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Effects of parenting styles, academic self-efficacy, and achievement motivation on the academic achievement of university students in Ethiopia

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*Edith Cowan University*

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Effects of Parenting Styles, Academic Self-Efficacy, and Achievement Motivation on the Academic Achievement of University Students in Ethiopia

By

Ayele Gota ABESHA

A Dissertation Submitted in Fulfillment of the Requirements for the Award of Doctor of Philosophy (Psychology), School of Psychology and Social Science, Faculty of Computing, Health, and Science, Edith Cowan University

Principal Supervisor: Dr. Justine Dandy
Co-Supervisor: Dr. Deirdre Drake

May 2012
Perth, Western Australia
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Effects of Parenting Styles, Academic Self-Efficacy, and Achievement Motivation on the Academic Achievement of University Students in Ethiopia

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Abstract

The prime purpose of this study was to propose and test an integrated parental and social-cognitive model of academic achievement and examine the effects of parenting styles, academic self-efficacy, and achievement motivation on academic achievement by employing an ex-post facto prospective research design. The data on demographic characteristics, parenting styles, academic self-efficacy and achievement motivation were collected through self-report questionnaires from a sample of 2116 (763 females and 1353 males) undergraduate first year students selected via multi-stage cluster random sampling technique from Addis Ababa University, Kotebe College of Teacher Education, and Wolayta Soddo University in Ethiopia and accessing their second semester Grade-Point-Averages (GPAs) of 2008/09 academic year from the Registrars’ Offices of the respective Higher Education Institutions. Preliminary analyses of the data consisted of percentage and correlational analyses. Structural Equation Modeling (SEM) analyses with Analysis of MOment Structures (AMOS 18.0 version) were employed to test the adequacy of the hypothesized model and examine the relationships among the variables. A one-way Multivariate Analysis of Variance (MANOVA) was also used to assess sex differences in the academic self-efficacy, achievement motivation, and academic achievement of students.

The results of preliminary analyses pertaining to the most predominantly practiced parenting style in the families of Ethiopia revealed that authoritative parenting was the most commonly adopted parenting style; however, parenting styles varied as a function of late adolescent and young adult children’s sex (i.e., parents were authoritative for their daughters but neglectful for their sons). The results from tests of the proposed parental and social-cognitive model of academic achievement showed that the hypothesized model provided a good fit to the empirical data for both the overall sample and the sub-samples of female and male students. The results of the path analyses provided partial support for the hypothesized model, in that, irrespective of students’ sex, parenting styles had a significant and positive direct effect on academic self-efficacy, as well as significant and positive mediated effects on achievement motivation (i.e., via academic self-efficacy) and academic achievement (i.e., via achievement motivation for female students and via academic self-efficacy for male students). Parenting styles had also a significant and positive direct effect on achievement motivation for female students, but not for male students.
Specifically, regardless of sex, students who rated their parents as authoritative had higher academic self-efficacy than their counterparts who perceived their parents as non-authoritative; however, only female students who described their parents as authoritative had higher achievement motivation when compared with their counterparts who characterized their parents as non-authoritative. The results also revealed that both female and male students who described their parents as authoritative had higher academic self-efficacy and these students in turn had higher achievement motivation than their counterparts who characterized their parents as non-authoritative. In addition, female students who rated their parents as authoritative had higher achievement motivation and these students in turn had higher academic achievement when compared with their counterparts from non-authoritative families. Similarly, male students who characterized their parents as authoritative had higher academic self-efficacy and these students in turn had higher academic achievement when compared with their counterparts from non-authoritative families. With regard to the interrelationships among academic self-efficacy, achievement motivation, and academic achievement, irrespective of students’ sex, academic self-efficacy had a significant and positive direct effect on achievement motivation and a significant and positive mediated effect (i.e., through achievement motivation) on academic achievement. Furthermore, regardless of students’ sex, achievement motivation had a significant and positive direct effect on academic achievement. Academic self-efficacy had also a significant and positive direct effect on academic achievement for male students, but not for female students.

The results of a one-way Multivariate Analysis of Variance (MANOVA) indicated that there were significant sex differences in the academic achievement of students (i.e., favouring male students); however, there were no significant differences among female and male students in their academic self-efficacy and achievement motivation. The findings also uncovered that undergraduate first year university students in Ethiopia who participated in the present study had high academic self-efficacy and achievement motivation but low academic achievement. Based on the findings, some practical and theoretical implications of the study for designing interventions to maximize students’ academic achievement in higher education institutions are addressed.

*Key Words:* Parenting styles, academic self-efficacy, achievement motivation, academic achievement, and university students.
Declaration

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Ayele Gota ABESHA
Dedication

This work is dedicated to my late father, Mr. Gota AYELE, for implanting in me the beliefs and powers that I can do anything I want to do no matter whatever hurdles are there, instilling those qualities in me to persevere, to work hard, and to live with integrity because of which I was able to attain the highest level of professionalism. In addition, this dissertation is dedicated to my mother, Mrs. Dela HEREGE, whose belief and pride in me has laid the foundation for success. And also it is dedicated to my wife, Mrs. Fantu WOINSHET and my lovely children, Selamawit, Etsegenet, Alemberehan, and Elroy, for tolerating all those hard times I could not share with you and the sacrifices you made to enable me complete this research project.
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The completion of this dissertation would not have been possible without the unyielding support, help, and encouragement of many people, friends, and relatives who have kindly offered their time, support, reassurance, advice and words of encouragement in helping me professionally, emotionally, and financially. However, there are several that deserve special mentioning. First and foremost, I would like to recognize my God, Jesus Christ- who makes all things possible- for putting the enthusiasm in my heart, inspiration and encouragement in my mind, and determination in my soul to complete this research work.

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suggestions, recommendations, and critical analyzes were very useful and challenged me to go further and learn much more during my journey of PhD studies.

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Chapter 1. Introduction

1.1. Background

Ethiopia is one of the world’s oldest civilizations (Arasho, Mehila, & Bernhard, 2008), Africa’s oldest independent country (Adejumobi, 2007; Arasho, Mehila, & Bernhard, 2008), and one of the world’s oldest nations, dating back 2,000 years (Adejumobi, 2007). However, it is now one of the poorest countries in the world and is beset by multifaceted social, economic, and political problems, with poverty the most serious. The future responsibility for alleviating these multidimensional problems and developing this poor country to at least the level of middle developed countries will fall to its youth. This will be possible if its youth are effective and successful in education, particularly in higher education, since it is believed that attainment of the highest standards of education is fundamental to the dynamic development of science and technology, which, in turn, has significant impact on the cultural, socio-economic, and political development of any nation. The role that higher education plays to this effect is paramount. Recognizing this, in recent years the Ethiopian government has been exerting efforts and working aggressively, through expanding higher education institutions and building their capacities and increasing the rate of enrollment, to produce well trained and qualified citizens who can take part in the development endeavours of the country.

However, of all the problems facing Ethiopia’s higher education system, none is more serious and persistent than the poor academic achievement and subsequent academic dismissal of students. As it has been consistently demonstrated in empirical studies, many students in higher education institutions, particularly first year students, are not successful in academic performance and discontinue their education because of academic dismissal. For instance, Adem (2005) in his study which investigated factors affecting students’ academic performance in higher education institutions revealed that the number of graduates from higher education institutions in Ethiopia is far fewer than the number of entrants to freshman (i.e., first year) programs because some students are dismissed just at the end of the first semester, others withdraw or are dismissed before completion of their studies.
Another study, in which the researcher investigated major causes of student attrition in Bahir Dar University, also reported that the rates of attrition, mainly due to low academic performance and subsequent academic dismissal, were high in the first year of university education (Yalew, 2003). More specifically, this investigator documented that the overall rate of attrition of male students was 34.2% and of female students was 56.8%. In a similar vein, the study conducted by Tamire (1997) found that more than twenty percent of freshman (i.e., first year) students in Bahir Dar Teachers College and Polytechnic Institutes (now Bahir Dar University) discontinued their education due to academic dismissal in the first semester.

Early studies have also demonstrated similar findings (i.e., many students discontinue from their university studies because of poor academic performance). For example, Dagnew and Damena (1994) assessed the academic performance of 900 students admitted from 1979-1987 to School of Medical Sciences, Gondar College of Medical Sciences (now Gonder University) and revealed that only 58.9% of students were graduated whereas the remaining 41.1% of students would have been academically dismissed and/or dropped out purposefully because of different problems. Asmerom, Lakew, Mekonnen, and Yusuf’s (1989) study, which assessed the magnitude, causes, and cures of attrition at Addis Ababa University, also found that there was a great number of college dropouts and the main cause for this was academic reasons (i.e., academic dismissals) rather than non-academic reasons.

The studies which have focused specifically on the attrition rates of female university students also demonstrated similar findings. For instance, Tesfaye’s (2007) study, which examined the factors that underpin gender disparity in Debub University (now Hawassa University), demonstrated that although the enrolment rate of female students has increased in absolute numbers, compared with the previous years, their dismissal rates soared alarmingly between 2000/01-2004/05. In another study, this researcher reported that the attrition rate of female students due to academic reasons was found to be about 35.1% in the 2003/04 academic year (Tesfaye, 2006). Similarly, Fentaw (2001) in his study on admission type and female students’ academic success at Addis Ababa University found that the dropout rate among female students, that was largely attributable to academic
dismissal rather than non-academic reasons, was as high as 41% at the freshman (i.e., first year) level. Moreover, Abebayehu’s (1998) study documented that among female students admitted to higher education institutions in Ethiopia over the years 1979-1985 barely half of them completed their studies, due to academic reason (i.e., academic dismissal because of poor academic performance) and other non-academic reasons, such as economic, social, and cultural constraints.

As can be seen from the findings of the aforementioned studies, academic dismissal is a serious problem for students of higher education institutions in general, and female students, in particular, in Ethiopia. These studies have also identified that the most plausible reason for the academic dismissal of students from higher education institutions is poor academic achievement because of the joint and/or independent causes of a range of factors. However, it is worthwhile to note that there might be voluntary withdrawal to some extent due to different personal problems, such as financial, health, and family problems. It should also be noted that some students who are weak in their academic performance can also withdraw intentionally because of not wishing to experience academic dismissal. This has been confirmed by Laekemariam’s (1994) study, which indicates that most of the students’ withdrawal decisions, that is, to give up their college studies early, are conscious acts to escape from academic dismissal. Perhaps there are social norms around voluntary withdrawal (i.e., pressure not to withdraw) and therefore some academic dismissal may be for non-academic reasons. That is, students may experience non-academic problems that hamper their studies but they are unwilling to withdraw, then it affects their studies so negatively that they are forced to leave by academic dismissal. Nonetheless, most attrition is likely to be because of poor academic achievement and the subsequent academic dismissal, indeed, some students who choose to withdraw may do so deliberately due to non-academic reasons.

There are several factors which affect students’ academic achievement in higher education institutions in Ethiopia. Some potential causes for poor academic achievement that have been identified in previous research are related to institutional factors, such as admission type (Fentaw, 2001), placement of department (Adem, 2005), social adjustment and adaptation (Tamire, 1997; Tsige, 2001; Yalew, 2003), boarding and library facility
(Habte, 1988; Tsige, 2001, 2006; Yalew, 2003), reference materials (Tamire, 1997; Yalew, 2003); counseling services (Tewsaye, 2007; Tsige, 2006), teachers’ teaching and evaluation methods (Tamire, 1997; Tsige, 2006), and grading problems of teachers (Yalew, 2003). Empirical studies have also identified students’ personal characteristics, such as prior ability (Aboma, 2009; Adem, 2005; Fentaw, 1991; Habte, 1988; King & King, 1972; Mezgebo, 2008; Tamire, 1997; Tsige, 2006; Yalew, 2003), English language ability (Fentaw, 1991; King & King, 1972; Tsige, 2006), self-confidence/self-efficacy (Aboma, 2009; Mulugeta, 1998; Tamire, 1997; Tsige, 2001; Yalew, 2003), motivation (Daniel, 1992; Girma, 1997; Mulugeta, 1998; Tewsaye, 2007), academic self-concept (Demewez, Mehadi, & Tesfaye, 2005), anxiety (Tamire, 1997; Yalew, 2003), study skills (Adem, 2005; Yalew, 2003), homesickness (Yalew, 2003), loneliness (Tsige, 2001), and gender (Demewez, Mehadi, & Tesfaye, 2005; Fentaw, 1991; Habte, 1988; Hediya, 2002; Mulugeta, 1998; Tsige, 1991; Wudu & Getahun, 2009), as potential factors that contribute to academic achievement of university/college students. Moreover, factors related to family, such as parental education, have been identified as crucial factors in accounting for academic performance of students in higher education institutions (Adem, 2005).

Although Ethiopia’s gross enrolment rate (GER) at tertiary education level is 3.6 % (Ministry of Education, 2008), which is low even when compared to the 5 % sub-Saharan average, and by far the lowest in the world (Bloom, Canning, & Chan, 2006), even those students who get an opportunity to enrol at university are not always capable of completing their education successfully because of poor academic achievement and subsequent academic dismissal. This has a deleterious effect on the different development endeavours of the country. Consequently, the development prospects of this poor country are in jeopardy (World Bank, 2003). In addition, lack of success in higher education has often negative consequences for students, their families, and higher education institutions in that it may expose students to various psycho-social problems, such as dissatisfaction with their college experience, disruption of life plans, and being jobless or being engaged in minor jobs to earn much less over a life time, and it can cause significant unrealized costs to families and higher education institutions (Aboma, 2009).
While poor academic performance of first year university students might be common problem for many developing countries, especially sub-Saharan Africa, the problem is particularly evident in the Ethiopian context. However, there have been relatively few empirical studies on this topic in Ethiopia (Aboma, 2009; Adem, 2005; Asmerom et al., 1989; Demewez, Mehadi, & Tesfaye, 2005; Fentaw, 1991, 2001; Mulugeta, 1998; Tamire, 1997; Tesfaye, 2006, 2007; Tsige, 2001, 2006; Yalew, 2003), and they are not comprehensive because they have not examined the potential factors, which contribute to the academic achievement of students, in integrated way. Therefore, it is prudent to investigate potential factors that account for the academic performance of higher education institutions students in order to develop targeted intervention programs to improve their academic success in colleges/universities.

1.2. Statement of the Problem

As noted by some researchers, academic achievement difficulties of university students have been a recurring concern for higher education institutions worldwide for various reasons, including the assumption that an improvement in achievement implies a higher graduation rate (Alexander, 2000; Tinto, 1993); the financial implications of students’ academic achievement, that is, the academic dismissal of students due to poor academic achievement can have negative effect on the budget of higher education institutions (Burke, Modarresi, & Serban, 1999; Nonis & Wright, 2003); and the need for the universities to improve their students’ achievement standards because of pressure by accreditation agencies, the requirements of prospective employers, and competition with other universities (Nonis & Wright, 2003). In particular, poor academic outcomes can influence the reputation of a university because academic success is associated with the quality of the institution (Price, Harte, & Cole, 1991). Furthermore, in an increasingly demanding and challenging world, students’ success in higher education is an important aspect of their overall development because it prepares them for the challenges which they are likely to face in their future, in general, and in their occupation, in particular.

It is well known that university education is highly demanding, and for those moving from high school to university it is a challenging life transition in their
development. This transition has been found to be associated with a great deal of stress and other personal and social adjustment problems (Cutrona, 1982; Hammen, 1980; Lokitz & Sprandel, 1976), and thus places significant demands on them (for review, see Noel, Levitz, & Saluri, 1985). However, many young people are inadequately prepared for the psychological, emotional, and academic realities of higher education (Francis, McDaniel, & Doyle, 1987). Consequently, the first year of university is often associated with the adaptational challenges of living apart from families and former friends, adjusting to the new academic environment, assuming responsibility for the tasks of daily living, and developing a new array of social relationships with peers and the staff of the university (Henton, Lamke, Murphy, & Haynes, 1980). These, together with the various potential problems associated with the adolescence and young adulthood periods, may have a great effect on the academic achievement of first year university students.

The search for potential factors affecting the academic achievement of university students has long been a major research theme in the educational psychology literature (Pascarella & Terenzini, 1991) because of its theoretical and practical significance (Le, Casillas, Robbins, & Langley, 2005). Theoretically, the identification of these factors would shed light on students’ behaviours in higher education and, practically, these factors could assist colleges/universities to reduce both the academic and persistence “risks” for the first year students by focusing on key areas for developmental intervention (Le et al., 2005).

Research literature shows that both cognitive and non-cognitive factors predict the academic performance of students at different levels of education. Specifically, researchers have proposed two major theoretical frameworks to elucidate the potential factors responsible for students’ academic success. Of these frameworks, the first is the cognitive model, which posits that the traditional predictors, such as high school grades, standardized test (e.g., Standardized Aptitude Test, the American College Testing, etc.) scores, and university entrance examination scores, account for the academic achievement of higher education institution students. More specifically, research in this vein has documented that the academic achievement of university students is mainly attributable to cognitive factors (i.e., prior cognitive ability). For instance, the study by DeBerard, Spielmans, and Julka
(2004) found that prior ability, as measured by high school Grade Point Average (GPA) and Scholastic Aptitude Test (SAT), strongly predicted the academic achievement of freshman college students, as measured by Cumulative Grade Point Average (CGPA). Larson and Scontrino (1976) also reported that the prior ability, as measured by high school Grade Point Average (GPA) and Scholastic Aptitude Test (SAT) scores, had consistently high correlations with four-year college Grade Point Average (GPA). In a similar vein, Lavin (1965), in his comprehensive review of 300 studies on the prediction of academic performance, found that ability accounts for 35-45% of the variation in academic achievement. This researcher noted that no other single factor accounts for this much variation, yet more than half still remains unexplained. He recommended that future research be directed to finding factors that are non-cognitive in nature to help account for the remaining variation.

In reaction to Lavin’s recommendation, researchers have proposed the non-cognitive model, to explain the factors accounting for academic performance of college/university students. This theoretical framework claims that factors that are non-cognitive in nature are responsible for the academic achievement of students in higher education institutions. Research in this line has revealed that non-cognitive factors are predictive of academic performance among college/university students. These include: (1) Family factors (i.e., parents), especially parenting styles (Chandler, 2006; Fulton & Turner, 2008; Strage & Brandt, 1999; Turner, Chandler, & Heffer, 2009; Turner & Heffer, 2005); (2) Factors related to the educational institutions (Tinto, 1975, 1987, 1993; Van den Berg & Hofman, 2005; Yorke, 2004); (3) Factors which derive from the social environments (social relationships) of students, specifically peer relations (Berndt, 1999; Brown, Clasen, & Eicher, 1986; Chandler, 2006; Kinderman, 1993; Nelson & DeBacker, 2008); and (4) Factors related to students’ personal characteristics, especially, students’ academic self-efficacy (Adeyemo, 2007; Chandler, 2006; Chemers, Hu, & Garcia, 2001; Finney & Schraw, 2003; Gore, 2006; Parajes, 1996; Robbins, Lauver, Le, Davis, Langley, & Carlstorm, 2004; Turner, Chandler, & Heffer, 2009; Zajacova, Lynch, & Espenshade, 2005), and achievement motivation (Fulton & Turner, 2008; Turner & Heffer, 2005; Vallerand & Bissonnette, 1992; Vallerand et al., 1989, 1993).
While considerable research has been conducted internationally to examine the potential factors accounting for academic achievement of college/university students, there have been relatively few empirical studies on this topic in the Ethiopian context. In addition, those studies that have been conducted are not comprehensive enough in illuminating which factors are potentially strong in affecting students’ academic success at higher education institutions as they focused on few factors and it is evident that academic achievement is a product of multifaceted factors. Therefore, the present research extends on this work by examining the effects of a range of non-cognitive factors (i.e., parenting styles, students’ academic self-efficacy and achievement motivation) on academic achievement. This will help our comprehensive understanding of the potential factors which account for academic performance of university students and to develop and employ the possible and timely strategies for intervention.

1.3. Objectives of the Study

There have been many studies that have examined the effects of parenting styles, and social-cognitive factors (i.e., academic self-efficacy and achievement motivation), separately or by integrating some of them, on the academic achievement of college/university students in Western countries and Asia. However, far fewer studies have investigated the integrated effects of these factors on academic achievement and/or assessed the relative salience of each to academic achievement. The prime objective of this study was, therefore, to propose and test an integrated parental and social-cognitive (i.e., academic self-efficacy and achievement motivation) model of academic achievement of first year university students in Ethiopia, and thereby to examine the integrated effects of these factors on academic achievement, which is something that has been neglected in previous research. The present study was guided by the theoretical models of parenting styles, self-efficacy, and self-determination developed by Maccoby and Martin (1983), Bandura (1977, 1982), and Deci and Ryan (1985, 1991), respectively.
1.4. Significance of the Study

Since there is a paucity of empirical studies of this kind in Ethiopia, it is believed that the findings and implications of this study will be of a great importance for higher education institutions, educational practitioners, parents, and university students. Understanding the factors that affect students’ academic achievement in university will enable higher education institutions and policy makers to develop strategies and techniques for intervention to maximise students’ academic success in higher education institutions, in general. Furthermore, the findings of this study will have implications for theories in the field of socialization to understand the parenting style predominantly practiced in Ethiopia, which will expand our knowledge of the socialization of adolescents and young adults in the Ethiopian cultural context. It is also believed that the findings and implications of this study will contribute to debate concerning the different types of parenting styles and their effects on children’s, adolescents’, and young adults’ academic achievement in different cultural contexts. It is thought that the findings and implications of the current study will be important to build and extend previous research in the area, and fill a gap in empirical work since studies in this area mainly focus on Asian and Western countries, excluding sub-Saharan Africa. Finally, the results of this study will ascertain directions for future researchers in this area.

1.5. Assumptions and Scope of the Study

1.5.1. Assumptions of the Study

There were two key assumptions underlying the current study. First, it was assumed that the university students in Ethiopia would have clear and accurate perceptions of their parents’ parenting styles (i.e., whether their parents are authoritative, authoritarian, indulgent, or neglectful) and their own academic self-efficacy and achievement motivation. Second, it was also assumed that the measures of parenting styles, academic self-efficacy, and achievement motivation developed in other cultural contexts and adapted to the Ethiopian cultural context would be cross-culturally valid, as well as the models of parenting styles, academic self-efficacy, and achievement motivation would be applicable in the Ethiopian cultural context.
1.5.2. Scope of the Study

The current study was focused to examining the effects of parenting styles on the academic achievement of late adolescents and young adults. Although other socialization agents (e.g., communities, peers, and educational institutions) play a substantial role in influencing the academic achievement of students in higher education institutions, the effects of parents through their parenting styles are crucial. Parents can affect their late adolescent and young adult children’s academic achievement directly by being involved in their youngsters’ education and indirectly by fostering and instilling academic self-efficacy and achievement motivation, which are instrumental in influencing academic performance. Furthermore, as with elementary and high school years, the influence of parenting styles is believed to be most prominent and influential in late adolescent and young adult children’s academic life during a time of transition to life away from home (Chandler, 2006; Maccoby, 1992; Strage, 1998; Strage & Brandt, 1999; Turner, Chandler, & Heffer, 2009; Turner & Heffer, 2005; Wintre & Yaffe, 2000). In addition, the present study was targeted to assessing the effects of academic self-efficacy and achievement motivation on academic achievement because though there are several social cognitive factors (e.g., academic self-concept, academic self-esteem, etc.), which can account for the academic performance of students in colleges/universities, academic self-efficacy and achievement motivation can encompass the other social cognitive factors (e.g., academic self-concept, academic self-esteem, etc.) and are believed to be most important in affecting students’ academic performance.

With respect to the participants of the study, this study was focused on undergraduate first year university students with the understanding that the highly demanding nature of university education, together with the problems that accompany the first year of university life (e.g., loneliness, family/home sickness, stress, personal and social adjustment problems), would have a more significant effect on the academic achievement of this group of university students compared with that for seniors.
Chapter 2. Review of Literature

This chapter presents the review of previous international and Ethiopian research on the influences of parenting styles and social-cognitive factors (i.e., academic self-efficacy and achievement motivation) on the academic achievement of students at different levels of education, in general, and in higher education institutions, in particular. The review commences with a critical examination of the theoretical models of parenting styles, self-efficacy, and motivation. This is followed by review of the key research that has addressed the roles of these factors in students’ academic achievement and the interrelationships between parenting styles, academic self-efficacy, achievement motivation, and academic achievement. In addition, sex differences in academic self-efficacy, achievement motivation, and academic achievement of students, if any, are addressed. Moreover, the effect of culture on parenting styles, academic self-efficacy, achievement motivation, and academic achievement, as well as the effects of parenting styles, academic self-efficacy, and achievement motivation on the academic achievement of students in different cultural contexts are scrutinized. To this end, the available previous international studies are presented and discussed first and then followed by review of relevant research in Ethiopia. Finally, the results of relevant studies are summarised and the implications for the present investigation are discussed. Following this, based on the review of available literature, the proposed model to be tested in the current study is presented and the research questions of the study are addressed.

2.1. Theoretical Models of Parenting Styles, Self-Efficacy, and Motivation

2.1.1. Theoretical Models of Parenting Styles

Before describing the theoretical conceptualization of parenting styles it is essential to define parenting first and distinguish between parenting styles and parenting practices. Parenting, as defined by Bradley and Caldwell (1995), is the regulation of behaviour and development of the children, with the intention that they can live a socially desirable life, adapt to their environment, and pursue their own goals. That is, parenting is a socialization process through which parents transfer their cultural values, beliefs, traditions, and norms as well as other socially and culturally desirable behaviours to their children, adolescents,
and young adults to be good citizens of the society and for the attainment of adult competence.

Although the terms parenting styles and parenting practices are often used interchangeably by researchers, there is a difference between the two concepts. Parenting styles, as defined by Baumrind, are “the consistent patterns of parental behaviours and attitudes with which parents interact and deal with their children and adolescents along two parental dimensions, that is, demandingness and responsiveness” (Baumrind, 1966, p. 889). According to Baumrind, demandingness refers to parental behaviours and attitudes to integrate children into the family by demanding maturity in their children, supervising and disciplining their children, and showing willingness to control the behavioural problems of their children; and responsiveness refers to the degree to which parents instill independence, self-regulation, and self-assertion in their children by agreeing to be cognizant and supportive of their children’s interest, needs, and demands. Other psychologists (e.g., Darling & Steinberg, 1993) have defined parenting styles in a more elaborated way, as a reflection of the relationships between parent and child and the qualities of these relationships among them (i.e., the emotional attachment in which parents rear their children and adolescents). Specifically, parenting style is "a constellation of parental behaviours and attitudes toward their children that are conveyed to the children and that, as a whole, create an emotional bond in which the parents' behaviours are expressed" (Darling & Steinberg, 1993, p. 488). On the other hand, parenting practices, as defined by Darling and Steinberg (1993), are the specific behaviours and attitudes demonstrated by parents in socializing their children, such as doing assignments with their children, providing their children with time to read, assisting their children when they encounter problems, and attending their children’s school activities to enable them to succeed in schools.

Generally, parenting styles refer to a global construct reflecting the parental behaviours and attitudes towards their children and the qualities of interactions and relationships among parents and children and used to categorise parents typologically, whereas parenting practices refer to the specific behaviours and attitudes which are shown by parents in rearing their children.
The first theoretical tripartite model of parenting style was postulated by Baumrind (1966, 1967, 1973). She identified that parenting styles fall into three main categories (i.e., authoritarian- firm but not warm, permissive- warm but not firm, and authoritative- warm and firm), which focus on four important aspects of family functioning, namely, nurturance or warmth, firmness and clarity of control, level of maturity demands, and degree of communication between parent and the child. Later, by analyzing Baumrind’s conceptualization of parenting styles, Maccoby and Martin (1983) elaborated and revised her typologies. They proposed a variation of Baumrind’s categorisation in which parents are classified based on two dimensions. These are the degree of demand and control and the degree of acceptance/rejection. According to Maccoby and Martin, these two dimensions jointly creates four types of parenting styles, three of which are quite similar to Baumrind’s original classification and conceptualization of parenting styles. Their conceptualization adds the fourth type, the neglecting or uninvolved parenting style (i.e., neither warm nor firm).

According to Baumrind (1967, 1973) and Maccoby and Martin (1983), the four types of parenting styles and their typical characteristics are as follows:

(1) Authoritative Parenting Style: A parenting style characterized by an optimum balance of responsiveness and demandingness; and directing children in a rational, issue-oriented, disciplined manner by clarifying the reasoning behind rules. It is high in all four dimensions of family functioning. As noted by Maccoby (1992), authoritative parents know and understand children’s independence, encourage verbal communication, allow children to participate in decision making of the family, and want the children progressively undertake more responsibility for reacting to the needs of other people in the family within their abilities. This type of parenting style consists of a constellation of parental characteristics of high standards, such as high emotional attachment and support to children, encouragement of a two-way communication between parents and children, and consistent implementation of the rules established by parents (Baumrind, 1991). According to Baumrind (1971, 1991), the authoritative parenting style is positively correlated to different developmental outcomes (e.g., academic achievement and
social behaviours) of children. In addition, Holmbeck (1996) noted that authoritative parenting style is the most beneficial for children and adolescents because it is positively correlated to numerous positive outcomes (e.g., self-esteem and self-reliance).

(2) Authoritarian Parenting Style: A parenting style marked by parental behaviours that are highly restrictive and very demanding. It is high in control and maturity demands, but low in nurturance and bi-directional communication between parents and children. Authoritarian parents constrain their children’s independence and they want their children to follow strict parental rules and orders without any question by threatening severe punishment if children violate these rules and orders. As noted by Baumrind (1967, 1971) children with authoritarian parents tend to be anxious, socially withdrawn, and unhappy.

(3) Permissive (Indulgent) Parenting Style: A parenting style, at the other extreme, characterized by non-restrictiveness and high levels of responsiveness. It is high in nurturance but low in maturity demands, supervision, and bi-directional communication between parents and children. According to Baumrind (1989), the permissive parenting style is a careless style in which parents make few demands, encourage their children to express their feelings, and barely use power to gain control over their behaviour; and tend not to need mature behavior from their children, but encourage their children’s independence instead. As noted by Hetherington and Parke (1986), children with indulgent parents are low in self-reliance, achievement orientation, and self-control.

(4) Neglecting or Uninvolved Parenting Style: The style of parenting low in both dimensions (i.e., the degree of responsiveness and demandingness) and which is believed to be the most detrimental of the four types of parenting styles on children’s and adolescents’ development (Maccoby & Martin, 1983). Specifically, children with neglectful parents have several negative developmental outcomes (i.e., they are impulsive, aggressive, non-compliant to rules and orders, moody, and low in self-esteem, in general). As noted by Hetherington and Parke (1986), children
from the families of neglectful parents are more likely to have alcohol problems, spend most of time on streets with their peers from similar parents, and are more likely to be truant and precociously sexually active, with records of arrest.

Research has documented that children and adolescents from the families of authoritative parents are more competent and efficient socially and academically compared to those whose parents are non-authoritative (Baumrind, 1991; Maccoby & Martin, 1983; Miller et al., 1993; Weiss & Schwarz, 1996). Generally, in the past three decades, much of the research has examined the effect of parenting on the different developmental outcomes of children, adolescents, and young adults by employing a three or four typological approach, in which the influences of the main dimensions of parenting behaviour are aggregated to form the four types of parenting styles (i.e., authoritative, authoritarian, indulgent, and neglectful parenting styles) or specific dimensions of parenting behaviour approach. These studies have yielded consistent evidence that parenting plays a crucial role in enhancing or mitigating optimal developmental outcomes in children and adolescents.

2.1.2. Theoretical Model of Self-Efficacy

Self-efficacy, as defined in Bandura’s (1977, 1982, 1986, 1997) social cognitive theory, is “the belief in one’s capabilities to organize and execute courses of action required to produce given attainments” (Bandura, 1997, p. 3). The theoretical framework of self-efficacy is grounded in Bandura’s social cognitive theory of personality which views people as self-organizing, proactive, self-reflecting, and self-regulating rather than as passively reacting organisms influenced by environmental factors or driven by hidden inner desires. In addition, it explains that an individual’s functioning and activities are the outcome of a dynamic interaction of three important factors. These are: (i) A person’s behaviour; (ii) Personal factors (e.g., thoughts, beliefs, etc.); and (iii) Environmental conditions. These three factors together exert mutual influences on one another. Bandura calls this reciprocal interaction as reciprocal determinism and according to him, it is triadic in form. Bandura also noted that self-efficacy stems from four sources. These are: (i) Mastery experience, which is personal experience of mastery of a task; (ii) Vicarious experience, that is, second hand experiences gained through imitating a model (i.e.,
observing a peer doing a particular task); (iii) Verbal persuasion, which is encouragement and support by other people; and (iv) Physiological state, that is, emotional arousal, consisting of controlling one’s level of fatigue, stress, and anxiety. Personal experience of effectively mastering a task has been identified as the most direct and powerful source of self-efficacy (Bandura, 1977, 1986). Furthermore, Usher and Pajares (2008) noted that although prior mastery experiences are typically the most powerful source of self-efficacy, the strength and effect of the sources vary as a function of individuals’ background factors, such as gender, ethnicity, and academic ability; and academic domain for which the sources of self-efficacy beliefs are assessed.

According to Bandura, self-efficacy is a multi-dimensional construct which influences people’s performance directly and indirectly through its effects on other determining factors such as motivation, self-regulation, attribution and emotion. Several researchers note that self-efficacy beliefs play a crucial role in affecting task choice, effort, persistence, resilience, and achievement of individuals (Bandura, 1977, 1994; Pajares, 2002; Schunk, 1991, 1995). Self-efficacy is task-specific; that is, self-efficacy beliefs are specific to certain tasks and activities in certain situations and contexts (Bandura, 1977, 1986, 1997; Jackson, 2002). That is to say, people do not have the same level of overall sense of self-efficacy, rather, a person’s level of self-efficacy beliefs depends on the nature of the task and the context in which that task is performed. This is the reason why self-efficacy has been studied extensively, within a variety of specific areas such as academic, social, career, clinical, athletics, and health (Bandura, 1997). Therefore, the self-efficacy which is pertinent in academic setting is academic self-efficacy, an individual’s self-evaluation of his/her capability and/or chances for success in the academic settings (Robbins et al., 2004), which is the focus of the current study.

