinehart, & Winston.

Jayasree, T. (1988). Constriction and Standardization of an Achievement Test in Mathematics for Std, IX. *Indian Educational Review,* 16(3), 114-119.

Jenekovic K. (2003). Comparative research on substance abuse and self-perception among adolescents with physical handicap. *Coll Antropol* 27, 479-489.

Juvonen, J., and Murdock, T. B. (1993). "How to Promote Social Approval: Effects of Audience and Achievement Outcome on Publicly Communicated Attributions. *Journal of Educational Psychology,* 85, 365-376.

Kao, C. C. and Kellegrew, D. H. (2000). Self-concept, Creativity, achievement and occupation in gifted Taiwanese adolescents. *Occupational Therapy International*, 7(2), 121-133.

Kaur, J., Rana, J.S., and Kaur, R. (2009). Home environment and Academic Achievement as correlates of self-concept among adolescents. *Stud Home Comm Scie*, *3(1)*:13-17.

Kelly, G.A. (1955). *The Psychology of Personal Constructs*. A theory of psychology. New York: Norton.

Kenny, M. C., and McEachern, A. (2009). Children's Creativity and Self-concept: A multicultural comparison. *Professional School Counseling*, 12(3), 207-212.

Khalik, R. A. (1996). *The relationship between self-esteem and academic achievement in a sample of social disadvantaged orphans.* Unpublished master's thesis. American University of Beirut, Beirut, Lebanon.

Kogan, N. (1974). Creativity and sex differences. *Journal of Creative Behavior*, 8(1), 1-14.

Kohler, W. (1959). Gestalt psychology today. *American Psychologist*, *14(12)*, 727-734.

Kollof, P. B., and Feldhusen, J. F. (1984). The effects of enrichment on selfconcept and creative thinking. *Gifted Child Quarterly*, 28, 53-57.

Korpinen, E. (1990). *Self-Concept of Comprehensive School Students,* Research reports A: 34, Finland: Institute for Educational Research.

Krech, D., and Crutchfield, R. S. (1947). *Theory and Problems of Social Psychology*, New York: McGraw–Hill.

Kris, E. (1952). *Psychoanalytic explorations in art*. New York: International Universities Press.

Kulik, S. (1986). Self-confirmatory Attribution, Egocentrism and Perpetuation of Self Beliefs. *Journal of Personality and Social Psychology*, 50, 587-594.

Kundu, C.L. (1989). *Personality Development*. New Delhi: Sterling Publishers.

Lau, S. (1989). Sex role orientation and domains of self-esteem, *Sex Roles*, 21, 415-422.

Lau, S. and Leung, K. (1992a). Relations with parents and school and Chinese adolescents' self-concept, dilinquency, and academic performance. *British journal of Education Psychology,* 62, 21-30.

Lau, S. and Leung, K. (1992b). Self-concept, delinquency, relations with parents and school and Chinese adolescents perception of personal control. *Personality and Individual Difference,* 13, 615-622.

Lau, S. and Li, W.L. (1996). Peer status and perceived creativity: Are popular children viewed by peers and teachers as creative? *Creativity Research Journal,* 9(4), 347-352.

Lever, J. (1976). Sex differences in games children play. *Social Problems*, 23(4), 478-487.

Levition, H. (1975). *The implication of relationship between self-concept and academic achievement*. Dissertation Abstracts, 54, 1-3.

Likert, R. (1932). A technique for the measurement of Attitudes, *Archives of Psychology,* 140.

Lindblad, R.A. (1977). Self-concept of white, middle socioeconomic status addicts: a controlled study. *The International Journal of Addictions,* 12(1):137-51.

Linn, M.C. and Petersen, A.C. (1985). *Facts and Assumptions about the Nature of Sex Differences,* In S. Klein (ed) Handbook for achieving sex equality through education. Baltimore: Johns Hopkins University Press.

Lister, K. and Roberts, J. (2010). The self Concept and perceived competencies of achiever and under-achiever students: a Meta analysis. *Journal of Research in Special Educational Needs*, no. doi: 10. 1111/j. 1471-3802. 01166. X.

