The Effect of Birth Order On Academic Achievement Motivation

A Thesis Submitted to the School of Graduate Studies of Addis Ababa University, Department of Psychology

In Partial Fulfillment of the Requirements for the Degree of Masters of Arts in Developmental Psychology

DESTA AYODE

June 2006

TABLE OF CONTENTS

Page

ACKNOWLEDGEMENTS

This research has become a reality not only with my individual effort. Many people deserve to be mentioned for their advice, encouragement and support. It is a pleasure to complement gratitude of my indebtedness to all who shared their precious time, resources and knowledge in the course of the past two years of my study in general and during the process of my thesis work in particular.

I would like to owe my deepest thanks to my advisor, Professor Shamim Ahmed Ansari and my ex-advisor Professor Tilahun Sineshaw who tirelessly worked with me in this research undertaking. This work would have not been easy without their rich experience, expertise and guidance. I would also like to express my profound gratitude to Dr. Sileshi Zeleke, Ato Tamire Andualem and Ato Elias Terfassa, for their intellectual support as well as for their critical and constructive comments that highly contributed for enriching the research report.

My special thanks also go to Ato Berhanu Lodamo who devoted his time for editing the original draft of the thesis report and for his kind support in availing the internet, stationary, write up and printing services to my work.

Last but not least, I wish to extend my heartfelt appreciation to the principals of the two schools, teachers (Ato Woldetsadik and Ato Gezahegn who assisted me as felicitators in data collection) and the participants of the study, whose willingness and cooperation made the data gathering as smooth and effective as possible.

LIST OF TABLES

LIST OF CHARTS

Abstract

The present study addresses to see the effect of birth order on academic achievement motivation. This issue has been a matter of great debate among researchers for over a century. This is also one of the least researched areas of concern in Ethiopia; hence, it gave inspiration to investigate the effect of birth order on academic achievement motivation of ninth grade adolescents who were taken from two high schools in Addis Ababa. It was hypothesized that first-borns are highly motivated towards education, males and females differ in academic achievement motivation due to birth order, and birth order highly affects adolescents with large sibling size. 164 participants (male 83, female 81) took part in the study after being randomly selected from one private and one government high schools in Addis Ababa. A self-report family background questionnaire and an adapted achievement motivation scales were the instruments used in carrying out the study. Analysis of variance (ANOVA-both One Way and Two Way) was employed to analyze the data with SPSS Package. The results indicated that first-borns are superior in academic achievement motivation to others in birth order. No significant difference was observed between male and female students. The effect of birth order is found to be high with big sibling size.

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Human personality is the result of the interplay of a multitude of factors. One of these fundamental factors is the role of one's position in the family as an individual may be treated differently depending on his/her birth order. A number of researches conducted on birth order and findings have fascinated parents, researchers and others for over a century. Even today, birth order and family niches more generally are among the environmental sources of personality because they cause siblings to experience the family environment in dissimilar ways. In relation to this, one area that has generated much research is whether or not birth order has impact on the person's academic achievement motivation. Are the oldest the most achievement oriented? Does the ordinal position one holds in the family affects his/her academic competence? These are few questions in the area of birth order that require empirically tested answers.

Achievement motivation is an important issue particularly during adolescence because society typically designates adolescence as a time for preparation for adult roles, because an individual now can understand the long-term implications of his/her educational and career decisions. Not until adolescence are individuals cognitively capable of seeing the long-tem consequences of educational and occupational choices. As Henderson and Dweck (1990) noted, achievement concerns at adolescence are tied to the biological changes of puberty. Sex differences in achievement related motives and beliefs appear around puberty as well. The sex differences are primarily related to the differential responses that boys and girls receive following changes in their appearance and differences in the ways that adolescent boys and girls view themselves. It is, thus, the concern of this research to focus on the state of affairs of academic achievement motivation in adolescents in

relation to birth order that gives an insight about the issue form the developmental perspectives.

The issue of birth order and its impacts is a matter of great debate among researchers. Some researches contend that first-borns are the smartest out of all the other siblings, while others argue that they are not. It is scientifically evident that empirical research is useful to further out knowledge and understanding about this phenomenon by investigating it from diversified perspectives. Therefore, in order to be able to understand the effect of adolescents' birth position on their educational achievement motivation, it is worthwhile to empirically test the research question underlying this study.

The purpose of this study is, therefore, to examine the relationship between **birth order** and **academic achievement motivation** of adolescents studying in grade nine in two high schools in the metropolis - Addis Ababa. Specifically, the study is designed to provide answers to the following basic research questions: **(a)** Are first-born adolescent students superior in their academic motivation to later born students? **(b)** Does birth order have a statistically significant effect on educational achievement motivation of adolescent students? **(c)** Do boys and girls differ in their academic achievement motivation due to birth order? **(d)** Is there any significant interaction effect between birth order and family backgrounds in relation to income, parents' educational levels, sibling size, type and spacing in affecting the academic achievement motivation of adolescents?

1.2 Structure of the report

This research report is organized in five chapters. Chapter one is the introduction section, which provides background information about problem and purpose of the study. In this section of the report, related literatures and past findings on achievement motivation were thoroughly reviewed and discussed. The second chapter deals with the research design and method of the study (the data collection procedures, techniques instruments/tools and

participants involved in the study). Analysis and interpretation of the data findings and results have been presented in the third chapter of the report. Finally, conclusions and reflections were presented in the last chapter based on the findings of the study. The research instruments/tools and other relevant documents are also annexed.

1.3 Theoretical Perspectives

1.3.1 Theories on Birth Order

What are the empirical reasons that account for differences in academic and intellectual achievements between first-born and later-borns? Teti and others (cited in Santrock in 2003) elaborated that when the differences in birth order are found, they usually are explained by variations in interactions with parents and siblings associated with the unique experience of being in a particular position in the family. Birth order theories and researches have different forms of justification referring to the above question. One of the pioneer researcher and psychologist in this respect is Alfred Adler, who advanced the theory of *Striving for Superiority* (Baron 1995). With this theory, he stressed the part that sibling power and status rivalry play in a child's personality formation. Zanden (1993), in his book, Human Development, pointed out Adlers' model as follows:

> Adler viewed the "dethroning"of the first born as a crucial event in the development of the first child. With the birth of the brother or sister the first born suddenly looses his or her monopoly on parental attention. This loss, Adler said, arouses a strong life long need for recognition, attention and approval that the child, and later adult, seeks to acquire through high achievement (P.283).

Adler's proposition about the cause for a difference in achievement with a sibling position is further elaborated by taking into account the character of the last born child. Adler argued that, lastborns are often spoiled and are lazy because they don't have younger siblings challenging them (See the Annual Edition on Child Growth and Development 1998/99). Adler's theory and his ideas did help stimulate

some important researches to show that first-borns tend to be more achievement-oriented and self-controlled than do later born children. Adult first-borns are also more likely to be listed in Who's Who (Morgan, King, Weisz, and Scopler, 1986)

Another explanation of the difference derives from *The Confluence Theory*. This model was devised by psychologists Robert B. Zajonc and his colleagues. According to this model, the intellectual development of a family is like a river, with the inputs of each family member flowing into it (Zajonc, Markus, Berbaum, Borgh & Moreland, cited in Zanden 1993). This implies that the intellectual development and academic achievements within the family context are dependent upon the cumulative effects of the intellectual environment, which consists of the siblings and the parents.

Besides these factors, some researches also looked into the influence of family size and resource as a predominant factor to determine the intellectual and educational competence of siblings. In this aspect, the most popular model is ***The Resource Dilution Model,*** which offers explanations both for the higher IQ scores of first born and the overrepresentation of first-born among the college population (Downey, 2001). According to this model, family size is linked to greater or lesser degrees to achievement motivation. This theory is again described by Steelman & Powell, as follows:

> The resource dilution hypothesis extends the confluence model to encompass more resources than simply a rich intellectual environment. This theory says that in large families resources (including parental time and encouragement, economic and material goods and social opportunities) get spread thin to the detriment of all the offspring...an increases in the number of siblings are associated with the completion of fewer years of schooling and the attainment of fewer educational milestones (cited in Zanden 1993 p. 283).

In general, the above theory tells us that the individual's achievement is mainly dependent on how much family resources are shared among siblings. Children

in the smaller families tend to have high intellectual scores and high level of educational attainments than those in larger families. This is mainly because parents in large families have less time to spend with their children and may not provide them with the kind of cognitive stimulation than those children in smaller families receive. On the other hand, Bukatko & Daehler (2001) argue that regardless of family size, the child's birth order, whether first-born or later-born, can also be a factor in development. Like the only children, first-borns have higher achievement motivation than other children.

According to the Adlerian perspective of birth order, children display unique personality traits depending on their birth positions in the family. Each birth order is associated with positive personality characteristics and equally each placing in the family presents its own unique challenges to the child (Henry, 1990). Below are the typical personalities of the frequently–studied birth order positions as stated by Henry (1990, P. 250)

Only-child

> Shy around other children, not used to competition, self-centered, lacks opportunities to learn how to successfully share with other children, having close relationship with parents, high academic achievers, good self control, have close relationship with parents pampered and spoiled, under undue pressure to succeed and parental expectations may be too high, relies on service from others rather than own efforts.

First-borns (oldest child)

> High level of self confidence, high achievers (good academic and professional achievement), tend to be conservative, tend to be perfectionist, entrusted with power and responsibility, possesses positive self esteem, superior, responds with hostility towards second child, regain parents' attention through conformity.

Middle child

Non confirmative, compromising, feels unloved, left out squeezed, learns to deal with both oldest and youngest sibling, feel inadequate and inferior, more relaxed, even tempered, les driven by parents, faces competition from both directions, could develop low self esteem.

Youngest child (last child)
More sociable and friendly, affectionate, less demanding, frequently spoiled but happy, less jealous, develops skills such as accommodation, tolerance power of negotiation, becomes more popular…if too papered can feel weak and develop feeling of inferiority, not entrusted with responsibility (considered immature and irresponsible), secured and confident, expects others to make decision.

Many developmental psychologists and child development researchers have found it fruitful to focus on family dynamics, the interaction among all members of the group. An important contemporary thinking about family is **Systems Theory**. The premise of this theory is that all members influence one another simultaneously and interactions flow in a reciprocal manner. In systems theory, individual child's development is understood as being embedded in complex network of multi directional interaction among family members (Cox and Paley, 1997). Systems theory assumes that families usually contain several sub systems, such as the relation maintained between spouses, among siblings, and between parents and child. Therefore, the quality of each and separate relationship can have an impact on the psychological adjustment of members in the group (Minuchin, 1988). Such system has its own implications on the nature of the relationship between siblings and their position in the family as Munichin further explained. The presence of many siblings may mean the child has fewer opportunities to interact with parents; it also provides the context for developing other unique skills. Older siblings shave the opportunity to become nurturing and assertive, and younger siblings have more models for a range of behaviors than only children.

Flangan (1990) noted that the family system itself is embedded in larger social networks, including the economic, social, political and educational forces that are part of the larger culture. Events in the workplace, school and other extra familial settings can affect individual family members and hence the interactions that occur within the family unit. Moreover, the role of parents in family relations is so enormous that, in every culture, they serve as primary agents of socialization. As systems theory suggests, the individual child's development with in the family represents an ongoing give and take between child and parent, necessitating continual readjustment by all members to reinstate family equilibrium (Steinberg, 1988).

Concerning birth order theory, Grose (2003) suggests that birth order theory works so well because we are social beings trying to find a niche in our social groups. The first social group we belong to is our family. Within our family, we compete with our siblings for different places, positions and niches. A similar idea was also reflected by Kevin (2000) who reported that birth order theory is about understanding one's place in the family and its impact on one's life. Whenever you are first or last, first of two children, an only child or a twin, or stuck in the middle of the sibling, your ordinal position affects your life in many ways; it will also influence your level of achievement at school.

1.3.2 Achievement Motivation

Theories on achievement motivation are quite diverse. The most familiar one is Atkinson's Theory of Achievement Motivation. Achievement-oriented behavior was viewed by Atkinson as a resultant of conflict between approach and avoidance tendencies. Associated with every achievement-related action is the possibility of success and failure. The strength of these anticipated emotions determine whether an individual will approach or avoid achievement-oriented activities (Weiner, 1992). Explaining the need for achievement, Feldman (1996) noted that the need for achievement is a stable and learned characteristic in which satisfaction is obtained by

striving for or attaining a level of excellence. People high in achievement motivation are apt to choose tasks that are of intermediate difficulty. In contrast, people with low achievement motivation tend to be motivated primarily by desire to avoid failure. As a result, they seek out easy tasks, being sure to avoid failure or they seek out very difficult tasks for which failure has no negative implications. Atkinson and Feather (1986) reported that a person with a fear of failure does not want to take any risk but when forced will choose either a task so easy which can not be failed or a task so difficult that cannot be expected to be accomplished.

Investigating whether motivation is internal (intrinsic) or external (extrinsic) is a key aspect of understanding motivation. This is especially true in the area of achievement. Many psychologists believe that intrinsic motivation has more positive outcomes than extrinsic motivation. They argue that intrinsic motivation is more likely to produce competent behavior. Regarding this issue, Gottfried (cited in Tomas 2002) states:

> Students who are intrinsically motivated participate in learning activities for their own sake; they desire the outcome. They do not need rewards or praise; they find satisfaction in knowing that what they are learning will be beneficial later. They want to master the task, and they believe it is under their control to achieve mastery. Academic intrinsic motivation has been shown to be positively and significantly related to students' achievement and perception of their academic competence and inversely related to their academic anxiety. Extrinsically motivated students are those who receive a reward or avoid a punishment, they typically do not want to do the task and believe that it is out of their control on whether they succeed or not. If they do the task, they expect some sort of gain other than knowledge, such as praise, rewards or avoiding punishments (p. 1448).