Various studies have demonstrated that students who have high levels of academic self-efficacy beliefs have good feelings, behaviours, and positive thinking; can motivate themselves for actions and act accordingly; strive for achievement; persist longer when they encounter difficulties and until they get the solution; believe that failure is a temporal problem which they can manage; and attempt and use all possible ways to handle troubles and maintain their course of actions; are not frightened and challenged by difficult
assignments and tasks rather they consider them as an opportunity for learning and mastery (Bandura, 1977, 1994; Pajares, 2002; Schunk, 1991, 1995). Consequently, these characteristics enable them to be successful in their academic achievement. On the contrary, those students who have low self-efficacy beliefs may not be interested to perform a task, they feel threatened when they face complex situations and attempt to avoid them; they are less devoted to achieve the set goals and may try to escape from cognitively-oriented goals and tasks; and they immediately attribute their failure to lack of ability to persist in the face of adversities (Bandura, 1977, 1994; Pajares, 2002; Schunk, 1991, 1995). Therefore, these researchers have documented that self-efficacy beliefs affect task choice, goal-orientation, effort, determination, flexibility, and achievement.

2.1.3. Theoretical Models of Motivation

Motivation has received much attention from many researchers with different psychological and philosophical perspectives in different fields of study, especially psychology and education due to its significant effect on students’ learning, persistence and academic achievement. It has been operationalized from the perspective of different theoretical approaches over the past decades. For instance, Maslow (1970) defined human motivation from both intrapersonal and environmental perspectives as the driving force that causes people to work towards a goal and is essentially the power of hierarchy of human needs. Pintrich and Schunk also defined motivation, from a cognitive perspective, as “the process whereby goal-oriented activity is activated and sustained” (Pintrich & Schunk, 1996, p. 4). Overall, when broadly defined, motivation is the psychological process that arouses, directs, and sustains a person’s behaviour (i.e., an internal or external force that is acting on or within a person that directs him/her to engage in a goal-oriented behaviour and maintains that behaviour).

Although there are different types of motivation responsible for people’s behaviour, achievement motivation has gained the most attention from psychologists because of its unique effect on the behaviour of individuals to engage or not to engage in a particular activity or task. Early works on achievement motivation draw back to an American psychologist Henry Murray who defined achievement motivation as “the desire to
accomplish something difficult; to master, manipulate … to overcome difficulties and attain a high standard; to excel one’s self; to compete and surpass others; to increase self-regard by the successful exercise of talent” (Murray, 1938, p. 164). Following Murray’s works, McClelland, Atkinson, Clark, and Lowell (1953) studied achievement motivation intensively and conceptualized the theoretical framework of achievement motivation. Consequently, they defined achievement motivation, or the need for achievement, as “a desire for success in competition with some standard of excellence” (p.110). In the classical work of McClelland and his colleagues, achievement motivation is considered as the outcome of an emotional conflict between the hope for success and the fear of failure. This is because, according to the authors, the actual outcome of a particular behaviour affects the direction and intensity of the subsequent behaviour involved in achievement situations.

Based on McClelland et al.’s (1953) and McClelland’s (1961) theoretical conceptualizations of achievement motivation, different theories of motivation, such as achievement goal theory (for review, see Ames & Archer, 1988; Middleton & Midgley, 1997; Pintrich & Schunk, 1996) and expectancy–value theory (Eccles et al., 1983; Wigfield & Eccles, 2000), have been developed to explain it and its influence on a person’s behaviour, in general, and his/her academic performance, in particular. However, the most dominant theory of achievement motivation, which has been extensively employed by different researchers to explain the effect of motivation on academic achievement, is the self-determination theory (SDT) and was proposed by Deci and Ryan (1985, 1991). According to Deci and Ryan, self-determination theory (SDT) is an approach to human motivation which posits that there are three innate or basic psychological needs (i.e., competence, relatedness, and autonomy) that each individual is believed to have, which are universal and that the satisfaction of these needs is a requisite for optimal psychological functioning. Here, self-determination refers to the degree to which behaviour is freely regulated by individuals. The self-determination theory (SDT) underscores the importance of the psychological need for autonomy, which suggests that individuals have free will and free choice in the initiation, direction, maintenance, and regulation of their own behaviours.

Deci and Ryan (1985) and Deci, Vallerand, Pelletire, and Ryan (1991) noted that a person’s behaviour can be either intrinsically or extrinsically motivated or amotivated along
the self-determination continuum. According to these researchers, intrinsic motivation refers to an inner motive of the individual to perform a task for the pleasure and satisfaction that he/she experiences while learning, exploring, or attempting to understand something new, whereas extrinsic motivation refers to engaging in a task as a means to an end, for tangible rewards that one can get by performing that task, and not for its own sake and for the pleasure and satisfaction one can gain by carrying out the task. They define amotivation as lacking the intention to act, not acting at all, or acting without intent. These researchers suggested that when an individual progresses from amotivation to intrinsic motivation along the self-determination continuum, the different profiles of motivation are related with increasingly positive developmental outcomes of the individual.

Researchers in psychology (Deci, 1975; Deci & Ryan, 1985, 1991, 2000; Deci, Vallerand, Pelletire, & Ryan 1991; Ryan & Deci, 2000; Vallerand et al., 1992) have postulated a tripartite taxonomy of intrinsic motivation in which there are three types of intrinsic motivation. These are: Intrinsic motivation to know, intrinsic motivation to accomplish, and intrinsic motivation to experience stimulation. Intrinsic motivation to know refers to an inner motive of the individual to engage in a task for the pleasure and satisfaction that he/she obtains while performing the task, learning, exploring, or trying to understand something new from the task. Intrinsic motivation to accomplish refers to a person’s internal motive to engage in a task for the happiness and gratification obtained when he/she tries to accomplish or create something. Intrinsic motivation to experience stimulation refers to an individual’s inner motive to perform a task in order to obtain stimulating sensations, such as sensory pleasure, aesthetic experiences, as well as fun and enjoyment (for more extensive definitions of the three types of intrinsic motivation, see Deci, 1975; Deci & Ryan, 1985, 1991, 2000; Ryan & Deci, 2000; Vallerand et al., 1992). According to Vallerand et al. (1992), achievement motivation can be understood as being categorized under the umbrella of intrinsic motivation to accomplish because individuals focus on the process of achieving rather than on the outcome.

As with intrinsic motivation, researchers in psychology (Deci, 1975; Deci & Ryan, 1985, 1991, 2000; Deci, Vallerand, Pelletire, & Ryan 1991; Ryan & Deci, 2000) have also identified four types of extrinsic motivation in a self-determination continuum, which, in
order from lower to higher levels of self-determination, are as follows: External regulation, introjected regulation, identified regulation, and integrated regulation. *External regulation* refers to behaviours that are regulated through external means such as rewards and controls (Deci & Ryan, 1985, 1991, 1995, 2000; Ryan & Deci, 2000). *Introjected regulation* refers to behaviours regulated by an individual but the individual is not fully accepting the regulation as one’s own, it is a relatively externally controlled form of regulation in which behaviours are performed to avoid guilt or anxiety or to attain ego enrichments such as pride (Deci & Ryan, 1995). *Identified regulation* refers to behaviours that are performed by an individual’s free will and choice because he/she judges them to be essential for him/her, which is self-determined regulation (Deci & Ryan, 1985, 1991, 1995, 2000; Ryan & Deci, 2000). *Integrated regulation* is the identified regulations that are fully assimilated to the self, which means they have been assessed and thought to be congruent with a person’s other values and needs (Deci & Ryan, 1985, 1991; Ryan & Deci, 2000). Although these researchers classified integrated regulation under category of extrinsic motivation, other investigators (e.g., Vallerand et al., 1992) have found that integrated regulation did not come out as a perceived reason for participating in educational activities and could not be distinguished from identified regulation. As a result, these authors suggested that identified and integrated regulation can jointly be seen as identified regulation.

According to Deci and Ryan’s self-determination theory (1985, 1991, 2000), the different motivational profiles of intrinsic and extrinsic motivation described above can be further classified in terms of autonomy as self-determined motivation (i.e., autonomous regulation, acting based on one’s free will and choice and for one’s own pleasure and satisfaction) and non-self-determined motivation (i.e., controlled regulation, acting for external reward, behaving to avoid punishment, or attempting to avoid feelings of guilt). Specifically, intrinsic motivation, extrinsic motivation integrated regulation, and extrinsic motivation identified regulation are self-determined motivation, where as extrinsic motivation introjected regulation and extrinsic motivation external regulation are non-self-determined motivation. However, amotivation, which is not acting at all or acting without intent, lacks autonomous and controlled regulation.
The self-determination theory (SDT) describes that individuals who act for intrinsic motivation and extrinsic motivation integrated and identified regulations have high levels of perceived autonomy, whereas individuals who engage in tasks for extrinsic motivation external regulation and extrinsic motivation introjected regulation have low levels of autonomy. In educational contexts, the self-determination theory (SDT) suggests that high academic achievement is a function of a student’s sense of autonomy or self-determination. That is, students who perform their works independently without the control of external factors have higher levels of academic achievement compared to those students whose works are constrained by external factors. In other words, the different types of achievement motivation discussed above have differential effects on students’ learning and academic achievement. Empirical research has confirmed that autonomous types of motivation (i.e., self-determined motivation) result in positive outcomes such as achievement (e.g., Guay & Vallerand, 1997), whereas controlled types of motivation and amotivation result in negative outcomes such as dropping out of school (e.g., Vallerand, Fortier, & Guay, 1997).

In sum, self-determination theory proposes that people have an inborn predisposition toward the internalization and integration of their behaviours and activities into a coherent sense of self (Deci & Ryan, 1985; Ryan & Deci, 2000). However, the extent to which the behaviours and activities can be internalized and integrated depends upon social and intra-individual factors that either assist or obstruct this process. That is, the environmental conditions that provide people with important psychological support essential for growth, independence, competence, and optimum development of a person instill more autonomous or self-determined types of behavioural regulations. In contrast, intra-individual and social factors that impede the fulfilment of these basic psychological needs result in less internalized (i.e., less self-determined), more controlled types of behavioural regulations. That is, when an individual’s reasons for engaging in his/her activities stem from his/her inner motives, his/her resulting behavioural regulations are characterized by self-determination, while when an individual feels pressured to engage in a task, he/she will have little or no self-determination or autonomy. In the present study, self-determination theory of motivation is adopted as the guiding theory of achievement motivation.
2.2. Parenting Styles, Academic Self-Efficacy, Achievement Motivation, and Academic Achievement

This section examines the research pertaining to the effects of parenting styles, academic self-efficacy, and achievement motivation on the academic achievement of students. It also discusses the relationships among these variables. First, it presents international studies, followed by Ethiopian studies.

2.2.1. International Studies

2.2.1.1. Parenting Styles and Academic Achievement

Parents through their parenting styles have crucial effects on the academic achievement of their children at different levels of education. To be successful in their higher education and life, adolescents and young adults need trusting, supporting, and caring relationships with their families, especially with their parents. This is the reason why some researchers have suggested that the family support the adolescents can obtain from their parents is an important safeguard throughout their lives, particularly during their transition to university (Henton, Lamke, Murphy, & Haynes, 1980; Hoffman & Weiss, 1987; Rice, Cole, & Lapsley, 1990). In fact, other socialization agents (e.g., communities, peers, and schools) also play a substantial role in influencing the academic achievement of students at different levels of education.

In many empirical studies researchers have attempted to explain the effects of parenting styles on children’s and adolescents’ different developmental outcomes, in general, and their academic achievement, in particular (Baumrind, 1967, 1973, 1989, 1991; Baumrind & Black, 1967; Cohen & Rice, 1997; Darling & Steinberg, 1993; Dornbusch, et al., 1987; Ingoldby, Schvaneveldt, Supple, & Bush, 2004; Lamborn et al., 1991; Radziszewska et al., 1996; Spera, 2005, 2006; Steinberg, 1990, 2001; Steinberg et al., 1989, 1991, 1992a, 1992b, 1994). These studies have consistently documented that children and adolescents who are raised in families which practice the authoritative parenting style perform better in school compared to those who are raised in families in which other types
of parenting styles (i.e., authoritarian, indulgent, and neglecting parenting styles) are adopted.

Most notably, the effects of parenting styles on academic achievement have been studied in elementary and high school students intensively but recently this has been extended to college/university students (Abar, Carter, & Winsler, 2009; Chandler, 2006; Hickman, Bartholomae, & McKenry, 2000; Joshi, Ferris, Otto, & Regan, 2003; Kim & Chung, 2003; Strage, 1998, 2000; Strage & Brandt; 1999; Turner, Chandler, & Heffer, 2009; Turner & Heffer, 2005; Weiss & Schwartz, 1996). These studies, with the exception of Hickman, Bartholomae, and McKenry (2000) and Joshi, Ferris, Otto, and Regan (2003), found that parenting styles were significant predictors of the academic performance of college/university students (i.e., authoritative parenting style had a significant and positive effect on academic achievement).

More specifically, Abar, Carter, and Winsler’s (2009) study with a sample of 85 college students from an historically black college in the Southern United States found that the authoritative parenting style was positively and significantly related to high levels of academic performance. Another recent study by Turner, Chandler, and Heffer (2009) also revealed that authoritative parenting positively and significantly predicted academic performance of college students, whereas permissive and authoritarian parenting styles did not have significant relationships with academic performance. Based on the findings of their study, these researchers suggested that parents play an important role through their parenting styles in influencing their young adults' academic achievement even during a time of transition to higher education institutions. Chandler (2006) also found that parenting styles significantly predicted academic performance of university students, after controlling for the effect of students’ sex (i.e., authoritative parenting had a significant and positive effect on the academic performance of students). Furthermore, Turner and Heffer (2005) reported that students from a family displaying more involvement, higher levels of nurturance, and encouragement of more autonomy (i.e., the characteristics of authoritative parents) were more academically successful.
Studies conducted in the 1990s also demonstrated consistent findings that parenting styles have strong effects on the academic achievement of college and/or university students. Strage and Brandt’s (1999) study, for instance, revealed that both current and childhood levels of parental autonomy granting, demandingness, and supportiveness (i.e., the characteristics of authoritative parenting) significantly and positively predicted students’ academic achievement, as measured by Grade-Point-Average (GPA), and other personal characteristics, such as confidence, persistence, task involvement, and rapport (i.e., relationship) with their teachers. Specifically, the more autonomy, demand, and support (i.e., the characteristics of authoritative parents) parents provided to their college students, the more students were confident, persistent, and successful in their academic achievement. As Turner, Chandler, and Heffer (2009) suggested, these investigators also noted that parents through their parenting styles continue to have a significant influence on the academic success of their late adolescents and young adults in colleges/universities. Similarly, Strage (1998) reported that students who perceived their parents as authoritative and emotionally close to them had clear personal and professional goals, and the feelings that they were in control of their academic lives. In contrast, this researcher demonstrated that students who described their parents as authoritarian had perceived lack of control over their academic lives. Strage concluded that students with authoritative parents had positive academic dispositions. Moreover, Weiss and Schwartz (1996) found that male students who characterized their parents as authoritative had significantly higher academic achievement, as measured by Grade-Point-Average (GPA), compared to their counterparts with authoritarian-directive parents.

In contrast to the aforementioned findings, Joshi, Ferris, Otto, and Regan’s (2003) study with a sample of 199 (152 females and 47 males) White, Hispanic, and Asian college and university students in the U.S. revealed that parenting styles did not have significant effects on academic achievement, as measured by students’ self-report Grade-Point-Average (GPA). These investigators, in their further analyses of the effects of parental dimensions (i.e., involvement and strictness) on academic performance, also demonstrated that for the overall sample and the sub-samples of Hispanic and Asian students, parental (i.e., both mothers and fathers) involvement and strictness were not significantly related with academic achievement. However, they found that parental (i.e., both mothers and
fathers) strictness and paternal (i.e., fathers) involvement were significantly and positively correlated with academic achievement for White students though they explained small amount of variances in academic achievement.

Joshi and her associates attempted to justify their inconsistent findings by giving the following reasons: (i) The influence of parenting styles may become indirect in adolescence and later years because of the strong influence of peer relationships on academic achievement; (ii) The time lapse may have altered the participants’ perceptions of their parents’ parenting styles, that is, perceiving parents’ behaviours retrospectively may have biased adolescents’ and young adults’ perceptions of their parents’ behaviours because their perceptions of parents’ behaviours] can be affected by their current state and inaccurate memory; and (iii) Parenting styles operationalized as a categorical variable may mask the mechanism underlying the effects of parenting styles on academic achievement. As a result, they called for theory-driven research which examines the influences of parenting styles and ethnic differences on academic achievement. Nonetheless, the most likely reason for their inconsistent findings could be using students’ self-report Grade-Point-Average (GPA), as a measure of academic achievement, which because of response bias via social desirability may have influenced the relationships among parenting styles and academic achievement. The researchers did argue however, that self-reported Grade-Point-Average (GPA) is reasonably accurate when compared with actual school records.

Similarly, another study by Hickman, Bartholomae, and McKenry (2000), which examined the effect of parenting style on adjustment and academic achievement with a sample of 101(64% females and 36% males) college freshmen at Midwestern University, did not find a significant relationship between parenting style and academic achievement. Instead, parenting style was found to be correlated to other factors (i.e., self-esteem and academic adjustment) contributing to academic success. The plausible reason for these findings could be that, similar to Joshi, Ferris, Otto, and Regan (2003), these investigators employed students’ self-report Grade-Point-Average (GPA), as a measure of academic achievement. Another likely reason could be that the small sample used by the researchers may have affected the detection power of the statistical method (i.e., ordinary least squares regression) employed by the researchers. Still another credible reason could be that since
An authoritative parenting style had a significant and positive influence on academic adjustment, which in turn had a significant relationship with academic achievement, the association between parenting style and academic achievement might have been mediated via academic adjustment.

As is evident from the preceding review, although there are some inconsistencies in research regarding the influences of parenting styles on the academic achievement of adolescents and young adults, the majority of studies have reported the beneficial effects of an authoritative parenting style. In several studies researchers have attempted to explain the mechanisms by which this parenting style has a positive effect on adolescents’ academic achievement. For instance, Lamborn et al. (1991) and Steinberg, Elmen, and Mounts (1989) noted that an authoritative parenting style is related with numerous parental behaviours and attitudes of high standards, which are instrumental in positively affecting the academic orientation and success of adolescents, including a hard work orientation; strong commitment in classroom activities; higher educational aspirations; more positive feelings about school; spending long time on homework and studying; more positive academic self-conceptions; and lower levels of school misconduct, such as cheating on examinations or copying assignments.

Similarly, other studies have indicated that in the adolescence period, three specific characteristic features of authoritative parents (i.e., acceptance or warmth, behavioral supervision and strictness, and psychological autonomy granting or democracy) contribute to healthy psychological development and school success (Steinberg, 1990, 2001; Steinberg et al., 1991, 1992b). Authoritative parenting is one of several means via which parents can have positive effects on their adolescents’ academic achievement through their direct involvement and support in school activities, such as helping with homeworks and assignments or course selection or attending parent teacher meetings, and through the encouragement of school success, both directly and indirectly, by establishing and implementing high performance standards (Steinberg et al., 1992b). Reitman, Rhode, Hupe, and Altobello (2002) also noted that an authoritative parenting style, which emphasizes both responsiveness and demandingness, is superior in fostering higher academic performance.
Overall, although there are some inconsistencies in research findings, parenting styles play a crucial role in affecting the academic achievement of students. Specifically, authoritative parenting style, because of the abovementioned reasons, has a significant and positive effect, whereas non-authoritative parenting styles (authoritarian, indulgent, and neglectful parenting styles) have significant and negative effects on the academic achievement of students at different levels of education.

2.2.1.2. Social-Cognitive Factors and Academic Achievement

It is evident that there are several factors, cognitive as well as non-cognitive, associated with students’ personal characteristics which can affect their academic achievement. These include prior achievement and ability (i.e., cognitive), effort in learning, learning and study strategies, expectations of success/achievement goals, and psychosocial factors such as interests, beliefs and attitudes towards learning and education, self-concept, and self esteem (i.e., non-cognitive). Self-efficacy and motivation, particularly academic self-efficacy and academic motivation, are considered to be the most important factors affecting academic achievement, and are the focus of the current study.

2.2.1.2.1. Academic Self-Efficacy and Academic Achievement

Many researchers have attempted to relate self-efficacy to different educational, social, and psychological factors such as the strategies of learning (e.g., Pintrich & De Groot, 1990), motivational constructs such as persistence and goals/goal setting (e.g., Multon, Brown, & Lent, 1991; Schunk & Ertmer, 1999), affective constructs such as stress and anxiety (e.g., Chemers, Hu, & Garcia, 2001; Finney & Schraw, 2003; Solberg & Villareal, 1997; Zajacova et al., 2005), academic achievement (e.g., Adeyemo, 2007; Bembenutty, 2007; Campbell, 2007; Chandler, 2006; Chemers, Hu, & Garcia, 2001; Gore, 2006; Multon, Brown, & Lent, 1991; Pajares, 1996; Zajacova et al., 2005). These researchers have reported that students with higher levels of self-efficacy tend to be more self-regulated and persistent in their learning, more motivated to learn and to be successful in their learning, experience less stress and anxiety, and as a consequence have higher academic achievement than their counterparts who are low in academic self-efficacy.
In research that has examined the relationship between self-efficacy and academic achievement of students at different levels of education, with the exception of a few studies (Jeffreys, 1998; Reynolds & Weigand, 2010), it has been consistently documented that students with higher levels of academic self-efficacy have significantly higher academic performance compared to their counterparts who are low in academic self-efficacy. That is, when students have strong beliefs in their academic capabilities to perform well, they will have higher academic achievement than their counterpart students with low beliefs in their capabilities to perform well academically. Several studies conducted in colleges/universities have found that academic self-efficacy had a significant and positive effect on academic achievement (for review, see Adeyemo, 2007; Bembenutty, 2007; Bong, 2001; Campbell, 2007; Chandler, 2006; Chemers, Hu, & Garcia, 2001; Chye, Walker, & Smith, 1997; Elias & MacDonald, 2007; Gore, 2006; Greene & Miller, 1996; Hackett & Betz, 1989; Hackett et al., 1992; Hsieh, Sullivan, & Guerra, 2007; Kahn & Nauta, 2001; Kek, Darmawan, & Chen, 2007; Klomegah, 2007; Le et al., 2005; Luszczynska, Gutierrez-Dona, & Scewarzer, 2005; Mills, Pajares, & Herron, 2007; Parajes, 1996; Pajares & Miller, 1994; Robbins et al., 2004; Silver, Smith, & Greene, 2001; Turner, Chandler, & Heffer, 2009; Vuong, Brown-Welty, & Tracz, 2010; Witt-Rose, 2003; Wood & Locke, 1987; Zajacova, Lynch, & Espenshade, 2005).

To cite some key empirical studies, Vuong, Brown-Welty, and Tracz’s (2010) study, for example, examined the effects of self-efficacy on academic success with a sample of 1,291 college sophomores recruited from 5 of the 23 California State University campuses. These investigators found that self-efficacy beliefs had a significant and positive effect on the academic achievement of students, as measured by Grade-Point-Average (GPA) and persistence rates. Another recent study with a sample of 264 (172 females and 92 males) undergraduate students at a major university in southwestern United States also demonstrated that self-efficacy positively and significantly predicted academic performance (Turner, Chandler, & Heffer, 2009). Elias and MacDonald (2007) assessed the ability of prior academic performance and academic self-efficacy in predicting college academic performance with a sample of 202 (115 females and 87 males) undergraduate students at a large university in the Rocky Mountain region of the United States. These authors found that prior performance had a significant and positive effect on both academic self-efficacy
beliefs and college academic performance and academic self-efficacy beliefs accounted for a significant amount of unique variance beyond prior performance in predicting college academic performance.

In a similar vein, Robbins et al. (2004), in their meta-analysis of 109 early studies, reported that academic self-efficacy beliefs had a significant and positive effect on the academic achievement of college students. These investigators concluded that academic self-efficacy beliefs account for variance in both retention and college academic achievement beyond that explained by more traditional (i.e., cognitive) academic predictors such as high school performance and standardized test scores. Interestingly, an empirical study in Africa has also documented similar findings. That is, Adeyemo’s (2007) study with a sample of 300 undergraduate first and second year students at the University of Ibadan, Nigeria, demonstrated that academic self-efficacy had a significant and positive effect on academic achievement.

Studies conducted with a sample of high school students have also demonstrated consistent findings that academic self-efficacy has a significant and positive effect on academic achievement. Randhawa, Beamer, and Lundberg’s (1993) study in Canada, for instance, reported that mathematics self-efficacy had a significant and positive effect on mathematics achievement of high school students. Furthermore, these researchers revealed that mathematics self-efficacy was found to be a mediator between mathematics attitudes and mathematics achievement. Multon, Brown, and Lent (1991), in a meta-analysis of 39 academic self-efficacy studies comprising 41 different data sets, also found that self-efficacy beliefs had a significant and positive effect on the academic performance and persistence of students by explaining approximately 14% and 12% of the variances in academic performance and academic persistence, respectively.

However, contrary findings have been reported by a few empirical studies. For example, more recently Reynolds and Weigand (2010) examined the relationships among academic attitudes, psychological attitudes, and academic achievement with a sample of 164 undergraduate first year students recruited from a large predominantly white university in the north eastern United States. These researchers found that self-efficacy was not
significantly related to academic achievement, as measured by the first semester Grade-Point-Average (GPA). They explained this inconsistent finding by saying that the reliance on first-semester Grade-Point-Average (GPA) as the sole indicator of academic achievement may have affected the power of academic self-efficacy to predict academic achievement because the effect of academic self-efficacy on academic achievement may be more long term and not evident when using such a short-term measure as first semester Grade-Point-Average (GPA). Jeffreys (1998) also reported inconsistent findings regarding the relation between self-efficacy and academic achievement of college/university students (i.e., self-efficacy did not predict academic achievement). A possible reason for her odd findings might have been the reliability of the instruments which she employed in her research. For example, as commented by Witt-Rose (2003), the reliability for measures of the academic variables (i.e., study hours, study skills, and absenteeism) in Jeffreys’s study was slightly below an acceptable limit and this might have affected the relation among self-efficacy and academic achievement.

In general, researchers have concluded that an abundance of studies have consistently demonstrated that academic self-efficacy beliefs are strong determinants of academic accomplishments (Mills, Pajares, & Herron, 2007; Pajars, 2000; Zimmerman, 2000). Specifically, these authors have suggested that the findings of empirical studies adequately support the argument that students’ academic self-efficacy beliefs strongly influence their academic performance in different ways. The mechanism behind this relationship appears to be that self-efficacy has its most potent motivational influences via the process of organized goals (Bandura, 1997), which lay the foundation for self-regulation of efforts by providing a standard for judging the sufficiency and effectiveness of goal relevant efforts and strategy (Bandura & Cervone, 1983), and thus self-efficacy affects academic motivation, learning, and achievement (Pajares, 1996; Schunk, 1995).

While there is consensus among researchers that academic self-efficacy has a strong positive effect on the academic achievement of college/university students, some researchers (Gore, 2006; Kahn & Nauta, 2001) have expressed concern regarding the problem of timing of measuring academic self-efficacy and academic achievement. These researchers suggested that care should be taken concerning the time when efficacy beliefs
are measured and the nature of the criteria used, since these factors have a strong influence on the relationship among self-efficacy and academic achievement. Gore (2006) noted that when academic self-efficacy is assessed at the beginning of the first semester of the academic year of the college/university, academic self-efficacy beliefs are relatively weak predictors of academic achievement, and thus recommended that it is better to assess self-efficacy beliefs at the completion of the first semester or beginning of the second semester of the academic year of the college/university. This researcher justified this by saying that self-efficacy beliefs of experienced college/university students are more strongly related to their academic achievement and persistence than are the efficacy beliefs of new college/university students (i.e., when students have long stay in colleges/universities and experience in the academic arena, their academic efficacy beliefs are expected to be more accurate).

In sum, it is evident from the preceding review that academic self-efficacy has a significant and positive effect on academic achievement of college/university students. However, the timing of measuring academic self-efficacy and academic achievement has a significant impact on the effect of academic self-efficacy on academic achievement. Therefore, the current study is aimed to examine the effect of academic self-efficacy on the academic achievement of undergraduate first year university students in a developing African country, Ethiopia, where there is no intensive research in this area, by employing a prospective research design.

2.2.1.2.2. Achievement Motivation and Academic Achievement

Achievement motivation orients students toward goal-directed learning, persistence at task, developing new skills and cognitive strategies for solving problems. It also leads to emphasis on self-improvement and development using self-referenced standards. The reason for this is that achievement motivation has achievement goals, and thus students work hard and exert maximum efforts to reach those goals. It is widely accepted that achievement motivation plays a crucial role in affecting academic achievement of students at different levels of education (Deci & Ryan, 1985; Deci et al., 1991; Dweck & Leggett, 1988; Elliot & Harackiewics, 1996; McClelland, 1985). Deci and Ryan (1985) and Deci et
al. (1991), for example, revealed that students who had more self-determined or autonomous motivation (e.g., intrinsic motivation) for school works and activities were more likely to stay in school and perform better compared to their counterpart students who had less self-determined motivation. In addition, they indicated that high academic achievement is a function of students’ sense of autonomy. Specifically, those students who have self-determined (i.e., autonomous) motivation for their learning and academic achievement are performing the best in their education and as a result they are more successful in their academic performance compared to those who have constrained (i.e., non-autonomous) motivation and also who are amotivated.

Empirical studies conducted in colleges and/or universities, in particular, have also demonstrated that achievement motivation has a significant and positive effect on academic achievement, even though there are some inconsistent findings. For instance, Robbins et al. (2004), in their meta-analysis of 109 studies, found that achievement motivation had a significant and positive effect on the academic achievement of college/university students. Another study with Australian Aboriginal and non-Aboriginal university students revealed that those students who attached high value to achievement goals (i.e., the characteristic of students with high achievement motivation) were found to be better academically compared to their counterparts who attached low value to achievement goals (White & Fogarty, 2001).

Research which has examined the effects of different types of achievement motivation on academic achievement and other educational outcomes, in particular, documented important findings. Vallerand and Bissonnette’s (1992) study, for instance, demonstrated that junior college students who were more intrinsically motivated, more extrinsically identified and integrated regulated, and less amotivated toward academic activities at the start of the semester persisted in the course compared to those students who dropped out of the course. In addition, Vallerand et al. (1989) found that identified regulation of extrinsic motivation (i.e., behaviours that are performed by choice or self-determination) was significantly and positively associated with educational outcomes, although the effect of identified regulation was not as strong as that of intrinsic motivation.
Vallerand and his colleagues also documented that external regulation and introjected regulation of extrinsic motivation were either not correlated or slightly negatively correlated to educational outcomes. Extrinsic motivation, when taken in its global form, was either negatively related (Mitchell, 1992; Turner & Heffer, 2005) or not related (Amabile et al., 1994) to academic achievement. In addition, research has documented that amotivation (i.e., lack of motivation) was negatively associated with academic performance of college/university students (Fairchild, Horst, Finney, & Barron, 2005; Turner, Chandler, & Heffer, 2009; Turner & Heffer, 2005; Vallerand et al., 1989). A plethora of research has revealed that those college and/or university students who were more intrinsically motivated were more academically successful (Amabile et al., 1994; Campbell, 2007; Mitchell, 1992; Turner, Chandler, & Heffer, 2009; Turner & Heffer, 2005; Vallerand et al., 1993, 1989).

Empirical studies in non-Western countries such as Malaysia, Japan, and China have also documented that achievement motivation plays a vital role in affecting the academic performance of university students. Specifically, a recent study with a sample of university students in Malaysia reported a significant and positive correlation between students’ achievement motivation and their academic achievement (Mahyuddin, Elias, & Noordin, 2009). Tanaka and Yamauchi’s (2000) study with a sample of Japanese undergraduate students also demonstrated that autonomous motivation had a significant and positive effect on mastery orientation, deep-level processing, and academic achievement, whereas external regulation of extrinsic motivation significantly and positively predicted work-avoidance orientation and had a significant and negative association with academic achievement. Furthermore, a study by Vansteenkiste, Zhou, Lens, and Soenens (2005), with a sample of Chinese students, revealed that autonomous (i.e., self-determined) motivation had a significant and positive influence on adaptive (i.e., positive) learning attitudes, academic success, and personal well-being, whereas controlled (i.e., non-autonomous) motivation had a significant and positive association with higher drop-out rates, maladaptive (i.e., negative) learning attitudes, and ill-being (i.e., discomfort).

Similar findings have also been reported in research conducted in Africa. For example, Ali (1988) investigated the relationship between achievement motivation and
academic performance with a sample of college students in Zambia. He found a significant and positive relation among achievement motivation and academic performance, indicating that students who had high achievement motivation performed significantly better than their counterparts who had low achievement motivation on academic performance, as measured by the averages of the term examination grades.

Research with high school students has also documented consistent findings that achievement motivation plays a vital role in significantly and positively affecting academic achievement. For example, a study with a sample of 263 French-Canadian grade nine students from two Montreal high schools revealed that those students who were competent and self-determined in the school setting had autonomous motivational profiles, these students in turn had higher academic achievement than their counterparts who were incompetent and not self-determined (Fortier, Vallerand, & Guay, 1995). Another study with a sample of 1381 Hong Kong Chinese students (786 males and 595 females) from three secondary schools in Hong Kong also found that intrinsic motivation was significantly and positively related with academic achievement (Lai et al., 2006). Consistent findings have been obtained in research conducted in Africa. For instance, Tella (2007) examined the effect of achievement motivation on academic achievement and learning outcomes in mathematics in a sample of 450 (260 males and 190 females) secondary school students drawn from 10 schools in two local government areas in Ibadan, Nigeria. This investigator reported that students who had higher achievement motivation scored significantly high scores on a mathematics achievement test compared to their counterpart students with lower achievement motivation.