Little, T. D., Oettingen, G., Stetsenko, A., and Baltes, P. (1995). Children's Action Control Beliefs About School Performance: How do American Children Compare with German and Russian Children? *Journal of Personality and Social Psychology*, 69, 686-700.

Maccoby, E. E. and Jacklin, C. N. (1974). *The psychology of sex differences*. Stanford, CA: Stanford University Press.

Machargo, J. (1991). El profesor Y el autoconcepto de sus alumnos. Teoria y practica. [*the teacher and self-concept in his or her students. Theory and practice*] Madrid: Escuela Espanola.

MacKinnon, D. W. (1962). The nature and nurture of creative talent. *American Psychologist*, 17, 484-495.

Maharjan, S. (2008). "*Self-esteem and creativity of Adolescents in Rupandehi and Kathmandu Districts.* A term paper of Adolescence Psychology (Psy. 305), Submitted to Dept. of Psychology, Tri Chandra College.

Mahony, P. (1985). *School for the boys?* Coeducation reassessed. London Hutchinson.

Malmberg, L. E., and Sumra, S. (2001). Socio-cultural Factors and Tanzanian Primary School Students' Achievements and School Experience, *Special Issue,* Vol. 4, 207-219.

Manuel J.C, Balkrishnan, R., Camacho, F., Smith B.P., and Koman, I.A. (2003). Factors associated with self-esteem in pre-adolescents and adolescents with cerebral palsy. *Journal of Adolescent Health,* 32, 456-458.

Maqbool, E. (2002). *Relationship between self-concept and achievement among reading and non-reading disable school children*. Unpublished Doctoral Thesis, University of Karachi, Pakistan.

Maqsud, M. and Rouhani, S. (1991). Relationships between socioeconomic status, locus of control, self-concept, and academic achievement of Batswana adolescents, *Journal of Youth and Adolescence,* Volume 20, Number 1, pp. 107-114.

Markus, H. and Nurius, P. (1986). Possible Selves. *American Psychology*, 41, 954-969.

Marland, M. (1983). *School as sexist amplifier*, In M. Marland (Ed) Schooling. London: Heinemann.

Marsh, H. (1987). Casual effect of academic self-concept and academic achievement, *Journal of Experimental Education,* 56, 100-103.

Marsh, H. W. (1990). The structure of academic self-concept: The Marsh/Shavelson model. *Journal of Educational Psychology,* 82, 623-636.

Marsh, H. W. (1994). Academic self-concept: Theory measurement and research. *In J. Suls (Ed.) Psychological Perspectives on the Self*, (Vol. 4, pp 59-98). Hillsdale, NJ: Erlbaum.

Marsh, H. W., and Ayotte, V. (2003) Do multiple dimensions of self-concept become more differentiated with age? The differential distinctiveness hypothesis. *Journal of Educational Psychology,* 95, 687-706.

Marsh, H. W., and Craven, R. (1997). *Academic self-concept: Beyond the dustbowl*. In G. D. Phye (Ed.), Handbook of classroom assessment (pp. 131-198). San Diego, CA: Academic Press.

Marsh, H. W., and Gouvernet, P. J. (1989). Multidimensional self-concepts and perceptions of control: Construct validation of responses by children. *Journal of Educational Psychology*, 81, 57-69.

Marsh, H. W., and Hattie, J. (1996). *Theoretical perspectives on the structure of self-concept*. In A. B. Bracken (Ed.), Handbook of self-concept: Developmental, social, and clinical considerations (pp. 38-90). New York: Wiley.

Marsh, H. W., and Holmes, I. W. M. (1990). Multidimensional self-concepts: Construct validation of responses by children. *American Research Journal*, 27, 89-117.

Marsh, H. W., and Shavelson, R. J. (1985). Self-concept: Its multifaceted, hierarchical structure. *Educational Psychologist,* 20, 107-125.

Marsh, H. W., Byrne, B. M., and Shavelson, R. J. (1988). A multifaceted academic self-concept: Its hierarchical structure and its relation to academic achievement. *Journal of Educational Psychology,* 80, 366-380.