An individual's perception of the outcome also affects his achievement motivation. If the outcome of a task is not viewed as unimportant, little or no effort may be made in attempting the task (Atkinson and Feather (1986). Studies done by

Livingston (1999) showed that students who value the outcome put forth more effort and try more strategies to achieve the outcome. High achievers work harder and will try to different means to accomplish success. Studies by Senecal (Thomas, 2002) indicated that even when all possibilities of failure are removed, from a situation, many students will procrastinate, quit or not attempt the task if the outcome has no perceived value.

Classifying high and low achievement motivated individual, Parker and Johnson (1991) emphasized those high achievers may be classified driven, striving for success, competitive or taking charge. Low achievement motivated persons may be seen as quitters, non-participants or failures. Each person approaches each situation with a unique combination of several achievement motives. These achievement motives are shaped by significant interactions in a child's early development years. It is at this time when parents, role models and teachers can have a great impact on child's habits and values about achievement motivation. Achievement motivation is also explained in terms of the attributions people provide about the successes or failures of their behaviour. Achievement motivated people tend to attribute internal causes, such as their personality traits and motives, than external causes, which are environmental factors such as rewards or task difficulty Heider (cited in Weiner, 1992).

According to McClelland (cited in Daniel, 1992) a motive to achieve is manifested through a person's action, that is, through his interest and activity to master and manipulate his physical and social environment. He further elaborates that individuals differ in their strength and tendency to achieve. Hence, two individuals having high or low achievement motivation differ in the choice of level of aspiration, in risk taking behavior, in their level of persistence in the task, in time perception and future goal orientation.

1.4 Past Research Findings

Birth order - whether one is an only-child, a first-born, a middle-born or last - born and how it affects learning and intelligence is a topic often speculated in literature (Hock, cited in Sherman, 2005). Some of these research findings confirm the superior achievement of first-born individuals. Eienman, Parker, Zajonc & Mullally (cited in Denies & Stephen 2002) stated that older and only children have an academic edge over the other birth categories, with over representation in college and IQ measurement. The research work by Travis & Kohli (1995) also strengthens similar results. In their article on the Journal of Social Psychology Travis & Kohli write;

> The relationship between birth order and academic attainment of 817 men and women from variety of socioeconomic backgrounds in the United States was explored. A measure of respondents' family economic situation during their growing–up years was incorporated. Birth order was found to have an impact on total years of education completed among members of the middle class. The observed patterns also indicate that "only" children, contrary to findings of previous research, appear disproportionately to excel in terms of educational attainment (1995, P. 499).

Further, the findings of Bijarne (2004) indicated that birth order has significant effects on students' academic achievement motivation. Older siblings are found to achieve higher on test scores and have higher propensity to college than young ones. Eisenman (1992) also pointed out that first born and children born later have many circumstances within the family unit that affects the development of strength and weakness and ultimately influence their personality traits. Some researches on adult only-children in Boston indicated that when compared with first-born siblings and individuals of higher birth orders, only-children were found to have higher educational levels, higher occupational status and smaller families and to be more secularly oriented. Still further, other researches on the only-child families also

confirm their superiority like the first-borns do. Toni Filbo & Dens Polit, (cited in Bukakto & Daehler, 2001) summarized the result of 115 comparative studies of only-children and concluded that, overall, only-children showed high level achievement motivation scores than children with siblings.

There are also other recent empirical works that provided evidences on the effect of birth order on academic motivation. Hanushek (Joseph, 2003), for instance, found out a U-shaped relationship where the first and the last-borns had the best outcomes on educational motivation. Black, Devereux and Salvanes (2005) used administrative data for the entire population of Norway over an extended period of time and they found out that children from large families have lower levels of educational attainment. However, once they controlled for the child's birth order, the effect of family size disappeared and replaced by large birth order effects. In another study, Conley and Glauber (2005) found a similar result. They used a gender mix of siblings as an instrument for family size and found that children in larger families are less likely to attend private school and are more likely to be held back. When they combined the effect of a child's family size with his/ her birth order, the effect of family size is significant for the first-born child but large and significant for children with a higher birth order.

Among several factors associated with children's academic achievement motivation, child-parent interaction in different birth order position were investigated by some researches. In this regard, several recent studies demonstrated that the climate parents create at home and the feelings of competence and control they instill in children are related to children's academic achievement motivation. Consider, for example, a model proposed by Windy Grolink and her colleagues (Grolick, Ryan, & Deci, 1991), which illustrated parental support and involvement with their children are related to the strength of children's inner resources. That is, children develop feelings of competence, autonomy and control, which in turn influence their

academic aspirations and performances. Concerning this issue, Zajonc and Markus (cited in Sherman, 2005) pointed out the following:

> As each child enters the household, the intellectual climate of the household decreases, that is, the first-born enters a climate with two adults and one infant (himself/herself), making the intellectual climate mostly determined by adult interaction. However, when the second-born enter, they encounter a climate less intellectual because of the infant/child already present. The decrease has multiplied by the time the third child is born (cited in Sherman, 2005 p. 13)

Some researchers tried to show a link between parental involvement and birth order. Berland and Pfouts (cited in Fernald, 1999), for instance, found birth order as one factor for differences in achievement motivation and they write:

> Birth order is a factor because the greater the number of children, the less the attention that the parents can give each child. The first-born child alone with the parents for some time receives the most attention in the early years, and this child has been found to have higher need for achievement than other brothers and sisters. .... The only child has the parents himself, a potential intellectual advantage and stimulus to achievement.... (p.315)

From the above explanation, one can understand that with an increase in the sibling size, the amount of child-parent interaction decreases considerably and parents may not be able to provide the same kind of attention that they gave for the first-born child. Judith Blake, author of *Family Size and Achievement Motivation* (1989) indicated that children from smaller families have higher intelligence test scores, achieve higher levels of education and display greater motivation for achievement. One possible reason for this effect could be parents in larger families have less time to spend with their children and may not provide the kind of cognitive stimulation children in smaller families receive. Another factor is financial circumstances: parents with larger number of children often experience greater economic stress, which in turn may diminish the quality of their parenting.

In another study, Lillan Belmont and Francis Marolla (1993) published family size, birth order and educational motivation data from the entire population of 18 year-olds Dutch men (386,114 participants). From this study, Belmont and Marolla found:

1. "Children from large families tend to make poorer showings on academic motivation tests and on educational measures, even when social class is controlled.

2. "Within each family size, (i) first-borns always scored better on the test than did later-born; and (ii) with few inconsistencies, there was a gradient of declining scores with rising birth order, so that first-borns scored better than second-borns, who in turn scored better than third-born, and so forth."

3. "In general, as family size increased, there was a decrease in performance on academic motivation test within any particular birth order position." For example, a third born child from a 3-child family would be expected to score higher than a third born child from a 4-child family. A third born child from a 5-child family would be expected to score even lower, and so on.

Other research works found a connection between birth order and sibling spacing in providing explanations about the children's achievement motivation and educational outcomes. Joseph (2003) in his study on the effect of birth order and parent child interaction found out that there are no significant birth order differences on academic motivation when the children are one or two years apart. For children spaced three to six years apart, the general pattern is that birth order differences increase with birth spacing.

Contrary to the above findings, other line of thinking considers birth order as having very little or no effect on the educational achievement motivation of individuals. One of these researchers is Clayton (1998), whose study result suggested that there was no significant difference between the eldest child and the highest degree of education completed among the participants in the study. Other researchers, whose findings have refuted the claims and propositions of the correlation between ordinal positions and educational achievement, argue with their empirical evidence that differences are mainly attributed to factors other than sibling positions in the family. Concerning this view, Santrock writes:

> Our consideration of birth order effects suggest that birth order might be a strong predictor of behavior. However, an increasing number of family researchers believe that birth order has been over dramatized and overemphasized. The critics argue that when all of the factors that influence behavior are considered, birth order itself shows limited ability to predict behavior. (1993 p.305)

Belay Hagos (1996) in his study on the *Relations between Locus of Control and Academic Achievement,* found out that internal orientation (internal locus of control) is positively associated with higher academic achievement. However, he argued that whether children are first-borns or later born doesn't make any significant association with the internality or externality orientation. Crandall (cited in Belay, 1996) also compared first-born with later-born and found no significant differences for the younger groups, but for the upper grades, first born children were found to be more achievers than the later-born.

With regard to differences in educational achievement motivation among siblings, the research work of Lowery (1995) has also demonstrated no real relationship existing between grade point average and birth order of students at Missouri Western State college. In Lowry's point of view, whether a person is first -

born or last-born, it doesn't matter on his/her intellectual and academic achievement. Salem (2004), too, arrived at similar results in her research on *Sibling Configuration of Adolescents* in Egypt. Her finding uncovered that adolescents of each ordinal position displayed a weak and statistically insignificant positive relationship with years of education.

Similarly, Wells's (1995) study yielded a finding with no relationship between family size, background and sex with educational achievement in four types of sibling pairs. According to him, educational attainment was basically similar among older and younger siblings and among boys and girls. Pertaining to this, Wells stated;

> Others have found no difference in the educational attainment of children according to birth order. Among pairs of brothers from Kalamazoo, Michigan, Bills (1979) found out that, birth order has no independent effect on the educational attainment after sibship size and age are controlled for. Similarly, after controlling for gender, socio economic background, age and sibship size, Hauser and Sewell (1985) found ordinal position of birth to have no effect on completed years of schooling among the sample (1995, p.6).

Joseph Lee Rogers (cited in Jessica Rodgers, 2000), has evaluated data within the families in the USA, using the 1979 National Longitudinal Survey of youth, on achievement motivation test scores from a group of children aged 14-21. He found no direct link between birth order and achievement motivation. As Rogers pointed out, "Achievement motivation is influenced by other factors such as genetics and quality of child rearing. Parenting efforts can make all the difference in child's development"(p.6).

Amber Esping,(2003) in his critics regarding birth order and eminence pointed out that longitudinal studies which track individual families over time usually demonstrate that there is no relationship between birth order and IQ. In studies

showing a statistically significant advantage for first-born, birth order accounts for only one percent of the variance in IQ scores. The first born advantage is tiny about one IQ point higher than the second sibling, two points higher than the third sibling, and so on (Sulloway, 1996).

The complexity of the birth order issue is evident in articles such as the one that questions whether the consequences of birth order are real, artificial (produced artificially) or both. Steelman and Powel (1985) using two nationally representative samples find no significant relationship between birth order and academic performance, but do find a highly positive relationship between birth order and social skills, with latter born children being more outgoing, able to get along with others, more popular and able to make friends easier.

Given the existence of such controversial findings in the past researches, testing similar hypothesizes would help to approach the truth with further empirical evidences. The rationale behind doing this particular research primarily lies on producing scientific data on the topic in order to give an insight based on past researches. Secondly, from the exiting research reports, one can understand that most of the birth order studies have been undertaken in the contexts of western societies. Little has been known so far about the effect of birth order in our situation. Thirdly, much of the researches on birth order concentrate mainly on intelligence rather than academic achievements. Hence, this study would add up knowledge by examining and focusing on the relationship between birth order and educational attainments in the Ethiopian context. It is, therefore, hypothesized that the following results would be expected from this research:

Hypotheses:

a) First-borns have high motivation for academic achievement than later-born individuals.

b) There is a significant difference between boys and girls on academic achievement motivation due to the effect of birth order.

c) The effect of birth order on academic achievement motivation is higher in families with larger sibling sizes than the smaller ones.

1.5 Operational Definitions of Variables

Birth Order: It is the ordinal position of participants on the sequence of births in their family. For the purpose of this study, sibling positions are categorized into four levels, i.e. only-child, first-born, middle-born and last-born. All individuals, whose birth order lies between the first and last-born, are labeled under the middle-born category. In the present study birth order is the independent variable whose effect will be investigated on academic achievement motivation of the participants.

Academic Achievement motivation: In this study, the term academic achievement and educational achievement motivation are used interchangeably. It refers to the participant's desire to excel in academic pursuit, which is measured by scores on the academic achievement test administered in the study. This is the dependent variable against which the effect of birth order would be tested.

1.6 Significance of the study

a) This research can be a source of information for parents, developmental psychologists, teachers and counselors to gain an insight about the effect of birth order on the academic achievement motivation of adolescents.

b) The research would give an opportunity for sharing knowledge among scholars about the differences among adolescents when perceived through the lens of birth order.

c) As very little has been known so far about the effect of birth order in the Ethiopian context, this research will serve as a springboard for developmental psychologists, educational specialists and other researchers to make further study on the topic.

1.7 Delimitation of the study

The scope of this study is limited to participants of two high schools (a private and a government high school) in Addis Ababa. Its representation is also limited to the ninth graders who were chosen for it would enable the researcher to measure the academic achievement scores of the students based on their eighth grade national exam. Secondly, as participants are in their formal operational stage, they could have better reasoning ability and expression of views retrospectively than children in the primary grades. On top of this, the study also targets participants only form the school settings and it doesn't include children who are out of school. This approach is chosen for the purpose of controlling the effect of academic exposure of participants in the study. Therefore the generalizations that would be made based on this research finding could be bound to the scope implied above.