On the contrary and very surprisingly, a more recent study by Reynolds and Weigand (2010) found that academic motivation was not significantly correlated to academic achievement, as measured by the first semester Grade-Point-Average (GPA). They explained this odd finding by saying that the reliance on first semester Grade-Point-Average (GPA) as the sole measure of academic achievement may have influenced the power of academic motivation to predict academic achievement. In addition, these researchers believe that academic motivation may be related to academic achievement, but its effect may be more long term and not evident when using such a short-term indicator.
as first semester GPA. In a similar vein, other empirical studies (Cokley, Bernard, Cunningham, & Motoike, 2001; Fairchild, Horst, Finney, & Barron, 2005) have demonstrated that intrinsic motivation was not correlated to academic achievement. Based on the findings of their study, Cokley, Bernard, Cunningham, and Motoike noted that there may be some construct validity problems with the scores of the intrinsic motivation scale and suggested that more research on the relation between academic motivation, as measured by the Academic Motivation Scale (AMS) and academic achievement, as measured by Grade-Point-Average (GPA) should be conducted before drawing any conclusions. Similarly, Fairchild, Horst, Finney, and Barron argued against the predictive utility of the Academic Achievement Scale (AMS) in terms of academic achievement and questioned the scale’s theoretical foundations.

It is also evident that, as with the self-efficacy research, there may be problems with the timing of assessing achievement motivation and academic performance (Vallerand & Bissonnette, 1992). Vallerand and Bissonnette noted that if the motivational styles and educational outcomes are measured concomitantly, it is difficult to assess the effects of motivational styles on educational outcomes. Therefore, these researchers suggested employing a prospective study, in which the achievement motivation scale should be administered in advance and the students’ academic performance should be assessed separately sometime later.

Although many studies have consistently reported that autonomous (self-determined) motivation (i.e., intrinsic motivation, integrated and identified regulated extrinsic motivation) and academic achievement of college/university students are significantly and positively related, whereas controlled (non self-determined) motivation (i.e., extrinsic motivation introjected regulation and extrinsic motivation external regulation) and amotivation are significantly and negatively related to academic achievement, there are a few inconsistent findings (Cokley et al., 2001; Fairchild, Horst, Finney, & Barron, 2005). Consequently, some researchers have called for further research (Cokley et al., 2001; Guay, Ratelle, & Chanal, 2008), particularly for studies that employ a prospective research design based on the suggestion of Vallerand and Bissonnette (1992). This is one of the aims of the present study.
2.2.1.3. Interrelationships between the Predictors of Academic Achievement

The predictors of academic achievement discussed above are likely to be interrelated. Specifically, parenting styles are related to academic self-efficacy and achievement motivation; and academic self-efficacy is also related to achievement motivation.

2.2.1.3.1. Relationships between Parenting Styles and Academic Self-Efficacy and Achievement Motivation

According to Bandura (1994), environmental factors, such as family, peers, and school have a vital role in affecting the development of self-efficacy beliefs of people. Of these factors, family, especially parents through their parenting styles, exerts the most important effect in fostering self-efficacy beliefs and achievement motivation in their children, adolescents, and young adults. It is evident that the type of parenting style parents employ in rearing their children, adolescents, and young adults is a significant antecedent for the development of self-efficacy beliefs and achievement motivation of their children, adolescents, and young adults. That is, a family environment created by a particular parenting style can have a crucial effect on the self-efficacy beliefs and achievement motivation of the children, adolescents, and young adults. Parents can affect the development of self-efficacy beliefs and achievement motivation in their children, adolescents, and young adults directly and indirectly.

With respect to the relationships between parenting styles and academic self-efficacy, Eccles and her associates contend that parents serve as important socializers of competence beliefs (Eccles, Wigfield, & Schiefele, 1998; Jacobs & Eccles, 1992). Some other authors also noted that the family environment established by parents through their parenting styles promotes or hinders the development of specific behaviours (e.g., self-efficacy beliefs) of the children (Bradley & Caldwell, 1995; Bradley & Corwyn, 2001). Moreover, Lord, Eccles, and McCarthy (1994) noted that the relationships and interactions between parents and adolescents play an important role in influencing the development of
self confidence, self-esteem, self-efficacy, and self-image in adolescents either positively or negatively.

Empirical studies which have scrutinized the influences of different types of parenting styles on self-efficacy beliefs documented that adolescents with authoritative parents have the highest self-efficacy beliefs, whereas those with non-authoritative parents have the lowest levels of self-efficacy beliefs (Boon, 2007; Ingoldby, Schvaneveldt, Supple, & Bush, 2004; Juang & Silbereisen, 2002). Some early studies also demonstrated that children of authoritative parents had stronger beliefs in their own efficacy or competence when faced with the challenges of academic tasks (Baumrind, 1973; Baumrind & Black, 1967). Similarly, studies conducted in colleges/universities have echoed consistent findings, that students raised within authoritative families had significantly higher academic self-efficacy as compared to those from authoritarian families (Chandler, 2006; Kek, Darmawan, & Chen, 2007; Shaw, 2008; Smith, 2007; Strage & Brandt, 1999; Turner, Chandler, & Heffer, 2009).

However, Burke (2006) found that parenting styles (i.e., authoritarian, permissive, and authoritative parenting styles) did not significantly correlate with general self-efficacy beliefs of college students. Most probably, a reason for this inconsistent finding might be the small sample (n = 162) used by the researcher, which may have affected the detection power of the statistical method. Another likely reason for Burke’s inconsistent finding could be the methodological limitation of the study, that is, the participants of the study were selected by using a convenience sampling method. Another study with a sample of high school students also revealed that parenting styles were not related to academic self-efficacy (Rivers, 2008). This researcher explained the inconsistent findings by saying that parenting style may be related to academic self-efficacy only through intrinsic motivation because, in the same study, Rivers found that authoritative parenting style was significantly and positively related to intrinsic motivation and in turn intrinsic motivation was significantly and positively related to academic self-efficacy. In addition, the small sample (n = 148) used by the researcher may have influenced the detection power of the statistical method; and as a result this might have affected the findings.
With regard to the link between parenting styles and achievement motivation, empirical studies have reported that the different types of parenting styles have different influences on the children’s and adolescents’ achievement motivation. Rosen and D’Andrade’s (1959) study, which focused on differences in childhood experiences within the U.S. culture, for instance, demonstrated that males who had higher achievement motivation were from the families in which mothers had been warm and encouraging (i.e., the characteristics of authoritative parenting style) and non-authoritarian fathers, while males who scored low on achievement motivation were those who raised up in the families of respect-demanding, authoritarian fathers, during the childhood period. Similarly, a study in Brazil by Rosen (1962) revealed that the sons from the families where fathers were highly authoritarian tended to have relatively low levels of achievement motivation.

In numerous empirical studies it has been consistently reported that students who are more intrinsically motivated are from families that display more involvement, higher levels of nurturance, and encouragement of more autonomy (i.e., the characteristics of authoritative parents), whereas parental psychological control (i.e., the characteristic of authoritarian parents) was associated with controlled motivation (e.g., Baumrind, 1991, 1971; Boon, 2007; Deci & Ryan, 1985; Dornbusch et al., 1987; Ginsburg & Bronstein, 1993; Gonzalez, Holbein, & Quilter, 2002; Hoang, 2007; Ingoldby, Schvaneveldt, Supple, & Bush, 2004; Gonzalez-DeHass et al., 2005; Leung & Kwan, 1998; Spera, 2006; Steinberg et al., 1992b, 1994; Rivers, 2008; Strage, 2000; Vansteenkiste et al., 2005). Similar findings have been reported in studies involving college and university students (Gonzales, Greenwood, & WenHus, 2001; Turner & Heffer, 2005; Weiss & Schwartz, 1996).

2.2.1.3.2. Relationship between Academic Self-Efficacy and Achievement Motivation

With regard to the relationship between academic self-efficacy and achievement motivation, available studies have revealed that academic self-efficacy is significantly and positively related to achievement motivation. For instance, Sakiz’s (2011) study, which investigated the relationships between mastery and performance approach goal orientations
and academic self-efficacy beliefs with a sample of junior college students in Istanbul, Turkey. This researcher found that mastery approach goal orientation (i.e., equivalent to intrinsic motivation) was significantly and positively associated with students’ perceived academic self-efficacy beliefs, whereas performance approach goal orientation (i.e., equivalent to extrinsic motivation) was not significantly correlated to academic self-efficacy beliefs. Elias, Noordin, and Mahyuddin’s (2010) study, which examined the relationship between achievement motivation, self-efficacy, and adjustment with a sample of first-fourth year university students in Malaysia, also reported that there was a significant and positive correlation between self-efficacy and achievement motivation. Furthermore, another recent study with a sample of college students demonstrated that academic self-efficacy had a significant and positive association with intrinsic motivation as well as it had a significant and negative correlation with amotivation (Reynolds & Weigand, 2010). However, these investigators found a significant and positive relation among academic self-efficacy and extrinsic motivation, which is contrary to the findings of Sakiz (2011).

Empirical studies have yielded consistent evidence that students’ academic self-efficacy has a significant and positive association with their academic motivation (e.g., Schunk & Hanson, 1985; Zimmerman, 2000). In addition, self-efficacy behaviour regulates human execution of a given task through cognitive function and motivational elements (Bandura, 1997, 1986; Bandura & Locke, 2003). In support of this, there is evidence of the importance of having high academic self-efficacy to have high achievement motivation (Bandura 1997; Pajares 1997; Zimmerman, 2000). Overall, Pajares (2003) concluded that students’ confidence in their capabilities (i.e., self-efficacy) influences their motivation.

2.2.1.4. Sex Differences in Academic Self-Efficacy, Achievement Motivation, and Academic Performance

The effect of students’ sex on their academic self-efficacy, achievement motivation, and academic achievement has not been considered so far, but that it may be an important factor for the reason that in societies where there are rigid gender roles (i.e., gender marginalization), the societal stereotype threats are believed to be highly prevalent, and thus the stereotype effects may have substantial influences on the different developmental outcomes of females and males. That is, traditional societies assume that there are
observable differences between males and females (i.e., favouring males) in their capabilities in different activities. Therefore, these socially induced differences may result in discriminatory opportunities and rewards for two sexes and may have a crucial effect on the different developmental outcomes of females and males. In understanding this, gender has consistently been researched in relation to the different developmental outcomes, particularly academic self-efficacy, achievement motivation, and academic achievement in different educational settings, both in elementary and secondary schools and in higher education institutions. This section attempts to present and discuss studies which examined sex differences in the academic self-efficacy, achievement motivation, and academic achievement of students at different levels of education.

2.2.1.4.1. Sex Differences in Academic Self-Efficacy and Achievement Motivation

Research findings with regard to sex differences in self-efficacy beliefs are inconclusive. For instance, some studies conducted in higher education institutions have reported the significant sex differences in self-efficacy beliefs of students (Hackett., 1985; Hackett & Campbell, 1987; Lent et al., 2005; Meinholdt & Murray, 1999; Pajares & Miller, 1994; Reisberg et al., 2010; Vogt, Hocevar, & Hagedorn, 2007), whereas other studies have not demonstrated such relationship (Hackett et al., 1992; Vuong, Brown-Welty, & Tracz, 2010). To cite some empirical studies specifically, Reisberg et al. (2010) investigated the effect of gender on support and self-efficacy beliefs with a sample of 990 (216 females and 774 males) undergraduate engineering students. These researchers found that male students had significantly higher academic self-efficacy beliefs than their female counterparts. Other studies (Hackett., 1985; Hackett & Campbell, 1987; Lent et al., 2005; Meinholdt & Murray, 1999; Vogt, Hocevar, & Hagedorn, 2007) also reported similar findings, indicating that male college/university students have significantly higher academic self-efficacy when compared to their female counterparts.

Research has also shown that the effect of sex on academic self-efficacy is course or domain-specific. For instance, a study by Busch (1995) with a sample of 154 (77 females and 77 males) Norwegian college students revealed that female students had significantly
lower self efficacy in computing and marketing courses and higher self-efficacy in statistics course compared to their male counterparts. Empirical studies with high school students have also documented significant sex differences in self-efficacy beliefs, indicating that male students had significantly higher self-efficacy when compared to their female counterparts (for review, see Ewerst & Wood, 1993; Junge & Dretzke, 1995; Randhawa, Beamer, & Lundberg, 1993).

On the other hand, there are empirical studies which did not find significant sex differences in self-efficacy beliefs of college/university students. For example, a study which examined the effects of self-efficacy on academic success of 1,291 first-generation college sophomore students recruited from 5 of the 23 California State University campuses did not find significant effect of sex on self-efficacy beliefs (Vuong, Brown-Welty, & Tracz, 2010). Similarly, a study by Hackett et al. (1992) with a sample of 197 engineering students revealed that there were no significant sex differences in students academic self-efficacy beliefs. Other studies conducted in higher education institutions (Ancis & Phillips, 1996; Clutts, 2010; Schaefers, Epperson, & Nauta, 1997) and high schools (Pajares & Kranzler, 1995) have also demonstrated non-significant sex differences in academic self-efficacy of students.

As with academic self-efficacy, the research findings with respect to sex differences in students’ achievement motivation are mixed. That is, research has produced conflicting results regarding sex differences in achievement motivation of college/university students with some findings suggest that female college/university students have significantly higher levels of achievement motivation than their male counterparts (Baker, 2003; Brouse et al., 2010; Vallerand & Bissonnette, 1992; Vallerand et al., 1992; Wintre & Yaffe, 2000). Other results indicate that male college/university students possess significantly higher levels of achievement motivation compared to their female counterparts (Adsul & Kamble, 2008; Fortes, Rodrigues, & Tchantchane, 2010), which have also been supported by the findings of research conducted in high schools (Rutter, Smith, & Hall, 2005). Some other findings also show that female college/university students have significantly higher levels of achievement motivation in some fields of study but lower levels in other disciplines of study as compared to their male counterparts (Sid & Lindgren, 1981). On the other hand,
other studies have revealed that there are no significant sex differences in the achievement motivation of college/university students (Chandler, Cook, & Wolf, 1979; Lindgren, 1976; Pandey & Ahmad, 2007; Pratibha, 2006; Torki, 1985).

2.2.1.4.2. Sex Differences in Academic Achievement

As with research on self-efficacy beliefs and achievement motivation, research findings regarding sex differences in academic achievement are inconclusive. Some studies have shown that female college/university students are outperforming their male counterparts in academic achievement. For instance, DeBerard, Spielmans, and Julka (2004) with a sample of 204 undergraduate first year college students found significant sex differences in academic achievement, as measured by Cumulative Grade-Point-Average (CGPA), such that female students had significantly higher academic achievement than their male counterparts. Several studies conducted in higher education institutions have confirmed these findings (Baker, 2003; Chee, Pino, & Smith, 2005; Dayıoğlu & Türüt-Asık, 2004; Ferguson, James, & Madely, 2002; Hyde & Kling, 2001; Sheard, 2009; Strahan, 2003; Woodfield, Jessop, & McMillan, 2006). These findings have also been supported by some studies conducted with a sample of high school students (Steinmayr & Spinath, 2008; Wong et al., 2002).

On the other hand, as with research on sex differences in achievement motivation of college/university students, some studies have shown that males have significantly higher levels of academic achievement in certain types of courses (e.g., economics and electrical engineering courses), whereas female students on average perform significantly better in other types of courses, such as nutrition and dietetics (Keller, Crouse, & Trusheim, 1993; Schram, 1996) and statistics (Busch, 1995). Consequently, some researchers (e.g., Bridgeman & Wendler, 1991; Keller, Crouse, & Trusheim, 1993) have suggested that students’ sex is typically unrelated to overall academic achievement. In a similar vein, a study by Veldman (1968) with a sample of 2315 (1358 males and 957 females) first year college students did not find significant sex differences in academic achievement, as measured by Grade-Point-Averages (GPAs) of first semester. Similar findings have also
been reported by other empirical studies in higher education institutions (Naderi et al., 2009; Peiperl & Travelyan, 1997).

Some studies conducted in Africa, with the exception of Ajiboye and Tella (2006), have also shown that there are no significant sex differences in academic achievement of students. For example, a study by Adeyemo (2007) with a sample of 300 (160 females and 140 males) first and second year undergraduate students at the University of Ibadan, Nigeria, found that students’ sex did not have significant effect on their academic achievement. Afuwape and Oludipe (2008) examined gender differences in integrated science achievement with a sample of 253 (127 females and 126 males) pre-service teachers graduated from a College of Education in the south-western part of Nigeria from 2003 to 2005. These authors also demonstrated non significant sex differences in academic performance in integrated science. However, Ajiboye and Tella’s (2006) study, which examined the effects of students’ sex on achievement of a specific course (i.e., social studies course) of third year undergraduate students in University of Botswana, found that male students had significantly higher scores on social studies course performance, as measured by final mark of the course, when compared to their female counterparts.

Different researchers have explained the reasons why female college/university students exceed their male counterparts in academic performance by saying that female students have higher academic ethics (Chee, Pino, & Smith, 2005), academic motivation and readily engage with academic goals and activities (Baker, 2003; Wintre & Yaffe, 2000), and self-determined (autonomous) motivational profiles (Vallerand & Bissonnette, 1992) than male students. Similarly, other authors have attributed female students’ success in academic performance to their adherence to study schedules (Hofman & van den Berg, 2000), having higher levels of aspiration to complete university studies and determination (Allen, 1999), working harder and more consistently (Woodfield, Jessop, & McMillan, 2006), and working more conscientiously and having a stronger work ethic (Wilberg & Lynn, 1999) when compared to male students. In contrast, other authors have explained male students’ superiority in academic achievement by ascribing that they have better course taking behaviors, classroom experiences, and cognitive processing compared to their female counterparts (Byrnes, Hong, & Xing, 1997; Young & Fisler, 2000).
In sum, it seems reasonable to assume that sex differences in academic self-efficacy, achievement motivation, and academic performance are also at least partly explained by socio-cultural factors, in general, and students’ personal characteristics, in particular. As is evident from the aforementioned reviews, it is not possible to find a clear trend regarding the effects of students’ sex in their self-efficacy beliefs, achievement motivation, and academic achievement, and this calls for further study in a cultural context where there is a paucity of this kind of research to clearly understand whether or not students’ self-efficacy beliefs, achievement motivation, and academic performance vary as a function of their sex. Therefore, the current study will attempt to scrutinize the issue in question.

2.2.1.5. Cross-Cultural Research

It is evident that the different types of parenting styles parents employ in socializing their children, students’ academic self-efficacy, achievement motivation, and academic achievement are largely constructs influenced by the culture in which they live. Therefore, to fully understand the effects of parenting styles, academic self-efficacy, and achievement motivation on the academic achievement of students, it is important to consider them as the products of culture and examine their effects in the context of culture. To this end, this section presents and examines parenting styles, students’ academic self-efficacy, achievement motivation, and academic achievement, as well as the effects of parenting styles, academic self-efficacy, and achievement motivation on academic achievement of students in different cultural contexts (i.e., in individualistic and collectivistic cultures).

Before describing the effects of culture on parenting styles, students’ academic self-efficacy, achievement motivation, and academic achievement, it is important to see how culture is defined. The concept of culture, according to the most renowned Ethiopian social psychologist Wondimu Habtamu, is complex and difficult to define because different scholars define it in many different ways in accordance with their own professional and philosophical perspectives (Habtamu, 2002). Despite the complexity of defining the concept of culture, Habtamu defined it as “a relatively stable way of life that has been learned, shared by most members of the society, and which plays a significant role in the shaping of human behaviour” (p.4). A pioneer of the prototype model of culture and the most prominent cross-cultural researcher Hofstede (2001) defined culture as “the collective
programming of the mind that distinguishes the members of one group or category of people from another” (p. 9). Therefore, culture is broadly defined as an organized system of the learned and shared beliefs, values, traditions, and customs of the particular society which influence the behaviours of the people who live in that society and guide their lives and transmitted from one generation to the next.

Individualism-collectivism is one of the most important dimensions of culture identified by Hofstede (1980, 1983, 1994, 2001) in his theoretical model of culture to explain the thoughts, attitudes, feelings, beliefs, and actions (i.e., behaviours) of people in different cultures. Although other dimensions of culture (i.e., power distance, masculinity/femininity, uncertainty avoidance, and Confucian dynamism-long term/short term orientation) are equally important in assessing the cultural orientations of individuals in different societies and to understand the effects of culture on their behaviours and developmental outcomes thoroughly, the individualism/collectivism dimension has been researched broadly, and is frequently employed to explain cross-cultural differences in people’s behaviours (Triandis, 1994, 1995a).

Individualistic cultures reflect independence and personal autonomy, emphasis achievement, competition, and detachment from the social group, whereas collectivistic cultures emphasis interdependence and group harmony, conformity, cooperation, and attachment to one’s social group, typically with families, relatives, friends or colleagues (Hofstede, 1980, 1983, 1994; Triandis, 1995a; Triandis et al., 1988). According to these researchers, individualistic cultures include the U.S.A, Great Britain, Australia, Canada, the Netherlands, Italy and most of the European countries, while collectivistic cultures include Japan, Ecuador, Venezuela, India, China, Singapore, Indonesia, Hong Kong, and African countries. As noted by Triandis et al. (1988), in collectivist cultures, people are generally more collectivist-oriented than individualist-oriented, and similarly, in individualist cultures, they are more individualist-oriented than collectivist-oriented. Because of this, researchers have suggested that individualism and collectivism have been conceptualised as a cultural characteristics at societal level, and thus it is wrong to stereotype individuals by their societal culture (Hofstede, 2001; Triandis, 2001; Triandis et al., 1985).
Following Hofstede’s theoretical model of culture, Triandis et al. (1985) proposed the terms idiocentrism and allocentrism to refer to the cultural differences at the individual level that correspond with the individualism/collectivism dimension at the societal level. Specifically, these researchers have suggested that countries' (nations’) cultures may be described as commonly individualist or collectivist, whereas a person can be both allocentric and idiocentric in different contexts. According to Triandis and his colleagues, idiocentrics see themselves as being distinct from others, are concerned with their own personal achievement, and give priority to their own personal goals over the goals of the social group or others, whereas allocentrics see themselves as interconnected in social contexts, they are concerned with interpersonal harmony, and they subordinate their personal goals to their social group goals. Culture at a societal or national level is the culture shared between people in a society or a country (Hofstede, 1984). However, culture at the individual level is referred to as the subjective culture of a person that is marked by how much he/she takes from the different cultures that he/she is part of it (Karahanna, Evaristo, & Srite, 2005; Triandis et al., 1985).

2.2.1.5.1. Culture and Parenting Styles

A clear knowledge of the cultural context in which parents socialize their children is very much helpful to recognize the differences in parenting styles that are commonly practiced in that cultural context and to know the reasons why these differences occur (Keshavarz & Baharudin, 2009). Keshavarz and Baharudin noted that there are fundamental differences in the behaviours of parents in parenting their children and children's developmental outcomes across different cultures. Since a major goal of parenting is to socialize the child to adapt to the society in which he/she lives, that is, to support the child in successfully adapting to the conditions of its society and culture, in order for the child to become a functioning member of the society (LeVine, 1977; Trommsdorff & Kornadt, 2003), then parenting is influenced by cultural norms and values. These cultural norms and values are partly reflected in the child-rearing goals of the parents and their views of the development of their children (Schwarz, Schafermeier, & Trommsdorff, 2005).
Different cultures may have different child-rearing practices in accordance with their cultural traditions, beliefs, norms, and values. Consequently, the standards, goals, and methods of socialization may vary among societies, within subgroups in the same society, and between different societies because behaviours regarded as desirable and encouraged in one society would be regarded as undesirable or even pathological in another. Even within the same culture, there might be dramatic differences in the goals of socialization and the methods used to shape the values and behaviours of children (Hetherington & Parke, 1993). Furthermore, Belsky (1984) noted that although the development of parents’ philosophies about rearing (parenting) their children is determined by individual and family experiences, personality, their own child’s characteristics, social context and their cultural background, the culture in which parents rear their children plays a crucial role in affecting the parenting styles that parents employ. Tamminen (2006) also documented that the values, belief systems, and socialization goals of parents in rearing their children are the products of the cultural context in which they live. Therefore, as noted by some authors (e.g., Goodnow, 1988; Miller, 1988), parents from diverse cultural backgrounds, both within a single country and across-nations, differ in their implicit philosophies of parenting and child development.

When parents live in either an individualist or collectivist culture, their child rearing goals and behaviours are greatly influenced by the traditions, beliefs, norms, and values of that culture. This is due to traditions, norms, beliefs, attitudes, and values are usually different among individualist and collectivist cultures (Rhee, Uleman, & Lee, 1996; Triandis, 1991). As a result, culturally learned traditions, norms, beliefs, attitudes, and values provide standards which parents usually employ to direct their own interactions with their children. Several studies have demonstrated that individualistic and collectivistic cultures differ in their child-rearing goals and parenting behaviour (Greenfield, 1994; Triandis, 1995a; Trommsdorff, 1999; Trommsdorff & Kornadt, 2003) because collectivistic cultures emphasise integration into the social group and the hierarchy, while in individualistic cultures a person should be rather self-responsible and pursue his/her own goals.
More specifically, in collectivist cultures, parents encourage values such as helpfulness, conformity, adherence to social conventions and interdependence with their in-groups such as family and nation in socializing their children (Greenfield & Suzuki, 1998). This type of parenting style is more akin to an authoritarian parenting style and, based on the developmental outcomes of children valued in collectivist cultures, authoritarian parenting may be more preferred compared with other parenting styles (Grusec, Rudy, & Martini, 1997). On the other hand, in individualistic societies, authoritarian parenting represents a negative style of parenting because it is not in agreement with its culture’s traditions, beliefs, norms, and values (Keshavarz & Baharudin, 2009). That is, since individulistic societies emphasis emotional independence, assertiveness, autonomy, distinctiveness, self-containment, and the need for privacy, an authoritative parenting style is the most predominantly practiced and socially desirable parenting style in individulistic societies.

With regard to cultural differences in parenting styles, research has demonstrated that many Latino or Hispanic families (i.e., collectivistic culture) use an authoritarian parenting style because Latino parents assume that by being strict in rearing their children they will grow up to be accountable adults (Julian, McKenry, & McKelvy, 1994). Another study reported that African-American parents, who are also described as being more collectivistic, believe in using an authoritarian parenting style because parents want to socialize their children to manage the realities of racism and discrimination (Taylor, Chatters, Tucker, & Lewis, 1990). Moreover, Dornbusch et al. (1987) found that Asian, Black (African American), and Hispanic families (i.e., collectivists) were higher on the authoritarian parenting style for both male and female children than were white families (i.e., individualists). Keshavarz and Baharudin (2009) in their study, which examined parenting style in a collectivist culture, Malaysia, also revealed that Malaysian parents from the three main ethnic groups (i.e., Malay, Chinese, and Indian) were more authoritarian in their parenting style, and they did not consider it as a negative style of parenting. On the other hand, a study by Kim and Chung (2003) with a sample of Korean American college students found that authoritative parenting style was the most commonly practiced parenting style in Korean-American families (i.e., collectivists), followed by authoritarian parenting style.
There is less consensus regarding the effects of different types of parenting styles on developmental outcomes of children, adolescents, and young adults in different cultural contexts. Specifically, although the positive influences of authoritative parenting have been repeatedly documented, there are some researchers who raise questions regarding the universality of the findings in different cultures, ethnicities, and socioeconomic status groups (Baumrind, 1972; Chao, 1994, 2001; Dornbusch et al., 1987; Garg, Levin, Urajnik, & Kauppi, 2005; Kelly, Power, & Wimbush, 1992; Leung, Lau, & Lam, 1998; Musitu & Gacia, 2005; Parke & Buriel, 1998; Ryan & Adams, 1995; Spera, 2005; Steinberg, Lamborn, Dornbusch, & Darling, 1992b; Steinberg, Mounts, Lamborn, & Dornbusch, 1991). This is because of a paradox in the research findings regarding the parenting style of Asian countries, particularly Chinese parenting style (Chao, 1994). That is, Chinese parenting has often been described as authoritarian and this style of parenting has been found to be predictive of poor school achievement among European-Americans, and yet the Chinese, as immigrants and in their home country, perform quite well in school (Chao, 1994).

Generally, studies conducted in individualistic cultures have demonstrated that adolescents and young adults benefit most if their parents are authoritative and least if their parents are authoritarian or permissive (Claes et al., 2003; Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987; Lamborn et al., 1991; Steinberg, Elmen, & Mounts, 1989). Numerous studies, therefore, have revealed that an authoritative parenting style has a significant and positive effect on the different developmental outcomes of children and adolescents in individualistic cultures, which emphasis individual achievement and autonomy (for review, see Baumrind, 1971; Dornbusch et al., 1987; Lamborn et al., 1991), whereas an authoritarian parenting style plays a crucial role in significantly and positively affecting the different developmental outcomes of children and adolescents in collectivistic cultures, which emphasis social group achievement (for detailed review, see Papps et al., 1995; Rosenthal, 1984; Sprott, 1994; Szapornik & Kurtines, 1993). As a result, some investigators noted that parenting styles reflect, at least in part, cultural value systems (Chao, 1994, 2001; Hertz & Gullone, 1999; Kelley & Tseng, 1992; Rosenthal, Ranieri, & Klimidis, 1996; Zervides & Knowles, 2007).
Even though the conceptualization of Western-derived parenting styles and the beneficial effects of authoritative parenting style in different cultural contexts are controversial, there are studies which show that the trend of findings regarding the effects of parenting styles in an individualistic culture like the U.S.A or Canada has similarity for children’s and adolescents’ developmental outcomes in a collectivistic culture like China (Chen et al., 2000a, 2000b). Some other researchers (e.g., Chang et al., 2003, 2004) have also demonstrated that the functions of parenting and the dimensions of parenting styles (i.e., warmth, empathy, and support) for Chinese children and adolescents are similar to that of European American children and adolescents. Moreover, Wang, Pomerantz, and Chen (2007) reported that parenting styles had similar effects in China and the U.S.A.

In a similar vein, Sorkhabi (2005) argued against claims that authoritarian parenting is more beneficial in collectivistic cultures and authoritative parenting is the most beneficial in individualistic cultures. Sorkhabi also noted that Baumrind’s (1966, 1967, 1973) parenting styles have similar functions in both collectivistic and individualistic societies. Consequently, this investigator has suggested that more research should be conducted before conclusions can be made about the extent to which the cultural construct of individualism-collectivism accounts for the effects of parenting styles on the development of children. In addition, Steinberg (2001) revealed that the beneficial influences of authoritative parenting style have been supported with samples from different countries around the world, such as China, Pakistan, Hong Kong, Scotland, Australia, and Argentina, which are very diverse in their cultural traditions, beliefs, norms, and value systems. Thus, Steinberg concluded that, as a common trend, irrespective of their ethnic or racial groups, social backgrounds, or cultural contexts, adolescents are advantageous if they have authoritative parents.

In sum, as is evident from the above mentioned reviews, the generalizability of the type of parenting style predominantly practiced in different cultural contexts is still in question. Moreover, the generalizability of the effects of authoritarian and authoritative parenting styles on the developmental outcomes of children and adolescents in collectivistic cultures (i.e., authoritarian parenting is not detrimental or authoritative parenting is not beneficial in collectivistic cultures to the developmental outcomes of children and
adolescents) is not yet fully answered. Consequently, this calls for a further research, and therefore this is one of the prime aims of the current study to investigate the issues in question in a collectivist African country, Ethiopia, where there is a dearth of research in this area.

2.2.1.5.2. Culture and Self-Efficacy and Motivation

As suggested by Bandura (1986), self-efficacy beliefs are, partly, socially constructed and that such construction may vary because of the effects of culture in which a person lives. That is, a culture in which a person lives teaches him/her the traditions, beliefs, principles, norms, and values of the society which he/she is required to uphold and respect. Thus culture exerts its crucial influence in the construction of self-efficacy beliefs. Consequently, individuals in the different cultural contexts can be different in their levels of self-efficacy beliefs. Although the findings are inconclusive, several studies have demonstrated that there are differences in the levels of self-efficacy beliefs of individuals as a function of culture (e.g., Eaton & Dembo, 1997; Kim & Omizo, 2005; Klassen, 2004; Ottingen & Zosuls, 2006; Scholz, Gutiérrez-Doña, Sud, & Schwarzer, 2002; Schwarzer & Born, 1997). Specifically, Ottingen and Zosuls (2006) and Scholz et al. (2002) found that adolescents in individualistic cultures had significantly higher levels of self-efficacy, whereas those from collectivist cultures, such as Asian cultures, had significantly lower levels of self-efficacy despite the fact that they are more successful academically, in general, than those in individualistic cultures.

Other empirical studies in higher education institutions have also reported consistent findings. For example, Rushi’s (2007) study demonstrated that Caucasian American undergraduate students (i.e., individualists) possessed significantly higher academic self-efficacy than Indian American undergraduate students (i.e., collectivists). Similarly, Edman and Brazil’s (2007) study with a sample of 475 African American, Latino, and Asian community college students revealed that Caucasian students (i.e., individualists) had higher levels of academic self-efficacy than Asian and Latino students (i.e., collectivists). Hackett et al. (1992) with a sample of undergraduate engineering students also documented that Mexican Americans (i.e., collectivists) had significantly
lower levels of both engineering occupational self-efficacy and academic self-efficacy beliefs when compared to their European American (i.e., individualists) counterparts. It has also been documented in research that there are differences in the levels of self-efficacy beliefs even in the same individualistic or collectivistic cultures. Woulfe (2008), for instance, found that Danish university students had significantly higher levels of self-efficacy beliefs compared to their American counterparts; although the two countries are individualistic they differ in their levels of individualism and because of this, students from these two individualistic societies are different in their levels of self-efficacy beliefs. Similarly, Edman and Brazil’s (2007) study reported that African American college students (i.e., collectivists) had higher levels of academic self-efficacy than their Asian and Latino (i.e., collectivists) counterparts.

Research conducted with a sample of high school students has also documented consistent findings that there are differences in the levels of self-efficacy beliefs as a function of cultural contexts (i.e., individualistic and collectivistic cultures). For instance, Salili, Chiu, and Lai’s (2001) study found that Hong Kong high school students (i.e., collectivists) had significantly lower self-efficacy beliefs than their immigrant Chinese Canadian (i.e., collectivists) and European Canadian counterparts (i.e., individualists). However, these investigators reported that there were no significant differences in self-efficacy beliefs among immigrant Chinese Canadian students and European Canadian students. The probable reason for this could be that the immigrant Chinese Canadian might have been acculturated to the individualistic values and beliefs of the Canadian society which would be conducive to the development of strong efficacy beliefs. Furthermore, a study by Eaton and Dembo (1997) with a sample of 154 Asian American and 372 non-Asian (i.e., American) grade nine students revealed that Asian American (i.e., collectivists) students’ self-efficacy beliefs were lower than those of their American (i.e., individualists) counterparts.