Marsh, H. W., Byrne, B. M., and Yeung, A. S. (1999). Causal ordering of academic self-concept and achievement: Reanalysis of a pioneering study and revised recommendations. *Educational Psychologist.* 34, 154-157.

Marsh, H. W., Craven R. G., and Debus, R. (1998). Structure, stability, and development of young children's self-concepts: A multicohort-multioccasion study. *Child Development,* 69, 1030-1053.

Marsh, H. W., Parker, J. W., and Smith, I. D. (1983). Preadolescent self-concept: Its relation to self-concept as inferred by teachers and to academic ability. *British Journal of Educational Psychology,* 53, 60-78.

Marsh, H. W., Trautwein, U., Ludtke, O., Koller, O., and Baumert, J. (2005). Academic self-concept, interest, grades, and standardized test scores: Reciprocal effects models of causal ordering. *Child Development, 76,* 397-416.

Marsh, H. W., Wen, Z., and Hau, K. T. (2004). Structural equation models of latent interactions: Evaluation of alternative estimation strategies and indicator construction. *Psychological Methods,* 9, 275-300.

Marsh, H.W. (1987). The Big Fish, Little Pond Effect on Academic Self-concept. *Journal of Educational Psychology,* 86, 439-456.

Marsh, H.W., Craven, R. G. and Debus, R. (1991). Self-concepts of Young Children 5 to 8 years of Age: Measurement and Multidimensional Structure. *Journal of Educational Psychology,* 83, 377-392.

Martindale, C. (1989). *Personality, situation, and creativity.* In J. A. Glover, R. R. Ronning, & C. R. Reynolds (Eds.), Handbook of creativity (pp. 211-232). New York: Plenun Press.

Maslow, A.H. (1954). *Motivation and Personality*. New York: Harper & Row.

Mayhon, W. G. (1966). *The relationship of creativity to achievement and other student variables.* Dissertation Abstracts, 27 (6A), 1713.

Mboya, M. M. (1994). Cross-cultural study of the structure and level of multi-dimensional self-concepts in secondary school students. *School Psychology International*. 15, 163-171.

Mboya, M. M. (1998). Self-concept of academic ability as a function of sex, age and academic achievement among African adolescents. *Perceptual and Motor Skills.* 87(1), 155-161.

McCracken, J. D. and Barcinas, J. D. (1991). Differences between lower-middle SES and upper middle SES schools, student characteristics, and student aspirations in Ohio. *Journal of Research in Rural Education,* 7(2), 29-40.

Mead, G. H. (1934). *Mind, Self and Society*. Chicago: University of Chicago Press.

Meador, K. S. (1994). The effect of synectics training on gifted and non-gifted kindergarten students. *Journal for the Education of the Gifted,* 18, 55-73.

Mednick, S.A. (1968). The associative basis of the creative process. *Psychological Review*, 69, 220-232.

Meece, J. L., Parsons, J. E., Kaczala, C. M., Goff, S. B. and Futterman, R. (1982). Sex differences in math achievement: toward a model of academic choice. *Psychological Bulletin*. 91, 324-348.

Meggert, S. S. (2004). *"Who cares what I think."* Problems of low self-esteem. In D. Capuzzi and D. R. Gross (Eds.), Youth at risk: A prevention resource for counselors, teachers and parents (4th ed., PP. 93-115). Alexandria, VA: American Counseling Association.

Merrell, K. W., Streeter, A. L., Boelter, E. W., Caldarella, P., Gentry, A. (2001). Validity of the Home and Community Social Behaviour Scales: Comparisons with five behaviour-rating scales. *Psychology in the schools,* 38 (4), 313-325.

Mohammad, K. (1995). *The relationship between parenting attitudes with creativity and also the relationship between parenting attitudes with intelligence and academic achievement*. MA thesis, Shahid Chamran University.

Moreno, J. A., Gimeno, E. C., and Lacarcel, J. A.(2007). V. Physical Self-Concept of Spanish School Children: Differences by Gender, Sport Practice and Levels of Sport Involvement, *Psychology of Sport and Exercise,* Vol. 1, Issue 2, P. 239-247.