CHAPTER TWO
METHODOLOGY

In this study, survey research design was employed with the purpose of investigating the relationship between birth order and academic achievement motivation of adolescents of grade nine. This design was chosen, as it allows the researcher to have a room, for making inferences about the population based on a representative sample of participants. In the process, the researcher took into account the underling assumption that participants would provide accurate and reliable information about themselves.

2.1 Participants

In this research, 180 ninth grade students in Addis Ababa (90 each from one government and one private high school) were identified randomly from a total population of 1, 743 ninth graders of both schools enrolled in 2005/6 academic years. Sample selection was carried out based on the probability sampling procedures in which all ninth graders in both schools were given equal chance of being selected in the study. At the outset, among the list of high schools in Addis Ababa, two high schools, namely, Dil Ber and Lideta Catholic Cathedral high schools were randomly selected from the government and private schools respectively. Inclusion of schools from both private and government school categories was made with an intention of controlling the influence of the diverse family economic backgrounds of participants between the two schools on academic achievement motivation.

The rationale behind focusing on ninth graders was two-fold. One, as the purpose of the study was to investigate the effect of birth order on adolescents' achievement motivation from the developmental perspective; all the participants were within the age bracket of adolescence. Secondly, the choice these groups enabled the

researcher to see their academic performance on the eighth grade national exam which is the standardized achievement test for all groups and these would have enabled the researcher to see the correlation between achievement motivation and the academic achievement of the participants across their ordinal positions.

Following the selection of the two schools, the school administrations were approached for permission. In both cases, permission was obtained to conduct the research on condition that it would not affect the teaching learning process. This was followed by the assignment of one research assistant in each of the schools who played a pivotal role in assisting the researcher and in facilitating the sampling and data gathering process. Identification of sample participants was commenced by clustering sections of grade nine students in both schools with a view to create an accessible population and from which representative samples were drawn. In this regard, five sections were chosen as a cluster sample from each school on a lottery method.

In light of the research objective, a group of research participants were defined in the population on the bases of their birth order category. Then, in order to determine the extent of representation of the defined groups, a stratified sampling was followed to identify all possible strata of birth order categories from the clustered sections. In all the ten clustered sections (5 in each school) the students' roll numbers and their birth order categories were recorded by the research assistants (teachers), out of which a random sample of 180 students (100 form Dil Ber school and 80 from cathedral school respectively and 45 students from each birth order category) were targeted using a table of random numbers. Because of the fact that students in the only-child category were few in number in all the clustered sections, it was made possible to identify 169 participants, which is below the target. Out of these, five students didn't show up during the time of data collection either due to absenteeism or lack of interest in the study. In the end, a total number of 164 randomly selected

participants have participated in the study. The total figures of the sample population by sex, type of schools and birth order groups are presented in table 1 and 2 below.

Tabele 1: Sample Population by Sex and Type of School.

	Name of the high school		Total
	Dilber	LCCS*	
Male	42	41	83
Female	44	37	81
Total	**86**	**78**	**164**

* Lideta Catholic Cathedral School

Table 2: Sample Population by Birth Order, Sex and Type of School

Name of the high school	Respondent's birth order	sex of respondent		Total
		Male	Female	
Dil Ber	Only-child	8	7	15
	First-born	11	10	21
	Middle-born	10	15	25
	Last-born	13	12	25
	Total	**42**	**44**	**86**
LCCS.	Only-child	9	9	18
	First-born	10	10	20
	Middle-born	11	9	20
	Last-born	11	9	20
	Total	**41**	**37**	**78**

Prior to administration of the research instrument, the selected participants were briefed about the purpose and significance of the study, about the anonymity of the instrument and confidentiality of their opinions. Participants' consent was obtained and their voluntary participation in the study was also appreciated. Assuming that participants may not exactly know family income and their parents' educational status, they were reminded at the briefing session about the importance

of family consultation, if need be, so that this could minimize blind guessing or missing such items in the questionnaire.

2.2 Instruments and Procedures

A self-report instrument has been used to test the research problem of concern. The instrument has two parts. Part one involves thirteen structured items mainly designed to gather background information about the participants such as their sex, age, birth order, family and sibling size, about their academic achievement and the socioeconomic background of their family. The second part of the instrument is an adapted test on academic achievement motivation, a Llikert type five point scale with response options ranging from strongly agree to strongly disagree. The scale was composed of 46 items adopted from three past researches conducted on high school and college students, i.e. 13 items were drawn from Gottfried (1985) Academic Self-Efficacy Scale, 18 items from Pintrich and DeGroot (1990) Motivation and Learning Strategy Scale and 15 items for Daniel (1992) Academic Achievement Motivation Self –Report Inventory. .

Items selected from each scale focus on various themes pertinent to adolescents' academic achievement motivation. These themes involve major domains of achievement motivation in the aspects of attribution of success and failure, self efficacy (the student's belief about their ability to perform a task), intrinsic and extrinsic values/beliefs attached to a task, goal orientation, fear of failure or student's emotional reaction towards the task, ability to delay gratification in the pursuit of achieving future goal and consistency. These themes are in congruence with the major characteristics of achievement orientations as described in the earlier chapter by several researches. Moreover, the adopted items were given to two instructors in the department of Psychology to verify the construct validity of items in relation to the operational definitions provided and theoretical meanings of the variables.

Accordingly, some items were modified and rephrased based on the comments forwarded on the original items.

Before administering the test, the instrument was translated into Amharic language by the investigator and commented by two language experts, the final version of which was decided according to the agreement of their feedback. In order to minimize ambiguity and social desirability response, sufficient care was taken in wording the items with short and simple statements. Certain items were also worded positively and negatively. The translated instrument was then tried out on a randomly selected 40 students (20 from each school).

Table 3: Participants of the Pilot Study

SEX	Name of the High school		Total
	Dil Ber	LCCS	
Male	12	9	**21**
Female	8	11	**19**
Total	**20**	**20**	**40**

Based on the results of the pilot test, reliability of the scale was computed using the SPSS software package, where a Chrombach alpha result (r=0.80) depicted dependability of the instrument. Despite the fact that significant reliability was obtained, four items were discarded at face value, which had either very high or low variability. The instrument was then finalized after making certain amendments on the wording and random arrangement of the items. In the end, 42 items were used for the actual testing, in which, the reliability coefficient showed a slight improvement i.e. r=0. 84.

2.3 Data Gathering

As mentioned earlier, 164 respondents participated as primary sources of information for the present study on which the final instrument was administered. Data collection was scheduled on separate days for each school depending on the convenient time to proceed without affecting their timetable. On average, the instrument took 15-20 minutes to complete, which made the data gathering possible during school break hours. As it had been done during selection of participants, briefings were given again to the participants' at the time of the administration of the test about the purpose of the study and instructions on how to fill out the instrument. Administration of the instrument was carried out in the presence of the researcher so that participants were able to get access for clarifications whenever they needed while filling out the questionnaire. As a result, the response rate was 100%. With regard to the secondary data, the other major source of information was the students' academic achievement on the ninth grade first semester average results and on eighth grade national/regional exam scores obtained from the school records that was collected to investigate a relationship with their level of motivation.

2.4 Data Scoring, Interpretation and Analysis

After data gathering, the questionnaires were checked out and coded for entry into the SPSS software Version 11.0 for analysis. Data entry and analysis was done with the help of qualified computer expert. In the scoring procedure, response options on items yielding qualities of academic achievement motivation were given values from high (5) to low (1) on the likert-type five point scale corresponding to the response ranging from strongly agree to strongly disagree. Where as, those items that don't qualify the characteristics of academic achievement motivation were reversely scored depending on level of agreement and disagreement of the participants for each item in the scale. (See the scale annexed). Accordingly, the score of each participant was calculated by adding the sum of the values of his/her response to each item.

Different statistical methods have been utilized (ranging from simple descriptive ones to more complex statistical procedures) in order to carry out the analysis depending on the nature of data available and the type of research questions or hypothesis set in the study. The initial part of the analysis gives general description and explanation about major background data using frequency distribution, mean and standard deviations about the study population. Along with this, Chi-Square statistic for goodness of fit was computed with the view to see homogeneity of variance among the distribution of participants across various birth order categories.

A One-Way ANOVA (Analysis of Variance) was employed to test the effect of birth order against mean differences on academic achievement motivation among different birth order groups. This was also was followed by Schefe's post hoc test of pair wise mean comparison (as the size of each group was unequal), when the overall F ratios found statistically significant. Moreover, in order to be more close to the reality, the nature of independence and interdependence of different variables was investigated against birth order using a Two Factor ANOVA. Finally a Pearson correlation was computed to investigate the interrelationship of academic achievement motivation and education performance of participants. In this study, an alpha value of 0.05 (level of significance) was used for testing the hypothesis through out the data analysis process.

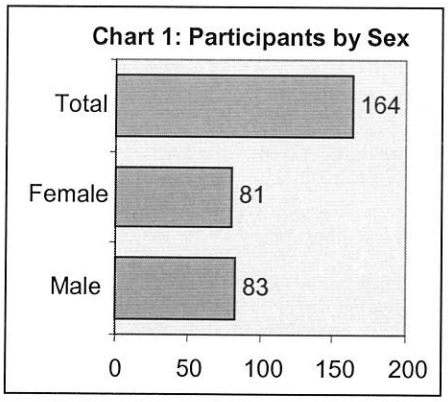
CHAPTER THREE

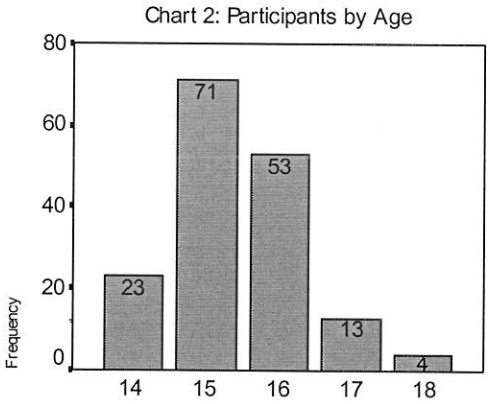
RESULTS

In this section, descriptions of findings are being presented. The analysis involves three parts. The first part deals with description of the characteristics and background of participants in the study, which is followed by a descriptive statistical presentation summarizing the data with means and standard deviations of the scores on achievement motivation of participants in various birth order categories. Finally, the research hypotheses were tested on the mean differences of the birth order groups using the statistical procedures of the analysis of variance (both one way and two ways ANOVA). In the course of the analysis, descriptions of the data were also reported with tabular and graphic presentations.

3.1 Background and Characteristic of Participants

a. Sex and age of Respondents



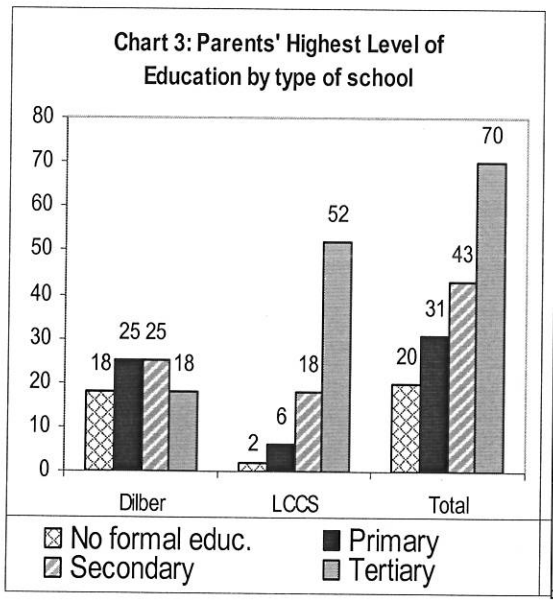


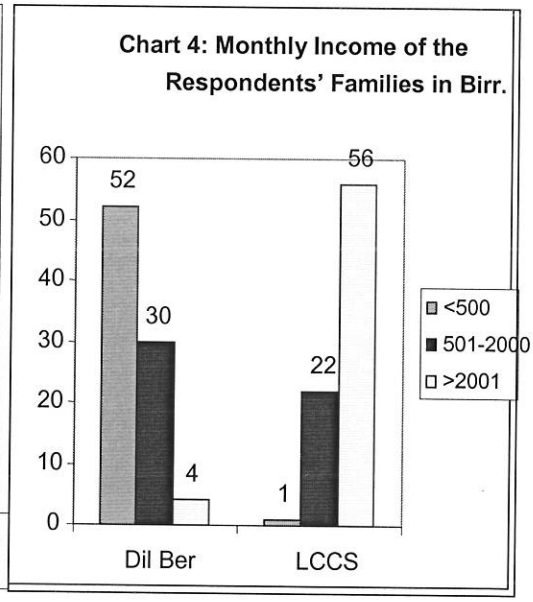
As indicated in the earlier section of the report, nearly equal proportion of male and female children have participated in the study, which accounts for 49 and 51% respectively. All the participants were teenagers whose age composition ranges from 14-18 with the majority (75.6%) falling under 15-16 age category, while the next larger group is in the age of 14 which accounts for 14%. Very few participants were

in the age group 17-18, which constituted 10.4% of the study population. The mean age of participants was 16.

b. Education and Income of Parents.

Chart 3 and 4 below display the educational and income background of parents of the research participants. From the data, it was found out that some (12%) of the participants' parents have never undergone any formal education. The rest of the respondents' parents attained formal education ranging from primary to tertiary levels. School segregated data shows that the majority of the students 52 (66.7%) attending in private school (under this research LCCS) have parents who have attained tertiary levels while government school counterpart was only 23.2%.