Empirical research which has investigated the effect of culture on academic self-efficacy at the individual level also demonstrated similar findings. For instance, Dabul, Bernal, and Knight’s (1995) study, with a sample of grades seven-nine Mexican-American and Anglo-American students in the United States, found that the perceived academic
competence (i.e., equivalent to academic self-efficacy) of students was significantly and positively correlated to idiocentrism, but significantly and negatively associated with allocentrism.

In contrast to the aforementioned findings, Betz and Gwilliam’s (2002) study revealed that African American undergraduates (i.e., collectivists) had higher levels of self-efficacy beliefs as compared to their European American (i.e., individualists) counterparts in course or domain-specific disciplines, such as artistic, social, and enterprising theme activities and in some other university courses. However, these authors did not find significant differences between European Americans (i.e., individualists) and African Americans (i.e., collectivists) in mathematics and investigative self-efficacy beliefs. As noted by Bandura (2002), while self-efficacy beliefs are universally important, how they are nurtured and structured, the ways in which they are exercised, and the reasons to which they are used differ in different cultural contexts; and thus this might be the possible reason why the self-efficacy beliefs of individuals in different cultural contexts vary. Even so, Bandura contends that self-efficacy beliefs are equally important for all individuals regardless of their cultural contexts (i.e., collectivistic or individualistic culture).

With regard to the associations between self-efficacy and academic achievement in different cultural contexts, the findings are equivocal. For example, Rushi’s (2007) study, with a sample of Caucasian American and American Indian college students, demonstrated that academic self-efficacy had a significant and positive effect on academic achievement, as measured by Grade-Point-Average (GPA), for Caucasians American (individualists), but not for American Indians (collectivists). This researcher suggested that the concept of self-efficacy is culturally biased, and questioned the cross-cultural validity of self-efficacy measurements for those of American Indians (i.e., collectivists). On the other hand, other studies have documented mixed findings. For instance, a study by Edman and Brazil (2007), with a sample of Caucasian American, African American, Latino, and Asian community college students, reported a significant correlation between academic self-efficacy and academic achievement, as measured by Grade-Point-Average (GPA), for Asian and Latino students (i.e., collectivists). However, these researchers found that
academic self-efficacy was not significantly related to academic achievement for Caucasians (i.e., individualists) and African Americans (i.e., collectivists).

Regarding the relationship between culture and achievement motivation, researchers have shown that culture influences achievement motivation of individuals. For example, McClelland (1961) noted that individuals in collectivistic cultures are constrained in their motivation to achieve (i.e., their achievement motivation is not self-determined but instead controlled by external factors) and he contended that achievement behaviour is the characteristic feature of people in individualistic cultures. Therefore, McClelland concluded that people in East Asian and other non-Western countries (collectivists) were less motivated to achieve when compared to Americans and Europeans (individualists). In supporting McClelland’s assertion, a study by Rosen (1962) found that people in collectivist societies were found to be low in achievement motivation. Seagall et al. (1999) also noted that an individual’s motivations and beliefs often reflect the values of the cultures in which they live and thus, individuals with high achievement motivation (i.e., high achievement-oriented people) would probably be in the individualistic rather than collectivistic societies.

Similarly, Markus and Kitayama (1991) revealed that people of collectivistic cultures are less autonomous (i.e., they are low in achievement motivation; their motivation is not self-determined but rather controlled by external factors). Furthermore, a study by Sagie, Elizur, and Yamauchi (1996) with five countries (i.e., United States, Netherlands, Israel, Hungary, and Japan) found that the United States respondents (individualists) had higher achievement motivation but the Japanese and Hungarian respondents (collectivists) had lower achievement motivation. Research which has examined the effect of culture on achievement motivation at the individual level also reported related findings. That is, Triandis, Leung, Villareal, and Clark’s (1985) study with a sample of grade 12 students indicated that idiocentric students had significantly higher academic motivation when compared to their allocentric counterparts.

Studies which have focused specifically on the effects of cultural contexts on different types of achievement motivation also documented similar findings. For instance,
Coffman’s (2001) study demonstrated that European American undergraduate students (i.e., individualists) had significantly higher intrinsic motivation than their Asian and Latino American (i.e., collectivists) counterparts; but no differences were found for the composite measure of extrinsic motivation. Another study also found that African American university students (i.e., collectivists) had significantly higher extrinsic motivation external regulation than their European American (i.e., individualists) counterparts (Cokley, Bernard, Cunningham, & Motoike, 2001). However, Cokley and his colleagues did not find significant differences among the two cultural groups in different types of intrinsic motivation. They noted that the sample of African Americans was too small (n = 39) when compared with the sample of European Americans (n = 181) to draw any meaningful conclusions, and thus recommended that future research on cultural differences in achievement motivation is needed to have a clear understanding of the effect of culture on academic motivation.

On the other hand, Cokley (2003) demonstrated that African American university students (i.e., collectivists) had higher intrinsic motivation; however it did not affect significantly their academic performance or academic self-concept. More recently Isiksal (2010) investigated the academic motivation of 566 Turkish and American undergraduate students (284 Turkish from Ankara, Turkey, and 282 Americans from the U.S.). This researcher found that Turkish students (i.e., collectivists) had higher intrinsic motivation as compared to their American (i.e., individualists) counterparts, whereas American students had higher extrinsic motivation when compared to their Turkish counterparts.

In addition, contrary to the claims that autonomous motivation is an attribute of individualistic behaviours only within Western societies, some cross-cultural researchers strongly contend that autonomous (i.e., self-determined) motivation is universal, irrespective of cultural contexts (Vansteenkiste, Zhou, Lens, & Soenens, 2005). These authors demonstrated that autonomous motivation predicted better learning, academic achievement, and higher well-being of Chinese students (i.e., collectivists). Based on their research findings, they noted that autonomous motivation is universally important, even among Chinese students. Similarly, a study by Chirkov, Ryan, Kim, and Kaplan (2003) with a sample of university students drawn from four nations (South Korea, Russia, Turkey
and the United States) found that despite the between-and within-country cultural differences, relative autonomous motivation predicted well-being in all four cultures. Consequently, they noted that autonomy versus heteronomy in the regulation of behaviour is a basic concern for human beings in all cultures.

Although there are mixed findings regarding achievement motivation in different cultural contexts, some researchers argue that the cultural differences in achievement motivation, if any, are due to the differences in motivational orientations of the individuals from different cultural groups (Markus & Kitayama, 1991; Niles, 1998; Triandis, 1995b; Yu & Yang, 1994). More specifically, these investigators contend that the achievement motivation of individuals in collectivistic cultures is based on socially oriented achievement goals, while the achievement motivation of individuals in individualistic cultures is based on individually oriented achievement goals, and as a result these motivational orientations may attribute cultural differences in achievement motivation.

It is reasonable to believe that individuals in different cultures as well as within the same culture may have different levels of self-efficacy beliefs and achievement motivation. This is because individuals may have different values, beliefs, and goals of competence regarding achievements in different activities and the variations in reasons to achieve and the meanings they have for achievement. However, it is too difficult and too hasty to conclude that individuals from individualistic cultures and/or with idiocentric cultural orientation have higher self-efficacy beliefs and achievement motivation and those from collectivistic cultures and/or with allocentric cultural orientation have lower self-efficacy beliefs and achievement motivation because the research findings are equivocal and inconclusive. Therefore, the present study will attempt to look at what the situation looks like in a collectivist country, Ethiopia, where this type of research is scant.

2.2.1.5.3. Culture and Academic Achievement

As documented by the research literature (for review, see Berry, Poortinga, Segall, & Dasen, 1992; Segall, Dasen, Berry, & Poortinga, 1999), culture has a crucial effect on people’s developmental outcomes and behaviours. This is the rationale for Berry et al.’s
(1992) pioneering eco-cultural theory, which states that culture in which a person lives has a great effect on the different developmental outcomes and behaviours of the person, including academic achievement. Markus and Kitayama (1991) also noted that contrasting cultural value systems at both the societal and individual levels are believed to have strong influences on a person’s behaviours and everyday life activities. In particular, in educational settings, the cultural contexts in which a student lives and/or the cultural values and beliefs he/she holds are important casual factors in influencing his/her achievement motivation and other learning behaviours, and thereby affect his/her academic achievement (Chen, Stevenson, Hayward, & Burgess, 1995). Similarly, other psychologists concerned with studying the role of culture on cognition (e.g., Gordon & Armour-Thomas, 1991; Rogoff, 2003) have suggested that cultural values affect not only the psychological antecedents of academic achievement (e.g., self-efficacy and academic motivation), but also the behaviours individuals exhibit (i.e., academic performance).

To date, little research does exist which has examined the effects of culture on the academic achievement of students. These few available studies have demonstrated that culture, in particular the dimension of individualism-collectivism plays a significant role in students’ learning behaviours and academic performance. As noted by White and Fogarty (2001), the trend to associate people in collectivistic cultures with low academic achievement was evident as early as the 1950’s and 1960’s with the development of McClelland’s theory of achievement motivation, which strongly explains that individualism, competition, internal locus of control, and independence are the fundamental elements (i.e., prerequisites) of achievement behaviours.

Although the findings are mixed and inconclusive, studies which have been conducted so far demonstrate that culture plays a significant role in influencing students’ learning and their academic performance. For instance, VonDras’s (2005) study with a sample of university students revealed that students who had higher collectivist orientation described themselves as weak students, having less control, and being less likely to overcome learning problems and succeed in managing their academic goals. Dabul, Bernal, and Knight (1995) investigated the effect of culture on academic achievement at the individual level with a sample of grades seven-nine Mexican-American and Anglo-
American students in the United States. These researchers found that the academic achievement of students, as measured by Grade-Point-Average (GPA), was significantly and positively related to idiocentrism, but significantly and negatively related to allocentrism.

On the other hand, a study by Komarraju and Cokley (2008) with a sample of African American (i.e., collectivists) and European American (i.e., individualists) college students found a significant and positive relation between academic achievement, as measured by Grade-Point-Average (GPA), and collectivism for African Americans, but no relation between academic achievement and individualism or collectivism for European Americans. Zha and associates’ (2006) study explored the effects of culture on creative potential and achievement with a sample of 116 doctoral students (i.e., 55 Americans, born and raised in the United States, and 56 Chinese, born and raised in China). These investigators found that although Americans (i.e., individualists) had significantly higher creative potential as compared to their Chinese counterparts (i.e., collectivists), Chinese students significantly outperformed their American counterparts in academic achievement, as measured by the Graduate Record Examination (GRE) quantitative subtest. White and Fogarty (2001) also demonstrated a weak relationship between cultural values and academic performance in Australian Aboriginal (i.e., collectivists) and non-Aboriginal (i.e., individualists) university students. These researchers noted that the absence of support for strong relations among cultural values and academic achievement suggests that the greater collectivistic cultural values and beliefs of the Aboriginal students is not a problem per se for academic achievement.

In sum, it is apparent that the culture (individualistic/collectivistic) in which students live and the cultural values and beliefs they hold (i.e., idiocentric/allocentric cultural orientation) would have effects on their academic achievement because these factors influence every aspect of human behaviour. However, the effects of individualism and collectivism (i.e., at a cultural level) and idiocentrism and allocentrism (i.e., at an individual level) on academic achievement have not yet been extensively examined. Furthermore, the findings of relevant studies, as seen in the aforementioned reviews, are mixed and/or inconsistent and do not give a clear picture of the issue in question.
Therefore, there is a need for theory-driven research in a broader range of cultural contexts. This research in Ethiopia, which has been identified as a collectivist culture, will contribute to the broader body of knowledge in this area.

2.2.2. Research in Ethiopia

This section presents a review of the available studies in the areas of parenting styles, academic self-efficacy, achievement motivation, and academic achievement that have been conducted in Ethiopia. The socio-economic situation of Ethiopia; higher education in Ethiopia; parenting styles in the Ethiopian cultural context and their effects on academic achievement; academic self-efficacy and achievement motivation as predictors of academic achievement; and sex differences in academic self-efficacy, achievement motivation, and academic achievement will be examined.

2.2.2.1. Socio-Economic Situation of Ethiopia

Ethiopia, originally known as Abyssinia, is Africa’s tenth largest country with an area of 439,580 square miles (1,138,512 square kilometers). It is the major constituent of the landmass commonly known as the Horn of Africa and bordered on the south by Kenya, on the north and northeast by Eritrea, on the east by Djibouti and Somalia, and on the west and southwest by Sudan (see the Map of Ethiopia in Figure 1 below). It has culture and traditions which date back over 3000 years and rich history that dates back to the time of Queen of Sheba and even visible these days in ancient tombs, rock-hewn churches and colourful festivals.

Ethiopia is a multi-ethnic and multi-religious country with a population of 82 million (Central Statistical Agency, 2008). It has more than 80 ethnic groups and tribes who speak different languages and have different religions, and there are clear variations in customs and traditional beliefs and practices. Of these ethnic groups, the Oromo, Amhara, and Tigre ethnic groups are politically dominant ethnic groups of the country with population of 25,488,344 (34.5%), 19,867,817 (26.9%), 4,483,776 (6.1%), the first, second, and fourth populous ethnic groups of the country, respectively (Central Statistical Agency,
About 61,953,185 (83.9%) of Ethiopia’s population resides in rural areas. Amharic, which has been the dominant and official language for the last 150 years because of the political supremacy of the Amhara ethnic group, is the national work language of the country. Regarding the economic situation of the country, about 85% of the population earns its living from rain-fed agriculture which constitutes 42.1% of GDP (i.e., it is an agrarian country). It is one of the poorest in the world as reflected in a very low adult literacy rate (35.9%), high percentage of undernourished people (46%), and the high incidence of poverty, 23% earning below 1 USD per day (United Nations Development Program, 2007/8). Culturally, Ethiopia is a collectivistic country (Hofstede, 1980, 1983, 1994) in which cooperation, helpfulness, hierarchy, obedience, harmony with ingroups, dependence, and interpersonal relationships are emphasised.

Figure 1: The Map of Ethiopia (The World Factbook, 2010).
In Ethiopia, education, particularly higher education is considered to be an important instrument for cultural, socio-economic, political, and overall development of the country. Therefore, since the recent years, the expansion of higher education institutions and building their capacities has become the most outstanding development priority area in the country. Higher Education in Ethiopia includes institutions that are offering the three, four, five or six years of undergraduate programs and those with the two-year masters and four-year PhD programs (Ministry of Education, 2010, 2011). The available literature on Ethiopian higher education reveals that higher education officially commenced with the establishment of the University College of Addis Ababa, the present day Addis Ababa University, in 1950 (Habtamu, 2003; Wanna, 2004; World Bank, 2003). Since then, higher education has gone through three major changes: The first is the phase of an elite education system where quality over numbers was the guiding principle under the traditional monarchy; the second phase was when the country fell under the military rule where ideological control penetrated the educational system; and the third phase is the ethnic federal arrangement where the country seems to exert all its efforts to expand higher education dramatically (Amare et al., 2010).

There are a number of higher education institutions in the country. In 2010/11 there were 26 governmental higher education institutions and 49 non-governmental higher education institutions (Ministry of Education, 2011) which offer education in different fields of study and programs. These higher learning institutions are doing their best to achieve the goals and objectives set for higher education institutions in Ethiopia. Gaining entry to higher education institutions in Ethiopia is very competitive and thus getting an opportunity to join university is a major accomplishment for many young Ethiopians. At present, students’ enrollment in the higher education institutions is undertaken by the Ministry of Education in a centralized system based on the traditional cognitive predictors of academic achievement. Specifically, students take the Ethiopian General Education Certificate Examination (EGSLCE) at the end of Grade 10, which was introduced in 2000/1, and those who score 2.00 point and above in a 4-point scale, ranging from 0.00 to 4.00, join the second cycle of high school (grades 11-12) for university preparatory
programs. After two years studies in grades 11 and 12, these students again take the Ethiopian Higher Education Entrance Qualification Certificate Examination (EHEEQCE) at the end of Grade 12, which was adopted in 2003/4, and choose the universities which they want to join and the fields or disciplines of study in which they are interested to pursue.

Based on the students’ results in the Ethiopian Higher Education Entrance Qualification Certificate Examination (EHEEQCE), other relevant data, and the cut-off points for university entrance, the Ministry of Education assigns students to different governmental universities. It is worthwhile to note here that the cut-off points for university entrance varies from year to year in accordance with the availability of places in the higher education institutions. Although it is based on tough competition, the opportunity for students to get access to higher learning institutions has increased because of the rapid expansion of higher education institutions. Therefore, the challenge for students has gradually shifted from that of getting access to higher education institutions to that of persistence and achieving the goal of graduation. This is because, there are many potential factors which affect the academic achievement of students in higher education institutions. Hence, the current study is aimed to examine the effects of parenting styles and social-cognitive factors (i.e., academic self-efficacy and achievement motivation) on academic achievement from those several potential factors responsible for students’ academic success in higher education institutions.

2.2.2.3. Parenting Styles in the Ethiopian Cultural Context

As discussed earlier, it is evident that parents in all cultures (i.e., in both individualistic and collectivistic cultures) are the primary socialization agents responsible for transmission of cultural values, beliefs, traditions, and norms which are necessary for the attainment of cultural standards of competence to their children. Ethiopia is no exception, and thus Ethiopian parents employ child-rearing practices in socializing their children in accordance with their cultural and religious beliefs, traditions, norms, and value systems.
There is a dearth of research literature on parenting styles and their effects on children’s, adolescents’, and young adults’ development in Ethiopia. However, there are a few studies which can provide some insights into the issue (Abesha, 1997; Abraham, 1996; Birhanu, 1996; Cox, 1967; Habtamu, 1979, 1995; Haile, 1971; Kassahun, 2005; Levin, 1965; Markos, 1996; Ringness & Gander, 1974; Seleshi, 1998; Seleshi & Sentayehu, 1998; Sentayehu, 1998; Tilahun, 2002; Yekoyealem, 2005). Some of these studies reported that an authoritarian parenting style was predominantly employed among the families of Ethiopia (Abrahm, 1996; Cox, 1967; Habtamu, 1979, 1995; Haile, 1970; Levine, 1965, Ringness & Gander, 1974). However, in other studies it has been consistently found that the type of parenting style predominantly practiced in the families of the country was authoritative (Abesha, 1997; Birhanu, 1996; Markos, 1996; Seleshi, 1998; Seleshi & Sentayehu, 1998; Sentayehu, 1998; Yekoyealem, 2005).

Some studies have also shown that the most commonly practiced parenting style in Ethiopian families differs as a function of children’s sex. For instance, studies with a sample of junior secondary school students have demonstrated that parents were authoritative for their daughters, but authoritarian for their sons (Seleshi, 1998; Seleshi & Sentayehu, 1998; Sentayehu, 1998). Another study with a sample of high school students reported that an authoritative parenting style was the most commonly employed parenting style for daughters whereas neglectful parenting style was the most predominantly adopted parenting style for sons (Kassahun, 2005). On the other hand, this researcher, in the same study, with a sample of elementary school students revealed that irrespective of childrens’ sex, an authoritative parenting style was the most commonly employed parenting style in the families of Ethiopia.

Kassahun explained the predominance of neglectful parenting style for high school aged males by saying that when males enter high school the parents may believe that their sons can manage themselves, and thus they reduce their control as well as their close relationships. However, this explanation may not be justifiable when Ethiopian cultural beliefs regarding children’s development are concerned. This is because, as demonstrated by some empirical studies in Ethiopia (Atsede, 1994; Ringess & Gander, 1974; Seleshi, 1998; Seleshi & Sentayehu, 1998; Teshome, 1976), parents attach very high values to their
children, and thus they are not expected to use a neglectful parenting style, which is detrimental for the developmental outcomes of their children, in rearing their sons. Therefore, it is premature to conclude that Ethiopian parents employ a neglectful parenting style for their sons; and to accept that there are traditions and customs in the Ethiopian culture that foster more distant parenting for sons.

A probable explanation for the findings of the early studies which documented that an authoritarian parenting style was the most commonly practiced parenting style could be the then socio-political system which adhered to authoritarianism in every realm of human endeavours. On the other hand, a likely reason for the findings of the studies in the last two decades which reported that an authoritative parenting style was the most predominantly employed parenting style could be, as noted by numerous researchers (e.g., Atsede, 1994; Ringess & Gander, 1974; Seleshi, 1998; Seleshi & Sentayehu, 1998; Teshome, 1976), Ethiopian parents attach very high values to their children in the hope that they will provide social, economic, and psychological support for their parents especially when they become older, and to ensure the continuity of family lineage. Another possible explanation could be that the rapid socio-political changes that have been induced in the country in the drive for modernization and globalization may have resulted in some cultural changes including child-rearing practices. This is why some investigators affirmed that a change in the socio-political system is accompanied by cultural changes (Laosa, 1981; Pauswang, 1970). For these reasons, parents may employ more accepting, firm, and democratic child-rearing practices (i.e., authoritative parenting style).

Even so, if we evaluate the findings of the studies which have been conducted after 1995, we find that there are mixed findings regarding the type of parenting style predominantly practiced in the families of Ethiopia. For instance, Abraham (1996) in his study on child-rearing practices in Siltigna-speaking community (i.e., Silte ethnic group) found that an authoritarian parenting style was the most common. In addition, some other studies (Kassahun, 2005; Seleshi, 1998; Seleshi & Sentayehu, 1998; Sentayehu, 1998) documented differences in the most commonly practiced parenting styles as a function of the children’s sex, although the findings regarding the most commonly practiced parenting style for sons are equivocal. In contrast, some of the remaining studies after 1995 reported
that an authoritative parenting style was the predominantly practiced parenting style in the families of Ethiopia (Abesha, 1997; Birhanu, 1996; Markos, 1996; Yekoyealem, 2005).

Consequently, the studies conducted so far do not provide clear evidence to conclude which parenting style (i.e., authoritative, authoritarian, indulgent, or neglectful parenting style) is commonly adopted in the families of Ethiopia. This calls for further study, which uses a large sample of diverse ethnic groups of the country, to fully understand which type of parenting style is dominantly practiced in the families of Ethiopia. Therefore, the current study will try to assess which parenting style is the most commonly adopted parenting style in the families of Ethiopia.

2.2.2.4. Parenting Styles and Academic Achievement

An extensive search of the literature has failed to find any study which examined the effects of parenting styles on the academic achievement of higher education institutions’ students in the Ethiopian context. However, several studies conducted in elementary (Kassahun, 2005), junior secondary (Ewnetu & Fisseha, 2008; Seleshi & Sentayehu, 1998; Sentayehu, 1998), and high schools (Abesha, 1997; Birhanu, 1996; Markos, 1996; Tilahun, 2002) documented that parenting styles have significant effects on the academic performance of students, indicating that an authoritative parenting style had a significant and positive effect on academic achievement.

More specifically, Tilahun (2002) examined the interrelationships between parenting style, psychosocial adjustment, and academic achievement with a sample of 300 (147 females and 153 males) grades 9 and 10 high school students in Addis Ababa. He found that students who perceived their parents as authoritative had significantly higher academic achievement and psychosocial adjustment compared to their counterparts who rated their parents as non-authoritative. Furthermore, this investigator reported that both dimensions of parenting (i.e., parental acceptance and parental control) had significant and positive direct and indirect effects (i.e., via psychosocial adjustment, specifically, through self-reliance and work orientation) on the academic achievement of students. A study conducted by Abesha (1997) with a sample of 335 (160 females and 175 males) high
school students recruited from the Amhara and Wolayta ethnic groups also demonstrated that parenting styles had a significant effect on academic achievement, by explaining 13.14% of the variance in academic achievement; however, this was moderated by sex of the students. More specifically, he reported that male students who characterized their parents as authoritative had higher academic performance compared to their counterparts who described their parents as non-authoritative. In addition, he revealed that male students from authoritarian families performed better in academic achievement than their counterparts from indulgent and neglectful families. However, he found that the scholastic performance of female students was not significantly different as a function of the parenting styles in their families.

In a similar vein, other studies conducted in high schools reported consistent findings that students who described their parents as authoritative had considerably higher academic achievement compared to their counterparts who perceived their parents as non-authoritative (Birhanu, 1996; Markos, 1996). In addition, Birhanu (1996) reported that an authoritarian parenting style was negatively related with academic achievement; but there were no significant relationships between either of indulgent or neglectful parenting style and academic achievement. Markos (1996) also revealed that there was no considerable difference in academic achievement among students from authoritarian, indulgent, and neglectful families; however, after controlling for the effects of students’ sex and prior ability, he found that the academic achievement of students from authoritarian and indulgent (permissive) parents was considerably higher than that of students from neglectful parents.

Studies conducted in elementary schools have also reported similar findings. For instance, Kassahun’s (2005) study that examined the relationship of parenting styles and academic performance with a sample of 190 (111 females and 89 males) fifth and sixth grade students found that students who rated their parents as authoritative had significantly higher academic achievement as compared to their counterparts who perceived their parents as non-authoritative. This researcher also reported that the academic achievement of students from non-authoritative families did not differ significantly. Consistent findings have been documented by studies with a sample of of junior secondary school students
In addition, these investigators demonstrated that the effects of parenting styles on academic achievement did not significantly vary as the function of students’ sex. In research which assessed the effects of parenting styles on the academic performance of students in a domain-specific subject, it was also reported that students from authoritative families had significantly higher academic performance when compared to their counterparts from non-authoritative families. For example, Ewnetu and Fisseha (2008) examined the teacher relationship behavior and parenting style correlates of students’ academic achievement in English language with a sample of 210 (120 females and 90 males) grade seven students. These investigators found that students who perceived their parents as authoritative had positive and secure relationships with their English language subject teachers and higher scholastic achievement in English language subject.

On the other hand, although research has consistently documented that parenting styles have a strong effect on the academic achievement of students in elementary, junior secondary, and high schools (see the aforementioned reviews), there is one study which reported inconsistent findings. That is, Kassahun’s (2005) study, with a sample of 200 (86 females and 114 males) ninth and tenth grade students, revealed that parenting styles did not have a significant effect on academic achievement. Kassahun explained his inconsistent findings by saying that there may be other important variables, such as effort, ability, teachers’ effectiveness, and school climate, which have more influence on the academic performance of students than family related variables (i.e., parenting styles). Of course, the mentioned variables and other factors can have influence on the academic achievement of high school students. However, a probable reason for Kassahun’s inconsistent findings could be, as suggested by Glasgow et al. (1997), the direct influence of parenting styles during childhood may change into indirect when the children become adolescents.

In sum, with the exception of one study (i.e., Kassahun, 2005), all the other Ethiopian studies have demonstrated that parenting styles play crucial roles in affecting the academic achievement of students in elementary, junior secondary, and high schools, indicating that students from authoritative families have significantly higher academic performance compared to their counterpart students from non-authoritative families.
However, as mentioned elsewhere in this thesis, there is no empirical study which examined whether or not parenting styles continue to have effects on the academic achievement of students in higher education institutions in the Ethiopian context. It has been suggested in the previous Ethiopian research (e.g., Tilahun, 2002) that it is prudent to examine the effects of parenting styles on the developmental outcomes, including academic performance, of students in higher learning institutions. As a result, there is a need to investigate the effects of parenting styles on the academic achievement of university students in a country where such kind of study is not available. Therefore, the present study aims to address this gap in the literature.

2.2.2.5. Academic Self-Efficacy and Achievement Motivation as Predictors of Academic Achievement

It is evident that the academic achievement of students at different levels of education is not only a function of traditional (i.e., cognitive) factors but also non-cognitive factors (e.g., academic self-efficacy and achievement motivation). By recognizing this, several researchers in Western and Asian countries thoroughly examined the effects of these factors and demonstrated their strong effects on the academic achievement of college/university students. However, with the exception of a few studies (Aboma, 2009; Daniel, 1992; Girma, 1997; Mulugeta, 1998; Tsige, 2006; Yalew, 2003), there is no empirical study which has comprehensively investigated the effects of academic self-efficacy and achievement motivation on the academic achievement of students in higher education institutions in the Ethiopian context.

2.2.2.5.1. Academic Self-Efficacy and Academic Achievement

Although there is a dearth of research which has examined the effect of academic self-efficacy on the academic achievement of college/university students in the Ethiopian context, some studies in the area have revealed that academic self-efficacy has a significant and positive effect on academic performance. For instance, recently Aboma (2009) investigated the effects of prior academic achievement, as measured by university preparatory school Grade-Point-Average (GPA), aptitude test scores, and university
entrance exam scores, and psychological variables (i.e., academic self-efficacy and achievement motivation) on academic achievement, as measured by first semester Grade-Point-Average (GPA), with a sample of 214 (43 females and 171 males) first year students of Adama University. He found that prior academic achievement measures and psychological variables jointly explained 17% of the variance in students’ academic achievement, and of which the sole contribution of achievement motivation and academic self-efficacy in combination was 4% (i.e., 2% for females and 5% for males). In addition, this researcher revealed that academic self-efficacy had significant and positive effect on academic achievement for the overall sample and the sub-sample of male students, but not for the sub-sample of female students. The likely reason why academic self-efficacy did not have a considerable and positive effect on the academic achievement of female students could be the small sample used for this group (only 43 females) which may have affected the predictive power of the variable.

Another study by Yalew (2003), with a sample of 414 first year and 156 second year students of Bahir Dar University, also demonstrated that students’ self-efficacy had a significant and positive effect on their academic achievement, as measured by Grade-Point-Average (GPA), showing that students who perceived themselves as competent scored higher GPA than those with low level of self-efficacy. Similarly, a study by Mulugeta (1998) with a sample of 341 (171 females and 170 males) first year students of Addis Ababa University found that irrespective of the sex of students, self-efficacy had a significant and positive effect on academic achievement, as measured by Grade-Point-Average (GPA). Studies which have investigated the effect of subject or domain-specific self-efficacy on subject-specific achievement also reported consistent findings that self-efficacy is significantly and positively correlated to academic performance. For example, Dawit (2008) examined the correlation among sources of self-efficacy, self-efficacy, and performance in reading and writing skills in English language course of 106 (23 females and 83 males) undergraduate first year students of Bahir Dar University. He found significant and positive relationships between writing self-efficacy beliefs and writing performance and between reading self-efficacy beliefs and the corresponding reading performance in English language course.
Although the findings are inconclusive, consistent findings have been reported by studies undertaken in elementary and high schools. For example, a study by Amare (2001) with a sample of 271 (143 females and 128 males) high school students demonstrated that academic competence (i.e., equivalent to academic self-efficacy) had a significant and positive direct effect on the academic performance of students. Kifle’s (2004) study with a sample of 234 (108 females and 126 males) 9th and 10th grade students also found that students with higher self-efficacy had significantly higher academic performance as compared to their counterparts with lower self-efficacy. Similar findings have also been reported in studies which assessed the effect of subject or domain-specific academic self-efficacy on the academic achievement of domain-specific subjects with a sample of high school students (Mustofa, 2006; Yalew, 1997). In a similar vein, Yalew’s (2005) study, which assessed the effects of grade, self-efficacy, learned-helplessness, and cognitive engagement on liking mathematics among primary school students, revealed that out of the total variance 44.8% explained by the variables studied, more than half of the variance (24%) was explained by self-efficacy alone. In addition, he demonstrated that there was a decline in the level of self-efficacy as students progressed in grade.

Contrary to the above mentioned findings, Yalew and Witruk’s (2006) study with a sample of high school students demonstrated that self-efficacy did not significantly predict academic performance. Most probably, the reason for this inconsistent finding could be that the effect of academic self-efficacy on academic achievement might have been mediated by academic motivation. This is because, as reported by the researchers, self-efficacy directly predicted academic motivation and academic motivation directly predicted academic performance.

2.2.2.5.2. Achievement Motivation and Academic Achievement

As with the self-efficacy research, there is a scarcity of empirical research which has investigated the influence of achievement motivation on the academic performance of college/university students in Ethiopia. In addition, the findings of these few available studies are equivocal. For instance, a recent study by Eshete and Monette (2010), with a sample of second and third year students of Mechanical Engineering Department, Arba
Minch University, found that intrinsic motivation and intrinsic value were significantly and positively associated with academic performance. Similarly, Negasi’s (2009) study with a sample of 237 (63 females and 174 males) first year students of Computer Science, Statistics, and Earth Science Departments in the Faculty of Science, Addis Ababa University, demonstrated that mathematics intrinsic motivation had a significant and positive effect on mathematics achievement, as measured by students’ grade in the course Calculus I. Grima’s (1997) study also documented a significant and positive relationship among academic achievement motivation and academic performance of Teachers’ Training Institutes (TTIs) students. A similar finding has also been reported by Daniel (1992) with a sample of college students. Studies which have been conducted in high schools also revealed that academic motivation had a significant and positive direct effect on the academic performance of students (Amare, 2001; Yalew & Witruk, 2006; Zenawi, 1997).

In contrast to the aforementioned findings, Aboma (2009) reported that achievement motivation had no significant effect on the academic achievement of first year students of Adama University. Furthermore, the study conducted by Tsige (2006) with a sample of 345 first year students of College of Commerce, Addis Ababa University, found that even if the students’ academic achievement motivation was high, the relationship among academic achievement motivation and academic performance, as measured by first semester Grade-Point-Averages (GPA), was negative, although not significant statistically. A study which has been conducted in high schools also demonstrated similar finding (Assefa, 1998). Specifically, Assefa found that achievement motivation was not significantly related to academic achievement, even though the relationship among the two variables was positive. A probable reason for these inconsistent findings could be the methodological limitations observed in the studies. For instance, Aboma (2009) and Assefa (1998) administered the scales of achievement motivation in English language without considering that Ethiopian students may have considerable difficulty in English language. Tsige (2006) also employed students’ self-report Grade-Point-Average (GPA), as a measure of academic achievement, which is highly susceptible of response bias because of social desirability effect.

Overall, it is likely that the academic self-efficacy and achievement motivation of students would have significant and positive influences on their academic achievement.
because they are instrumental for academic success. However, the effects of these constructs on academic achievement have not yet been extensively examined in the Ethiopian cultural context. In addition, the findings of relevant studies, as seen in the above mentioned reviews, are mixed, and thus do not give a clear picture of the issues in question. Therefore, it is important to conduct theory-driven research to have a precise knowledge and understanding of the effects of these variables on the academic performance of higher education institutions students in the Ethiopian cultural context. The present study will make an important contribution to this end.