Morvitz, E. and Motta, R. W. (1992). Predictors of self-esteem: The roles of parent-child perceptions, achievement and class placement. *Journal of Learning Disabilities*, 25, 72-80.

Mrug S., Wallander J. (2002). Self-Concept of young people with physical disabilities: does integration play a role? *International Journal of Disability Development and Education*, 49, 267-280.

Muijs, R.D. 1997. Predictors of academic achievement and academic self-concept: A longitudinal perspective: Self perception and performance, *British Journal of Educational Psychology,* Vol. 67, No. 3, pp. 263-277.

Naderi, H., Abdullah, R. Aizan, H.T., Sharir, J. and Kumar, V. (2009). Creativity, Age and Gender as Predictors of Academic Achievement Among Undergraduate Students. *Journal of American Science*, 5(5):101-112.

Naderi, H., Abdullah, R., Tengku, A. H., Sharir, J., & Kumar, V. (2009). Creativity, age and gender as predictors of academic achievement among undergraduate students. *Journal of American Science, 5*(5), 101-112.

Nakadi, I. (1995). *Self-concept in socially disadvantaged orphans: Comparison across grade level, gender, type of social disadvantage and relationship to academic achievement*. Unpublished master's thesis. American University of Beirut, Beirut, Lebanon.

Necka, E. (1992). Creativity training. Krakow, Poland: Kazimierz Jasieniak.

Nori, Z. (2002). *Gender differences creativity, academic achievement (mathematics, sciences and language of literature) among high school in City of Shiraz, Iran*. University of Shiraz, Shiraz.

Nunez, J. C. and Gonzalez-pienda, J. A. (1994). Determinantes del rendoimiento academico. [*Determining factors in academic performance*]. Oviedo. Servicio de publicaciones de la Universidad.

Nunez, J. C., Gonzalez-Pienda J.A., Garcia, M., Gonzalez-pumariega, S., Roces, C., Alvarez, L., Gonzalez, M. C. (1998). Estrategias de aprendizaje, autoconcepto y rendimiento academico. [Learning strategies, self-concept and academic performance]. *Psicothema,* 10(1), 97-109.

Nwogugu, E. I. (1990). Family law in Nigeria. *Heinemann Studies in Nigeria. Law,* PP. 353-355.

Olenchak, F. R. (1995). Effects of enrichment on gifted/learning-disabled students. *Journal for the Education of the Gifted,* 18, 385-399.

Osborne, W. L. and LeGette, H.R. (1982). Sex, race, grade level, and social class differences in self concept. *Measurement and Evaluation in Guidance,* 14, 195-201.

Ozgun, O., Bolat, E. Y., Ciftci, M. A., and Erden, S. (2011). Impacts of Father Education on Low-income Turkish Fathers' Parenting Attitudes and Behaviors. *Conference: ECER 2011, Urban Education.*

Palaniappan, A. K. (2005). *Creativity and Academic Achievement: A Malaysian Perspective*. Shah lam: Karis Publications.

Palaniappan, A.K. 2007. *Influence of Intelligence on the Relationship between Creativity and Academic Achievement: A Comparative Study*, University of Malaya

Pallak, Brock & Kiesler, (1967). Adolescent Choices and Parent-peer-cross reference. *American Sociological Review,* 28, 385-391.

Parnes, S. J., Noller, R. B., and Biondi, A. M. (1977). *Guide to creative action*. New York: Scribner's.

Parsasirat, Z. Foroughi, A. Yusooff, F. Subhi, N. Nen, S. and di Farhadi, H.(2013). Effect of Socioeconomic Status on Emersion Adolescent Creativity. *Asian Social Science;* Vol. 9, No. 4.

Pepitone, E. A., (1985). *Children in cooperation and competition, Antecedents and consequences of self-orientation, in: Learning to cooperate, cooperating to learn,* Ed. Slavin, Plenum Press.

Petersen, Sarigiani and Kennedy (1991). Adolescent Depression: Why more girls? *Journal of Youth and Adolescence,* 20, 247-271.