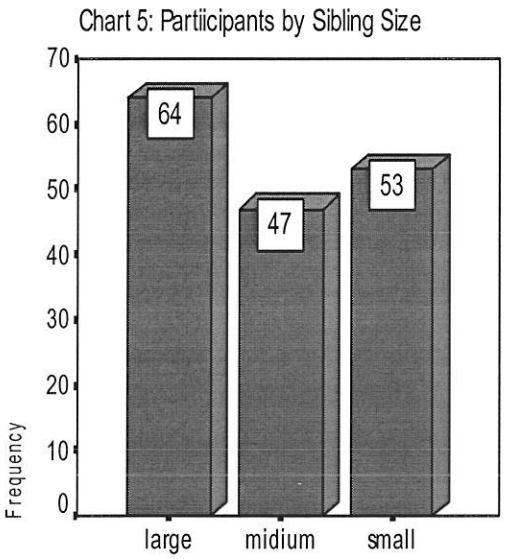


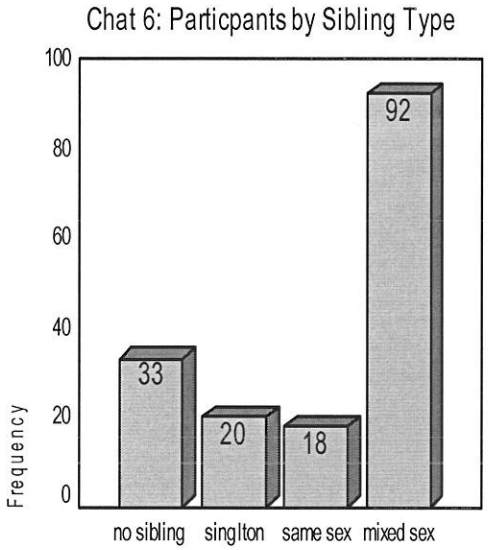


When the level of family income of participants was investigated, the above data indicated that 53 (32.3%) of the students came form families who earn low income; out of whom the majority (98%) of them are attending government school.

Conversely, large proportion of students (70.5%) in the private school have families who earn a monthly income of above birr 2000.

c. Sibling Size and Type



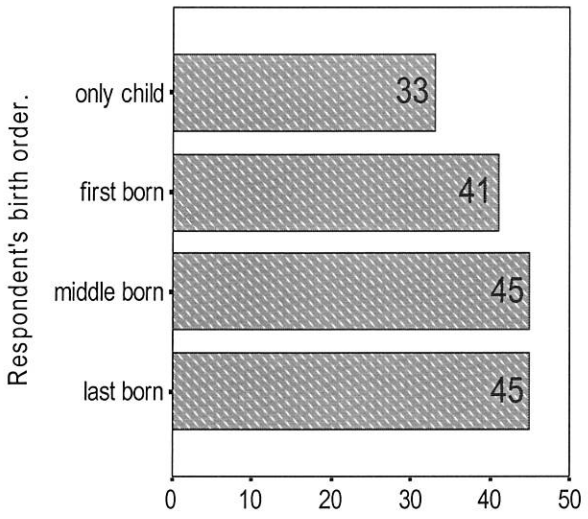


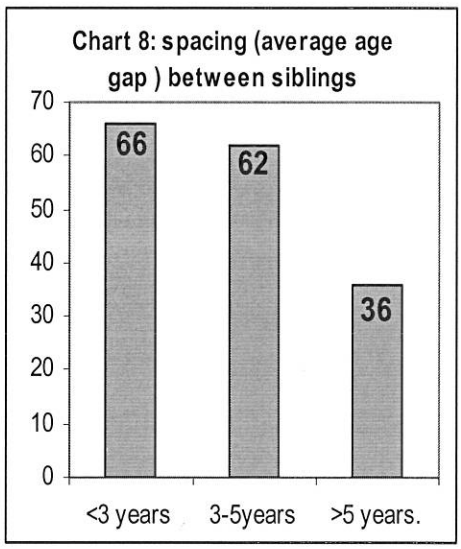
The other characteristics worth noting in relation to birth order is the number of siblings in the family of the participants. Data in chart 5 depicted that 64 (39%) of he students were from families which have large sibling size (over five children in the family). The second largest groups, which constituted 32% of the total, have small number of siblings (less than 3 children) in the family. The remaining groups are said to be living in families that have medium sibling sizes (between 3-5children).

With regard to the sibling type, the large majority of the sample students 92 (56%) reported having siblings of both sexes while 18 (11%) have siblings of same sex type. Twenty students (12.2%) were singletons who are the only brothers of sisters or the only sisters of brothers. The rest of the groups were students with no siblings.

d. Birth Order and Spacing

Chart 7: Respondent's birth order.





The distribution of sample respondents is displayed in chart 7 in terms of their ordinal positions. According to the data, single children constitute 33 (20%) of the total while first, middle and last-born comprise 25%, 26.8% and 27.4 % of the sample population respectively. Even though the size of the groups in each birth order category is unequal, the chi square test run for the goodness of fit confirmed that there was no statistically significant difference in the size of the groups X^2(2.341, p:<0.05).

Along with birth order, the average spacing between births among siblings was also investigated. As shown in the chart 8 above, the average spacing for the 66 (40%) of the students was less than 3 years. In the case of the second majority 62 (37.8%), there is a 3-5 years of spacing between siblings. The rest of the groups came from families where average spacing is over 5 years.

3.2 Descriptive Analysis of the Data

a. Overall Means and Standard Deviations

Table 4: Mean and Standard Deviations of Scores For all Birth Order Categories

Birth order.	Mean	N	Std. Deviation
Only child	148.2121	33	26.29016
First born	163.7317	41	22.66387
Middle born	138.2222	45	27.68072
Last born	151.8889	45	23.80911
Total	**150.3598**	**164**	**26.62369**

The summary of means and standard deviations of scores on achievement motivation among the four birth order groups was presented in the table 4 above. As can be seen from the results, the total mean score was found to be **150.4**. The highest mean score was obtained by the first-born groups. The fact that first-borns scoring high in academic motivations scale may reflect their supremacy in achievement motivation. The data in the table also depicts that the middle-born scored the least among all the birth order categories obtaining low mean score (**138.2)** and the highest standard deviation value (s=**27.7).** Lower standard deviations obtained by first-borns indicate higher homogeneity of scores within the group while there is large variability among the middle-borns.

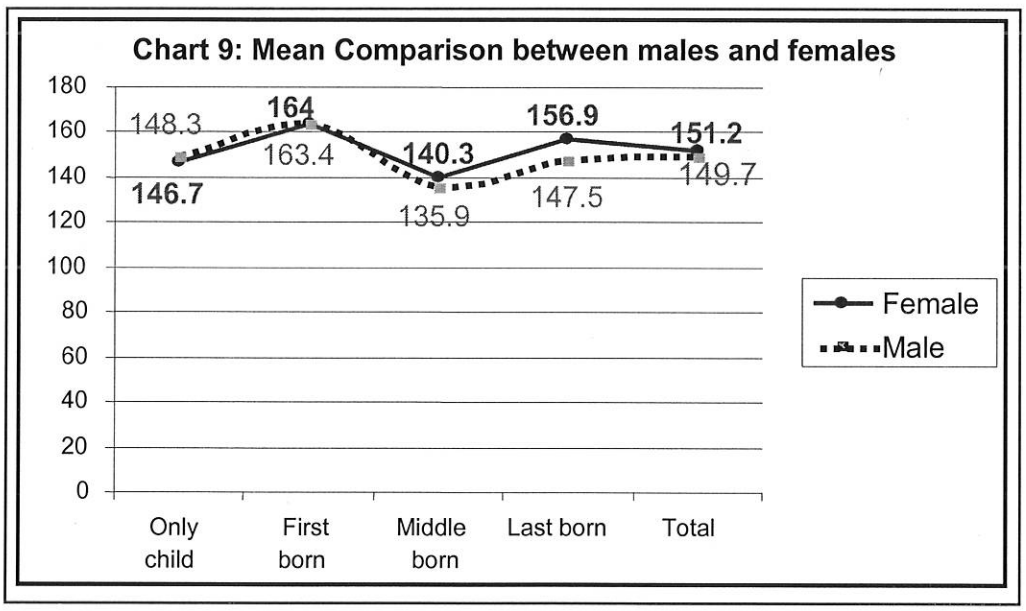
b. Means Distribution of Birth Order Categories by Type of Schools.

Table 5: Mean Scores by Type of School

Birth order	Dil Ber School			LCCS		
	N	Mean	Std. Deviation	N	Mean	Std. Deviation
Only child	15	156.8667	17.79593	18	141.0000	30.31598
First born	21	161.5714	24.33222	20	166.0000	21.15606
Middle born	25	133.3200	31.32055	20	144.3500	21.54377
Last born	25	158.4000	21.38925	20	143.7500	24.68512
Total	**86**	**151.6163**	27.18398	**78**	**148.9744**	**26.09671**

Looking further into the mean results of birth order categories between the two high schools, in both cases, first-borns surpassed other groups in achievement motivation although the participants from LCCS scored higher than Dil Ber School (166 >161.6). The mean result in Dil Ber school follow the same pattern of results as obtained from overall group mean in which first-borns scored higher followed by last born, only children and middle borns (161.6>158.6>156.9>133.2). The condition in the LCCS seems quite different despite the fact that first-borns are still the highest. Middle-borns are in the second position while last-borns are next to them and the only child groups remain the least. The variability of scores in Dil Ber is less than that of LCCS. The data also reveals that there is homogeneity between first borns and middle borns in LCCS.

c. Mean Comparisons Between Sex



As exhibited in the above chart, the comparison of means of males and females shows that there is a similarity with only a slight difference existing between males and females in their overall mean scores (149.7 and 151.2 respectively). When we look into the details of birth order categories, the data reveals that there is a wider

mean difference of last-borns between males and females (147.5<156.9). The mean score of middle born girls also exceeds their male counterparts (140.3>135.9). There is an overlap of mean score among boys and girls in the fist-born groups showing very slight difference existing in this category. However, in the only-child group, the scores of males was higher than females (148.3>146.7).

3.3 Analysis of Variance (ANOVA)

It has been observed earlier that the descriptive summary results have uncovered differences in terms of mean and standard deviation scores existing among various birth order categories. This difference alone, however, does not confirm whether statistically significant differences exist or not in order to give answers to the research questions or hypothesis. Therefore, it is worthwhile to test the mean differences with the analysis of variance so as to determine the conclusions to be made on the results.

a. Results of One Way ANOVA

Table 6: ANOVA Summary Table

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	14217.988	3	4739.329	7.484	.000
Within Groups	101319.786	160	633.249		
Total	115537.774	163			

p:<0.05

The above summary table gives the overall F- ratio yielding evidences of significant differences among the birth order categories of both schools in general $F(3,160)=7.484$, $p<.05$. This means that the four birth order categories are not the same in terms of the mean score results and the differences are statistically significant. This, on the other hand, implies that birth order entailed an effect on the variations in academic achievement motivation of participants. However, result of the analysis has

not determined which groups are different and where the difference lies. To answer this question further, Scheffe's post hoc test was employed to compare two individual groups at a time. The pair-wise mean comparison matrix has been presented in the table 7 below.

The outcome of Scheffe's pair-wise comparison indicated that there is a significant mean difference (25.5095) $p < .05$ between first-born and middle born groups. The difference lies only between these groups and all other groups are the same. As the first-born groups have larger mean, it could be deduced from the finding that they are superior in academic achievement motivation than middle-born groups.

Table 7: Multiple Mean Comparisons (Scheffe's post hoc test)

(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.
Only child	first born	-15.5196	5.88510	.078
	middle born	9.9899	5.76728	.394
	last born	-3.6768	5.76728	.939
First born	only child	15.5196	5.88510	.078
	middle born	25.5095*	5.43298	.000
	last born	11.8428	5.43298	.195
Middle born	only child	-9.9899	5.76728	.394
	first born	-25.5095*	5.43298	.000
	last born	-13.6667	5.30513	.089
Last born	only child	3.6768	5.76728	.939
	first born	-11.8428	5.43298	.195
	middle born	13.6667	5.30513	.089

*** The mean difference is significant at the .05 level**

In order to be able to answer the question on the effect of birth order from different angles of observation, the mean difference among four groups was also

tested across the schools. Accordingly, the finding of the one way ANOVA result depicted in the following summary tables below came out with the overall F-ratio showing a statistically significant difference F(3, 82)= 6.464, p<.05 for Dil Ber High School and F(3,74)=4.385, p<.05 among birth order categories in LCC School.

Table 8: ANOVA Summary Table for Dilber School.

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	12014.021	3	4004.674	6.464	.001
Within Groups	50798.316	82	619.492		
Total	62812.337	85			

Significant at P:< 0.05

Table 9: ANOVA Summary Table for LCC School

Source	Sum of	df	Mean Square	F	Sig.
Between Groups	7915.649	3	2638.550	4.385	.007
Within Groups	44524.300	74	601.680		
Total	52439.949	77			

Significant at P:< 0.05

From the results of ANOVA displayed in the above tables, it appears that in both schools there is a statistically significant mean difference among participants in various ordinal positions at birth. Hence, additional analysis is necessary to determine exactly which groups differ. In this regard, Scheffe's post hoc test result was run and the results are displayed in the pair wise matrix in table 10 and 11for Dil Ber and LCC School respectively.