**2.2.2.6. Sex Differences in Academic Self-Efficacy, Achievement Motivation, and Academic Achievement**

While sex is one of the most commonly studied student background variables to assess its effect on the different developmental outcomes of students at different levels of education in the Western and Asian countries, there is a paucity of research in this area in the Ethiopian context. However, there are some few studies which have attempted to investigate whether or not students’ academic self-efficacy, achievement motivation, and academic performance vary as a function of their sex. Although there are a few inconsistencies, research conducted in different levels of education has demonstrated that students’ sex has a considerable effect on their academic self-efficacy, achievement motivation, and academic performance. For instance, Mulugeta (1998) found that there were significant sex differences in academic self-efficacy, achievement motivation, and academic achievement of first year university students, showing male students were superior when compared with their female counterparts.

Another study by Dawit (2008) with a sample of undergraduate first year students of Bahir Dar University also demonstrated sex differences in both writing and reading self-efficacy beliefs in English language course and in the achievement of reading and writing tests of English language course, favouring male students. Furthermore, Negasi (2009) with a sample of 237 (63 females and 174 males) first year students of Computer Science, Statistics, and Earth Science Departments, Faculty of Science, Addis Ababa University, found significant sex differences in mathematics intrinsic motivation and mathematics
achievement, showing that male students had significantly higher mathematics intrinsic motivation and mathematics achievement as compared to their female counterparts. Other studies conducted in colleges/universities also documented significant sex differences in academic performance, favouring male students (Atsede, 1991; Demewez, Mehadi, & Tesfaye, 2005; Fantu, Zelalem, & Belay, 1996; Fentaw, 1991; Getaneh, 2004; Habte, 1988; Hedija, 2002; Tsige, 1991).

Research undertaken in high schools has also shown significant sex differences, favouring male students, in academic self-efficacy (Kifle, 2004; Mustofa, 2006; Yalew, 1996, 1997) and achievement motivation (Kifle, 2004). With respect to the effect of sex on academic achievement, consistent findings, that male students significantly outperform their female counterparts, have been reported by studies in technical and vocational education and training institutes (Tamirie, 2009), primary school teachers training institutes (Girma, 1992; Negussie, 1996), high schools (Abesha, 1997; Assefa, 1998; Kassahun, 2005; Kifle, 2004; Markos, 1996; Mustofa, 2006; Ojo & Yilma, 2009; Tamirie, 2009; Yalew, 1997; Zenawi, 1997), and elementary schools (Nema & Wagner, 1993; Sewnet, 1995). In contrast to the above mentioned findings, Assefa (1998) and Mustofa (2006) did not find significant sex differences in achievement motivation of high school students. Similarly, some studies in universities (Sentayehu, 1995), high schools (Tilahun, 2002), junior secondary schools (Ewnetu & Fisseha, 2008; Seleshii & Sentayehu, 1998; Sentayehu, 1998), and elementary schools (Kassahun, 2005) did not find significant sex differences in students’ academic achievement.

In general, as has been seen in the above mentioned reviews, empirical studies indicate that there are sex differences in academic self-efficacy, achievement motivation, and academic achievement of students at different levels of education. Since the socio-cultural conditions in Ethiopia tend to favour the dominance of males over females in different aspects of life, these socio-cultural provisions for male students make them fit and able to have higher academic self-efficacy, achievement motivation, and academic performance than female students. That is, the traditional attitudes and prejudices of Ethiopian society (e.g. negative beliefs held by society about women’s capability to succeed in different developmental endeavours) may have adverse effects on the academic
2.3. Summary of the Literature Review

As is evident in the preceding review, although an abundance of research has examined the effects of parenting styles and social-cognitive factors (i.e., academic self-efficacy and achievement motivation) on the academic performance of college/university students in Western countries and Asia, less research has been conducted on the integrated effects of these factors on academic achievement. In addition, there are contrasting findings regarding the effects of parenting styles, academic self-efficacy, and achievement motivation on academic achievement and the interrelationships between these variables; and sex differences in academic self-efficacy, achievement motivation, and academic achievement, and as a result the findings are inconclusive. Moreover, the generalizability of the predominantly adopted parenting style; the levels of academic self-efficacy, achievement motivation, and academic achievement; and the effects of parenting styles, academic self-efficacy, and achievement motivation on academic performance in collectivistic cultures are also unresolved issues.

With regard to the Ethiopian context, despite the significance of the problems associated with the academic achievement of first year university students, there have been relatively very few empirical studies on this topic. Although the findings of these studies are very important for understanding the factors responsible for academic achievement of university students and for developing and employing the possible strategies for intervention, they are not comprehensive enough in illuminating which factors are potentially affecting students’ academic success at higher education institutions since academic achievement is a product of multifaceted factors which can have joint and/or independent effect(s). In addition, there are mixed findings regarding the type of parenting style predominantly practiced in the families of Ethiopia, and as a result, the type of parenting style commonly adopted in the families of Ethiopia at present is not clearly known. Therefore, there is a need for empirical research which is aimed at uncovering the
aforementioned issues by using a sample of participants from a collectivist country, Ethiopia, in which there is no previous study of this type.

2.4. The Current Study

Building on and extending previous research, the present study aimed to examine the effects of parenting styles and social-cognitive factors (i.e., academic self-efficacy and achievement motivation) on academic achievement and the interrelationships among these variables by proposing and testing an integrated parental and social-cognitive model of academic achievement (see Figure 2 below) with data from diverse ethnic groups in a collectivist country, Ethiopia. In particular, the current study investigated the effects of parenting styles, academic self-efficacy, and achievement motivation on the academic achievement of undergraduate first year university students in Ethiopia. In addition, the interdependence relationships between these variables were assessed.

The proposed integrated parental and social-cognitive structural model of academic achievement is presented in Figure 2 below.

Figure 2: A Hypothesized Integrated Parental and Social-Cognitive Structural Model of Academic Achievement.

Based on the aforementioned literature on factors accounting for the academic performance of college/university students, in the current study it was expected that parenting styles would have significant and positive direct effects on academic self-efficacy and significant and positive direct and indirect effects on achievement motivation and academic achievement. It was predicted that the indirect effects of parenting styles on achievement motivation and academic achievement would be through academic self-efficacy and achievement motivation and/or academic self-efficacy, respectively. In turn, it
was proposed that academic-self-efficacy would have significant and positive direct and indirect effects on academic achievement; the indirect effect of academic self-efficacy on academic achievement would be through its effect on achievement motivation, which would have a significant and positive direct effect on academic achievement. Specifically, the current study scrutinized the following research questions:

(1) Which type of parenting style is predominantly practiced in the families of Ethiopia?
(2) Does the proposed integrated parental and social-cognitive model of academic achievement fit the empirical data?
(3) Do parenting styles have significant direct effects on academic self-efficacy, achievement motivation, and academic achievement? That is, does authoritative parenting style have a significant and positive direct effect on academic self-efficacy, achievement motivation, and academic achievement?
(4) Do parenting styles have significant mediated effects on achievement motivation (i.e., via academic self-efficacy) and academic achievement (i.e., via academic self-efficacy and/or achievement motivation)? Specifically, does authoritative parenting style have a significant and positive mediated effect on achievement motivation (i.e., via academic self-efficacy) and academic achievement (i.e., via academic self-efficacy and/or achievement motivation)?
(5) Does academic self-efficacy have a significant and positive direct effect on achievement motivation and academic achievement?
(6) Does academic self-efficacy have a significant and positive mediated effect (i.e. via achievement motivation) on academic achievement?
(7) Does achievement motivation have a significant and positive direct effect on academic achievement?
(8) Does students’ sex moderate the effects of parenting styles on academic self-efficacy, achievement motivation, and academic achievement?
(9) Does students’ sex moderate the effect of academic self-efficacy on achievement motivation and academic achievement?
(10) Does students’ sex moderate the effect of achievement motivation on academic achievement?
(11) Are there significant differences in academic self-efficacy, achievement motivation, and academic achievement of the students as a function of their sex?
An ex-post facto research design was employed to propose and test an integrated parental and social cognitive model of academic achievement and examine the joint and/or independent effects of parenting styles and social cognitive factors (i.e., academic self-efficacy and achievement motivation) on the academic achievement of undergraduate first-year university students in Ethiopia. An ex-post facto (i.e., causal-comparative) research design was chosen because it is appropriate when attempting to determine cause-and-effect relationships between events that have already occurred; that is, causes are studied after they presumably have exerted their effect(s) on another/other variable/s (Gall, Borg, & Gall, 1996). In this case, causation is inferred because the independent variables are not manipulated and/or controlled but instead are studied prospectively. That is, in the present study, students’ perceptions of their parents’ parenting styles and their own academic self-efficacy and achievement motivation were measured sometime during the semester and the students’ Grade-Average-Points (GPAs) were accessed separately after the end of the semester.

3.2. Participants

The sample consisted of 2116 undergraduate first-year students (763 or 36.1% females and 1353 or 63.9% males), with age ranging from 17-35 years (average age = 20 years and SD = 1.32). The participants were enrolled in different departments of three Ethiopian Higher Education Institutions: Addis Ababa University (n = 1042 or 49.2%), Kotebe College of Teacher Education (n = 883 or 41.7%), and Wolayta Soddo University (n = 191 or 9.1%). The selection of the sample was made as follows: First, by using the purposive sampling technique, the higher education institutions in Ethiopia (i.e., Addis Ababa University, Kotebe College of Teacher Education, and Wolayta Soddo University) were targeted to reflect both old and new higher education institutions. The first two are old higher education institutions and host students from diverse ethnic groups, and the third is a new higher education institution and also accommodates students from diverse ethnic groups. Following this, a multi-stage cluster random sampling technique was employed to
select the faculties from the participating higher education institutions first, and then to
recruit the departments from the selected faculties randomly. Finally, a simple random
sampling technique was employed to select students from the selected departments for the
study. Regarding ethnic composition of the sample, as reported by the participants, there
were 1019 (48.2%) Amhara, 398 (18.8%) Oromo, 284 (13.4%) Tigre, 159 (7.5%) Wolayta,
and 256 (12.1%) participants from other ethnic groups (Gurage, Hadiya, Kambata,
Kafecho, Sidama, Silte, Shenasha, Somale, Dawuro, Gedeio, Ari, Afar, Awi, Argoba, Burji,
Gamo/Gofa, Hamer, Hareri, Tigre Worji, and Yem).

3.3. Measures

The main measures of the study were undergraduate first year university students’
self-report questionnaire scales and their academic achievement, as measured by Grade-
Point-Averages (GPAs). The self-report questionnaire contained four sets of items. The first
set consisted of eight questions on students’ background characteristics (i.e., demographic
variables). The remaining three sets of items consisted of the following scales: Parenting
Styles Scale (PSS), Academic Self-Efficacy Scale (ASES), and Academic Motivation Scale
(AMS).

3.3.1. Parenting Styles (PSs)

In the current study, parenting styles were defined as the undergraduate first year
university students’ perception of their parents’ behaviours toward them with respect to
parental acceptance/involvement and parental strictness/supervision (i.e., authoritative,
authoritarian, indulgent, and neglectful/uninvolved parenting styles). Students’ report on
their parents parenting styles was used because of social desirability phenomenon, parents’
report on their parenting styles could differ from their children’s perception of their
parents’ parenting styles. Moskowitz and Schwartz (1982) suggested that children are
more honest and able to act as knowledgeable informants about parental behaviours. The
Parenting Styles Scale (PSS), developed by Lamborn et al. (1991) based on Maccoby and
Martin’s (1983) revision of Baumrind’s (1967, 1971) parenting style conceptual
framework, was employed to measure parenting styles. This scale consisted of 25 questions
in which students were asked to rate their parents in terms of two dimensions: Acceptance/involvement and strictness/supervision. The acceptance/involvement sub-scale consisted of 13 items on parental acceptance and closeness to their late adolescent and young adult children. It measures the extent to which the late adolescent and young adult children perceive their parents as loving, responsive, and involved (sample item: “I trust my parents to help me out if I have some kind of problem.”) For this sub-scale, the responses were made on a four-point Likert-type scale ranging from 1 (Strongly Disagree) to 4 (Strongly Agree). The strictness/supervision sub-scale consisted of 12 items assessing parental monitoring and supervision of their late adolescent and young adult children (sample item: “How much do your parents try to know where you go at night?”) For this sub-scale, most of the responses were made using a three-point Likert-type scale ranging from 1 (Doesn’t Try/Know) to 3 (Tries/Knows a Lot). The responses for two items were made using a four-point Likert-type scale ranging from 1 (As Late as I Want) to 4 (Doesn’t Allow Me Out). For each student the scores for the items of each sub-scale were summed to create a total score for each sub-scale such that there was one score for the Acceptance/Involvement Sub-Scale (A/ISS) and another for the Strictness/Supervision Sub-Scale (S/SSS). The scores for the acceptance/involvement sub-scale and for the strictness/supervision sub-scale ranged from 13 to 52, and 12 to 38, respectively.

In studies conducted in Western countries (e.g., the U.S.A), researchers have reported internal reliabilities of $\alpha = .72$ for the acceptance/involvement sub-scale and $\alpha = .76$ for the strictness/supervision sub-scale (Lamborn et al., 1991; Steinberg et al., 1992b, 1994). Previous studies in Ethiopia have also reported high internal reliabilities for the two sub-scales. For instance, Abesha (1997) reported reliabilities of $\alpha = .87$, and $\alpha = .90$ for the acceptance/involvement sub-scale and strictness/supervision sub-scale, respectively. In addition, Markos (1996) reported reliabilities of $\alpha = .83$, and $\alpha = .81$ for the acceptance/involvement sub-scale and strictness/supervision sub-scale, respectively. In the current study, for the acceptance/involvement sub-scale, the reliabilities were Cronbach’s alpha ($\alpha$) = .88, .87, and .88 for the overall sample and the sub-samples of female and male students, respectively. For the strictness/supervision sub-scale, the reliabilities were Cronbach’s alpha ($\alpha$) = .86, .83, and .85 for the overall sample and the sub-samples of
female and male students, respectively. These reliabilities are greater than the recommended Cronbach alpha (\(\alpha\)) \(\geq .70\) and thus acceptable.

As noted by Baumrind (1991), there is considerable convergence between adolescents’ ratings of their mothers’ and fathers’ parenting styles. Therefore, students’ ratings for mother and father in two-parent households were averaged, and the average score was used to categorise the parents into the four categories of parenting styles. A similar approach to that used in previous studies in Western countries (e.g., Steinberg et al., 1992b) as well as in Ethiopia (e.g., Abesha, 1997; Markos, 1996) was employed to categorise the four parenting styles (authoritative, authoritarian, indulgent, and neglectful or uninvolved parenting styles) based on the theoretical model of parenting styles set forth by Maccoby and Martin (1983). Specifically, the sample median of the two indices of parenting dimensions (i.e., acceptance/involvement and strictness/supervision) and an examination of these two parenting dimensions simultaneously was used to categorise the four parenting styles as follows:

1. Parents who were rated by their late adolescent and young adult children with a score above or equal to the sample median on the acceptance/involvement and strictness/supervision indices were considered as authoritative parents and assigned a parenting style score of “3”.
2. Parents who were rated by their late adolescent and young adult children with a score below the sample median on the acceptance/involvement index but above or equal to the sample median on the strictness/supervision index were considered as authoritarian parents and assigned a parenting style score of “2”.
3. Parents who were rated by their late adolescent and young adult children with a score above or equal to the sample median on the acceptance/involvement index but below on the strictness/supervision index were considered as indulgent parents and assigned a parenting style score of “1”.
4. Parents who were rated by their late adolescent and young adult children with a score below the sample median on both acceptance/involvement and strictness/supervision indices were considered as neglectful (uninvolved) parents and assigned a parenting style score of “0”.

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Steinberg et al. (1992b) suggested that there is no meaningful difference between the results obtained by employing the median split and tertile split procedures. However, Markos (1996) noted that the median split procedure is preferred to the tertile split procedure because it allows for analysis that involves the whole sample in the study.

3.3.2. Academic Self-Efficacy (ASE)

Academic self-efficacy was conceptualized in the present study as the undergraduate first year university students’ perception of the extent to which they believe in their abilities to perform academic tasks which are essential in enabling them to be successful in their university education. It was measured by the Academic Self-Efficacy Scale (ASES) consisting of 21 items adapted from the academic self-efficacy scales developed by Chemers et al. (2001) and Zajacova et al. (2005). That is, the scale was adapted by taking all eight items of the academic self-efficacy scale developed by Chemers et al. (2001) together with nearly one-half of the items (i.e., taking 13 items from 27 items) from the academic self-efficacy scale developed by Zajacova et al. (2005). This was done with the intention to cover all the pertinent dimensions of academic self-efficacy, including those not covered by Chemers et al. (2001). That is, those items relating to interaction at university, performance out of university, performance in university, and managing work, family, and university, which are important dimensions of academic self-efficacy that have been identified and used by Zajacova et al. (2005) but not by Chemers et al. (2001) were included to make the scale comprehensive. Since the prime purpose of this study was to examine the overall academic performance of undergraduate first year university students, the items in this scale were designed to reflect a variety of specific skills important to overall academic performance in university education generally, and thus not focused on specific subjects.

Accordingly, the Academic Self-Efficacy Scale (ASES) had four sub-scales: Interaction at university, performance out of university, performance in university, and managing work, family, and university. In this scale, university students were asked to use a four-point Likert-type scale ranging from 1 (Strongly Disagree) to 4 (Strongly Agree) to rate their agreement with statements reflecting their academic confidence and ability to
perform well and succeed in their university education (sample item: “I study very hard to perform well on tests and examinations”). Each student received four scores: One for each of the sub-scales (i.e., the interaction at university sub-scale, performance out of university sub-scale, managing work, family, and university sub-scale, and performance in university sub-scale). The scores for the first three of these subscales ranged from 5 to 20, and the score for the performance in university sub-scale ranged from 6 to 24. Scores for the four sub scales were calculated separately and summed to yield an overall academic self-efficacy score. The scores of Academic Self-Efficacy Scale (ASES) ranged from 21 to 84. Higher scores indicate higher academic self-efficacy.

Regarding the psychometric property of this scale, the internal reliability of $\alpha = .81$ has been reported by Chemers et al. (2001); and .85 by Zajacova et al. (2005). In the present study, the internal reliabilities (Cronbach’s alpha) for the combined scale were .67, .64, and .69 for the overall sample and the sub-samples of female and male students, respectively. The internal reliabilities were slightly low when compared with the recommended Cronbach’s alpha ($\alpha$) greater or equal to .70; however, some researchers (e.g., Nunnally, 1967, 1978) have argued that scores as low as .50 and .60 are acceptable or sufficient in the early stages of theory development. Therefore, the internal reliability coefficients for academic self-efficacy scale might be considered to be acceptable, although the results pertaining to the data from this scale should be interpreted with caution.

3.3.3. Achievement Motivation (AM)

The current study defined achievement motivation as the undergraduate first year university students’ perception that they strive for mastery and success of their university education. It was measured by employing the Academic Motivation Scale (AMS) developed by Vallerand et al. (1992). This scale consists of 28 academic motivation items divided into seven sub-scales assessing three types of intrinsic motivation (intrinsic motivation to know, to accomplish things, and to experience stimulation), three types of extrinsic motivation (external, introjected, and identified regulation), and amotivation. In this scale, the students are asked the question, “Why you joined university?” This statement is a modified statement, based on the pilot study, according to the cultural
context of Ethiopia from the original statement, “Why do you go to university?” Each item of this scale represents a possible reason why students joined university, and the response choice for each item was a five-point Likert-type scale ranged from 1 (Does Not Correspond at All) to 5 (Corresponds Exactly). Each student received seven scores based on their totals for each sub-scale. The scores for all sub-scales ranged from 5 to 20. Higher scores in each sub-scale indicate the student is higher in that motivational profile. With respect to the psychometric property of the scale, the authors reported an internal reliability of $\alpha = .81$ and temporal stability over a one-month period mean test-retest correlation ($r$) of .79. For the current study, the internal reliabilities (Cronbach’s alpha) were .76, .74, and .78 for the overall sample and the sub-samples of female and male students, respectively, which are adequate.

It is not appropriate to extract a global achievement motivation index using this scale, because the classifications are mutually exclusive, in part (i.e., individuals who are amotivated are neither intrinsically nor extrinsically motivated). Therefore, the Academic Self-Determination Index (ASDI), an index which deducts the score of the amotivation sub-scale from academic motivation, was used as a measure of achievement motivation. To calculate each student’s Academic Self-Determination Index (ASDI), the procedures used in previous studies (Grolinck & Ryan, 1987; Ryan & Connell, 1989; Vallerand & Bissonnette, 1992) were employed and each of the motivational sub-scales was assigned weights as follows: Intrinsic motivation was given the highest positive weight (+2) because it is regarded as the highest self-determined form of motivation; whilst extrinsic motivation identified regulation is lower on the continuum than intrinsic motivation (see Deci & Ryan, 1985; Vallerand & Bissonnette, 1992) and thus given a weight of +1. Conversely, amotivation represents the absence of self-determination and should be weighted highly negatively and given a weight of (-2). Because extrinsic motivation external regulation and introjected regulation represent lower forms of extrinsic motivation, the average of these motivational profiles is also negatively weighted and given a weight of -1. Following this, the formula below was employed to compute the Relative Autonomy Index (RAI), or in the context of this research, the Academic Self-Determination Index (ASDI):
ASDI = (2 x Mean Score of Intrinsic Motivation) + (1 x Mean Score of Extrinsic Motivation Identified Regulation) + (-1 x [Mean Score of Extrinsic Motivation Introjected Regulation + Mean Score of Extrinsic Motivation External Regulation]/2) + (-2 x Mean Score of Amotivation).

This method, using the RAI formula, has been most frequently employed by a number of researchers who have used Self-Determination Theory (SDT) as a theoretical framework for their studies (see Chirkov et al., 2003; Grolnick & Ryan, 1987; Hoang, 2007; Vallerand & Bissonnette, 1992; Vansleenkiste et al., 2005). For the current study, the Academic Self-Determination Index (ASDI) formula yielded academic self-determination scores ranging from –12 (i.e., very low academic self-determination) to +12 (i.e., extreme or very high academic self determination).

3.3.4. Academic Achievement (AA)

In the present study, academic achievement was defined as the undergraduate first year students’ Grade-Point-Averages (GPAs) for the courses in which they were enrolled during second semester of first year (i.e., 2008/09 academic year) in their respective higher education institutions in Ethiopia. As suggested by Robbins et al. (2004), despite problems with grading reliability and disciplinary and institutional grading differences, academic performance, as measured by Grade-Point-Averages (GPAs) is still the most widespread performance measure. Grade-Point-Averages (GPAs) were obtained by accessing the official records from the Registrars’ Offices of the respective Higher Education Institutions which participated in the study, based on the student ID numbers which students had supplied on their self-report questionnaires. In the grading system adopted by Ethiopian Higher Education Institutions, the Grade-Point-Average (GPA) is measured on a 4-point scale, ranging from 0.00 to 4.00.

3.4. Procedure

For university students in Ethiopia, English is a foreign language and as a result students may have considerable difficulty in English. Therefore, the questionnaire was
translated into Amharic, the national language of the country, by two translators who are lecturers in the Department of English at Kotebe College of Teacher Education, Ethiopia. Brislin’s (1986) recommendation for translation and back-translation of the survey measures from one language to another was followed to ensure conceptual equivalence between the original instruments (in English language) and the Amharic versions. That is, the questionnaire was first translated into the Amharic language by a bilingual language expert who was not told the objective of the study. Then another bilingual language expert back-translated the questionnaire into English without having access to the original instruments. Very minor differences that were observed in the forward and backward translations were corrected by the researcher based on rigorous discussions with the translators and agreement reached.

Ethical approval for the research was obtained from the Edith Cowan University Human Research Ethics Committee. Permission to conduct the study and approach the students was obtained from the participating Higher Education Institutions of Ethiopia (i.e., Addis Ababa University, Kotebe College of Teacher Education, and Wolayta Soddo University) by briefing them about the purpose and importance of the study, its possible uses, and presenting them with ‘Ethical Clearance of the Research’ obtained from Edith Cowan University.

A pilot study was conducted by the researcher in April 2009 using 115 randomly selected undergraduate first year students (*females* = 46 or 40% and *males* = 69 or 60%) from Kotebe College of Teacher Education, Addis Ababa, Ethiopia. The participants of the pilot study were invited to complete the self-report questionnaire, which contained all the scales along with demographic questions used in the main study, at the lecture hall of the college at the end of class and told that the purpose of the study was “to learn about the factors affecting university students’ academic achievement and thereby to design the strategies to improve their academic achievement.” It was clearly stated in the questionnaire and told the participants that confidentiality of information supplied by them would prevail at all times. In addition, the participants were informed that they could give their informed consent freely and voluntarily, and that they had full right to refuse to participate or to withdraw from participation in the study at any stage. The participants
were given instructions on how to complete the questionnaire and advised that additional information would be gathered later on and, therefore, it was important to write student ID number on the questionnaire. Following this, the informed consent form was distributed. After collecting the signed informed consent forms the participants were asked to complete the questionnaire. This took approximately 40-60 minutes for each participant. After the completion of the questionnaire, the participants were thanked by the researcher for their cooperation.

The items of all the completed instruments were evaluated for wording and phrasing as well as for reliabilities to ensure that the self-report questionnaire was suitable for use in the main study. In addition, some senior lecturers of education and psychology courses at Kotebe College of Teacher Education were asked to comment on any item that they found ambiguous or difficult to understand. These queries did not reveal any major changes that needed to be made to any of the items. For the main study, the self-report questionnaire was administered by the researcher with the help of two senior lecturers, who facilitated questionnaire administration, from May-June 2009 at each participating Higher Education Institution (i.e., Addis Ababa University, Kotebe College of Teacher Education, and Wolayta Soddo University) by using the same procedure used for the pilot study. It is to be noted that students who participated in the pilot study from Kotebe College of Teacher Education did not participate in the main study. Two months later, at the end of second semester, students’ Grade-Point-Averages (GPAs) for second semester of 2008/09 academic year were obtained from the official records of the Registrars’ Offices of the respective Higher Education Institutions based on student ID numbers which the students indicated on the self-report questionnaires.

3.5. Methods of Data Analysis

For preliminary analyses of the data, frequency counts, percentages, correlation, and Chi-Square ($\chi^2$) analyses were used. For the main analyses, *Structural Equation Modeling (SEM)* approach was employed to test the adequacy of the hypothesized model and examine the interrelationships between the study variables (i.e., parenting styles, academic self-efficacy, achievement motivation, and academic achievement). All the analyses for
Structural Equation Modeling (SEM) were performed using the AMOS (Analysis of Momentum Structure) software version 18.0. The rationale for using structural equation modeling was that the constructs in social and behavioural sciences in general, and psychology in particular (i.e., in this study, for example, parenting styles, academic self-efficacy, achievement motivation, and academic achievement) are not measured directly without errors, and these measurement errors and errors in prediction are modeled and explicitly controlled in structural equation modeling. Consequently, the coefficients of estimates of a model are not influenced by errors of measurement and prediction which assures greater theoretical meaningfulness and cross-population stability to the parameters that might not be achieved with other multivariate methods of analysis such as regression or analysis of variance.

Structural Equation Modeling (SEM) is a collection of statistical techniques which allow a set of relationships between one or more independent variables, either continuous or discrete, and one or more dependent variables, either continuous or discrete, to be examined (for review, see Tabachnick & Fidell, 2007; Ullman, 2001). According to Tabachnick and Fidell (2007) and Ullman (2001), both independent (exogenous) and dependent (endogenous) variables can be either latent variables (factors) or measured (observed or manifest) variables. Structural Equation Modeling (SEM): (a) Allows for statistical analyses that account for measurement errors in the latent variables which cannot be observed (measured) directly and which are not measured perfectly through the use of multiple observed indicators per latent variable; (b) As a multivariate method, it allows estimation of cross-equation error correlation, that is, it makes possible to distinguish two different types of errors: Errors of measurement in the observed (manifest) variables and errors of prediction in latent variables; and (c) Provides a rigorous approach to model testing (for further information, see Tabachnick & Fidell, 2007; Ullman, 2001).

The principal independent (exogenous) variable of the study was parenting styles. Other independent (exogenous) variables were: Academic self-efficacy, measured by four indicators: Interaction at university, performance out of university, performance in university, and managing work, family, and university; and achievement motivation, which became the dependent (endogenous) variables in the subsequent interdependence
relationships. In this study, parenting styles and achievement motivation were used as observed variables. This is because, the scores for parenting styles are not the composite scores of their underlying indicators (i.e., parental acceptance/involvement and strictness/supervision). In addition, as mentioned earlier in this chapter, it is too difficult to extract the global achievement motivation index to evaluate the individual’s level of global achievement motivation and as a result the Academic Self-Determination Index (ASDI) was used as a measure of achievement motivation (i.e., academic achievement motivation). However, the global score of academic self-efficacy is the composite score of its underlying indicators and thus academic self-efficacy was used as a latent variable. The principal dependent (endogenous) variable of the study was students’ Academic Achievement (AA) which was measured using only one indicator, students’ Grade-Point-Averages (GPAs) of the second semester of 2008/9 academic year, and used as observed variable.

Following Structural Equation Modeling (SEM) analysis, a one-way Multivariate Analysis of Variance (MANOVA) was employed to examine whether or not there were differences in the academic self-efficacy, achievement motivation, and academic achievement of students as a function of their sex. An alpha (α) value .05 was used for all statistical significance tests.
Chapter 4. Results of the Study

This chapter presents the results of the study. It begins with presenting and describing the demographic characteristics of the study sample. This is followed by the results of the preliminary analysis pertaining to parenting styles in the Ethiopian cultural context and the correlations among the study variables (i.e., parenting styles, academic self-efficacy, achievement motivation, and academic achievement). Finally, the fitness of the measurement model and the hypothesized structural model of academic achievement along with the effects of the predictor variables on the criterion variables; the mediated and moderated effects of the predictor variables on the criterion variables; the proportion of variance explained by the model for each criterion variable; and sex differences in the academic self-efficacy, achievement motivation, and academic achievement of students are presented.

4.1. Demographics of the Study Sample

The demographic characteristics (i.e., expressed by frequencies and percentages) of the study sample are displayed in Table 1 below.

Table 1: Demographic Characteristics of the Study Sample.

<table>
<thead>
<tr>
<th>Demographic Characteristics</th>
<th>Sex</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Females</td>
<td>Males</td>
</tr>
<tr>
<td>Parental Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No Formal Education</td>
<td>269 (35.3%)</td>
<td>549 (40.6%)</td>
</tr>
<tr>
<td>Elementary/Junior Secondary</td>
<td>184 (24.1%)</td>
<td>412 (30.4%)</td>
</tr>
<tr>
<td>Senior Secondary</td>
<td>117 (15.4%)</td>
<td>201 (14.9%)</td>
</tr>
<tr>
<td>Certificate/Diploma</td>
<td>108 (14.1%)</td>
<td>117 (8.6%)</td>
</tr>
<tr>
<td>First Degree and Above</td>
<td>85 (11.2%)</td>
<td>74 (5.5%)</td>
</tr>
<tr>
<td>Total</td>
<td>763 (36.1%)</td>
<td>1,353 (63.9%)</td>
</tr>
<tr>
<td>Family Structure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intact</td>
<td>541 (70.9%)</td>
<td>924 (68.3%)</td>
</tr>
<tr>
<td>Non-Intact</td>
<td>222 (29.1%)</td>
<td>429 (31.7%)</td>
</tr>
<tr>
<td>Total</td>
<td>763 (36.1%)</td>
<td>1,353 (63.9%)</td>
</tr>
<tr>
<td>Residence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural</td>
<td>181 (23.7%)</td>
<td>526 (38.9%)</td>
</tr>
<tr>
<td>Sub-Urban</td>
<td>278 (36.4%)</td>
<td>386 (28.5%)</td>
</tr>
<tr>
<td>Urban</td>
<td>304 (39.8%)</td>
<td>441 (32.6%)</td>
</tr>
<tr>
<td>Total</td>
<td>763 (36.1%)</td>
<td>1,353 (63.9%)</td>
</tr>
</tbody>
</table>
As can be seen from Table 1, the sample sizes of female and male students are significantly disproportionate \[\chi^2(1) = 164.51, p < 0.001\]. Specifically, the male students are overrepresented compared with the female students; however, this may reflect the proportion of male and female students in Ethiopian higher education institutions. Moreover, in both the overall sample and the sub-samples of female and male students, the majority of participants reported that their parents had no formal education and/or had elementary/junior secondary educational level, and resided in the rural and/or sub-urban areas. The majority of participants reported that they were from intact families (i.e., residing with both biological parents). Therefore, the results of this study should be interpreted cautiously because these variables (i.e., sex of students, parental education, residential areas, and family structure of the participants) may affect the parenting styles parents employ and the academic self-efficacy, achievement motivation, and academic achievement of students.

4.2. Results of the Preliminary Analysis

This section presents the results of preliminary analysis of the data pertaining to the parenting style predominantly adopted in the families of Ethiopia based on the analysis of frequency counts and percentages of students’ ratings of their parents as authoritative, authoritarian, indulgent, or neglectful. It also presents the results concerning the relationships among the study variables (i.e., parenting styles, academic self-efficacy, achievement motivation, and academic achievement) based on the correlational analysis.

4.2.1. Parenting Styles in the Ethiopian Cultural Context

In this section, attempts were made to assess the type of parenting style predominantly practiced in the Ethiopian cultural context, in general, and to scrutinize whether or not the type of parenting style commonly practiced in the families of Ethiopia differs for daughters and sons, in particular. The frequency counts and percentages of parenting styles by sex of the students are presented in Table 2 below.
Table 2: Parenting Styles by Sex of the Students.