Phillips, D. and Zimmerman, M. (1990). *The developmental course of perceived competence among children.* In R. Sternberg and J. Kolligian (Eds), Competence considered (41-66). New Haven, CT: Yale University Press.

Piaget, J. (1952). *The origins of intelligence in children*. New York: International Universities Press. (Original Work Published 1936).

Piechowaski, M. J. (1991). *Emotional development and emotional giftedness.* In N. Colangelo and G.A. Davis (Eds.), Handbook of Gifted Education. (pp. 285-306). Boston: Allyn and Bacon.

Piers, E. V., and Harris, D. (1964). Age and other correlates of self-concept in children. *Journal of Educational Psychology,* 55, 91-95.

Piers, E.V. (1984). Revised manual for the pier-Harris Children's Self-Concept Scale. Los Angeles: Western Psychological Services.

Piers, E.V. and Harris, D. (1969). Piers-Harris Children's Self-Concept Scale. Los Angeles, CA: Western Psychology Services.

Piirto, J. (1992). *Understanding those who create.* Dayton, OH: Ohio Psychology Press.

Pishghadam, R., Khodadadi, E., and Zabihi, R. (2011). Learner Creativity in Foreign Language Achievement. *European Journal of Educational Studies,* 3(3), 465-472.

Preckel, F., Goetz, T., Pekrun, R. and Kleine, M. (2008). "Gender differences in gifted and average ability students: Comparing girls' and boys' achievement, self-concept, interest, and motivation in mathematics*". APA Journal,* Vol. 52, 220-229.

Quaglino, R. (1979). *An investigation of the relationship of measured creativity to anxiety, self-concept, sex and other personal characteristics in early adolescent students*. Dissertation Abstracts International, 39, 6661A.

Radmacher, K., and Azmitia, M. (2006). Are there gendered pathways to intimacy in early adolescents' and emerging adults' friendships? *Journal of Adolescent. Research*, 21, 415-448.

Rahman, M. M. (2009). *Classroom Assessment and Students Learning: An Exploration of Secondary School Teacher practice*. Unpublished masters' thesis, Institute of Education and Research, University of Dhaka, Dhaka, Bangladesh.

Ramesan, R. (1987). *Some Social, Familial Variables Discriminating between Creative and Non Creative Secondary School Pupil*. Masters Dissertation, University of Calicut.

Rehman, A. (2001). *A Study of Relationship of Self-Concept with Classroom Environment, Gender Role, Cognitive Development and Academic Achievement of the Students at Secondary School.* Unpublished Doctoral Thesis, AIOU, Islamabad, Pakistan.

Reis, S. M., Hebert, T., Diaz, E. L., Maxfield, L. R., and Ratley, M. R. (1995). *Case studies of Talented Students who achieve and underachieve in an urban high school (Research Monograph 95120).* Storrs. CT: The National Research Center on the Gifted and Talented, University of Connecticut.

Renninger, K. (2000). *Individual interest and its implications for understanding intrinsic motivation*. In C. San-Sone and J. M. Harackiewicz (Eds.), Intrinsic and extrinsic motivation: the search for optimal motivation and performance (pp. 373-404). San Diego, CA: Academic press.

Renzulli, J. S. (1986). *New directions in creativity*. Mansfield Center, CT: Creative Learning Press.

Renzulli, J.S. (1973). Talent potential in minority group students. *Exceptional Children*, 39(6), 427-444.

Revicki, D.A. (1981). The Relationship among Socioeconomic Status, Home Environment, Parent Involvement, Child Self Concept and Child Achievement.

Rice, F. P., and Dolgin, K. G. (2005). *The adolescent: Development, relationships, cultures* (11th ed.). Boston: Allyn & Bacon.

Roberts, D.S. and MacDonald, B.E. (2001). Relations of imagery, creativity, and socioeconomic status with performance on a stock-market E-trading game. *Psychol Rep.* 2001 Jun; 88(3 Pt 1):734-40.