Table 10 Multiple Mean Comparisons for Dil Ber (Scheffe's post hoc test)

(I)	(J)	Mean Difference (I-	Std. Error	Sig.
only child	first born	-4.7048	8.41422	.957
	middle born	23.5467*	8.12891	.045
	last born	-1.5333	8.12891	.998
first born	only child	4.7048	8.41422	.957
	middle born	28.2514*	7.36745	.003
	last born	3.1714	7.36745	.980
middle born	only child	-23.5467*	8.12891	.045
	first born	-28.2514*	7.36745	.003
	last born	-25.0800*	7.03984	.008
last born	only child	1.5333	8.12891	.998
	first born	-3.1714	7.36745	.980
	middle born	25.0800*	7.03984	.008

*** The mean difference is significant at the .05 level.**

Table 11: Multiple Mean Comparisons for LCCS (Scheffe's post hoc test)

(I).	(J)	Mean Difference	Std. Error	Sig.
only child	first born	-25.0000*	7.96936	.026
	middle born	-3.3500	7.96936	.981
	last born	-2.7500	7.96936	.989
first born	only child	25.0000*	7.96936	.026
	middle born	21.6500	7.75680	.059
	last born	22.2500*	7.75680	.049
middle born	only child	3.3500	7.96936	.981
	first born	-21.6500	7.75680	.059
	last born	.6000	7.75680	1.000
last born	only child	2.7500	7.96936	.989
	first born	-22.2500*	7.75680	.049
	middle born	-.6000	7.75680	1.000

*** The mean difference is significant at the .05 level.**

The pair wise mean comparison reveals different findings between the schools. In Dil Ber, statistically significant difference was observed between middle-born and the rest of the groups. The difference among groups other than the middle-born was found not significant at alpha value less than 0.05. This means, middle-born

have lower academic achievement motivation than other groups. On the other hand, results based on Scheffe's posttest for LCC School show statistical differences existing between first-born group and two other groups, but the highest mean difference (25.000) was observed between first-borns and only -children. Even though first-borns are still superior, the finding in the case of LCCS seems to be contrary to the overall result obtained earlier where mean differences were significant between first-born and middle-born groups. Here, no significant difference was observed between middle-born and first-borns.

Table 12: ANOVA Summary Table for Female Participants

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	7192.478	3	2397.493	3.489	.020*
Within Groups	52905.547	77	687.085		
Total	60098.025	80			

Significant at P<0.05

Table 13: ANOVA Summary Table for Male participants

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8005.308	3	2668.436	4.472	.006*
Within Groups	47134.644	79	596.641		
Total	55139.952	82			

Significant at p<.05

A gender segregated analysis of variance was carried out to see the differences in birth order between male and female participants. ANOVA summary tables above portray large F-ratios for both sexes. It is evident that F-ratio gets large when the group variation is large. Hence, this indicates that there is variation among participants on academic achievement motivation in various ordinal positions due to

the effect of birth order. In other words, the finding clearly showed significant differences existing among birth order groups for females F(3,77)=3.489, p<.05 and for males F(3,79)=4.472, p<.05. The question here again is which groups are statistically different and which are not. Hence, the analysis continued with Scheffe's post hoc test and the results of which are reported in table 14 and 15 below.

Table 14 Multiple Mean Comparisons for female participants (Scheffe's post hoc test)

(I)	(J)	Mean Difference	Std. Error	Sig.
only child	first born	-17.4125	8.79187	.278
	middle born	6.4375	8.45999	.901
	last born	-10.2173	8.69834	.711
first born	only child	17.4125	8.79187	.278
	middle born	23.8500*	7.93617	.035
	last born	7.1952	8.18979	.856
middle born	only child	-6.4375	8.45999	.901
	first born	-23.8500*	7.93617	.035
	last born	-16.6548	7.83242	.219
last born	only child	10.2173	8.69834	.711
	first born	-7.1952	8.18979	.856
	middle born	16.6548	7.83242	.219

*** The mean difference is significant at the .05 level**

Scheffe's multiple comparison of means produced similar results for female and male groups, both confirming a statistically significant mean differences present between first born and middle born categories (23.8500: P<0.05) and (27.4762: p<0.05) respectively. The finding is also consistent with the overall result obtained from the analysis of variance among groups in both schools in general F(3,160)=7.484, p<.05 where first born students apparently demonstrated high achievement motivation than middle born students. Where as, there was no significant differences observed among other groups due to the effect of their ordinal position in the family.

Table 15: Multiple Mean Comparisons for Male Participants (Scheffe's post hoc test)

(I)	(J).	Mean Difference	Std. Error	Sig.
only child	first born	-13.7339	7.96919	.402
	middle born	13.7423	7.96919	.401
	last born	2.1471	7.74316	.994
first born	only child	13.7339	7.96919	.402
	middle born	27.4762*	7.53810	.006
	last born	15.8810	7.29873	.201
middle	only child	-13.7423	7.96919	.401
	first born	-27.4762*	7.53810	.006
	last born	-11.5952	7.29873	.475
last born	only child	-2.1471	7.74316	.994
	first born	-15.8810	7.29873	.201
	middle born	11.5952	7.29873	.475

*** The mean difference is significant at the .05 level.**

b. Results of Two Way ANOVA

Thus far, the mean differences were tested to investigate the effect of birth order as a sole independent variable with four different levels against the mean scores of academic achievement motivation. However, it is absolutely evident that in a real world condition independent variables rarely exist in isolation. Rather, a number of variables/factors operate in interaction to affect a certain behavior in a given situation. With this logic behind, in this research, the relationship between birth order and achievement motivations was further explored in integration with other factors/variables using a factorial design (Two factor ANOVA), so as to see its joint effects with some variables. Table 16 below gives a summary of the two-factor analysis of variance for six variables, which are attached to the background of the participants. Hence, birth order was combined with the variables such as sex, family income, parents' education, sibling size, sibling type and spacing for which a 2x4, 3x4, 4x4, 3x 4, 4x 4 and 4 x 4 factorial design were employed and analyzed respectively.

Table 16: Summary table showing the combined effect of birth order With Other Factors

	Source	Type III Sum of Squares	df	Mean Square	F	Sig.	R Squared
1	BO	2404.976	3	1801.659	1.488	.246	.134
	GENDER	333.242	1	333.242	.520	.472	
	BO * GENDER	820.730	3	273.577	.427	.734	
2	BO	5382.499	2	2691.249	4.335	.015*	.166
	STYPE	2279.355	2	1139.677	1.836	.163	
	BO * STYPE	969.159	4	242.290	.390	.815	
3	BO	13605.496	3	4535.165	7.490	.000*	.224
	PEDUC	1182.659	3	394.220	.651	.583	
	BO * PEDUC	6243.174	9	693.686	1.146	.335	
4	BO	10060.348	3	3353.449	5.763	.001*	.235
	FINCOME	1766.445	2	883.223	1.518	.222	
	BO * FINCOME	**10964.099**	**6**	**1827.350**	**3.141**	**.006***	
5	BO	13408.352	3	4469.451	7.304	.000*	.184
	AVSPACE	5177.775	2	2588.887	4.231	.016*	
	BO * AVSPACE	1697.486	4	424.371	.693	.598	
6	BO	6898.210	3	2299.403	3.547	.016*	.136
	SIBSIZE	773.053	2	386.527	.596	.552	
	BO * SIBSIZE	874.085	4	218.521	.337	.853	

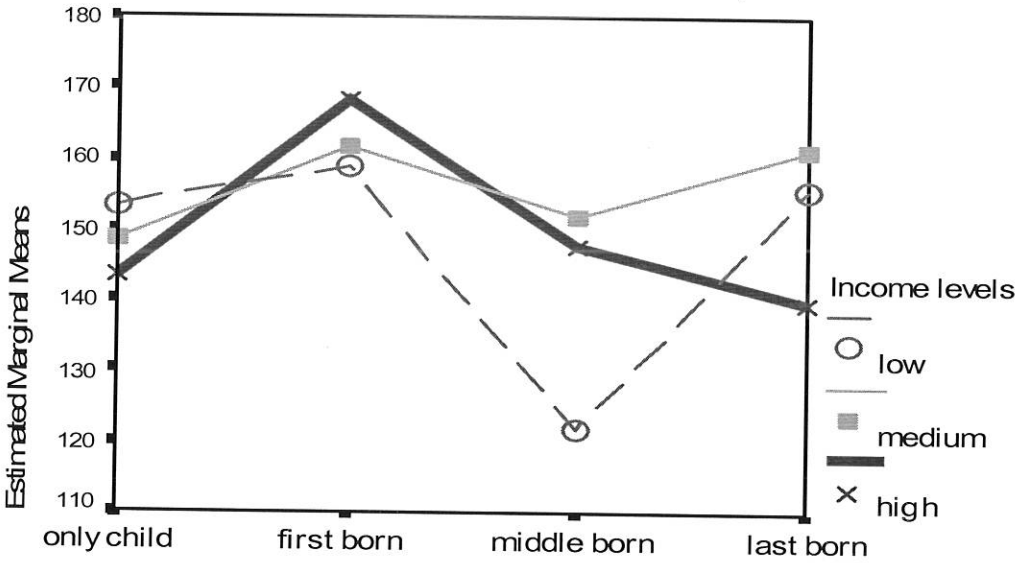
Significant a p<.05

BO= Birth Order
STYPE= Sibling Type
PEDUC= Parents Educational Background
FINCOME = Family Income
SIBSIZE= Sibling Size

As illustrated in the findings of the above table, except for gender in all factorial combinations, the main effect of birth order was statistically significant. Among other factors, however, only average years of spacing between siblings showed significant main effect standing by itself. As far as interactions are concerned, the outcome depicted that, except for family income, there was no statistically significant interaction observed between birth order and other variables tested in combination, by a two factor ANOVA above. This condition implies that there is no interdependence between birth order and these variables to influence one another.

As indicated above, one can see a significant interaction existing between birth order and family income, meaning, that the family income can influence academic achievement motivation of participants on particular birth order categories. This shows that the effect of birth order depends on the effect of high, medium or low levels of income one's family earns. The coefficient of determination, which described the total variance, accounted for by the effect of birth order, income and their interaction was found to be 0.235 or 23.5%. To make the meaning of this interaction more clear, the result of a 3X4 factorial design between family income which has three conditions i.e. high medium and low and birth order having four conditions i.e. only- child, first, middle and last- born is graphically displayed in chart 10 below.

Chart 10: Interaction between birth order and family income



Results visualized in the above chart clearly depict the nature of interaction between birth order and family income. It illustrates interaction effect as the lines are crossing each other. When deeply examining the chart, one can also observe a big difference existing between first-borns and other groups as a result of all possible

combinations or conditions of interaction operating at various levels between the two variables. First-borns obtained higher mean scores regardless of the level of income of their families as compared to other positions. This condition signifies that they are high achievement oriented than the rest of the groups. Although all first-borns are found to be highly motivated for achievement in every income level, the data also indicates variations within first-borns in which those with high income scored by far better than others. Moreover, the chart also reveals that middle-borns whose families earn low income have the least mean scores as compared to the other categories.

3.4 Correlation between Achievement Motivation and Performance.

In order to see how the effect that birth order brings on academic achievement motivation relates to academic performance of participants, a Pearson correlation was computed for the latter two variables and from which logical deduction has been made about their interrelationship. The scores on academic performances were based on the 8th grade national exam collected from the schools record.

Table 17: Result of Pearson moment product on the relationship between academic achievement motivation and academic performance

Correlations		Grade 8 national exam score	scores on academic achievement motivation
Grade 8 national exam score	Pearson Correlation	1	.467**
	Sig. (2-tailed)	.	.000
	N	164	164
scores on academic achievement motivation	Pearson Correlation	.467**	1
	Sig. (2-tailed)	.000	.
	N	164	164

**** Correlation is significant at the 0.01 level (2-tailed).**

As indicated in the above table, the outcome of Pearson moment correlation showed significant positive correlation between academic achievement motivation and participants' scores on grade 8 national exam ($r= 0.47$, $p<0.01$). In general, it appears that moderate relationship exists between the two variables. This also implies that a certain degree of academic achievement motivation has a moderate tendency of being associated with a corresponding degree of academic achievement. To be more specific, correlation coefficient for each birth order category was also worked out and the result is summarized in table 18 below.

Table 18: Summary of the Correlation Coefficients for Each Birth Order Category

Category	N	Pearson Correlation	Sig. (2-tailed)
Overall Group	164	0.47**	.000
Only Child		0.27	.135
First Born		0.56**	.000
Middles Born		0.69**	.000
Last born		0.34	.823

**** Correlation is significant at the 0.01 level (2-tailed).**

According to the outcome of the correlation coefficients, there is a significant and positive relationship between the educational achievement and achievement motivation scores of first borns and middle borns ($r= 0.56$, $p<0.01$) and ($r= 0.69$, $p<.01$) respectively. Hence, there is a possibility by which an increase or decrease of the level of achievement motivation is associated with an increase or decrease in the level of academic achievement. On the contrary, the finding showed no significant correlation in the case of the only child ($r=0.27$, $p<.01$) and last born groups ($r=.34$, $p<0.01$).

CHAPTER FOUR
DISCUSSION

In this section results, presented quantitatively in the previous section are revisited and discussed in detail from various perspectives. Possible explanations and potential reasons have been given depending on how the research hypotheses were supported or refuted. Besides, the results were also compared with the similar research findings on the issue under the study.

4.1 The Effect of Birth Order on Achievement Motivation

One of the major assertions hypothesized for empirical testing in the present research was the differences in achievement motivation, which apparently occurs across groups of adolescents owing to the effect of their ordinal position in the family. Like some researches conducted in this area, this study also generated results that supported the hypotheses. The overall results have clearly indicated the role that birth order would play a role in influencing the academic achievement motivation of adolescents. When tested in combination with other background variables, significant main effects have been obtained where major differences were largely observed between first-borns and middle-born groups. First-borns showed higher need for achievement than middle-borns.