<table>
<thead>
<tr>
<th>Parenting Styles</th>
<th>Females</th>
<th>Males</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Authoritative</td>
<td>402 (52.7%)</td>
<td>373 (27.6%)</td>
<td>775 (36.6%)</td>
</tr>
<tr>
<td>2. Authoritarian</td>
<td>155 (20.3%)</td>
<td>228 (16.9%)</td>
<td>383 (18.1%)</td>
</tr>
<tr>
<td>3. Indulgent</td>
<td>89 (11.7%)</td>
<td>230 (17.0%)</td>
<td>319 (15.1%)</td>
</tr>
<tr>
<td>4. Neglectful</td>
<td>117 (15.3%)</td>
<td>522 (38.6%)</td>
<td>639 (30.2%)</td>
</tr>
<tr>
<td>Total</td>
<td>763 (36.1%)</td>
<td>1,353 (63.9%)</td>
<td>2,116 (100.0%)</td>
</tr>
</tbody>
</table>

As can be observed from Table 2, an authoritative parenting style was found to be the most commonly practiced parenting style in the families of Ethiopia, followed by a neglectful parenting style. However, the most predominantly practiced parenting style appears to differ across the sex of the late adolescent and young adult children. More specifically, for daughters, an authoritative parenting style was found to be the most commonly practiced, followed by an authoritarian parenting style; whereas for sons a neglectful parenting style was found to be the most frequently adopted, followed by an authoritative parenting style. The chi-square test revealed that there were significant differences in the percentages of parents that employ different styles of parenting with female and male late adolescent and young adult children \(\chi^2(3) = 183.79, p < 0.001\). Similarly, for the overall sample, the chi-square test indicated that there were significant differences in the percentages of parents that adopt different types of parenting styles \(\chi^2(3) = 260.93, p < 0.001\). However, as can be seen from Table 2, irrespective of the sex of the late adolescent and young adult children, all four types of parenting styles (i.e., authoritative, authoritarian, indulgent, and neglectful parenting styles) were found to be practiced in the families of Ethiopia.

4.2.2. Relationships between the Study Variables

As an initial step, the simple two-tailed correlation coefficients were computed for the overall sample and the sub-samples of female and male students to examine the overall pattern of inter-relationships among the study variables (i.e., parenting styles, academic self-efficacy, achievement motivation, and academic achievement). Due to the non-normal distribution of the input data, the correlations were estimated in AMOS by employing the
bootstrap approach with 2000 replications per analysis to ensure the stability of parameter estimates and to minimize parameter estimate bias (Bollen & Stine, 1993). Table 3 shows the correlation coefficients of the study variables for the overall sample and the sub-samples of female and male students.

Table 3: The Zero-Order Correlations of the Study Variables for the Overall Sample and the Sub-Samples of Female and Male Students.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall</td>
<td>Parenting Styles(^a)</td>
<td>-</td>
<td>.383***</td>
<td>.163***</td>
<td>-.109**</td>
</tr>
<tr>
<td></td>
<td>Academic Self-Efficacy(^b)</td>
<td>-</td>
<td>.414***</td>
<td>.098***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academic Motivation(^b)</td>
<td>-</td>
<td>.130***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academic Achievement(^b)</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Females</td>
<td>Parenting Styles(^a)</td>
<td>-</td>
<td>.401***</td>
<td>.203***</td>
<td>-.001</td>
</tr>
<tr>
<td></td>
<td>Academic Self-Efficacy(^b)</td>
<td>-</td>
<td>.343***</td>
<td>.077</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academic Motivation(^b)</td>
<td>-</td>
<td>.164***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academic Achievement(^b)</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Males</td>
<td>Parenting Styles(^a)</td>
<td>-</td>
<td>.406***</td>
<td>.150***</td>
<td>-.032</td>
</tr>
<tr>
<td></td>
<td>Academic Self-Efficacy(^b)</td>
<td>-</td>
<td>.448***</td>
<td>.113***</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academic Motivation(^b)</td>
<td>-</td>
<td>.130***</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academic Achievement(^b)</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: \(^a\) denotes parenting styles was categorical variable and coded as authoritative = 3, authoritarian = 2, indulgent = 1, and neglectful = 0. \(^b\) denotes academic self efficacy, achievement motivation, and academic achievement were continuous variables. *** and ** denote the correlation is significant at .001 and .01 (two-tailed), respectively.

Interpretation of the zero-order correlations (see Table 3 above) revealed that there were variations in the relationships between the variables as a function of sex of the students. For instance, there was a significant and positive relationship between academic self-efficacy and academic achievement \((r = .113, p < .001)\) for the male students but not for the female students, for whom the relationship between academic self-efficacy and academic achievement was positive, although not significant. When the general trends of
relationships between the study variables are evaluated, for the overall sample, there was a significant and negative relationship \((r = -.109, p < .001)\) between parenting styles and academic achievement, whereas the relationship between parenting styles and academic achievement was not significant for the sub-samples of both female and male students, although still in the same (i.e., negative) direction.

In the preliminary analysis, an attempt was made to scrutinize the effect of ethnicity on the study variables (i.e., parenting styles, academic self-efficacy, achievement motivation, and academic achievement) using the four largest ethnic groups in the current study: Amhara \((n = 1019; 48.2\%)\), Oromo \((n= 398; 18.8\%)\), Tigre \((n = 284; 13.4\%)\), and Wolayta \((n = 159; 7.5\%)\). However, this was not possible due to the disproportionate sample sizes of some ethnic groups (e.g., Oromo and Amhara ethnic groups) relative to the total population of these ethnic groups in the country. Specifically, the Oromo ethnic group is the number one populous ethnic group of the country, followed by the Amhara ethnic group (Central Statistical Agency, 2008), but in the current study, this ethnic group was represented by very small sample compared to that of the Amhara ethnic group, and thus the findings obtained from these disproportionate sample sizes of the ethnic groups may not be dependable.

Since examining the effect and moderating role of sex of the students, if any, in the relationships between the study variables was one of the objectives of the current study, three measurement and structural models (i.e., for the overall sample and the sub-samples of female and male students) were evaluated to test the fitness of both measurement and structural models and examine the effects of the predictor variables on the criterion variables. That is, the fitness of both measurement and structural models were tested for the overall sample and the sub-samples of female and male students. Similarly, in examining the effects of the predictor variables on the criterion variables a Structural Equation Modelling (SEM) analysis for the overall sample and a Multigroup Structural Equation Model (MGSEM) analysis (i.e., one analysis which indicates two different groups, that is, female and male students) were employed. The means and standard deviations of the scores of academic self-efficacy, achievement motivation, and academic achievement by sex of the students and parenting styles are displayed in Table 4 below.
Table 4: The Means and Standard Deviations of the Scores of Academic Self-Efficacy, Achievement Motivation, and Academic Achievement by Sex of the Students and Parenting Styles.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Samples</th>
<th>Parenting Styles</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>Total</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Authoritative</td>
<td>Authoritarian</td>
<td>Indulgent</td>
<td>Neglectful</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
<td>Mean</td>
<td>SD</td>
<td>N</td>
<td>Mean</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Femaless</td>
<td>67.16</td>
<td>7.32</td>
<td>402</td>
<td>62.48</td>
<td>7.49</td>
<td>155</td>
<td>61.81</td>
<td>7.42</td>
<td>89</td>
<td>59.34</td>
<td>8.23</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Males</td>
<td>69.24</td>
<td>7.52</td>
<td>373</td>
<td>64.76</td>
<td>7.34</td>
<td>228</td>
<td>65.16</td>
<td>7.81</td>
<td>230</td>
<td>60.89</td>
<td>8.35</td>
<td>522</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overall</td>
<td>68.16</td>
<td>7.48</td>
<td>775</td>
<td>63.84</td>
<td>7.48</td>
<td>383</td>
<td>64.22</td>
<td>7.84</td>
<td>319</td>
<td>60.61</td>
<td>8.34</td>
<td>639</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Femaless</td>
<td>5.52</td>
<td>2.14</td>
<td>402</td>
<td>4.75</td>
<td>2.03</td>
<td>155</td>
<td>5.14</td>
<td>1.86</td>
<td>89</td>
<td>4.20</td>
<td>2.28</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Males</td>
<td>5.58</td>
<td>2.08</td>
<td>373</td>
<td>5.08</td>
<td>2.35</td>
<td>228</td>
<td>5.02</td>
<td>2.40</td>
<td>230</td>
<td>4.66</td>
<td>2.54</td>
<td>522</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overall</td>
<td>5.55</td>
<td>2.11</td>
<td>775</td>
<td>4.94</td>
<td>2.23</td>
<td>383</td>
<td>5.06</td>
<td>2.26</td>
<td>319</td>
<td>4.58</td>
<td>2.50</td>
<td>639</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Femaless</td>
<td>2.07</td>
<td>.60</td>
<td>402</td>
<td>2.05</td>
<td>.61</td>
<td>155</td>
<td>2.15</td>
<td>.58</td>
<td>89</td>
<td>2.04</td>
<td>.57</td>
<td>117</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Males</td>
<td>2.45</td>
<td>.68</td>
<td>373</td>
<td>2.48</td>
<td>.63</td>
<td>228</td>
<td>2.47</td>
<td>.62</td>
<td>230</td>
<td>2.51</td>
<td>.63</td>
<td>522</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Overall</td>
<td>2.25</td>
<td>.67</td>
<td>775</td>
<td>2.31</td>
<td>.66</td>
<td>383</td>
<td>2.38</td>
<td>.63</td>
<td>319</td>
<td>2.42</td>
<td>.65</td>
<td>639</td>
</tr>
</tbody>
</table>
4.3. Testing the Hypothesized Model

Prior to testing the hypothesized model, assumptions such as the sample size and missing data, normality and linearity of the observed variables, outliers, multi-collinearity and singularity, and normality of the residuals (for review, see Tabachnick & Fidell, 2007; Ullman, 2001) pertinent to the use of Structural Equation Modeling (SEM) for data analyses were examined by employing the appropriate methods. With respect to the sample size, although no definitive standard for minimum sample size exists for studies which use Structural Equation Modeling (SEM; Ghazarian, Supple, & Plunkett, 2008), some researchers suggest either a minimum of 100-200 cases, or 5-10 cases per parameter estimate, or 10-20 cases per observed variables in the model (Quintana & Maxwell, 1999). As mentioned in Chapter 3, there are seven observed variables in this study. Therefore, for the total sample \((n = 2,116)\) and the sub-samples of female students \((n = 763)\) and male students \((n = 1,353)\), the ratio of the cases to observed variables are \(302:1\), \(109:1\), and \(193:1\), respectively. By standards mentioned above and the hypothesized relationships of variables in the proposed model, the sample size for this study is adequate for both the total sample and the sub-samples of female and male students.

No problems of incompleteness, multi-collinearity and singularity were identified in the preliminary data screening. Different approaches have been identified in the literature to test for univariate and multivariate outliers in the data of the study (see Barnett & Lewis, 1994, for review). From these, a box plot approach developed by Tukey (1977) was used in this study to detect univariate outliers because it is less sensitive to extreme values of the data than the other methods. In addition, it is a simple graphical tool to display information about univariate outliers, does not consider distributional assumptions (e.g., normality) of the data, and statistically robust. For the overall sample, the box plot test revealed that 15 cases in Academic Self-Determination (ASD), 10 cases in Semester II GPA, 3 cases in Interaction at University (IaU), 1 case in Performance outside University (PoU), 5 cases in Performance in University (PiU), and 7 cases in Managing Work, Family, and University (MWFaU) were identified to be univariate outliers. Similarly, 15 cases in Academic Self-
Determination (ASD), 15 cases in Semester II GPA, 3 cases in Interaction at University (IaU), 1 case in Performance in University (PiU), and 9 cases in Managing Work, Family, and University (MWfAU) for the sub-sample of female students; and 15 cases in Academic Self-Determination (ASD), 10 cases in Semester II GPA, 3 cases in Interaction at University (IaU), 6 cases in Performance outside University (PoU), 4 cases in Performance in University (PiU), and 5 cases in Managing Work, Family, and University (MWfAU) for the sub-sample of male students were found to be univariate outliers.

To detect multivariate outliers, Mahalanobis’s (1936) distance (D) approach was used. In this method, a case is a multivariate outlier if the probability associated with its $D^2$ is .001 or less (i.e., $D^2$ follows a chi-square distribution with degrees of freedom equal to the number of variables included in the calculation). In the test of multivariate outliers, 7 cases for the overall sample, 4 cases for the sub-sample of female students, and 5 cases for the sub-sample of male students were found to be multivariate outliers. Outliers (i.e., both univariate and multivariate outliers) were retained in the data set because, as suggested by Bollen and Stine (1988), the removal of cases that are outliers in any distribution would reduce the sample size, these outliers may accurately reflect the kind of discrepancies that will be found in analyzing similar data in other samples, and removal of the outlier cases does not solve the problems that may have produced the deviant observations.

The univariate and multivariate normality of the data were assessed using Mardia’s (1970) coefficient of multivariate kurtosis (see Byrne, 2001). With regard to univariate normality, for the overall sample, with the exception of Semester II Grade-Point-Averages (GPAs), all the other observed variables had problems of univariate normality. Similarly, for the sub-sample of female students, with the exception of Semester II Grade-Point-Averages (GPAs) and the observed variable Performance in University (PiU) of the latent variable of Academic Self-Efficacy (ASE), all the other observed variables had problems of univariate normality. However, for the sub-sample of male students, all the observed variables had problems of univariate normality. With respect to multivariate normality, a value of 5.99 with a critical ratio of 12.28; a value of 7.00 with a critical ratio of 8.56; and a value of 6.35 with a critical ratio of 10.41 were obtained for the overall sample and the sub-samples of female and male students, respectively. Thus, all study samples had the
problem of multivariate normality. The bootstrap approach developed by Efron (1979) was chosen and employed to handle the problem associated with the non-normality of the data, instead of using another alternative approach: Satorra and Bentler’s (1994) scaled chi-square method, which provides a correction to the model chi-square that reduces the effect of non-normality. This is because, Satorra and Bentler’s (1994) scaled chi-square approach is not available in all structural equation modeling software packages and in particular, it has not been incorporated into AMOS software package.

The bootstrap method is a nonparametric approach to effect-size estimation and hypothesis testing that makes no assumptions about the shape of the distributions of the variables or the sampling distribution of the statistic (for review, see Efron & Tibshirani, 1993; Mooney & Duval, 1993). Instead of relying on a known normal distribution as a prerequisite for hypothesis testing, bootstrap procedures resample, with replacement, randomly selected cases from the original database. In addition, as suggested by Zhu (1997), the bootstrapping approach allows the Maximum Likelihood Estimates (MLE) to be examined along with the Bootstrap Maximum Likelihood (BML) standard errors. Even when data are normally distributed, at a given sample size, the bootstrap may give more accurate results than those based on standard asymptotics (for review, see Hall & Titterington, 1989). Furthermore, MacKinnon et al. (2004) suggested that the bootstrapping approach is an efficient and effective method to test indirect (mediated) effects because it provides more accurate Type I error rates and greater power. In this study, therefore, the bootstrap approach along with the Maximum Likelihood Estimate (MLE) was used. To this effect, 2,000 bootstrap samples were drawn with replacement from the full data set of each sample (i.e., the overall sample and the sub-samples of female and male students).

The analysis of the proposed structural equation model was conducted based on the two-step procedure recommended by Anderson and Gerbing (1988) in which a confirmatory factor analysis is first conducted to develop a measurement model (i.e., the part of the model that relates the measured variables or indicators to their respective factors or latent variables). This is followed by testing the structural model (i.e., the part of the model which shows the hypothesized relationships among the factors). Accordingly, the measurement model of academic self-efficacy and the proposed parental and social-
cognitive structural model of academic achievement were tested separately by employing the Maximum Likelihood Estimation (MLE) and Bollen-Stine Bootstrap Estimation (BSBE) in the AMOS (Analysis of Momentum Structure) software program version 18.0 for Structural Equation Modeling (SEM) analysis.

Although a set of fit indices statistics was developed to evaluate the fit between the proposed model and the data, as suggested by some authors (Hu & Bentler, 1999; Quintana & Maxwell, 1999), only three fit indices: (1) The Comparative Fit Index (CFI), (2) The Standardized Root-Mean-Square Residual (SRMR), and (3) The Root-Mean-Square Error of Approximation (RMSEA) together with overall chi-square ($\chi^2$), relative/normed chi-square ($\chi^2$/df), and Bollen-Stine chi-square ($\chi^2$) statistics were used in this study. The Bollen-Stine chi-square ($\chi^2$) was employed because it compares bootstrapped parameter estimates to estimates from a maximum likelihood procedure (see Nevitt & Hancock, 2001; Yung & Bentler, 1996) and the non-normal distribution of the empirical data.

The overall chi-square ($\chi^2$) statistic is a popular statistic to evaluate the goodness of fit for the proposed model and the data but it is highly sensitive to sample size (see Byrne, 2001; Kline, 1998). Specifically, since a good fit between a proposed model and the data is indicated by a nonsignificant chi-square ($\chi^2$) whose $p > .05$, with large samples trivial differences between a sample and estimated population covariances are often significant and with small samples the computed chi-square ($\chi^2$) may not be distributed as chi-square ($\chi^2$) and which results in inaccurate probability levels (p values) (for review, see Ullman, 2007). Under this condition, there is another statistic that minimises the impact of sample size on the model chi-square ($\chi^2$) called a relative/normed chi-square ($\chi^2$/df) proposed by Wheaton et al. (1977). The use of a relative/normed $\chi^2$ measure (i.e., the ratio of the $\chi^2$ to the degree of freedom), which adjusts the $\chi^2$ with its degree of freedom, can serve as a standard to assess whether the $\chi^2$ is large or small. Although there is no consensus regarding an acceptable ratio for this statistic, recommendations range from as high as 5.0 (Wheaton et al., 1977) to as low as 2.0 (Tabachnick & Fidell, 2007). A model fits the empirical data in a good way if the normed $\chi^2$ is greater than 1.00 but less than 2.00 (Ullman, 2007). However, the normed $\chi^2$ statistic between 2.00 and 3.00 indicates reasonable fit whereas a ratio less than 1.00 indicates overfit model (Holmes-Smith, 2001).
The Comparative Fit Index (CFI) is among the measures of the goodness of fit of the proposed model to the empirical data which is least affected by sample size (Fan, Thompson, & Wang, 1999) and ranges from 0 to 1 for which values of greater or equal to .90 are considered adequate (Byrne, 2001). The Standardized Root Mean Square Residual (SRMR) is the the overall average difference between the proposed model and the empirical data based on standardized residuals whose value ranges from 0 to 1, a value of 0 indicates perfect fit, a value less than .05 is widely considered good fit and below .08 is adequate fit (Hu & Bentler, 1999; Jaccard & Wan, 1996). The Root Mean Square Error of Approximation (RMSEA) is based on the assumption that a perfect model fit is unrealistic and that reality can only be approximated (Raykov & Marcoulides, 2000). Therefore, it is the probability of obtaining the same results if a similar sample is drawn from the population that is estimated. The value of RMSEA varies from 0 to 1 and as suggested by Schumacker and Lomax (2004) there is good model fit if RMSEA is less than or equal to .05. Some other researchers also suggested that there is adequate fit between the model and the data if RMSEA is less or equal to .08 (Byrne, 2001; Garson, 2009). Moreover, Byrne (1998) summarizes the acceptable level of a model based on RMSEA as follows: Values of RMSEA less than 0.05 indicate a good fit; values ranging from 0.05 to 0.08 represent a reasonable error of approximation; values between 0.08 and .10 point to a mediocre fit; and those greater than 0.10 indicate a poor fit. RMSEA is normally used along with P Close, which is a p value for testing the null hypothesis that the population RMSEA is no longer greater than .05. Generally, the RMSEA provides similar information as the SRMR but is sensitive to the number of estimated parameters in the model and thus adjusts for model complexity (degrees of freedom).

4.3.1. Testing the Measurement Model

As mentioned in Chapter 3, the scores of some of the variables (i.e., parenting styles and achievement motivation) of this study are not the composite scores of their underlying indicators and one factor (i.e., academic achievement) is measured by a single indicator, and thus used as the observed variables. As a result, academic self-efficacy is the only latent variable measured by its underlying indicators: Interaction at University (IaU), Performance out of University (PoU), Performance in University (PiU), and Managing
Work, Family, and University (MWFaU). For the present study, since the observed variables of academic self-efficacy were determined beforehand based on the academic self-efficacy model developed in previous studies (Zajacova, Lynch, & Espenshade, 2005), a confirmatory factor analysis was performed to assess the link between academic self-efficacy and each of its underlying observed variables to develop a measurement model with an acceptable fit to the empirical data. The measurement models of academic self-efficacy for the overall sample and the sub-samples of female and male students are presented in Figures 3.a-c below.

![Diagram of measurement model](image)

Figure 3.a: The Measurement Model of Academic Self-Efficacy for the Overall Sample.
Figure 3.b: The Measurement Model of Academic Self-Efficacy for Female Students.

Figure 3.c: The Measurement Model of Academic Self-Efficacy for Male Students.

Notes: Standardized estimates, correlations (r) of the errors (i.e., E3 and E4) of the observed variables performance in university and managing work, family, and university of the latent variable academic self-efficacy, and multiple squared correlation ($R^2$), the proportion of variance of the observed variable explained by the model, for Maximum Likelihood Method (MLE) and the corresponding standardized estimates, correlations (r), and multiple squared correlation ($R^2$) (i.e., in parentheses) for Bollen and Stine Bootstrap Method (BSBM). *** and ** denote the effect is significant at $p < .001$ and $p < .01$, respectively.
The summary of fit indices statistics for the measurement model of academic self-efficacy for the overall sample and the sub-samples of female and male students is depicted in Table 5 below.

Table 5: The Summary of Fit Indices Statistics for the Measurement Model of Academic Self-Efficacy for Overall Sample and the Sub-Samples of Female and Male Students.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Overall $\chi^2$</th>
<th>ML p</th>
<th>Normed $\chi^2$</th>
<th>BSB p</th>
<th>CFI</th>
<th>SRMR</th>
<th>RMSEA with 95% CI and P Close</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall</td>
<td>.225, DF=1</td>
<td>.635</td>
<td>.225</td>
<td>.681</td>
<td>1.000</td>
<td>.001</td>
<td>.000 (.000, .045), .969</td>
</tr>
<tr>
<td>2. Females</td>
<td>.037, DF=1</td>
<td>.848</td>
<td>.037</td>
<td>.855</td>
<td>1.000</td>
<td>.001</td>
<td>.000 (.000, .054), .941</td>
</tr>
<tr>
<td>3. Males</td>
<td>.072, DF=1</td>
<td>.789</td>
<td>.072</td>
<td>.784</td>
<td>1.000</td>
<td>.001</td>
<td>.000 (.000, .047), .959</td>
</tr>
</tbody>
</table>

Note: ML p = Maximum Likelihood p value; BSB p = Bollen-Stine Bootstrap p value; CFI = Comparative Fit Index; SRMR = Standardized Root-Mean Square Residual; RMSEA = Root Mean-Square Error of Approximation; and CI = Confidence Interval.

As can be seen in Figures 3.a-c above, two measurement errors (i.e., E3 and E4) involving interrelationships of the measured variables Performance in University (PiU) and Managing Work, Family, and University (MWFaU) underlying their latent variable Academic Self-Efficacy (ASE) were allowed to correlate freely following the evaluation of AMOS modification based on theoretical grounds. The preliminary confirmatory factor analyses showed that all measured variables loaded adequately (i.e., standardized factor loading greater than .50) on their underlying factor for both the overall sample and the sub-samples of female and male students. In addition, for both the overall sample and the sub-samples of female and male students, all of the loadings of the measured variables on the latent variable were statistically significant (p < .001 or p < .01). As can be observed from Table 5 above, for both the overall sample and the sub-samples of female and male students, the confirmatory factor analyses revealed that the measurement model of academic self-efficacy has a good fit to the empirical data in all criteria for goodness of fit, and is thus acceptable.
4.3.2. Testing the Structural Model

After obtaining an acceptable measurement model which fits to the empirical data, the next step in *Structural Equation Modeling (SEM)* analysis is to proceed to test the goodness of fit of the full structural equation model and if an acceptable full structural model is obtained then examine the hypothesized relationships of the studied variables in the structural equation model. To this end, a series of goodness of fit analyses for the overall sample and the sub-samples of female and male students was conducted. In the structural equation model, as in the case with the measurement model of academic self-efficacy, the two measurement errors (i.e., E3 and E4) involving interrelationships of the measured variables *Performance in University (PiU)* and *Managing Work, Family, and University (MWFaU)* underlying their latent variable *Academic Self-Efficacy (ASE)* were allowed to correlate freely following the evaluation of AMOS modification based on theoretical grounds (see Figures 4.a-c). The path diagrams for the hypothesized integrated parental and social-cognitive model of academic achievement for the overall sample and the sub-samples of female and male students are depicted in Figures 4.a-c below.
Figure 4.a: The Path Diagram of the Hypothesized Integrated Parental and Social-Cognitive Model of Academic Achievement for the Overall Sample.
Figure 4b: The Path Diagram of the Hypothesized Integrated Parental and Social-Cognitive Model of Academic Achievement for Female Students.
Figure 4.c: The Path Diagram of the Hypothesized Integrated Parental and Social-Cognitive Model of Academic Achievement for Male Students.

Notes: Standardized estimates (β), correlations (r) of the observed variables of academic self-efficacy, and multiple squared correlation (R²), the proportion of variance of the criterion variable explained by the model, for Maximum Likelihood Method (MLE) and the corresponding parameter estimates (i.e., in parentheses) for Bootstrap Method. ***, **, and * denote the effect is significant at p < .001, p < .01, p < .05, respectively.

The summary of fit indices statistics for the full structural equation model (SEM) analyses for the overall sample and the sub-samples of female and male students is depicted in Table 6 below.
Table 6: The Summary of Fit Indices Statistics for the Full Structural Equation Model (SEM) Analyses for the Overall Sample and the Sub-Samples of Female and Male Students.

<table>
<thead>
<tr>
<th>Sample</th>
<th>Overall χ²</th>
<th>ML p</th>
<th>Normed χ²</th>
<th>BSB p</th>
<th>CFI</th>
<th>SRMR</th>
<th>RMSEA with 95% CI and P Close</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Overall</td>
<td>82.224, DF=10</td>
<td>.000</td>
<td>8.122</td>
<td>.000</td>
<td>.984</td>
<td>.021</td>
<td>.058 (.047, .070), .118</td>
</tr>
<tr>
<td>3. Males</td>
<td>61.094, DF=10</td>
<td>.000</td>
<td>6.109</td>
<td>.000</td>
<td>.983</td>
<td>.023</td>
<td>.061 (.047, .077), .091</td>
</tr>
</tbody>
</table>

Note: ML p = Maximum Likelihood p value; BSB p = Bollen-Stine Bootstrap p value; CFI = Comparative Fit Index; SRMR = Standardized Root-Mean Square Residual; RMSEA = Root Mean-Square Error of Approximation; and CI = Confidence Interval.

As can be seen from Table 6, for the overall sample and the sub-samples of female and male students, both maximum likelihood and Bollen-Stine bootstrap chi-squares were significant. In addition, for the overall sample and the sub-sample of male students, the normed chi-square tests were not in the range of acceptable criteria for normed chi-square statistics. These problems might have been related to the large sample size, the non-normality of the data, and the presence of outliers in the data. Despite these problems, all other measures of the goodness of fit provided support for the hypothesized model for the overall sample and the sub-samples of female and male students. Therefore, the hypothesized model fits the data for the overall sample and the sub-samples of female and male students adequately.

4.4. The Effects of the Predictor Variables on Criterion Variables

Since examining the effect and moderating role of sex of the students, if any, in the relationships between the study variables was one of the objectives of the present study, as mentioned in the preliminary analysis in Section 4.2.2, a Multigroup Structural Equation Model (MGSEM) analysis (i.e., one analysis which indicates two different groups, that is, female and male students) was employed to examine the effects of the predictor variables on the criterion variables. In addition, Structural Equation Model (SEM) analysis for the overall sample was conducted to scrutinize the trends of the effects of the predictor
variables on the criterion variables. The standardized coefficients (β) for the overall sample and the corresponding unstandardized coefficients (β) parameter estimates for the sub-samples of female and male students for *Maximum Likelihood Method (MLM)* and *Bollen-Stine Bootstrap Method (BSBM)* are depicted in Table 7 below.
### Table 7: The Standardized Coefficients (β) for the Overall Sample and the Corresponding Unstandardized Coefficients (β) Parameter Estimates for the Sub-Samples of Female and Male Students for MLM and BSBM.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Effects</th>
<th>Overall</th>
<th>Females</th>
<th>Males</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Direct</td>
<td>Indirect</td>
<td>Total</td>
</tr>
<tr>
<td><strong>Parenting Styles</strong></td>
<td>Academic Self-Efficacy</td>
<td>.38***(.38***)</td>
<td>-</td>
<td>.38***(.38***)</td>
</tr>
<tr>
<td></td>
<td>Achievement Motivation</td>
<td>.01(.01)</td>
<td>.15 (.15)</td>
<td>-.07(-.07)</td>
</tr>
<tr>
<td></td>
<td>Academic Achievement</td>
<td>-.17*(-.17)</td>
<td>-.03(-.03)</td>
<td>-.05(-.05)</td>
</tr>
<tr>
<td><strong>Academic Self-Efficacy</strong></td>
<td>Achievement Motivation</td>
<td>.41***(.41***)</td>
<td>.38***(.38***)</td>
<td>.62***(.62***)</td>
</tr>
<tr>
<td></td>
<td>Academic Achievement</td>
<td>.12*(-.12)</td>
<td>.01(.01)</td>
<td>.04*(.04)</td>
</tr>
<tr>
<td><strong>Achievement Motivation</strong></td>
<td>Academic Achievement</td>
<td>.11***(.11***)</td>
<td>.04***(.04***)</td>
<td>.03*(.03)</td>
</tr>
</tbody>
</table>

Note: MLM: Maximum Likelihood Method; BSBM: Bollen-Stine Bootstrap Method. Bollen-Stine Bootstrap parameter estimates are in parentheses.  
* and ** denote the effects are mediated via academic self-efficacy and achievement motivation, respectively.  
***, **, and * denote that the effect is significant at  $p < .001$, $p < .01$, $p < .05$ respectively.
4.4.1. The Direct Effects of the Predictor Variables on Criterion Variables

In the current study, as suggested by some researchers (Garson, 2009; Ullman, 2007), the standardized regression coefficients were used to examine the effect of one variable on another for the overall sample. When the direct effects of the predictor variables on criterion variables are examined for the overall sample, parenting styles had a strong positive direct effect on the academic self-efficacy of students ($\beta = .38$, $p < .001$). That is, students who characterized their parents as authoritative were found to have significantly higher academic self-efficacy when compared to their counterparts who described their parents as non-authoritative (i.e., authoritarian, indulgent, or neglectful). However, contrary to expectation, parenting styles had a weak negative direct effect on the academic achievement of students ($\beta = -.17$, $p < .01$). More specifically, students who perceived their parents as non-authoritative (i.e., authoritarian, indulgent, or neglectful) were found to have significantly higher academic achievement when compared to their counterparts who described their parents as authoritative. In addition, parenting styles did not have a significant direct effect on the achievement motivation of students ($\beta = .01$, $p < .796$).

In support of the hypotheses, academic self-efficacy had a significant and positive direct effect on the achievement motivation ($\beta = .41$, $p < .001$) and academic achievement of students ($\beta = .12$, $p < .001$), indicating that academically highly self-efficacious students had higher academic achievement motivation and academic achievement compared to their counterpart students who had lower academic self-efficacy. Similarly, achievement motivation had a significant and positive direct effect ($\beta = .11$, $p < .001$) on academic achievement, suggesting that students with higher achievement (academic) motivation had higher academic achievement (see the path diagram of Figure 4.a and Table 7).

A multigroup SEM analysis (i.e., one analysis which indicates two different groups, that is, female and male students) was conducted to assess whether or not the effects of the predictor variables on criterion variables varied for female and male students. In this case, the bootstrapped unstandardized coefficient estimates, which are useful for comparing the magnitude and significance of the effects of a given parameter across different groups (Garson, 2009), were used. As can be observed from Table 7 and path diagrams of Figures 4.b and 4.c, parenting styles had a strong positive direct
effect on the academic self-efficacy of both female ($\beta = .63, p < .001$) and male ($\beta = .58, p < .001$) students, such that both female and male students who rated their parents as authoritative had significantly higher academic self-efficacy than their counterparts who characterized their parents as non-authoritative. Moreover, although the effect is weak, parenting styles had a significant and positive direct effect on the achievement motivation of the female students ($\beta = .15, p < .05$), indicating that the female students who perceived their parents as authoritative had significantly higher achievement motivation when compared to their counterparts who rated their parents as non-authoritative. However, contrary to expectation, parenting styles did not have significant direct effects on the achievement motivation of the male students ($\beta = -.07, p < .149$) and academic achievement of the female students ($\beta = -.03, p < .176$). In addition, although the effect is very weak, parenting styles had a significant and negative effect on the academic achievement of the male students ($\beta = -.05, p < .001$), indicating that the male students who rated their parents as non-authoritative (i.e., authoritarian, indulgent, or neglectful) had significantly higher academic achievement when compared to their counterparts who perceived their parents as authoritative.