Robins, R.W., Trzesniewski, K.H., Tracey, J.T., Potter, J. and Gosling, S.D. (2002). Age differences in self-esteem from age 9 to 90. *Psychology and Aging*, 17, 423-434.

Roe, A. (1952). "T*he Making of a Scientist*" 46–47. Listserv.linguistlist.org.

Rogers, C. R. (1959). A theory of therapy, personality, and interpersonal relations as developed in the client-centered framework. In S. Koch (Ed.), *Psychology: A study of science* (Vol. 3, pp. 184-256). New York: McGraw-Hill.

Rogers, C. R. (1961). *On becoming a person.* Boston: Houghton Mifflin.

Rogers, C.R. (1951). *Client-centered therapy*. Boston: Houghton Mifflin.

Rogers, C.R. (1980). *A way of being.* Boston: Houghton, Mifflin.

Roscigno, V. J., and Crowley, J. L. (2001). Rurality, SES, institutional disadvantage, and achievement/attainment, *Rural Sociology*, 66, 268-298.

Rosenberg, M. (1965). *Society and the adolescent self-image.* Princeton, NJ: Princeton University Press.

Rosenberg, M. (1979). *Conceiving the self*. New York: Basic Books.

Rosenberg, M. (1989). Self-concept research. A historical overview. *Social Forces*, 68(1), 34-44.

Rothenberg, A. (1979). The process of Tunisian thinking in creativity. *Archive of General Psychiatry,* 24, 195-205.

Sagar, M. M. H. (2014). Relationship between Self-concept and Academic Achievement among the Secondary School Students of Dhaka City. *International Journal of Interdisciplinary and Multidisciplinary Studies*, 1(9), 95-98.

Samira, S. (2003). *Compare mental profiles of creative and non-creative in sciences and arts students in the public universities in Tehran.* MA thesis, Alzahra University.

Sarbin, T.R. (1962). A preface to a psychological analysis of the self. *Psychological Review*, 59, 11-22.

Sardouk, R. (1995). *The relationship between academic self-concept, academic causal attributions and teacher's evaluative feedback in a sample of upper elementary private school students.* Unpublished master's thesis. American University of Beirut, Beirut, Lebanon.

Schunk, D. H. (2000). *Learning theories: An educational perspective.* Upper Saddle River, NJ: Merrill.

Sears, P. S. (1963). *The effect of classroom conditions on the strength of achievement motive and work output on elementary school children*. Unpublished manuscript, Stanford University, California

Sexton, K. S. (1984). *A correlational study between self-concept and creativity*. Master's Abstracts International, 23(03), 328.

Shahrier, M. A. and Enam, S. (2012). Differences in Children's Self Concept as a Function of Social Context and Academic Achievement. *Bangladesh Psychological Studies,* Vol. 22: 67-82.

Shavelson, R. J., Hubner, J. J. and Stanton, J. C. (1976). Self-concept: Validation of construct interpretations. *Review of Educational research,* 46, 407-441.

Shavelson, R.J. & Bolus, R. (1982). Self Concept: The interplay of theory and models. *J. Psychol.,* 74, 3-17.

Shields, N., Murdoch, A., Loy, Y., Dodd, K. J. Taylor, N. F. (2006). A systematic review of the self-concept of children with cerebral palsy compared with children without disability. *Journal of Developmental Medicine and Child Neurology,* 48, 151-157.

Shihab L. (1996). *Relationships between the adapted Self-Description Questionnaire (SDQ-1) and academic achievement.* Unpublished Masters Thesis. American University of Beirut, Beirut, Lebanon.

Shutiva, C.L. (1991). Creativity differences between reservation and urban American Indians. *Journal of American Indian Education*, *31(1)*, 33-52.

Silver, E, Frohlinger-Graham, M. (2000). Psychological symptoms in healthy female siblings of adolescents with and without chronic conditions. *Journal of Pediatric Psychology*, 25, 279-286.

Simon, H. A. (1990). Invariants in human behavior. *Annual Review of Psychology*, 41.

Skaalvik, E. M. (1990). Attribution of Perceived Academic Results and Relations with Self-esteem and Creativity in Senior High School Students". *Scandinavian Journal of Educational Research,* 34, 259-269.