Other empirical studies, conducted on similar topics, also support the present findings. Sharon (1995) for instance, studied 195 ninth grade boys and girls in the US with a mean age 14.9 years and found out a significant difference in achievement motivation among students at different birth positions in the family. His finding affirmed that older and youngest children were better in achievement motivation than the middle children. In another finding, Edward's (1992) in his critical review of 25 birth order studies appearing in the Journal of Individual

Psychology (1981-1991) pointed out that conclusions suggested by some of these studies indicated that achievement motivation patterns vary with birth order and the first-borns manifested the first-born profile found in Adlerian literature.

4.2 Superiority of First-borns

In this research, with various statistical testing procedures, the findings have revealed that first-born groups achieved higher mean scores in their academic achievement motivation than other birth order categories. Apart from the overall result, sex and school segregated data also showed a similar outcome. Mean differences in this respect were found statistically significant. In addition, the lower standard deviation scores seen in this group signify a strong similarity within the group than others. This clearly implies that the hypothesis set with regard to superiority of first-borns in academic achievement motivation has been supported. One possible developmental explanation attached to the high achievement orientation of the first-borns could be attributed to the proper care and attention catered to them by parents or caretakers during their early years.

Some researchers also reported similar findings and explanations to this state of affairs. To cite few, Bernand and Pfouts (cited in Fernald 1999) identified birth order as one of the factors for differences in achievement motivation among the research participants of which first-borns were found superior. As they stated, the first born child, alone with the parents for sometime receives the most attention in early years, and this child has been found to have a higher need for achievement than his or her brothers or sisters. This coincides with the explanation of Michael Grose (2003), who expounds Alferd Adler's explanation related to lifestyle beliefs and birth order. According to his clarification, first- borns who get parents' undivided attention in early years gain a picture of a life belief that they only belong when they are the best. So, they push themselves to excel in whatever they do. Adler's theory of striving

for superiority could also give further insight into the above explanation. He emphasizes the role of sibling rivalry as a drive to motivate the first-born to maintain his/her position through high achievement.

Researchers Teri and others (cited in Santrock, 2003) also elaborated that when the differences in birth order are found, they usually are explained by variations in interactions with parents and siblings associated with their experience in a particular position in the family. The fact that first-borns often shoulder varied responsibilities in the family due to their birth position, may award them a better opportunity to experience interactions with parents and with significant others that in turn might contribute to their achievement.

This finding is, however, in contrast to some researches the findings of which are in favor of the single children (only children). In fact, it is obvious that only children are first-borns but without sibling. Kevin Leman, author of The *New Birth Order Book*, refers to only children as super first-borns. Clarifying the reason for his conclusion, Leman noted the fact that single children spend a great deal of years in company of parents who are not distracted by other children. Thus parents devoting their considerable time, energy and parenting resources to just one child, give him or her huge academic advantage. But the present research hasn't yet come up with a similar result. This might be due to the fact that less number of only children was included in the study as compared to the other groups. On the other hand, the inconsistency of the finding could be acceptable as the only children never experience the ignominy of dethronement, competitive environment and rivalry with siblings, which might influence their lower need for academic motivation.

4.3 Gender Differences in Birth Order and Achievement Motivation.

The study also came up with empirical evidences confirming no significant difference between boys and girls in terms of their academic achievement explained due to the effect of their birth order. Gender difference doesn't have any significant main effect or interaction effect with birth order. As the study was carried out in a metropolitan city where educational and socio cultural advancements are relatively high compared to the rural setting, the chance for educational access for both males and females is also high. Thus, homogeneity of the result might be related to the socialization of families in providing educational opportunities for boys and girls. A similar result was found in a research conducted by Wells (1995), whose finding showed no difference in academic achievement motivation between older and younger siblings among boys and girls. The hypothesis which was established by the researcher for gender differences is not in line with the finding and therefore, it is refuted. This observation is inconsistent with that of Wolf (1993) who analyses the determinants of achievement motivation among a sample of 480 Wisconsin high school graduates, and uncovered several statistically significant differences that exist among boys and girls. One possibility for the inconsistency between the findings of the two studies may be due to the types of instruments (achievement motivation tools) used to test the hypothesis or the difference in the sample size.

The other gender related finding inherent in this birth order study was the result obtained from male and female groups. According to this finding, even though the effect of birth order is not influenced by gender, statistically significant differences were obtained among birth order categories for each sex group standing by itself. One can therefore conclude that regardless of sex differences, fist-borns achieve higher in academic achievement motivation. On the other hand middle-borns are in a disadvantage position as their mean scores are the lowest of all birth order categories. This shows that birth order similarly affects males and females.

4.4 Birth Order and Family Background

From the finding it appears that, among other factors included in the study, family income yielded a statistically significant main effect and interaction effect. The overall main effect verified the fact that economic background of the family makes a difference in adolescents' motivation for academic achievement. A similar result was found in a research conducted by Kevin (1997) who examined the extent to which family income status determines the level of educational aspiration among 300 Australian youngsters of age 11, 16, and 21 in different ordinal positions. Kevin concluded from his finding that relations between birth order and aspiration levels vary for youngsters from differing economic backgrounds. Supportive evidence was also given by McLanhan and Sandefur (1994) who stated that although family income is correlated with parents' education and occupational status, it has significant independent effect on educational motivation of children.

One of the inferences one can make out of the effects of interaction between birth order and economic status is that adolescents in middle class families have better achievement motivation for education in every birth order position. Looking into the mean scores of the first-born groups, it is also possible to deduce that although it makes a substantial impact, income alone may not be a sufficient condition to influence academic achievement. This can be observed from the finding, which indicated high achievement among first-borns regardless of the level their income. Even under low income conditions, first-borns scored higher in achievement motivation test.

It is also noteworthy to discuss the effect of family income within the realm of interaction among those participants in the middle position, who were found to be lower achievers at every income level.. When deeply examining the with–in group

difference among middle-borns, there is a wider distance between mean scores of those from low income earning families and those in medium or high income levels. Thus, from this finding, it can be concluded that the lower the family income, the lower the academic achievement motivation of middle- borns would become. From this outcome, it is not difficult to deduce that middle-borns having large sibling size and low family resource may not be highly motivated enough to excel in academic pursuit. This will lead us to the explanation related to the resource dilution theory which states that with an increase in the sibling size, family resources get thinner and thinner as a result of which latter-borns may not get as adequate parental care and attention as they should. This might eventually influence the development of achievement motivation in later years.

The above idea is in agreement with what Wells (1995) deduced similar conclusion examining interactions between birth order and family income. Wells argues that early in life, first-born children don't have to compete with other children for time and attention from their parents. Middle born children never enjoyed this luxury – they always feel squeezed in at least one direction and are disadvantaged with respect to the amount of parental inputs afforded to them.

Despite the fact that no significant difference was observed due to the effect of sibling size or in its interaction with birth order positions, inference was made about this from the significant main effect results of average years of spacing between siblings. The present research has disclosed that participants living in families having wider years of spacing between siblings (an average of 4 years and above) scored higher in achievement motivation than those with narrow gap regardless of the sibling position. Such a finding would lead us to a logical explanation in connection to the resource dilution model and its effect on birth order, large spacing implies low sibling size, and therefore, in smaller families the possibility of getting adequate parental care and attention would be so high. This shows that birth order hardly

affects the level of adolescents' achievement motivation if there is a wider age gap between siblings. Grose (2000) supporting this idea reported that the age gap between siblings is perhaps the greatest variable influencing the child's achievement. Birth order has such a potent influence on children due to the competition between siblings for parental attention and approval.

The different results obtained in comparison between Dil Ber and Cathedral Schools concerning sibling spacing and achievement in relation to birth order, clearly reflect the conclusion made earlier. Scheffe's pair wise comparison confirmed that in Dil Ber School, a significant difference was observed between first-borns and middle-born groups. However, the finding in Cathedral School was contrary to this result, showing that there was no significant difference between first-born and middle-borns. As mentioned earlier, the finding showed that adolescents living in families having larger average years of spacing obtained highest mean scores in achievement motivation. It was also found out that the average years of spacing for participants from Cathedral School was higher than Dil Ber. Therefore, one can say that middle-borns in Cathedral are in advantageous position due to family spacing than those in Dil Ber School.

Among other family background variables, parents' educational background and sibling types showed no statistically significant interaction effect on participants' scores on academic achievement motivation. These findings seem to be inconsistent with most research findings, which showed significant effect. With regard to sibling type, for example, Grose(2000) reported that being a different gender among siblings of like-sex was found to be less achievement motivated than living in a similar gender siblings. If all siblings are of the same gender, the child in the middle is at a greatest disadvantage.

In the present finding, however, no significant effect has been observed in this regard. The reason for such a mismatch of results could be due to the limited size of the sample groups from different sibling types. Mixed gender siblings constituted the highest number of samples included in the study while like–sex siblings and singletons were very few. Similarly, neither main effect nor interaction has been observed in the relationship between birth order and parent's educational backround against the level of achievement motivation of students. Contrary to this, some researchers have ascertained significant effect. A possible reason for the mismatch of result concerning the effect of parents' education could be because participants may not have provided genuine information about their parental educational background.

4.5 Birth Order, Academic Motivation and Performance

The other issue that has been investigated in the current research was the issue of the interrelationship of birth order and academic achievement motivation with the educational performance of participants in the class. The question was answered using the Pearson product moment correlation procedure, in which the correlation coefficient for the mean scores of each birth order category was computed against their 8th grade national exam scores. The outcome in general has uncovered a significant positive linear relationship existing between motivation and performance of students although the relationship is quite moderate.

This finding is in agreement with several past researches undertaken in these areas of concern. Daniel (1992) found a similar result by examining the achievement motivation of the Ethiopian freshman program students at Kotebe Teachers Training

College. His finding disclosed statistically significant relationship between achievement motivation and students' cumulative grade point average. In another Ethiopian study, Kifle (2004) in his research on 259 Ethiopian students in three high

schools in Tigray region found out that those students with higher level of achievement motivation scored significantly higher in their academic performances. The findings of Fablo and Polit (1995) also confirmed the same. Studying 300 adults who came from three-child families, they concluded that first-borns and only children tend to do better in school and on intelligence tests and are more likely to achieve admission to the prestigious colleges than their latter brothers and sisters. Keefe and Jenkins (1993) noted that motivation, as it relates to students is very important. Students who have high motivation to achieve generally do well academically. Students with low motivation don't do well academically.

From these findings one may deduce that when achievement motivation increases does academic achievement. This also implies that achievement and motivation can be the two inseparable elements. Where there is academic achievement there is motivation and vice versa, although the degree and level of motivation varies. From the above finding, it is also possible to note that the influence of birth order on academic achievement motivation can be associated with the educational achievement of adolescents.

CHAPTER FIVE
SUMMARY, CONCLUSION AND IMPLICATION

5.1 Summary

The purpose of this study was to examine the relationship between birth order and academic achievement motivation of 9th graders, in two High schools in Addis Ababa. Based on the review of divergent findings in this area of interest, it was hypothesized that a) first-borns achieve higher in academic motivation than later borns. b) There is a significant difference between boys and girls due to birth order. c) The effect of birth order on academic achievement motivation is high in families with larger sibling sizes than the smaller ones. A survey research design was used to test these hypotheses, in which a total number of 164 sample participants took part in the study.

The study was conducted in one private and one government high school in Addis Ababa. An adapted self-report test was employed, using a Likert-type five point scale to measure the Academic Achievement Motivation of participants. The test was pre-tested on 40 participants. Following improvements made on the pilot test result, the reliability of the test was found to be r= 84 and the data response rate was 100%. During the analysis, SPSS Package Version 11.00 was used to facilitate breakdown and organization of the data. Descriptive Statistics, analysis of variance and Pearson correlation procedures were employed to analyze the data and to find out statistical results.

According to the findings, first-born groups achieved higher mean scores in academic achievement motivation than other birth order categories. The study also came up with empirical evidence confirming no significant difference

between boys and girls in terms of their academic achievement explained due to the effect of their birth order. Statistically significant interaction effect was also observed between birth order and family income, which implies that the family income can influence the effect of ordinal positions on a certain level of birth order categories. As far as the school segregated result is concerned, in Dil Ber School, significant difference was observed between first-borns and middle-born groups whereas the finding in Cathedral School was contrary to this result.

First-borns obtained higher mean scores regardless of the level of income of their families. Moreover, middle-borns whose families earn low income have the least mean scores as compared to the other categories. As far as interactions are concerned, the outcome depicted that, except for family income, there was no statistically significant interaction observed between birth order and other variables tested in combination, i.e. sex, parent's level of education, sibling size and sibling spacing tested by a two factor ANOVA. The outcome also uncovered a significant positive linear relationship existing between motivation and performance of students although the relationship is quite moderate.

5.2 **Conclusion**

Based on the findings analyzed and interpretations of results discussed earlier, the following conclusions have been drawn.

5.2.1 In general, birth order has a significant effect on the academic achievement motivation of adolescents. This means, the level of academic achievement motivation of adolescents can vary on account of the ordinal position they hold in their families. Among others, birth order effect is reflected in making differences between first-borns and middle-bons. It was ascertained that

first-borns outshined participants in other ordinal positions in terms of academic achievement motivation while middle-borns are found to be low achievers.