In line with the hypotheses, academic self-efficacy had a strong positive direct effect on the achievement motivation of both female ($\beta = .38, p < .001$) and male ($\beta = .62, p < .001$) students, indicating that both female and male students who had higher academic self-efficacy had significantly higher achievement motivation when compared to their counterparts with lower academic self-efficacy. Furthermore, though the effect is weak, academic self-efficacy had a significant and positive direct effect on the academic achievement of the male students ($\beta = .04, p < .01$), such that male students who were highly self-efficacious had significantly higher academic achievement than their counterparts with lower academic self-efficacy. In contrast, the direct effect of academic self-efficacy on the academic achievement of the female students ($\beta = .01, p < .364$) was not significant. In supporting the hypotheses, while the effect is not strong, achievement motivation had a significant and positive direct effect on the academic achievement of both female ($\beta = .04, p < .001$) and male ($\beta = .03, p < .01$) students, such that both female and male students who had higher achievement motivation were found to have significantly higher academic achievement.
4.4.2. Mediators and Moderators in the Relationships between the Predictor and Criterion Variables

In this study, the bootstrapping approach, which is advocated by a number of researchers (for reviews, see Bollen & Stine, 1990; MacKinnon, Lockwood, & Williams, 2004; Shrout & Bolger, 2002), together with Structural Equation Modeling (SEM) was used to examine the mediated and moderated effects of the predictor variables on the criterion variables. This is due to the drawbacks associated with other available approaches such as Baron and Kenny’s (1986) causal steps strategy, the Sobel’s (1986, 1982) test, and the Holbert and Stephenson’s (2003) empirical M-test (for reviews regarding the shortcomings of these approaches, see Fritz & MacKinnon, 2007; Hayes, 2009; MacKinnon et al., 2002). According to the recommendations of Mallinckrodt et al. (2006), 95% confidence intervals (i.e., to override the AMOS default that provides 90% confidence intervals) and corrected intervals, rather than percentile intervals (i.e., uncorrected intervals) were used in this study. This is because, percentile confidence intervals obtained from bootstrapped distributions will yield intervals that retain bias and need further correction. MacKinnon et al. (2004) also noted that the bootstrap confidence intervals adjusted for bias exhibited the highest levels of statistical power. As suggested by some researchers (Markland, 2009; Preacher, Rucker, & Hayes, 2007), it can be concluded that an indirect (mediated) effect is statistically significant at alpha (α) = .05 if its 95% confidence interval does not encompass zero.

4.4.2.1. The Mediated Effects of the Predictor Variables on Criterion Variables

As mentioned in Section 4.4.1, the Bollen-Stine bootstrapped standardized regression coefficients for the overall sample and the Bollen-Stine bootstrapped unstandardized regression coefficients for the sub-samples of female and male students were used to scrutinize the mediated effect of the predictor variables on criterion variables. As can be seen in Table 7, in supporting the expectations, parenting styles had significant and positive mediated effects (i.e., via academic self-efficacy) on the achievement motivation of both female (β = .24, p < .001) and male (β = .36, p < .001) students. Specifically, irrespective of their sex, students who perceived their parents as authoritative were found to be more academically highly self-efficacious than their
counterparts who rated their parents as non-authoritative, and in turn these students had significantly higher achievement motivation than their counterparts.

Similarly, parenting styles had a significant and positive mediated effect (i.e., via academic self-efficacy) on the academic achievement of the male students ($\beta = .03$, $p < .001$), such that male students who rated their parents as authoritative were found to have higher academic self-efficacy compared to their counterparts who perceived their parents as non-authoritative (i.e., authoritarian, indulgent, or neglectful), and, in turn, these students had higher academic achievement. Furthermore, parenting styles had a significant and positive mediated effect (i.e., via achievement motivation) on the academic achievement of the female students ($\beta = .01$, $p < .05$), suggesting that the female students who perceived their parents as authoritative had higher achievement motivation compared to their counterparts who perceived their parents as non-authoritative, and, in turn, these students had higher academic achievement. As hypothesized, academic self-efficacy had significant and positive mediated effects (i.e., via achievement motivation) on the academic achievement of both female ($\beta = .01$, $p < .001$) and male ($\beta = .02$, $p < .01$) students, indicating that both female and male students who had higher academic self-efficacy were found to have higher achievement motivation compared to their counterparts who had lower academic self-efficacy, and, in turn, these students had higher academic achievement.

### 4.4.2.2. The Moderated Effects of the Predictor Variables on Criterion Variables

As mentioned in Section 4.3.1, it was assumed that the effects (i.e., direct and/or indirect effects) of the predictor variables on criterion variables may vary as a function of sex of the students (i.e., sex of the students may moderate the effects of the predictor variables on criterion variables). To assess this, a Multigroup Structural Equation Model (MGSEM) analysis (i.e., one analysis which indicates two different groups, that is, female and male students) was employed. As can be seen from the path diagrams of Figures 4.b and 4.c and Table 7, sex of the students played a crucial role in moderating the effects of the predictor variables on criterion variables. For instance, students’ sex moderated the direct effect of parenting styles on achievement motivation. That is, parenting styles had a significant and positive direct effect on achievement motivation for female students but not for male students. Similarly, the
analyses of moderational effects indicated that parenting styles had a significant and negative direct effect on academic achievement for male students but not for female students. Furthermore, academic self-efficacy had a significant and positive direct effect on academic achievement only for male students.

With respect to moderated mediation effects, the sex of students moderated the mediated/indirect effects of the predictor variables on the criterion variables. For instance, for male students, there was a significant and positive indirect/mediated effect of parenting styles (i.e., via academic self efficacy) on academic achievement (see Table 7). Similarly, for female students, there was a significant and positive indirect/mediated effect of parenting styles (i.e., via achievement motivation) on academic achievement (see Table 7).

4.5. The Proportion of Variance ($R^2$) Explained by the Model for Each Criterion Variable

The proportion of variance ($R^2$) explained by the model for each endogenous (dependent) variable was assessed by employing the Maximum Likelihood Approach (MLA) together with Bollen-Stine Bootstrap Approach (BSBA). $R^2$s assessed by Bollen-Stine Bootstrap Approach (BSBA) are reported in this study because of the non-normality of the data. For the overall sample, 15%, 17%, and 5% of the variances of academic self-efficacy, achievement motivation, and academic achievement, respectively, were explained by the model (see Figure 3.a). Similarly, for the sub-sample of the female students, 16%, 13%, and 3% of the variances of academic self-efficacy, achievement motivation, and academic achievement, respectively, were explained by the model (see Figure 3.b). For the sub-sample of the male students, 17%, 20%, and 3% of the variances of academic self-efficacy, achievement motivation, and academic achievement, respectively, were explained by the model (see Figures 3.c).

4.6. Sex Differences in Academic Self-Efficacy, Achievement Motivation, and Academic Achievement

A one way Multivariate Analysis of Variance (MANOVA) was conducted to scrutinize whether there were differences in academic self-efficacy, achievement motivation, and academic achievement of students as a function of their sex.
Preliminary investigations of the underlying assumptions for MANOVA indicated that some of its assumptions (i.e., multivariate-normality and variance-covariance homogeneity) were violated. Therefore, for the MANOVA test statistic, Pillai-Bartlett’s trace test was used because it is considered as the best compared to commonly used MANOVA test statistics, such as Wilk’s lambda, the Hotelling-Lawley trace, and Roy's largest root (Olson, 1976) and appropriate for use in the case of serious violations of multivariate-normality and variance-covariance homogeneity and to ensure the validity of the test (Olson, 1974).

As suggested by Mertler and Vannatta (2002) and Hair et al. (1998) it is desirable that the Dependent Variables (DVs) that are entered in the Multivariate Analysis of Variance (MANOVA) should be correlated. Therefore, before proceeding with the MANOVA, Pearson’s correlation was performed to determine whether or not the dependent variables (i.e., academic self-efficacy, achievement motivation, and academic achievement) were significantly correlated. The analysis revealed that the correlations between academic self-efficacy and achievement motivation, academic self-efficacy and academic achievement, and achievement motivation and academic achievement were $r = .414, p < .001$, $r = .098, p < .001$, and $r = .130, p < .001$, respectively (see Table 3), which met the requirement of MANOVA. The summary of MANOVA (Pillai’s Trace test) results is reported in Table 8 below.

Table 8. The Summary of MANOVA Results for the Effects of Sex of the Students on Academic Self-Efficacy, Achievement Motivation, and Academic Achievement.

<table>
<thead>
<tr>
<th>Effect</th>
<th>Pillai’s Trace</th>
<th>F</th>
<th>Hypothesis Value</th>
<th>DF</th>
<th>Error DF</th>
<th>p</th>
<th>Partial Eta Square($\eta^2$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>.985</td>
<td>44862.730*</td>
<td>3</td>
<td>2112</td>
<td>.000</td>
<td>.985</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td>.094</td>
<td>73.167*</td>
<td>3</td>
<td>2112</td>
<td>.000</td>
<td>.094</td>
<td></td>
</tr>
</tbody>
</table>

Note: * denotes the effect is significant at the given p value.

As it can be seen in Table 8, MANOVA tests indicated that the overall multivariate main effect for sex [Pillai’s Trace = .094, $F(3, 2112) = 73.167, p = .000$, partial $\eta^2 = .094$] on the combined dependent variables academic self-efficacy, achievement motivation, and academic achievement was statistically significant,
indicating that sex of the students significantly affects the combined dependent variables. Therefore, the effects of sex of the students on each dependent variable academic self-efficacy, achievement motivation, and academic achievement were examined using a univariate Analysis of Variance (ANOVA), to identify on which dependent variable(s) it [sex] has a significant effect. The summary of a follow-up one-way ANOVA test of between-subject effects of sex of the students on academic self-efficacy, achievement motivation, and academic achievement is displayed in Table 9.

Table 9. The Summary of One-Way ANOVA Results for Tests of Between-Subject Effects of Sex of the Students on Academic Self-Efficacy, Achievement Motivation, and Academic Achievement.

<table>
<thead>
<tr>
<th>Source</th>
<th>Dependent Variable</th>
<th>Type III Sum of Squares</th>
<th>DF</th>
<th>Mean Square</th>
<th>F</th>
<th>p</th>
<th>Partial Eta Squared(η²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corrected Model</td>
<td>Academic Self-Efficacy</td>
<td>16.509</td>
<td>1</td>
<td>16.509</td>
<td>.235</td>
<td>.628</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Achievement Motivation</td>
<td>2.210</td>
<td>1</td>
<td>2.210</td>
<td>.414</td>
<td>.520</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Academic Achievement</td>
<td>83.625</td>
<td>1</td>
<td>83.625</td>
<td>212.250</td>
<td>.000</td>
<td>.091</td>
</tr>
<tr>
<td>Intercept</td>
<td>Academic Self-Efficacy</td>
<td>8113308.055</td>
<td>1</td>
<td>8113308.055</td>
<td>115257.584</td>
<td>.000</td>
<td>.982</td>
</tr>
<tr>
<td></td>
<td>Achievement Motivation</td>
<td>50370.690</td>
<td>1</td>
<td>50370.690</td>
<td>9434.471</td>
<td>.000</td>
<td>.817</td>
</tr>
<tr>
<td></td>
<td>Academic Achievement</td>
<td>10104.158</td>
<td>1</td>
<td>10104.158</td>
<td>25645.519</td>
<td>.000</td>
<td>.924</td>
</tr>
<tr>
<td>Sex</td>
<td>Academic Self-Efficacy</td>
<td>16.509</td>
<td>1</td>
<td>16.509</td>
<td>.235</td>
<td>.628</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Achievement Motivation</td>
<td>2.210</td>
<td>1</td>
<td>2.210</td>
<td>.414</td>
<td>.520</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>Academic Achievement</td>
<td>83.625</td>
<td>1</td>
<td>83.625</td>
<td>212.250</td>
<td>.000</td>
<td>.091</td>
</tr>
<tr>
<td>Error</td>
<td>Academic Self-Efficacy</td>
<td>148810.453</td>
<td>2114</td>
<td>70.393</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Achievement Motivation</td>
<td>11286.657</td>
<td>2114</td>
<td>5.339</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academic Achievement</td>
<td>832.901</td>
<td>2114</td>
<td>.394</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>Academic Self-Efficacy</td>
<td>8953077.000</td>
<td>2116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Achievement Motivation</td>
<td>65704.196</td>
<td>2116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academic Achievement</td>
<td>12435.322</td>
<td>2116</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>Academic Self-Efficacy</td>
<td>148826.962</td>
<td>2115</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Achievement Motivation</td>
<td>11288.867</td>
<td>2115</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Academic Achievement</td>
<td>916.526</td>
<td>2115</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: a, b, and c denote R Squared = .000 (Adjusted R Squared = .000), R Squared = .000 (Adjusted R Squared = .000), and R Squared = .091 (Adjusted R Squared = .091), respectively.

The results of a follow-up one-way ANOVA test revealed a statistically significant difference in the academic achievement ($F(1, 2114) = 212.250, p < .001, η² = .091$) of students as a function of their sex, with sex accounting for 9.1% (i.e., adjusted
R Squared) of the variations in the academic achievement (see Table 9 above). However, academic self-efficacy \( (F_{(1, 2114)} = .235, p > .05, \eta^2 = .000) \) and achievement motivation \( (F_{(1, 2114)} = .414, p > .05, \eta^2 = .000) \) did not vary significantly as a function of the sex of students. As can be seen from multivariate and a follow up univariate analyses, for all those effects which were found to be statistically significant, both multivariate and univariate effect sizes (\( \eta^2 \)) were small, demonstrating small strength in associations. This is because, as noted by Cohen (1988, 1990), the effect size of .371 or above is considered large, between .100 and .371 is considered medium, and .100 or below is considered small. The pairwise comparison simple effect test was employed to identify the location of the difference for sex effect that was found to be significant statistically. The estimated marginal means (i.e., unweighted means), which are important when comparing the means of unequal sample sizes, were used for pairwise comparison simple effect test. The estimated marginal means and standard errors of the scores of academic self-efficacy, achievement motivation, and academic achievement and the summary of results for pairwise comparison simple effect tests are presented in Tables 10 and 11, respectively, below.

Table 10: The Estimated Marginal Means and Standard Errors of the Scores of Academic Self-Efficacy, Achievement Motivation, and Academic Achievement by Sex.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Sex</th>
<th>Mean</th>
<th>Standard Error</th>
<th>95% Confidence Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Lower Bound</td>
</tr>
<tr>
<td>Academic Self-Efficacy</td>
<td>Female</td>
<td>64.387</td>
<td>.304</td>
<td>63.791</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>64.571</td>
<td>.228</td>
<td>64.123</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>64.479</td>
<td>.190</td>
<td>64.106</td>
</tr>
<tr>
<td>Achievement Motivation</td>
<td>Female</td>
<td>5.114</td>
<td>.084</td>
<td>4.950</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>5.047</td>
<td>.063</td>
<td>4.924</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5.080</td>
<td>.052</td>
<td>4.978</td>
</tr>
<tr>
<td>Academic Achievement</td>
<td>Female</td>
<td>2.068</td>
<td>.023</td>
<td>2.024</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>2.482</td>
<td>.017</td>
<td>2.449</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>2.275</td>
<td>.014</td>
<td>2.248</td>
</tr>
</tbody>
</table>
Table 11: The Summary of Results for Pairwise Comparison Simple Effect Tests.

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>(I) Sex</th>
<th>(J) Sex</th>
<th>Mean Difference (I-J)</th>
<th>Standard Error</th>
<th>p</th>
<th>95% Confidence Interval for Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Self-Efficacy</td>
<td>Female</td>
<td>Male</td>
<td>-.184</td>
<td>.380</td>
<td>.628</td>
<td>-.929</td>
</tr>
<tr>
<td>Achievement Motivation</td>
<td>Male</td>
<td>Female</td>
<td>.184</td>
<td>.380</td>
<td>.628</td>
<td>-.561</td>
</tr>
<tr>
<td>Academic Achievement</td>
<td>Female</td>
<td>Male</td>
<td>-.067</td>
<td>.105</td>
<td>.520</td>
<td>-.138</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>.067</td>
<td>.105</td>
<td>.520</td>
<td>-.272</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>-.414*</td>
<td>.028</td>
<td>.000</td>
<td>-.470</td>
</tr>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>.414*</td>
<td>.028</td>
<td>.000</td>
<td>.358</td>
</tr>
</tbody>
</table>

Note: * denotes the mean difference is significant at the .05 level.

The paired comparison simple effect test revealed a statistically significant difference in the academic achievement of the female and male students, with the male students ($M = 2.48$) having higher academic achievement compared to their female counterparts ($M = 2.07$). However, statistically significant differences in academic self-efficacy and achievement motivation were not found among the female and male students (see Tables 10 and 11 above). When the levels of academic self-efficacy, achievement motivation, and academic achievement were evaluated, the results revealed that the undergraduate first year university students in Ethiopia who participated in the current study had low academic achievement, although they have attained an acceptable level of academic achievement, that is, Grade-Point-Average (GPA) of 2.00 and above in a 4-point scale. This is because, in the Ethiopian higher education assessment system of students’ academic achievement, the Grade-Point-Average (GPA) of below 2.50 is commonly considered as low achievement. However, they had higher or above average academic self-efficacy and achievement motivation (see Tables 4 and 10).
Chapter 5. Discussion

The main purpose of this study was to propose and test an integrated parental and social-cognitive model of academic achievement of undergraduate first year university students in Ethiopia and examine the independent and/or joint effect(s) of parenting styles and social cognitive factors (i.e., academic self-efficacy and achievement motivation) on the academic achievement of students. The type of parenting style pre-dominantly practiced in the families of Ethiopia was identified; the proposed model of academic achievement was tested; the effects of parenting styles and social cognitive factors (i.e., academic self-efficacy and achievement motivation) on academic achievement, the interrelationships between these variables, and the proportion of variance in academic achievement explained by the hypothesized model were scrutinized. In addition, the differences in academic self-efficacy, achievement motivation, and academic achievement of students as a function of their sex, as well as the levels of academic self-efficacy, achievement motivation, and academic achievement of students were investigated. This chapter, therefore, discusses the results of the analysis in accordance with the objectives of the study and the research questions to be answered in the study.

5.1. Differential Parenting Styles for Daughters and Sons

One of the prime objectives of the study was to examine the parenting style predominantly practiced in the families of Ethiopia. The study revealed that an authoritative parenting style was found to be the most commonly practiced parenting style, followed by a neglectful parenting style. In addition, it was found that all four parenting styles (i.e., authoritative, authoritarian, indulgent, and neglectful parenting styles) were reported by participants. However, different parenting styles were found for daughters and sons. More specifically, parents were perceived by daughters to use an authoritative parenting style, followed by an authoritarian parenting style. On the other hand, parents were rated by sons to use a neglectful parenting style, followed by an authoritative parenting style.

The finding that an authoritative parenting style is the most predominantly practiced parenting style echoes the results of some previous studies conducted with a sample of elementary, junior secondary, and high school students in Ethiopia. For
instance, an authoritative parenting was found to be the most predominantly practiced parenting style with a sample of elementary (Kassahun, 2005), junior secondary (Seleshi, 1998; Seleshi & Sentayehu, 1998; Sentayehu, 1998), and high school students (Abesha, 1997; Berhanu, 1996; Markos, 1996; Yekoyealem, 2005). In addition, the findings that parenting styles differ as a function of the sex of the children are in agreement with previous research in Ethiopia with a sample of high school students (Kassahun, 2005), which demonstrated that an authoritative parenting style was the most commonly adopted parenting style for daughters whereas a neglectful parenting style was the most predominant for sons. However, Kassahun, in the same study, with a sample of elementary school children found that irrespective of the children’s sex, an authoritative parenting style was the most commonly practiced parenting style.

The findings of the current study are also partly in support with other previous local studies with a sample of junior secondary school students (Seleshi, 1998; Seleshi & Sentayehu, 1998; Sentayehu, 1998). These investigators documented that an authoritative parenting was found to be the most predominantly practiced parenting style for daughters while an authoritarian parenting style was the most common for sons. Moreover, the present findings are partly in agreement with previous international studies (Hart et al., 1992; Lytton & Romney, 1991; Russell et al., 1998; Webster-Stratton, 1996), which demonstrated that parenting styles differ depending on the children’s sex. For instance, Lytton and Romney (1991) and Webster-Stratton (1996) revealed that parents employ power-assertion, corporal punishment, and verbal enmity (i.e., the characteristics of authoritarian parenting style) more often with sons than daughters. On the other hand, Hart et al. (1992) and Russell et al. (1998) reported that parents are more likely to use the styles of discipline which are relationship-oriented such as democratic approaches, induction, and reasoning (i.e., the characteristics of authoritative parenting style) in parenting their daughters.

An explanation for the different parenting styles for sons and daughters could be that the different behavioural characteristics of the late adolescent and young adult children as a function of their sex may have caused parents to use different parenting styles. This explanation is in agreement with the assertions of some authors (Bates, 1980; Belsky, 1984; Block, 1976). For example, Block (1976) noted that socialisation practices are likely to be dynamic and parents would be likely to differentiate more between the sexes at later stages of development due to some of the behavioural
differences that are known to exist between males and females. Similarly, Bates (1980) and Belsky (1984) suggested that children’s behavioural characteristics play a crucial role in determining the type of parenting styles that parents adopt in raising their children. Therefore, this area of research deserves further study to examine whether parents may adopt different parenting styles in different stages of their children’s development and these differential parenting styles may be attributed to their children’s behavioural characteristics.

A likely reason for the predominance of an authoritative parenting style for daughters, particularly in the Ethiopian cultural context, might be because parents are required to give special attention and care when their female children leave the childhood period and enter the adolescence period. If they are not treated well and supervised by their parents, they may be exposed to different harmful cultural and traditional practices, such as early marriage, abduction, and rape due to gender-based violence, which is highly prevalent in the country (Seblework, 2004; Yaynshet, 2007).

The finding concerning the most predominantly practiced parenting style (i.e., neglectful parenting style) for sons is surprising. Although this finding is consistent with previous research in Ethiopia with a sample of high school students (Kassahun, 2005), it is too early to believe that parents adopt a neglectful parenting style for their sons. Specifically, it is difficult to accept that the neglectful parenting style is predominantly practiced for sons; and to accept it is a cultural phenomenon that Ethiopian parents use more distant parenting for sons. This is because several previous studies in Ethiopia (Atsede, 1994; Ringess & Gander, 1974; Seleshi, 1998; Seleshi & Sentayehu, 1998; Teshome, 1976) revealed that parents attach very high values to their children in the hope that they will provide social, economic, and psychological support for their parents especially when they become older and ensure the continuity of family lineage. Therefore, in rearing their sons, parents are expected to adopt a parenting style marked by an optimal balance of responsiveness and demandingness (i.e., authoritative parenting) or else the other types of parenting styles (e.g., authoritarian or indulgent parenting style) rather than using neglectful parenting style, which is entirely associated with negative developmental outcomes.

A probable explanation for this unexpected finding could be that the behavioural characteristics of sons in their late adolescence and young adulthood periods may have
caused their parents to adopt neglectful parenting style. More specifically, parents adopted neglectful parenting style for their sons because their late adolescent and young adult sons may have shown behavioural characteristics not accepted by their parents, and consequently they may be tired, frustrated, or may have simply “given up” in trying to maintain parental authority. Some previous studies conducted in Ethiopia (Seleshi, 1998; Seleshi & Sentayehu, 1998), for instance, revealed that male students in junior secondary schools had significantly higher levels of problem behaviours than their female counterparts. Perhaps this might be a reason why parents are distancing and neglecting their sons. However, it is very important to note here that it is premature to draw conclusion pertaining to the predominantly practiced parenting style for late adolescent and young adult sons from the results of this study and thus it deserves further study.

Generally, the findings of this study identified that although parenting styles differ as a function of the sex of the children, when examined for the overall study sample, Ethiopian parents adopt an authoritative parenting style in raising their late adolescent and young adult children, and employ all four types of parenting styles (i.e., authoritative, authoritarian, indulgent, and neglectful parenting styles) to some extent irrespective of the sex of their late adolescent and young adult children. This is consistent with the findings of the previous studies in Ethiopia (Abesha, 1997; Berhanu, 1996; Markos, 1996; Seleshi, 1998; Seleshi & Sentayehu, 1998; Sentayehu, 1998; Yekoyealem, 2005).

5.2. The Fitness of the Hypothesized Model

As mentioned in Chapter 1, one of the main objectives of the present study was to propose and test an integrated parental and social-cognitive model of academic achievement of undergraduate first year university students in Ethiopia. To test whether the proposed integrated parental and social-cognitive model of academic achievement fits to the empirical data, as noted in Chapter 4, Section 4.3, the Maximum Likelihood Estimation Method (MLEM) along with Bollen-Stine Bootstrap Estimation Approach (BSBEA) in the AMOS (Analysis of Momentum Structure) software program version 18.0 for Structural Equation Modeling (SEM) analysis was employed. The tests of the fitness of the measurement model of academic self-efficacy and the proposed parental and social-cognitive structural model of academic achievement revealed that both the
measurement model and structural model produced a good fit to the empirical data for the overall sample and the sub-samples of female and male students. Therefore, the hypothesized integrated parental and social-cognitive model of academic achievement is applicable to explain the academic achievement of students and the interrelationships among the study variables (i.e., parenting styles, academic self-efficacy, achievement motivation, and academic achievement).

5.3. Interrelationships among the Study Variables
5.3.1. Effects of Parenting Styles on Academic Achievement

Contrary to the hypotheses, parenting styles had a significant and negative direct effect on the academic achievement of students, however, moderated by the sex of students, with male students who perceived their parents as non-authoritative performing better in academic achievement compared to their counterparts who rated their parents as authoritative. On the other hand, parenting styles had no significant direct effect on the academic achievement of female students. There has been no previous study in the Ethiopian context which examined the effects of parenting styles on the academic achievement of college or university students with which to compare the findings of this study. However, the findings of the present study pertaining to the direct effect of parenting styles on academic achievement are inconsistent with the findings of those few previous studies conducted with elementary (Kassahun, 2005), junior secondary (Seleshi & Sentayehu, 1998; Sentayehu, 1998), and high school students (Abesha, 1997; Birhanu, 1996; Markos, 1996; Tilahun, 2002), which documented that an authoritative parenting style had a significant and positive effect on the academic achievement of students.

Furthermore, the present findings are inconsistent with the findings of previous international studies (Chandler, 2006; Strage, 2000; Strage & Brandt, 1999; Turner, Chandler, & Heffer, 2009; Turner & Heffer, 2005), which demonstrated that an authoritative parenting style had a significant and positive effect on the academic achievement of college/university students. The current findings are also not in agreement with the findings of other previous international studies (Hickman, Bartholomae, & McKenry, 2000; Joshi, Ferris, Otto, & Regan, 2003), which documented that parenting styles did not have a significant effect on the academic achievement of college/university students.
The observed sex differences in the direct effect of parenting styles on academic achievement are partially consistent with the findings of previous study in Ethiopia with a sample of high school students (Abesha, 1997). Abesha reported that parenting styles did not have a significant direct effect on the academic achievement of female students, which is similar with the finding of the present study. However, he found that an authoritative parenting style had a significant and positive effect on the academic achievement of male students, which is inconsistent with the finding of the current study that an authoritative parenting style had a significant and negative effect on the academic achievement of male students.

A reason for why parenting styles had a significant and negative effect on the academic achievement of students for the overall sample and the sub-sample of male students could be that since parenting styles had a significant and positive mediated effect via academic self-efficacy on academic achievement, the effect is so strong (see Table 7 in Chapter 4) that it masks the relationship between parenting styles and academic achievement. Specifically, it is possible that the mediated effect of parenting styles on academic achievement (i.e., via academic self-efficacy) suppressed the relationship between parenting styles and academic achievement. As noted by Tzelgov and Henik (1991), when the direct and mediated effects of an independent variable on a dependent variable have opposite signs (see Table 7 in Chapter 4) there would be a suppression effect of a mediator variable which holds the effect of an independent variable on a dependent variable. A plausible reason for why parenting styles did not have a direct effect on the academic achievement of female students might be that the effect of parenting styles on the academic achievement of female students was fully mediated by achievement motivation.

Although the direct effects of parenting styles on the academic achievement of students are contrary to the expectations of the study, the results pertaining to the indirect (mediated) effects of parenting styles on academic achievement support the hypotheses. Specifically, the results uncovered that parenting styles had significant and positive indirect (mediated) effects on the academic achievement of both female and male students. That is, female students who perceived their parents as authoritative were found to have higher achievement motivation than their counterparts who rated their parents as non-authoritative, and in turn they had higher academic achievement. This finding is in concordance with the findings of previous
international studies with college/university (e.g., Fulton & Turner, 2008) and high school students (Glasgow et al., 1997; Grolnick, Ryan, & Deci, 1991), which demonstrated that academic motivation is a mediator of the effect of parenting styles on academic performance. Similarly, male students who rated their parents as authoritative were found to have higher academic self-efficacy compared to their counterparts who described their parents as non-authoritative, and in turn they had higher academic achievement. Very interestingly, these findings support the assertion of Glasgow et al. (1997) who noted that the direct influence of parenting styles during childhood may become indirect in adolescence and later years.

Overall, the results of the current study challenge the claim of some researchers that authoritative parenting style is the most effective in individualistic cultures (see Baumrind, 1971; Dornbusch et al., 1987; Lamborn et al., 1991), whereas an authoritarian parenting style is more effective in collectivist cultures (see Papps et al., 1995; Rosenthal, 1984; Sprott, 1994; Szapornik & Kurtines, 1993). This is because, although Ethiopia is a collectivist country (Hofstede, 1980, 1983,1994), in the current study an authoritative parenting style was found to be the most effective in significantly and positively affecting the academic achievement of students indirectly (i.e., via academic self-efficacy for male students and via achievement motivation for female students).

5.3.2. Effects of Parenting Styles on Academic Self-Efficacy and Achievement Motivation

As hypothesized, irrespective of sex of the students, parenting styles had a significant and positive direct effect on academic self-efficacy, such that students from authoritative families had significantly higher academic self-efficacy compared to their counterparts from non-authoritative (i.e., authoritarian, indulgent, or neglectful) families. Interestingly, these findings are consistent with the findings of the majority of previous international studies conducted in colleges/universities (Chandler, 2006; Kek, Darmawan, & Chen, 2007; Shaw, 2008; Strage & Brandt, 1999; Turner, Chandler, & Heffer, 2009) as well as in secondary schools (Baumrind, 1973; Baumrind & Black, 1967; Boon, 2007; Ingoldby, Schvaneveldt, Supple, & Bush, 2004; Juang & Silbereisen, 2002), which demonstrated that students from authoritative families had the highest
academic self-efficacy, whereas those from authoritarian families were found to have the lowest academic self-efficacy.

With respect to the effects of parenting styles on achievement motivation, the findings of this study are interesting. That is, parenting styles had a significant and positive direct effect on the achievement motivation of female students, whereas, contrary to expectation, parenting styles had no significant direct effect on the achievement motivation of male students. However, parenting styles had a significant and positive mediated effect via academic self-efficacy on the achievement motivation of both female and male students. Specifically, for both female and male students, an authoritative parenting style had a significant and positive indirect effect on achievement motivation via its significant and positive effect on academic self efficacy. That is, both female and male students who characterized their parents as authoritative had higher academic self-efficacy than their counterparts who rated their parents as non-authoritative, and in turn these students had higher achievement motivation.

Since there has been no previous study in the Ethiopian context which investigated the effects of parenting styles on the achievement motivation of students, it was not possible to compare the findings of this study. However, the current finding pertaining to the direct effect of parenting styles on the achievement motivation of male students is inconsistent with the findings of the previous international studies conducted in colleges/universities (Gonzales, Greenwood, & WenHus, 2001; Turner, Chandler, & Heffer, 2009; Turner & Heffer, 2005; Weiss & Schwartz, 1996) and high schools (e.g., Baumrind, 1971; Boon, 2007; Deci & Ryan, 1985; Dornbusch et al., 1987; Ginsburg & Bronstein, 1993; Gonzalez-DeHass et al., 2005; Hoang, 2007; Ingoldby, Schvaneveldt, Supple, & Bush, 2004; Leung & Kwan, 1998; Rivers, 2008; Spera, 2006; Steinberg et al., 1992b, 1994; Strage, 2000; Vansteenkiste et al., 2005). These studies have documented that students who are more intrinsically motivated are from families that display more involvement, higher levels of nurturance and encouragement of more autonomy (i.e., the characteristics of authoritative parents), whereas parental psychological control (i.e., the characteristic of authoritarian parents) was associated with controlled motivation. It is possible that in the present study the effect of parenting styles on achievement motivation for male students was fully mediated through academic self-efficacy.
As noted by Maccoby and Martin (1983), authoritative parents are characterized by high levels of nurturance, involvement in their children’s activities, reasoning, expectation of mature behaviors from their children, setting clear standards, enforcing rules and standards firmly, using commands and sanctions only when necessary, encouraging independence/autonomy and open communication, and recognizing the rights of the children. These characteristic features (i.e., the characteristic features of authoritative parents) are essential for the development of high academic self-efficacy, achievement motivation, and academic achievement as affirmed by Baumrind (1973, 1991). Therefore, a significant and positive direct effect of authoritative parenting style on the academic self-efficacy and significant and positive direct and indirect effects on the achievement motivation of students are logical and justifiable.

5.3.3. Effects of Academic Self-Efficacy on Achievement Motivation and Academic Achievement

Supporting the anticipation of the study, irrespective of students’ sex, the results indicated that academic self-efficacy had a significant and positive direct effect on the achievement motivation of students, suggesting that students who were academically highly self-efficacious had higher achievement motivation. These findings are similar with the findings of many previous international studies (Bandura, 1986, 1997; Bandura & Locke, 2003; Caldwell & Obasi, 2010; Mills, Pajares, & Herron, 2007; Pajares, 1997; Reeve, Deci, & Ryan, 2004; Schunk & Hanson, 1985; Zimmerman, 2000). In addition, the current findings are in agreement with previous Ethiopian studies in university (Mulugeta, 1998) and high schools (Yalew & Witruk, 2006), that provided consistent evidence that academic efficacy is positively related to academic motivation.

However, the current findings are inconsistent with a previous research in Ethiopia (Aboma, 2009), in which the researcher found a positive but non-significant correlation between achievement motivation and academic self efficacy of first year students of Adama University. There is of course a difference in the language in which the scales of academic self-efficacy and achievement motivation were administered in the two findings. That is, the present study administered the scales in Amharic language (i.e., the official work language of the country) by understanding that English is either the second or third or even fourth language for Ethiopian university students and as a
result they may have considerable difficulty in English language; however, Aboma’s study administered the scales in English language.

In line with the expectation of the study, academic self-efficacy had a significant and positive direct effect on the academic achievement of students, however, this was moderated by the sex of students, such that male students who were academically highly self-efficacious had higher academic achievement. For female students, the direct effect of academic self-efficacy on academic achievement was positive but not significant statistically. In support to the hypotheses of the study, regardless of the sex of students, academic self-efficacy had a significant and positive indirect effect on academic achievement through achievement motivation, indicating that students who had higher academic self-efficacy were found to have higher achievement motivation, and in turn these students had higher academic achievement.