Skaalvik, E. M., and Hagtvet, K. A. (1990). Academic achievement and self-concept: An analysis of causal predominance in a developmental perspecitve. *Journal of Personality and Social Psychology,* 58, 292-307.

Skaalvik, E. M., Valfins, H., and Sletta, O. (1994). "Task Involvement and Ego Involvement: Relations with Academic Achievement, Academic Self-concept, Creativity and Self-esteem. *Scandinavian Journal of Educational Research,* 38, 231-243.

Skinner, B.F. (1938). The Behavior of Organism: An Experimental Analysis. New York: Appleton-Century Crofts.

Standler, Ronald B. (1998). Creativity in Science and Engineering at http://www.rbs0.com/create.htm.

Starko, A. J. (1995). *Creativity in the classroom*. White Plains, NY: Longman.

Stern, B.L. (1977). Differences in self-ideal congruence between social classes. *Psychological Reports,* 40, 174.

Sternberg, R. J., and Williams, W. M. (1996). *How to develop student creativity.* Alexandria, VA: Association for Supervision and Curriculum Development.

Sullivan, H. S. (1953). *The interpersonal theory of psychiatry*. New York: Norton.

Sweeney, R.B. & Bracken, B.A. (2000). Influence of Family Structure on Children's Self-Concept Development, *Canadian Journal of School Psychology*, Vol. 16, No. 1, 39-52.

Tajfel, H. and Turner, J. C. (1986). *The social identity therory of intergroup behaviour*. In S. Worchel and W. Austin (Eds), Psychology of intergroup relations. Chicago: Nelson-Hall.

Tanpraphat, A. (1976). *A study of the relationship between creativity, academic achievement, scholastic aptitude, sex, and vocational interests of tenth grade* Thai students. University of North Colorado, Greeley.

Tarana, K. N. (2011). *Exploring the Perception of Assessment: What Assessment Means to Teachers' and Students' in secondary School.* Unpublished masters' thesis, Institute of Education and Research, University of Dhaka, Dhaka, Bangladesh.

Tardiff, T. Z., and Sternberg, R. J. (1988). *What do we know about creativity*? In R. J. Sternberg (Ed.), The nature of creativity (pp. 429-440). New York: Cambridge University Press.

Taylor, L. D., Davis-Kean, P., and Malanchuk, O. (2007). Self-esteem, academic self-concept, and aggression at school. *Aggressive Behaviour*, 33, 130-136.

Tegano, D.W. and Moran, J.D. (1989). Sex differences in the original thinking of preschool and elementary school children. *Creativity Research Journal,* 2(1-2), 102-110.

Thomas, R.M. (1990). *The Encyclopedia of Human Development and Education*. Oxford, Pergamon Press.

Thorndike, E. L. (1931). *Human Learning*, The century co, New York

Thrustone, L. L. and Chave, E. J. (1929). *The Measurement of Attitudes*, Chicago: University of Chicago Press.

Thurstone, L. L. (1952), *Primary mental abilities.* Chicago: University of Chicago Press.

Timberlake, P. (1982). Fifteen ways to cultivate creativity in your classroom. *Childhood Education*, 59, 19-21.

Torrance, E.P. (1962). *Guiding creative talent*. Englewood Cliffs, NJ: Prentice Hall.

Torrance, E.P. (1962). Fostering Creative Thinking during the High School Years. *The High School Journal,* Vol. 45(7), 281-288.

Torrance, E.P. (1963). *Education and the creative potential*. Minneapolis, MN: University of Minnesota Press.

Torrance, E.P. (1965). *Rewarding creative behavior*. Englewood Cliffs, NJ: Prentice Hall.

Torrance, E.P. (1979). *Creative positives of disadvantaged children and youth.* In J.C. Gowan, J. Khatena, & E.P. Torrance (Eds.), Educating the ablest- A book of readings on the education of gifted children (pp. 341-351). Ithasca, IL: F.E. Peacock.

Torrance, E.P. (1983). Status of creative women: Past, present, and future. *Creative Child and Adult Quarterly,* 8(3), 135-144.