5.2.2 Males and females are the same in their level of academic achievement motivation regardless of their birth order. In other words, there is no as such a significant change that can be accounted for by the effect of birth order among male and female adolescents.

5.2.3 Family economic status entails a considerable influence on the academic achievement motivation of adolescents in which those that come from medium level of income showed better results. First-borns are hardly influenced by the level of family income and they have also demonstrated superiority in achievement motivation regardless of the amount of income their families earn. Such a similarity among first-borns at different income conditions presumably tells us that income may not be the only factor for making a difference in their achievement motivation.

5.2.4 The effect that birth order could bring on adolescents differs between those who are attending education in the government and private schools. In the case of Dil Ber (government owned high school) the effect is largely between first-borns and middle-borns where the former exceeded the latter in achievement motivation. Whereas, in LCCS (private high school) the reverse holds true where no difference was observed between first-and middle-born unlike the other groups.

5.2.5 As it was found out, the larger the age gap between siblings irrespective of their birth order in the family, the better their achievement motivation would become. It is also evident that the size of the sibling with a wider age gap is expected to be small and, therefore, as the main effect against sibling size indicates, with increase in sibling size, the difference between first-borns and middle-borns would considerably increase. Under such situations, middle-borns specially experience low achievement motivation in education.

5.2.6 Although there is main effect, no statistically significant interaction effect was obtained between birth orders and other variables such as parental educational background and sibling type.

5.2.7 There is a positive relationship between academic achievement motivation and academic performance among adolescents. Thus, the effect of birth order on adolescents' academic achievement motivation can be reflected on the academic performance of students.

5.3 Implications

5.3.1 The current study shows that birth order is not simply a net set of numbers given to siblings in their order at birth in the family. There are various explanations that can be reflected beyond the order of numbers as far as its effect on achievement motivation of adolescents is concerned. Particularly, it requires seeing the effect from the perspective of the family frame. It is necessary to look at how the children function in the family rather than purely focusing on their ordinal position because the family provides the frame for children's development and birth order provides the lens through which each child in the family sees the world individually.

Thus, investigating the dynamics of the family in relation to birth order gives a deeper understanding to realize its influence on academic achievement motivation of adolescents.

5.3.2 Birth order principles can be applied into many areas of life for both children and adolescents. No birth order position is better than others. It is actually the degree of parental involvement and attention in the family environment that puts children of a particular birth position in advantage or disadvantage. Hence, parents should strike a balance between their sibling size along with the time and resources at their disposal, so that they can be able to provide proper care and attention for the development of achievement motivation of their children/adolescents irrespective of their ordinal positions. Moreover, teachers and counselors in the schools should be conscious enough to consider the ordinal position and how it is linked to the family background of children or adolescents when addressing the problems related to academic achievement motivation of children.

5.3.3 The early years are critical in the development of achievement motivation among adolescents. According to the findings of the current study as well as that of other birth order studies, parental care and attention rendered at the prime age of children plays a significant role for the development of achievement motivation in later stages. However this doesn't mean that every child/adolescent proceeds along the same path in this line of development. The notion of individual difference has to be considered. Thus, taking individual differences into account, it could be asserted that birth order can be a predictor of achievement motivation but not the sole determinant of this behavior. Therefore it is quite realistic to say that findings about birth order in this study are more of possibilities than certainties.

5.3.4 There are many factors which influence birth order. A whole range of these variables work together to impact on the level of academic achievement motivation of an individual. Once these variables are understood and considered, then it usually makes sense why individual differences occur in achievement motivation. However, only few of these variables were included in the present study, which may limit the scope of knowledge that may be generated out of it. In addition, as data on the relationship between birth order and academic achievement motivation in Ethiopian situation is so scanty, further studies are recommendable to broaden the insights in this area of concern. As repeated measures are more reliable, replication of similar research with additional family background variables would help to give better understanding of the issues under consideration.

REFERENCES

Atkinson, W. & Feather, N. (1986). A theory of achievement Motivation. New York: Academic press.

Baron, R. A. (1995). Psychology, 3rd edition. New York: McGraw- Hill Company.

Belay, H. (1996). Relations between Locus of control and academic achievement: An adaptation of a measure of locus of control, Addis Ababa University, School of Graduate studies.

Belmont, L. & Marolla, F.A.(1993). Birth order, family size and intelligence. Science, 182, 1096-1101.

Bjarne, S. (2004). Student achievement and birthday effects. Paper prepared for presentation at the CESifo-Harvard University. Retrieved on November, 4, 2004, from http://www.mwsc.edu/psychology/research/lowery.html.

Blake, J (1989). Family size and achievement. Berkley: University of California Press.

Bukatko, D. & Dachler, W. M. (2001). Child development: A thematic approach, 4th edition. New York: Houghton Mifflin Company.

Clayton, .R .k (1998). Birth order and education. Retrieved on December 16, 2004, from http://www.jasnh.com/al.html

Cox, M. J. & Paley,B.(1997). Families as systems. *Annual Review of psychology*, 48, 243-267.

Daniel, T.(1992). Personality Types and academic achievement motivation as correlates of college academic performance. Unpublished research report, AAU.

Denise, D. G & Stephen, J. G, (2002). Birth category Effects on the Gordon Personal profile . Retrieved on December 11, 2004, from http://www.questia.com.

Fablo, T. and Polit,F.(1995). Quantitative review of the only child literature: Research Evidence and theory development. Psychological bulletin, 100, 176-189(p33).

Feldman, R.S (1996). Understanding Psychology. Fourth edition. McGraw Hill Inc. New York.

Gottfried, A.E. (1985). Academic Intrinsic Motivation, in elementary and junior highschoo students. Journal of Educational Psychology, 77, 631-645.

Ferdinand L.D and Ferdinand P.S (1999). Introduction to Psychology. Fifth Edition. AITBS Publishers, Delhi.

Flangan, C.A (1990) Change in family work status: Effects on parent –adolescent decision making . *Child Development* , 61, 163-167.

Geoffery, C. (1998/99). First born later born: Child growth and development. Annual edition. Dushkin: McGraw-HIill Company.

Grolnick,W. Ryan, R. & Deci, E. (1991). Inner resources for school achievement: Motivational mediators of children's perceptions of their parents. *Journal of educational Psychology*, 83, 508-517.

Grose, M.(2003). Why first-borns rule the world and last- borns want to change it. Griffin Press, Netly , South Australia.

Hania, S. (2004) Sibling configuration: Impact on education and Health outcomes. Retrieved on December 11, 2004, http://www.indiana.edu/~intell/birthorder.shtml

Henery,T.S. (1990). Adlerian overview of birth order characteristics, . Retrieved on 11/25/2005, from http://www.childdevelopmentinfo.com/development/birth order.htm

Henderson, V. and Dweck, C. (1990). Motivation and achievement. *At the threshold: the developing Adolescent.* , Cambridge: Harvard University Press.

Jennifer, E. & Molly, M. (2002). Does Birth Order impact intelligence? Retrieved on December 19, 2004, from http://www. clearinghouse.mwsc.edu/manuscips.html

Jessica, R. (2000). Are firstborns smarter? Psychology today magazine, summary. Retrieved on November 25, 2004, from http://www marymt.edu/~psychol/exper/chap.html.

Joseph, P (2003). The effect of birth order on parent- child interaction. Retrieved on May 05, 2005, from http:// www.questia.com

Keefe & Junkins (1993) Birth order and educational attainment in full Sibships. Estimate of the impact of sibship size and birth order from exogenous variation of fertility. Working paper no. 11302.

Kevin . M.(1997) Ordinal Position , family income and academic aspiration among Australian youngsters . Journal of Social Psychology. Vol.137(3)June 1997, 398-399).

Kifle, G.(2004) . Self- efficacy, academic achievement motivation and study habits. The case of general secondary school students in Tigry. Unpublished Research Report, AAU.

Leman, K.(2000). The new birth order book. Fleming H. Ravel pp.57, 61, 62.

Lowery, S. (1995). The effect of Birth Order on Intelligence. Retrieved on November 16, 2004, from http://www.clearinghouse.mwsc.edu/manuscripts/17.asp

Livingston, R.(1999). Birth order family size and achievement. Family structure and wage determination. Journal of Laboutr Economics, Vol. 9, No. 5 1999, 413-426.

MClanahan, S. and Sandfur, G.(1994). Growing up with a single parent. What hurts, what helps? Cmbridge Harvard University Press.

Minuchin, P.P (1988) Relationship with in the family: a systems perspective on development. In R.A Hinde & J. Stevenson –Hinde(Eds), Relationships with in families : *Mutual Influences*. Oxford: Clarendon Press.

Morgan, C. T. King R. A. John, R. W. & Schopler, J.(1986). Introduction to psychology, 7th edition. NY: McGraw-Hill Company.

Santrock, J. W. (2003). Children, 7th edition. Boston: McGraw-Hill Companies Inc.

Sharon, D. (1995). Birth order and family size: Influence on adolescents' achievement and related parenting behavior s. psychological reports. Vol.76 (1), feb, 1995, 43-45. .

Sherman, L.(2005). Family influences up on learning: A report, theories of human learning, p 13.

Steinberg, L (1988) Reciprocal relations between parent-child distance and pubertal maturation. *Developmental psychology*, 24, 122-128

Stinberg, L.(1993). Adolescence. Third edition, McGraw Hill Inc. New York.

Sulloway, F. J. (2002). Technical report on a vote-counting and meta-analysis of the birth order literature (1940-1999). University of California, Barkeley.

Tomas, G.(2002). Achievement motivation. Unpublished Research paper. Graduate school, University of Winsconsin- Stout, Menomonie.

Travis, R & Kohli, V. (1995). The birth order factor: Ordinal position, social and educational achievement. Journal of social psychology 135(4):499-507.

Victor, J. C.(1988). The family, 5th ed. Boston: Allyn and Bacon .Inc

Weiner, B.(1992). Human Motivation: Metaphore, theories and research. International Educational and Profesional Publisher, London.

Wells, T.(1995). Does family Background Affect Educational Attainment Differently According to Family Structure, Birth Order, and sex? NSFH Working paper No.70. [0n line]

Wolf, B. (1994). Succeeding Generation: On the effect of investments in children. New York. Russell Sage Foundation.

Zanden, J. V. (1993). Human Development, 5th Edition. New York: McGraw-Hill (Inc).

ANNEX

Addis Ababa University
Graduate program in Developmental Psychology

Department of Psychology

Self–report Questionnaire

Dear Respondent,

This questionnaire involves items presented in two parts. The first part is about biographic information and the second part consists of items to know about other aspects of your life. I would like to appreciate your willingness to participate in the research. Feel free to provide genuine information. There is no need of putting down your name or identification number (roll number). Thus, you are kindly requested to fill out the questionnaire carefully and return it after responding each item /question.

Thank you for your cooperation.

Part I : Background Information

Instruction: For those items which have options, put a √mark in the box of your choice and for those with a blank space, write your response in the space provided.

1. Sex: ☐ Male ☐ Female 2. Age _____

3. With whom are you living?

   ☐ With both parents ☐ With father

   ☐ With mother ☐ With relative

   ☐ Others please specify _____

4. Your ordinal position in the family _____
5. Family size _____
6. Do you have brother(s) or sister(s)? ☐ Yes ☐ No
7. If yes (to item 6), how many? Brother _____ Sister_____ Total _____
8. Write the age of all siblings according to their birth order in the box below.

Birth Order	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th		
Age												

9. State your parents' /guardian's educational, occupational and income status below.

Parent/guardian	Education	Occupation	Monthly income
▪ Father			
▪ Mother			
▪ Guardian			

10. Your last 8th grade national exam score _____
11. what was your last semester average score _____
12. Have you ever repeated grades? ☐ Yes ☐ No
13. If your answer to question 12 above is yes, how many times? _____

PART II

Instruction: In the following Rating Scale, 42 items are presented about your academic life. For each item, five responses are given. Please put a "√" sign in the box for your response given against each item. Once again I request you to give free, frank ad real response to each item.

No	Items	Strongly Agree	disagree	unde cided	Agree	Strongl y agree
1*	I believe that luck determines ones academic success more than hard work does.					
2*	The thought of going to school often makes me feel bored					
3	When good things happen to me, I feel that they happen because of my hard work.					
4*	Compared with other students in the class I always score least.					
5*	I don't feel comfortable when asked to answer difficult questions.					
6	I often do something to prove that I can do it myself.					
7	I regard myself as more consistent and hard worker in the classroom assignments than other students in my class.					
8	I am certain that I will receive a good grade in my class.					
9	It is important for me to learn what is being thought in the class.					