Torrego, J. C. (2000). Mediacion de conflictos en instituciones educativas. Manual para la formacion de mediatores [*Conflict mediation in educational institutions. Manual for training mediators*]. Madrid: Narcea.

Trickett, E. J. (1978). Toward a social-ecological conception of adolescent socialization: Normative data on contrasting types of public school classrooms. *Child Development*, 49, 408-414.

Trivedi, K., and Bhargava, R. (2010). Relation of creativity and educational achievement in adolescence. *Journal of Psychology, 1*(2), 85-89.

Urdan, T. and Midgley, C. (2001). Academic Self-handicapping: What we know, What more there is to learn. *Educational Psychology Review*, 13, 115-138.

Vasta, R., Haith, M. and Miller, S.A. (1992). *Child Psychology*. New York: John Wiley & Sons.

Verma, N. P., (1975). "*A study of lower-middle SES Students of Secondary Schools Reading in Towns and villages in respect of certain Psychological (cognitive & Personafity) Variables*", Ph. D. Psy. Bhagalpur U.

Vernon, P. E. (1989). *The nature-nurture problem in creativity*. In J. A. Glover,

Villarroel, V. A. (2001). Relacion entre autoconcepto y rendimiento academico. [*Relationship between self-concept and academic performance]*. Psykhe: Revista de la Escuela de psicologia. 10(1), 3-18.

Von Oech, R. (1983). A whack on the side of the head. New York: Warner Communications.

Wagner, M., Stephan, J. and Irwin, (1985). The Prediction of Achievement Motivation Using Performance and Attributional Variables. *Journal of Psychology*, Vol. 119, 595-598.

Wang, K. A. (1952). Suggested criteria for writing attitude statements, *Journal of Social Psychology,* 3, 367-373.

Wang,A.Y. (2011). "Contexts of Creative Thinking: A Comparison on Creative Performance of Student Teachers in Taiwan and the United States," *Journal of International and cross -cultural studies*, vol. 2, no.1.

Warren, G.H. and Luria, Z. (1972). Evaluational set and creativity. *Perceptual Motor Skills,* 1(2), 436-438.

Watkins, D. and Jiayuan, Yu. (1993). Gender differences in the source and level of self esteem of Chinese college students. *The Journal of Social Psychology*, 133, 347-352.

White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review,* 66, 297-333.

Whitmore, and Joanne, R. (1986). Preventing Underachievement and Developing Achievement Motivation.

Wicklund, R.A. (1978). Year years later. In L. Berkowitz (Ed.), *Cognitive theories in social psychology.* New York: Academic Press.

Wigfield, A., and Karpathian, M. (1991). Who am I and What Can I do? Children's self-concepts and motivation in achievement solutions. *Educational Psychologist*, 26, 233-261.

Wigfield, A., Eccles, J., MacIver, D., Reuman, D., and Midgley, C. (1991). Transitions at early adolescence: Changes in Children's domain specific self-perceptions and general self-esteem across the transition to junior high school. *Developmental Psychology,* 27, 552-565.

Williams, F. (1980). *Creativity Assessment Packet*: Manual. East Aurora, NY: DOK Publishers.

Winne, P. H., and Marx, R. W. (1981, April). *Convergent and discriminant validity in self-concept measurement.* Paper presented at the Annual Conference of the American Educational Research Association, Los Angeles, CA.

Winterbottom, R. (1973). The Power Motive, New York: Free Press.

Woody, E. (1977). Psychologising and thinking. *British Journal of Social and Clinical Psychology,* 16, 241-248.

Woolfolk, A.E. (1998). *Educational Psychology.* Boston: Allyn and Bacon.

Yamamoto, K. (1964). A further analysis of the role of creative thinking in high school achievement. *Journal of Psychology,* 58, 277-283.

Zanden, J. (1990). *Sociology: The Core.* New York: McGraw-Hill Publishing Company.

Zinner, N. (1993). *Source differences in male & female self-esteem.* Unpublished Doctoral Dissertation, California School of Professional Psychology.