10*	I am so nervous during a test for I can't remember facts I have learned.					
11	I often prefer assignments which are challenging so that I can learn new things out of them.					
12*	My intention is to get good grade though I don't understand the lesson.					
13	My study skills are better compared with others in my class.					
14	I usually feel the time is going fast while in school.					
15*	The thought of approaching exam days makes me nervous.					
16	Even when I do poorly in a test, I try to learn from my mistakes.					
17	Unless I understand the subject matter very well, getting good grades alone doesn't make sense to me.					
18	When I am given difficult assignment, I enjoy finding a solution to it.					
19*	When I often take exams, I feel unnecessarily upset.					
20*	Failure discourages me from trying as hard as possible the next time.					
21*	I don't like challenging questions.					
22*	The future is too uncertain for me to make serious plan.					
23	Compared with other students in the class, I believe I do better.					
24*	When I take a test, I think about how					

	poorly I am doing.					
25*	I wish grade promotions were given with out taking exams.					
26*	Since the future is uncertain, there is no reason to try to do things in a hurry.					
27 *	I am very much afraid of exams					
28*	I give attention to those activities which involve chance factors.					
29	Getting lower marks makes me feel unhappy.					
30	It is better to fail exams than asking for favor to pass.					
31	I feel unhappy if another student makes better grades than I do.					
32*	I don't prefer to toil a lot to get better results.					
33	I enjoy learning new things in class.					
34	I don't give up an assignment until I understand it very well.					
35*	I often don't like to attend cases when given difficult homework /assignments.					
36	Answering questions in class really makes me feel delighted.					
37*	I prefer to have friends who perform less than me.					
38*	I sometimes wish I had gone straight to work than spending time in school.					
39*	If I find the work has no immediate feedback but distant reward, I would					

	rather not do the work.					
40*	I think it is impossible to get good grades in a class where there is fierce competition among students.					
41*	I give more weight to the reward I get from my parents than the success I achieve.					
42*	I prefer an exam having easy items only.					

* The following items indicate low academic achievement motivation and they are inversely scored.

አዲስ አበባ ዩኒቨርሲቲ
በድኅረ ምረቃ ፕሮግራም የስነ ዕድገት ሳይኮሎጂ ክፍል

<u>በተሳታፊዎች የሚሞላ መጠይቅ</u>

ውድ ተሣታፊዎች፣

ይህ መጠይቅ ፈተና አይደለም:: መጠይቁ በአዲስ አበባ ዩኒቨርሲቲ ለስነ ዕድገት ሳይኮሎጂ ክፍል ለድኅረ ምረቃ የማሟያ ጥናት መረጃ ማሰባሰቢያነት የተዘጋጀ ሲሆን የጥናቱም ዋና አላማ የልደት ቅደም ተከተል ከወጣት ተማሪዎች የትምህርት ስኬት ተነሳሽነት ጋር ያለውን ዝምድና ለማጥናት ነው:: ይህ መጠይቅ ሁለት ክፍሎች አሉት:: በመጀመሪያው ክፍል ስለአንተ/ቺ እና ቤተሰብህ/ሽ ሁኔታ መሠረታዊ መረጃን የሚጠይቅ ሲሆን በሁለተኛው ክፍል ደግሞ የወጣት ተማሪዎችን የትምህርት ስኬት ተነሳሽነት የሚለኩ ዝርዝር ሃሳቦችን ያካተተ ነው::

መጠይቁን ለመሙላት ፈቃደኞች በመሆናችሁ አድናቆቴን እየገለፅኩ፣ ስለአንተ/አንቺ ሁኔታ በትክክል በሚገልፅ መልኩ ትክክለኛውና እውነተኛው ምላሽ እንደሚሰጠኝ ተስፋ አደርጋለሁ:: በመጠይቁ ላይ ሥም መፃፍ ወይም የመታወቂያም ሆነ የክፍል ቁጥር መፃፍ ፈፅሞ አያስፈልግም:: ምላሻችሁ ምንም ይሁን ምን ትክክል ወይም ስህተት ተብሎ የሚወሰድ አይደለም:: በተጨማሪም የምትሰጡት ምላሽ ወይም መረጃ የመላሹን ማንነት ለሌሎች በማይገልፅበት መልኩ የሚቀርብ መሆኑን እያረጋገጥኩ ነፃና ግልፅ ሆናችሁ መጠይቁን በመሙላት እንድትተባበሩኝ በአክብሮት እጠይቃለሁ:: ላደረጋችሁልኝ ትብብር ልባዊ ምሥጋናዬን አቀርባለሁ::

ክፍል 1

መመሪያ:- ከዚህ በታች አማራጭ ለቀረበላቸው ጥቄዎች ከጎናቸው በሚገኘው ሳጥን ውስጥ የ √ ምልክት በማድረግና፤እንዲሁም አማራጭ ላልቀረበላቸው ደግሞ በተተወላቸው ክፍት ቦታ ላይ በመፃፍ ምላሻችሁን ስጡ::

1. ፆታ፡ ☐ ወንድ ☐ ሴት

2. እድሜ _____

3. የምትኖረው/ሪው ከማን ጋር ነው?

☐ ከሁለቱም ወላጆቼ ጋር ☐ ከዘመድ ጋር

☐ ከእናቴ ጋር ☐ ሌላ ካለ ይገለፅ _____

☐ ከአባቴ ጋር

4. ለቤተሰብህ/ሽ ስንተኛ ልጅ ነህ/ሽ? _____

5. የቤተሰብ ብዛት _____

6. ወንድም ወይም እህት አለህ/ሽ? ☐ አዎን ☐ የለኝም

7. መልሱ አዎን ከሆነ ስንት ናቸው? ወንድም_____ እህት_____ ድምር_____

8. የወንድምና እህቶችህን/ሽን ዕድሜ በሚከተለው ሰንጠረዥ ውስጥ ግለፅ/ጪ

የልደት ቅደም ተከተል	የመጀመሪያ ልጅ	2ተኛ ልጅ	3ተኛ ልጅ	4ተኛ ልጅ	5ተኛ ልጅ	6ተኛ ልጅ	7ተኛ ልጅ	8ተኛ ልጅ		
ዕድሜ										

9. የአባትና እናት ወይም የአሳዳጊ የትምህርት ደረጃ፣የሥራ ዓይነት እና ወርሃዊ ገቢ በሚከተለው ሰንጠረዥ ውስጥ ግለፅ/ጪ::

ወላጅ(አሳዳጊ)	የት/ደረጃ	ሥራ	የወር ገቢ መጠን
▪ አባት			
▪ እናት			
▪ አሳዳጊ			

10. የ1997 ዓ.ም የ8ኛ ክፍል ብሄራዊ ፈተና ውጤትህ/ሽ ስንት ነበር? _____

11. የ1998 ዓ.ም የ9ኛ ክፍል 1ኛ መንፈቅ አመት አማካይ ውጤትህ/ሽ ስንት ነበር?____

12. ክፍል ደግመህ/ሽ ታውቃለህ/ሽ? ☐ አዎን ☐ አላውቅም

13. መልሱ አዎን ከሆነ ስንት ጊዜ ደግመህ/ሽ ታውቃለህ/ሽ? _____

ክፍል 2

መመሪያ፡- ከዚህ በታች የቀረቡትን ዝርዝር ነጥቦች አንብባችሁ በመግንዘብ በእያንዳንዱ ነጥብ ላይ አነተን /አንቺን በሚመለት "በጣም እስማማለሁ" ፣"እስማማለሁ"፣ "መልስ የለኝም" ፣"አልስማማም" ፣"ፊፅሞ አልስማማም" ተብለው በሰንጠረዡ ላይ ከቀረቡት አማራጮች ትይዩ የ √ምልክት በማድረግ ምላሻችሁን ግለፁ፡፡

ተ.ቁ	የመጠይቅ ዝርዝር	በጣም እስማማለሁ	እስማማለሁ	መልስ የለኝም	አልስማማም	ፊፅሞ አልስማማም
1	በትምህርት ውጤታማ ለመሆን ከጥረት ይልቅ ዕድል በጣም ወሳኝ ነው ብዬ አምናለሁ::					
2	ሁልጊዜ ወደ ት/ቤት መሄድን ሳስበው ይደብረኛል(ያስጨንቀኛል)::					
3.	ማንኛውም ነገር ሲሳካልኝ በራሴ ጥረት እንደተሳካልኝ አድርጌ አስባለሁ::					
4	አብዛኛውን ጊዜ ከክፍል ተማሪዎች ዝቅተኛውን ውጤት ነው የማገኘው::					
5	ከበድ ያለ ጥያቄ ስጠየቅ ውስጤ ይረበሻል::					
6	ማንኛውንም ተግባር የማከናውነው መሥራት መቻሌን ለማረጋገጥ በማሰብ ነው::					
7	የክፍል ሥራዎችን ያለማቋረጥ ሁልጊዜ በትጋት በመሥራት ከክፍል ተማሪዎች የተሻልኩ ነኝ ብዬ አስባለሁ::					
8	በትምህርቴ ጥሩ ውጤት እንደማገኝ አልጠራጠርም::					
9	የምማረው ትምህርት ለኔ በጣም ጠቃሚ እንደሆነ አምናለሁ::					
10	የተማርኩት ትምህርት ፈተና ላይ መልሱ ሲጠፋብኝ በጣም እረበሻለሁ::					
11	ከበድ ያለ የክፍል ሥራ ቢሰጠኝ እመርጣለሁ ምክንያቱም አዳዲስ ነገሮችን እንዳውቅ ይረዳኛል::					
12	ትምህርቱ ባይገባኝም እንኳን ፍላጎቴ ከክፍል ወደ ክፍል ማለፍ ነው::					
13	የምጠቀመው የጥናት ዘዴ ከሌሎች ተማሪዎች የተሻለ ነው ብዬ አምናለሁ::					
14.	በትምህርት ላይ እያለሁ ሁልጊዜ ሰዓቱ በጣም ይፈጥንብኛል፡፡					
15	የፈተና ጊዜ መቃረቡን ሳስብ ይጨንቀኛል::					
16	በፈተና ጥሩ ውጤት ባላገኝ እንኳን ከስህተቶቼ ለመማር ጥረት አደርጋለሁ ::					

ተ.ቁ	የመጠይቅ ዝርዝር	በጣም እስማማለሁ	እስማማለሁ	መልስ የለኝም	አልስማማም	ፈፅሞ አልስማማም
17	ትምህርቱን ካልተረዳሁት በስተቀር ጥሩ ውጤት ማግኘት ብቻውን ለኔ ጥቅም የለውም::					
18	ከባድ ጥያቄ ወይም የክፍል ሥራ ሲሰጠኝ መልሱን ለማግኘት የማደርገው ጥረት ያስደስተኛል::					
19	ሁልጊዜ ፈተና ላይ አላስፈላጊ የብስጭት ስሜት ይሰማኛል::					
20	አንድን ነገር ስሰራ ጥረቴ ካልተሳካልኝ ዳግመኛ መሞከር አልፈልግም ተስፋ እቆርጣለሁ::					
21	በጣም ከባድ የሆኑ ጥያቄዎችን መሥራት አልወድም::					
22	የነገን ማወቅ ስለማይቻል ስለነገ ማቀድም ሆነ ማሰብ አያስፈልግም::					
23	ከክፍል ተማሪዎች ጋር እራሴን ሳወዳድረው በትምህርት የተሻለ እሠራለሁ ብዬ አምናለሁ::					
24	ፈተና ስፈተን ሁልጊዜ ስለመሳሳቴ ነው የማስበው::					
25	ፈተና ሳይኖር ተምሮ ማለፍ ቢቻል ጥሩ ነበር::					
26	ስለወደፊት እርግጠኛ መሆን ስለማይቻል ተግባርን ለማከናወን መቸኮል አስፈላጊ አይመስለኝም::					
27	ፈተና በጣም እፈራለሁ::					
28	በእድል ውጤት የሚያስገኙ ሥራዎች ላይ ማተኮር እመርጣለሁ::					
29	በትምህርቴ ዝቅተኛ ውጤት ሳገኝ በጣም ይከፋኛል::					
30	አስተማሪን ማርክ ለምኜ ከማልፍ በፈተና ብወድቅ ይሻለኛል::					
31	ተማሪዎች በውጤት ሲበልጡኝ ያናድደኛል::					
32	ጥሩ ውጤት ለማግኘት ብዬ ብዙ መድከም አልፈልግም::					
33	በክፍል ውስጥ አዳዲስ ነገሮችን ማወቅ ያስደስተኛል::					
34	ለሚሰጠኝ ጥያቄ ወይም የክፍል ሥራ መልሱን እስካገኘውና እስኪገባኝ ድረስ ጥረቴን አላቆምም::					
35	ከባድ የቤት ሥራ ጥያቄዎች ከተሰጡኝ በሚቀጥለው ቀን ክፍል መምጣት አልፈልግም::					

ተ.ቁ	የመጠይቅ ዝርዝር	በጣም እስማማለሁ	እስማማለሁ	መልስ የለኝም	አልስማማም	ፈፅሞ አልስማማም
36	ክፍል ውስጥ ጥያቄ መመለስ ደስ ይለኛል::					
37	በጉብዝና ከኔ ያነሱ ጓደኞች ቢኖሩኝ እመርጣለሁ::					
38	ትምህርቴን ከምማር ይልቅ ሌላ ሥራ ላይ ጊዜዬን ባሳልፍ እመርጣለሁ::					
39	ሠርቼ በቶሎ ውጤቱን የማላይበትን ሥራ መሥራት አልፈልግም::					
40	ከፍተኛ ፉክክር ባለበት ክፍል ውስጥ ጥሩ ውጤት ማግኘት የሚቻል አይደለም::					
41	በትምህርቴ ከማገኘው ውጤት ይልቅ ቤተሰቦቼ በውጤቴ ለሚሰጡኝ ሽልማት ይበልጥ ትኩረት እሰጣለሁ::					
42	ለፈተና በጣም ቀላል ጥያቄዎች ብቻ ቢዘጋጁ እመርጣለሁ::					

አመሰግናለሁ!!

Declaration

I, hereby confirm that this thesis is my original work and has not been presented for a degree in any other university and that all resources of material used for this thesis have been duly acknowledged.

Name DESTA AYODE
Signature _____
Date of Submission 23/06/06

This thesis has been submitted for examination with my approval as university advisor.

Name: Professor Shamim Ahmed Ansari

Signature: _____ 23/6/06