The findings that academic self-efficacy has a significant and positive effect (i.e., either direct or indirect effect) on academic achievement echo the findings of numerous previous Ethiopian studies conducted in universities (Aboma, 2009; Dawit, 2008; Mulugeta, 1998; Yalew, 2003), high schools (Amare, 2001), and elementary schools (Yalew, 2005), which reported a significant and positive effect of academic self-efficacy on academic achievement. In addition, the present findings are consistent with many previous international studies (Adeyemo, 2007; Chandler, 2006; Chemers, Hu, & Garcia, 2001; Chye, Walker, & Smith, 1997; Gore, 2006; Hackett & Betz, 1989; Hsieh, Sullivan, & Guerra, 2007; Kahn & Nauta, 2001; Kek, Darmawan, & Chen, 2007; Klomegah, 2007; Le et al., 2005; Luszczynska, Gutierrez-Dona, & Swarzer, 2005; Mills, Pajares, & Herron, 2007; Parajes, 1996; Robbins et al., 2004; Witt-Rose, 2003; Zajacova, Lynch, & Espenshade, 2005), which demonstrated that academic self-efficacy had a significant and positive effect on the academic achievement of college/university students. In addition, the current findings are in agreement with Bandura’s (1977, 1982) social cognitive theory, which posits that academic self-efficacy has a significant and positive direct effect on the academic achievement of students.

There is evidence that self-efficacious students participate more readily, work harder, persist longer, and have fewer adverse emotional reactions when they encounter difficulties than do those who doubt their capabilities (Bandura, 1997).
addition, as noted by Bandura (1993) and Pajares (1996), a person with a well-developed sense of self-efficacy believes strongly in his or her capacity to carry out a task, invests effort in the activity, persists in the face of difficulty and has an optimistic outlook, whereas an individual with a low level of self-efficacy has little confidence in his/her capacity to carry out a task which can result in avoidance of difficult tasks, low aspirations, weak commitment to goals and a pessimistic outlook, in general. According to these authors, academic self-efficacy plays a prominent role by energizing students to set high goals, influencing the amount of effort to be invested, and helping students to confidently identify effective learning strategies to be used and time to be spent in studying the course materials, in particular. Shunk (1991) also noted that students with a high sense of self-efficacy beliefs study harder and persist longer when they approach difficulties, whereas students who have low self-efficacy beliefs perform worse at learning tasks, tend to avoid difficult tasks, and do not certainly regulate their learning behaviours. Therefore, a significant and positive effect (i.e., direct and/or indirect via achievement motivation) of academic self-efficacy on the academic achievement of students is justifiable.

5.3.4. Effect of Achievement Motivation on Academic Achievement

As hypothesized and in support of Deci and Ryan’s (1985, 1991) theory of self-determination, the results of the present study discovered that achievement motivation had a significant and positive direct effect on the academic achievement of students regardless of their sex. Specifically, both female and male students who perceived themselves as having higher achievement motivation were found to have higher academic achievement when compared with their counterparts who described themselves as having lower achievement motivation. These findings are consistent with the findings of previous Ethiopian studies conducted in colleges/universities (Daniel, 1992; Mulugeta, 1998), Teachers’ Training Institutes (Girma, 1997), and high schools (Amare, 2001; Yalew & Witruk, 2006). In addition, the current findings are in support of many previous international studies (Caldwell & Obasi, 2010; Mahyuddin, Elias, & Noordin, 2009; Mitchell, 1992; Tanaka & Yamauchi, 2000; Turner, Chandler, & Heffer, 2009; Turner & Heffer, 2005; Vallerand & Bissonnette, 1992; Vallerand et al., 1989, 1993; Vansteenkiste, Zhou, Lens, & Soenens, 2005; White & Fogarty, 2001), which documented that achievement motivation had a significant and positive effect on the academic achievement of students in higher education institutions.
As noted by McClelland (1961, 1985, 1987), individuals with high achievement motivation have the capacity to set high personal and achievable goals, are concerned for personal achievement rather than the rewards of success, and desire job-relevant feedback rather than attitudinal feedback. In addition, achievement motivation, especially academic motivation orients students toward learning and understanding, developing new skills and cognitive strategies for solving problems, and leads to focus on self-improvement using self-referenced standards because academic motivation enables students to set achievement goals, and thus students work hard and exert maximum efforts to reach to those goals. Moreover, achievement motivation is associated with greater persistence at task despite adverse situations and a correspondingly greater likelihood that one will succeed in achieving one’s goal (Burger, 1985). Thus, these could be the reasons why achievement motivation has a significant and positive effect on the academic achievement of students.

5.4. The Proportion of Variance ($R^2$) of Academic Achievement Explained by the Hypothesized Model

The results of the current study indicated that the proposed integrated parental and social-cognitive structural model of academic achievement explained only 5% of the variance in academic achievement for the overall sample and only 3% of the variance in academic achievement for the sub-samples of female and male students. Since there has been no previous study locally as well as internationally, which examined the integrated parental and social-cognitive structural model of academic achievement of university students, it was not possible to compare the findings of the current study relative to those of other previous studies. However, the findings of the present study highlight that although parenting styles, academic self-efficacy, and achievement motivation are important in the prediction of academic achievement of university students, they account for a small amount of variance (i.e., lower variance than one would expect) in academic performance of students.

Specifically, 95% of the variance of academic achievement for the overall sample and 97% of the variance of academic achievement for the sub-samples of female and male students, were accounted for by some other potential factors which were not included in the model. Therefore, this calls for future research which examines the joint and/or independent effect(s) of both traditional or cognitive factors (i.e., prior academic
achievement, as measured by high school, that is, grades 9-10 and 11-12, Cumulative Grade-Point-Averages, Ethiopian General Education Leaving Certificate Examination results, and Ethiopian Higher Education Entrance Qualification Certificate Examination results) and non-cognitive factors (i.e., peer influences and factors associated with higher education institutions, such as personal and social adjustments to higher education institutions, facilities and supports from higher education institutions, etc.) on academic achievement.

5.5. Sex Differences in Academic Self-Efficacy, Achievement Motivation, and Academic Achievement

Examining the effect of sex of the students on their academic self-efficacy, achievement motivation, and academic achievement was also a major component of this study. As hypothesized, sex of the students had a significant effect on their academic achievement, favouring male students (i.e., explained 9.1% of the variance in the academic achievement of students). That is, on average, male students had higher academic achievement compared to their female counterparts. These findings are consistent with several previous Ethiopian studies in universities (Atsede, 1991; Dagnew & Damena, 1994; Demewez, Mehadi, & Tesfaye, 2005; Fantu, Zelalem, & Belay, 1996; Fentaw, 1991; Habte, 1988; Hedija, 2002; Mulugeta, 1998; Negasi, 2009; Tsige, 1991), technical and vocational education and training institutes (Tamirie, 2009), primary school teachers training institutes (Girma, 1992; Negussie, 1996), high schools (Abesha, 1997; Assefa, 1998; Kassahun, 2005; Kifle, 2004; Markos, 1996; Mustofa, 2006; Ojo & Yilma, 2009; Seleshi, 1995; Tamirie, 2009; Yalew, 1997; Zenawi, 1997), junior secondary (Seleshi, 1995), and elementary schools (Nema & Wagner, 1993; Sewnet, 1995), as well as previous research in the University of Botswana (Ajiboye & Tella, 2006), which reported that the academic achievement of male students was significantly higher than that of female students.

On the other hand, the findings of the current study are not consistent with the findings of previous international studies (Baker, 2003; Castagnetti & Rosti, 2009; Dayıoglu & Türüt-Asık, 2004; Ferguson, James, & Madely, 2002; Sheard, 2009; Strahan, 2003; Woodfield, Jessop, & McMillan, 2006), which demonstrated that female students outperformed male students in academic achievement. In addition, the findings of the present study are not in support with the few previous Ethiopian studies in
universities (Sentayehu, 1995), high schools (Tilahun, 2002), junior secondary (Ewnetu & Fisseha, 2008; Seleshi & Sentayehu, 1998; Sentayehu, 1998), and elementary schools (Kassahun, 2005), as well as previous international studies with university students in Nigeria (Adeyemo, 2007) and the U.S.A (Veldman, 1968), which revealed that there were no significant sex differences in academic achievement of students.

The inconsistency between the findings of the current study and some previous international studies could be the socio-cultural contexts of the two studies and the inconsistency between the findings of the present study and some previous research in Ethiopia might be due to a difference in the ways how academic achievement was measured. In the current study, for instance, academic achievement was measured by the second semester Grade-Point-Averages (GPAs). However, in some previous studies, academic achievement was measured by the Cumulative-Grade-Point-Averages (CGPAs) of four to eight semesters (Sentayehu, 1995), average scores of national examination along with average scores of one semester (Tilahun, 2002), score in a single subject (Ewnetu & Fisseha, 2008), and average scores of four years (Seleshi & Sentayehu, 1998; Sentayehu, 1998).

One probable explanation for the gap in the academic achievement between female and male students could be a consequence of childhood sex-role socialization patterns in which males receive more attention and encouragement than females to perform effectively in academic endeavours. Specifically, since in Ethiopian culture, the societal as well as parental attitudes and expectations favours males’ education more than females’ education and this might have affected the academic achievement of male students positively while it affected the academic achievement of female students negatively. That is, in the Ethiopian cultural context, there has been a historical process of female marginalisation because of low societal and parental expectations and negative attitudes towards females’ education, and this may have deleteriously affected the academic achievement of female students. Therefore, these low societal expectations and negative attitudes can take the form of stereotype threat (Brown & Josephs, 1999; McJunkin, 2009; Spencer, Steele, & Quinn, 1999) for females’ academic performance which may have affected their academic achievement undesirably. This explanation has been supported by previous research in Ethiopia (e.g., Atsede, 1991), which has contended that cultural systems of Ethiopia, particularly gendered socialization (i.e., females’ marginalisation), prevent them from being as successful as males. Similarly,
other previous studies in Ethiopia (e.g., Almaz, 1991; Nema & Wagner, 1993) have indicated that the lower academic performance of female students compared to their male counterparts could be due to the subordinate position given to females in Ethiopian society.

Stereotype threat refers to the concern that is experienced when one feels at risk of confirming, as self-characteristic, a negative stereotype about one’s group (Steele & Aronson, 1995). It is a psychological phenomenon which deleteriously affects the performance of a variety of groups (e.g., females, racial/ethnic minorities, people with low socio economic status). Research on group stereotypes related to academic performance indicates that stereotype threat can have detrimental effects on the performance of individuals, especially if they are made salient. For example, several empirical studies (Brown & Josephs, 1999; McJunkin, 2009; Spencer, Steele, & Quinn, 1999) show that women tend to underperform on maths tests when they are at risk of confirming the stereotype about women’s maths ability because people experiencing stereotype threat have fewer cognitive resources to devote to tasks than do their peers who are not experiencing threat (Alter, Aronson, Darley, Rodriguez, & Ruble, 2010).

Still another likely explanation for the low academic achievement of female students could be that because of the great attention given to females to enable them have access to higher education, many female students enter higher education institutions with lower scores when compared to their male counterparts. Thus, this low prior academic achievement could be the reason for their low academic achievement in higher education institutions. In fact, it is important to give due attention to female students by lowering the university entrance point to enable them get access to higher education, bridge gender gap in the higher learning institutions, and encourage them. This is because, they have been heavily affected in a historical process of female marginalisation. However, having entered with a lower standard, on average, they continue to have a lower performance on average when compared to their male counterparts. In addition, as noted in previous research in Ethiopia (Asresash, Ruth, & Kassahun, 2002; Wudu & Getahun, 2009), the gender-based violence, such as sexual harassment might have negatively affected the academic achievement of female students.
Although there was a significant difference between female and male students in their academic achievement, the results of this study revealed that the academic self-efficacy and achievement motivation of students did not differ significantly as a function of their sex. Of course, one might expect societal stereotype threat may affect the academic self-efficacy and achievement motivation of female students and consequently they may have significantly lower academic self-efficacy and achievement motivation than their male counterparts if there is gendered socialization (i.e., the marginalisation of females in different developmental outcomes, particularly in academic endeavours) in the Ethiopian cultural context, as mentioned above. However, when it comes to how female students perceive their abilities to be successful in their university studies (i.e., academic self-efficacy) as well as their need for mastery and success in their university education (i.e., achievement motivation) they may have internalised the societal stereotype threat though it could have not been possible for them to internalise this societal stereotype threat in actual behaviour (i.e., academic achievement) and perform at the same level as their male counterparts in academic achievement. Therefore, these findings are interesting in that they highlight that the societal stereotype threat may have a strong effect on females’ actual behaviors than how they perceive their academic self-efficacy beliefs and achievement motivation for their university studies.

The findings of the current study pertinent to academic self-efficacy are similar to the findings of previous international studies (Santiago & Einarson, 1998; Witt-Rose, 2003), which reported that there were no significant sex differences in academic self-efficacy of college/university students. However, the findings of this study are inconsistent with the findings of previous Ethiopia studies in universities (Dawit, 2008; Mulugeta, 1998) and high schools (Kifle, 2004; Mustofa, 2006; Yalew, 1996, 1997), which revealed significant sex differences in academic self-efficacy of students (i.e., favouring male students), and the findings of previous international research (Reisberg et al., 2010), which demonstrated that male university students had significantly higher self-efficacy than their female counterparts.

The findings of this study related to achievement motivation are consistent with previous Ethiopian studies in high schools (Assefa, 1998; Mustofa, 2006), which documented that there were no significant sex differences in achievement motivation of students. However, the present findings are inconsistent with the findings of the
previous local research in university (Mulugeta, 1998; Negasi, 2009) and high schools (Kifle, 2004), which revealed that male students had significantly higher achievement motivation when compared with their female counterparts. The current findings are also not in agreement with previous international studies, which demonstrated that female university students were more motivated towards and readily engaged with academic goals and activities (Baker, 2003; Reisberg, 2000; Wintre & Yaffe, 2000) and had higher self-determined motivational profiles (Brouse et al., 2010; Ryan & Deci, 2000; Vallerand & Bissonnette, 1992; Vallerand et al., 1992) than their male counterparts.

A probable reason for the present findings could be that the prior mastery experience, that is, scoring good results in the Ethiopian Higher Education Entrance Qualification Certificate Examination (EHEEQCE) and getting an opportunity to join higher learning institutions might have equally stimulated the academic self-efficacy and achievement motivation of female and male students. Another likely explanation could be that there may be similarities in attitude towards the value and importance of being successful in higher education between male and female students, and as a result they may be similar in their goals and aspirations of higher education. In turn, these goals and aspirations might have equally roused the academic self-efficacy and achievement motivation of female and male students.

5.6. The Levels of Academic Self-Efficacy, Achievement Motivation, and Academic Achievement

In this study, although it was not intended to look at the levels of academic self-efficacy, achievement motivation, and academic achievement of students, attempts have been made to assess the levels of these traits. This is because, understanding the levels of students’ academic self-efficacy, achievement motivation, academic achievement is important to develop and implement targeted timely intervention programs to improve the academic achievement of students and enable them to complete their higher education studies successfully. The findings of this study related to the levels of academic self-efficacy and achievement motivation of students are encouraging. Specifically, the findings revealed that, regardless of students’ sex, the levels of academic self-efficacy and achievement motivation were found to be higher or above average. For achievement motivation, the current findings are similar to that of previous study in Ethiopia (Tsige, 2006), which revealed that the first year students of the
College of Commerce of Addis Ababa University had high academic achievement motivation, though this did not significantly predict their academic achievement. Since there has been no previous study in Ethiopian context regarding the levels of academic self-efficacy of university students, it was not possible to evaluate the findings of the current study relative to those of other previous studies.

The likely explanation for having higher academic self-efficacy and achievement motivation could be that, as mentioned above, the prior mastery experience (i.e., scoring good results in the Ethiopian Higher Education Entrance Qualification Certificate Examination and getting an opportunity to join higher learning institutions) might have inspired students to have high academic self-efficacy and achievement motivation which are essential for success in their higher education. This is because, as has been consistently noted by Bandura in his social-cognitive theory, when compared to the other sources of self-efficacy beliefs (i.e., vicarious experience, verbal and social persuasions, and emotional and physiological states), prior mastery experience is the most dominant and plays a crucial role in enabling people to believe in their capability to be successful in related tasks and motivated to achieve their planned goals (Bandura, 1986, 1997). According to Bandura, when students believe that their efforts have been successful (i.e. they experienced mastery in prior activities), their confidence (i.e., self-efficacy) to accomplish similar or related tasks is raised and they are highly motivated to succeed.

Interestingly, these findings challenge the claims of some researchers that higher academic self-efficacy (Ottingen & Zosuls, 2006; Scholz et al., 2002) and achievement motivation (Markus & Kitayama, 1991; McClelland, 1961; Rosen, 1962; Sagie, Elizur, & Yamauchi, 1996; Seagall et al., 1999; Triandis, Leung, Villareal, & Clark, 1985) are the characteristics of people in individualistic cultures while lower academic self-efficacy and achievement motivation are the characteristics of people in collectivistic cultures because as evidenced in this study, although Ethiopia is a collectivist culture (Hofstede 1980, 1983, 1994), Ethiopian undergraduate first year students who participated in the current study were found to have higher academic self-efficacy and achievement motivation. Therefore, the present findings support the assertions of some researchers (Bandura, 2002), who contend that self-efficacy is as important for collectivists, as it is for individualists, and (Chirkov, Ryan, Kim, & Kaplan, 2003; Vansteenkiste, Zhou, Lens, & Soenens, 2005), who argue that autonomous motivation
(i.e., high achievement motivation) is universally important, even in collectivistic cultures.

The results of the present study revealed that although students had higher academic self-efficacy and achievement motivation, it was found that they had below average or low academic performance. Since, as with the self-efficacy research, there has been no previous study in the Ethiopian context regarding the levels of academic achievement of university students, it was not possible to compare the findings of the current study whether they are consistent or inconsistent. Although some authors demonstrated that societal collectivistic culture (VonDras, 2005) or a person’s allocentric cultural orientation (Dabul, Bernal, & Knight, 1995; Triandis, Leung, Villareal, & Clark, 1985) has a negative effect on academic achievement, the current findings are not due to the reason that Ethiopian culture is collectivistic. This is because, it is not a societal culture or an individual’s cultural orientation per se (i.e., a societal culture is individualistic or collectivistic or an individual’s cultural orientation is idiocentric or allocentric) but rather the value that societal culture or the individual attaches to education and the attainment of higher academic performance. Ethiopian culture, although it is a collectivistic culture, gives a great value and importance to education and success in academic performance, and therefore the low or below average academic performance of students is not attributed to the collectivistic culture of the country.

The most probable reason for low academic achievement of the students could be that, as demonstrated by previous studies in Ethiopia (Tamire, 1997; Tsige, 2001; Yalew, 2003), first year students have different types of personal and social adjustment and adaptation problems at higher learning institutions, and thus these may have negatively affected their academic achievement. In support of this explanation, several international studies noted that first year college students are a group especially prone to stress due to the transitional nature of college life (Greenberger & McLaughlin, 1998; Holahan, Valentiner, & Moos, 1995; McCarthy, Moller, & Fouladi, 2001; McIntyre & Dusek, 1995; Perry et al., 2001; Pitkethly & Prosser, 2001). As suggested by Elias, Noordin, and Mahyuddin (2010), this phenomenon could be due to the variety of challenges, such as forming new relationships, adjusting existing relationships with parents and family, and learning new strategies in the new academic environment, which students face especially in their early years in university. It is clear that first year
students may face the problems of personal and social adjustment because of being away from home perhaps for the first time, in attempting to maintain a high level of academic achievement required of them as well as navigating the social milieu of university life, which in turn may have deleterious effects on their academic performance.

Another likely explanation for the present findings could be that since the majority of participants reported that their parents had no formal education and/or had elementary/junior secondary educational level and they resided in the rural and/or suburban areas (see Table 1 in Chapter 4), and thus this lower parental educational background and the residential areas where students live might have negatively affected their academic achievement. It is obvious that well educated parents are also economically capable and they can fulfill the needs of their children and provide materials which are essential for their success in education. Furthermore, parents who are more educated can actively involve behaviourally (i.e., the participation of the parents in their children’s school activities), personally (i.e., the parents’ interest in the academic life of their children), and cognitively (i.e., parents expose their children to academically stimulating activities and materials and also transmit educational experiences to their children) in their children’s education. These are instrumental in enabling the children of well educated parents to be successful in their education. In contrast, children with lower parental educational background are disadvantaged in all the above mentioned conditions, and consequently they may not be effective in their academic performance as children with well educated parents.

With respect to the influence of residential areas (i.e., urban versus rural) on the academic performance of students in higher education institutions, those students who resided in urban areas before joining university attended their primary and secondary education in well equipped and organized schools with highly trained and experienced teachers. In addition, they had access and exposure to the innovations of modern science and technology, which are important for success in education. Moreover, the overall life and living standards in urban areas are modern and thus facilitate students’ success in education. On the other hand, the opposite is true for those higher education institutions students who resided in rural areas before entering university. Therefore, the residential areas where students live may have a great influence on their academic performance even when they transit to higher education institutions.
Chapter 6. Summary and Conclusions of the Study

This chapter summarizes the major findings of the study, draws conclusions, and makes relevant recommendations for designing intervention strategies to improve the academic achievement of students in higher education institutions based on the results of the study. It also discusses the limitations of the study and identifies directions for future research. This is followed by a brief discussion of the practical and theoretical contributions of the study.

6.1. Summary

As documented in several studies conducted in Ethiopia, rates of attrition, mainly due to academic reasons (i.e., academic dismissals) because of low academic performance are high in the first year of university education (Asmerom, Lakew, Mekonnen, & Yusuf, 1989; Fentaw, 2001; Tamire, 1997; Tesfaye, 2006, 2007; Yalew, 2003). It is well known that this has a negative effect on the development endeavours of the country, in general, and the need to have well qualified and trained professionals in different fields of specialization, in particular. Consequently, the development prospects of this poor country are hindered (World Bank, 2003). Besides, lack of success in higher education has often deleterious consequences on students, their families, and higher education institutions in that it may expose students to various psycho-social problems, such as dissatisfaction with their college/university experience, disruption of life plans, and being jobless or being engaged in minor jobs below their potential to earn much less over a life time, and it can cause significant unrealized costs to families and higher education institutions (Aboma, 2009).

In recognizing the negative consequences of lack of success in university education on the socio-economic and political development of the countries, in general, and on students, their families, and higher education institutions, in particular, several researchers in Western and Asian countries have proposed a number of theoretical frameworks to illuminate the potential factors responsible for academic success in higher learning institutions. These researchers have identified: (1) Family factors (i.e., parents), especially parenting styles (Chandler, 2006; Fulton & Turner, 2008; Strage & Brandt, 1999; Turner, Chandler, & Heffer, 2009; Turner & Heffer, 2005), (2) Factors related to the educational institutions (Tinto, 1975; Van den Berg & Hofman, 2005;
Yorke, 2004), (3) Factors which derive from the social environments (social relationships) of students, specifically, peer relations (Berndt, 1999; Brown, Clasen, & Eicher, 1986; Chandler, 2006; Kinderman, 1993; Nelson & DeBacker, 2008), and (4) Factors related to students’ personal characteristics, especially, students’ academic self-efficacy (Adeyemo, 2007; Chandler, 2006; Chemers, Hu, & Garcia, 2001; Finney & Schraw, 2003; Gore, 2006; Parajes, 1996; Robbins, Lauver, Le, Davis, Langley, & Carlstorm, 2004; Turner, Chandler, & Heffer, 2009; Zajacova, Lynch, & Espenshade, 2005), and achievement motivation (Fulton & Turner, 2008; Turner & Heffer, 2005; Vallerand & Bissonnette, 1992; Vallerand et al., 1989, 1993) as predictive of academic performance among university students.

However, despite the extent of the problem, there have been relatively few empirical studies on this topic in Ethiopia (Aboma, 2009; Adem, 2005; Asmerom, et al., 1989; Fentaw, 2001; Habte, 1988; Tamire, 1997; Tesfaye, 2006, 2007; Tsige, 2001, 2006; Yalew, 2003), and those that have been conducted so far are not extensive. Therefore, the main purpose of this study was to propose and test an integrated parental and social-cognitive model of academic achievement of undergraduate first year university students in Ethiopia, and thereby to investigate the effects of parenting styles, academic self-efficacy, and achievement motivation on academic achievement, and examine the interrelationships among these factors. The study was guided by the theoretical models of parenting styles, self-efficacy, and self-determination developed by Maccoby and Martin (1983), Bandura (1977, 1982), and Deci and Ryan (1985, 1991), respectively.

An ex-post facto prospective research design was used to answer the basic questions of the study related to the fitness of the proposed integrated parental and social-cognitive model of academic achievement; the effects of parenting styles on academic self-efficacy (i.e., direct effect), achievement motivation (i.e., direct effect and indirect effect via academic self-efficacy), and academic achievement (i.e., direct effect and indirect effect via academic self-efficacy and/or achievement motivation); the effects of academic self-efficacy on achievement motivation (i.e., direct effect) and academic achievement (i.e., direct effect and indirect effect via achievement motivation); the direct effect of achievement motivation on academic achievement; the moderating role of students’ sex in the relationships among parenting styles, academic self-efficacy, achievement motivation, and academic achievement; and the differences
in academic self-efficacy, achievement motivation, and academic achievement of the students as a function of their sex. In addition, the study attempted to identify the type of parenting style predominantly practiced in the families of Ethiopia and the levels of academic self-efficacy, achievement motivation, and academic achievement of undergraduate first year university students in Ethiopia.

The proposed model was tested and the research questions of the study were examined based on the data obtained from 2116 (763 females and 1353 males) undergraduate first year students recruited via multi-stage cluster random sampling technique from Addis Ababa University, Kotebe College of Teacher Education, and Wolayta Soddo University in Ethiopia by employing a self-report questionnaire. Structural Equation Modeling (SEM) analyses with Analysis of MOment Structures (AMOS 18.0 version) were employed to test the adequacy of the hypothesized model and examine the interrelationships among parenting styles, academic self-efficacy, achievement motivation, and academic achievement. A one-way Multivariate Analysis of Variance (MANOVA) was also used to assess sex differences in the academic self-efficacy, achievement motivation, and academic achievement of students. The following major findings were evident in the study:

(1) With respect to the most predominantly practiced parenting style in Ethiopian families, although an authoritative parenting style was found to be the most commonly employed parenting style for the overall sample of the study, Ethiopian parents adopted different parenting styles on the basis of the sex of their late adolescent and young adult children. Specifically, an authoritative parenting style was found to be the most commonly adopted parenting style for daughters but a neglectful parenting style was found to be the most predominantly practiced parenting style for sons.

(2) The proposed integrated parental and social-cognitive model of academic achievement of undergraduate first year students in Ethiopia was found to fit adequately the empirical data for both the overall sample and the sub-samples female and male students. Although the proposed model explained low variance in academic achievement for both overall sample and the sub-samples of the female and male students (i.e., explained 5% and 3% of the variances in academic achievement for the overall sample and the sub-samples of the female and male students, respectively), the model was found to be applicable to
explain the academic performance of college/university students in the Ethiopian cultural context.

(3) The hypotheses postulated by the integrated parental and social-cognitive model of academic achievement were partially confirmed. More specifically,

(i) Irrespective of the sex of students, parenting styles had a strong positive direct effect on academic self-efficacy of students, indicating that both female and male students from authoritative families had significantly higher academic self-efficacy than their counterparts from non-authoritative families.

(ii) Students’ sex moderated the direct effects of parenting styles on achievement motivation and academic achievement. That is, parenting styles had a significant and positive direct effect on the achievement motivation for female students but not for male students, suggesting that female students who perceived their parents as authoritative had significantly higher achievement motivation than their counterparts who characterized their parents as non-authoritative. In contrary to the hypothesis, although the effect is very weak, parenting styles had a significant and negative direct effect on the academic achievement of male students, showing that male students who rated their parents as non-authoritative had significantly higher academic achievement compared to their counterparts who perceived their parents as authoritative. Furthermore, in contrary to the hypothesis, parenting styles did not have a significant direct effect on the academic achievement of female students.

(iii) Regardless of the sex of students, parenting styles had a significant and positive mediated effects (i.e., via academic self-efficacy) on achievement motivation, indicating that both female and male students who described their parents as authoritative had higher academic self-efficacy than their counterparts who characterized their parents as non-authoritative, and in turn they had higher achievement motivation.

(iv) Students’ sex also moderated the mediated effects of parenting styles on academic achievement. Specifically, parenting styles had a significant and positive mediated effect (i.e., via., achievement motivation) on the academic achievement of female students, with female students who perceived their parents as authoritative were found to have higher achievement motivation when compared to their counterparts who rated their parents as non-
authoritative, and in turn they had higher academic achievement. Similarly, parenting styles had a significant and positive mediated effect (i.e., via., academic self-efficacy) on the academic achievement of male students, such that male students who rated their parents as authoritative were found to have higher academic self-efficacy when compared to their counterparts who perceived their parents as non-authoritative, and in turn they had higher academic achievement.

(v) In line with the hypotheses, regardless of students’ sex, academic self-efficacy had a significant and positive direct effect on achievement motivation, suggesting that both female and male students who were academically highly self-efficacious were found to have higher achievement motivation.

(vi) Students’ sex moderated the direct effect of academic self-efficacy on academic achievement. That is, only for male students, but not for female students, academic self-efficacy had a significant and positive direct effect on academic achievement, such that male students who had higher academic self-efficacy were found to have significantly higher academic achievement than their counterparts.

(vii) In supporting the expectations, academic self-efficacy had a significant and positive mediated effect (i.e., via., achievement motivation) on the academic achievement of both female and male students.

(viii) Finally, consistent to the hypotheses, achievement motivation had a significant and positive direct effect on the academic achievement of both female and male students.

(4) With regard to the differences in the academic self-efficacy, achievement motivation, and academic achievement of students as a function of their sex, the results of this study revealed that although there were significant sex differences in the academic achievement of students (i.e., favouring male students), the academic self-efficacy and achievement motivation of students did not differ significantly as a function of their sex.

(5) With respect to the levels of academic self-efficacy, achievement motivation, and academic achievement of undergraduate first year university students in Ethiopia, the results of the current study discovered that although students had higher levels of academic self efficacy and achievement motivation, the levels of their academic achievement was low or below average.
6.2. Conclusions

Based on the results of the current study, the following conclusions are drawn:

With respect to the most commonly practiced parenting style in Ethiopia, although an authoritative parenting style is the most commonly practiced parenting style in the families of Ethiopia, there is a difference in parenting styles based on the sex of late adolescent and young adult children. Specifically, authoritative parenting style is predominantly employed parenting style for daughters. However, unfortunately, a neglectful parenting style is the most commonly adopted parenting style for sons. Even if there is support in previous research (Kassahun, 2005) for the predominance of neglectful parenting style for sons, it is too early to conclude that this type of parenting style is commonly adopted for sons in the Ethiopian cultural context. This is because, as noted by several researchers (e.g., Atsede, 1994; Ringess & Gander, 1974; Seleshi, 1998; Seleshi & Sentayehu, 1998; Teshome, 1976), Ethiopian parents attach very high values to their children in the hope that they will provide social, economic, and psychological support for their parents especially when they become older, and to ensure the continuity of family lineage. If so, Ethiopian parents are not expected to employ the parenting style (i.e., neglectful parenting style) which is entirely associated with negative developmental outcomes of the children in rearing their sons. Therefore, it is recommended that future research should investigate this issue.

Regarding the fitness of the proposed integrated parental and social cognitive model of academic achievement, the model fits adequately the empirical data for both the overall sample and the sub-samples female and male students. Although the model explained a small amount of variance (i.e., the variance that is lower than one would expect) in the academic performance of students, the results of the present study provide partial support for the model, and thus it would appear to be applicable in the Ethiopian cultural context. When the moderating role of students’ sex in the relationships (i.e., direct and/or indirect relationships) between parenting styles, academic self-efficacy, achievement motivation, and academic achievement are concerned, the sex of students plays a crucial role in moderating the direct effects of parenting styles on achievement motivation and academic achievement, the direct effects of academic self-efficacy on academic achievement, and the mediated effects of parenting styles on academic achievement. With respect to the mediating roles of academic self-efficacy and
achievement motivation, academic self-efficacy plays a great role in mediating the effects of parenting styles on achievement motivation (i.e., regardless of students’ sex) and academic achievement (i.e., for male students). Achievement motivation plays a crucial role in mediating the effect of parenting styles on the academic achievement for female students and the effect of academic self-efficacy on the academic achievement for both female and male students.

With regard to the sex differences in academic self-efficacy, achievement motivation, and academic achievement, and the levels of students in these traits, although there are no significant differences among female and male students in their academic self-efficacy and achievement motivation, there are sex differences in their academic achievement, which is favouring male students. The results of the current study have also provided evidences that the undergraduate first year university students in Ethiopia who participated in this study have higher levels of academic self-efficacy and achievement motivation; however, they have low or below average academic performance, although they attain the required level of achievement. In connection with this, it is recommended that integrated and coordinated efforts should be exerted by the higher officials and staff of higher education institutions, parents, students themselves to design and implement timely intervention programs and strategies aimed at improving the academic achievement of students, in general, and female students, in particular.

Finally, it has been evidenced in the present study that parenting styles have similar effects on the different developmental outcomes of young people in a collectivistic culture, Ethiopia, as they have in Western countries, and Baumrind’s parenting styles have similar functions in both collectivistic and individualistic cultures. In addition, the results of the present study have provided support that regardless of their cultural contexts (i.e., individualistic or collectivistic culture), people can have high academic self-efficacy and achievement motivation. The current study has also provided evidence that the Amharic versions of the parenting styles, academic self-efficacy, and achievement motivation scales appear to be reliable instruments in the Ethiopian cultural context. Specifically, they have the potential to be employed to measure the parenting styles adopted by parents in rearing their late adolescent and young adult children and the academic self-efficacy and achievement motivation of students at higher education institutions, and examine the effects of these variables on academic achievement in the Ethiopian cultural context.
6.3. Limitations of the Study and Future Research

Although the results of this study provided support for the proposed integrated model, certain limitations should be acknowledged and kept in mind when interpreting the findings. First, the disproportionate sample sizes of the female and male students limit the generalizability of the results pertaining to the effects of the sex of students on their academic self-efficacy, achievement motivation, and academic achievement. Specifically, the sample size for the female students is relatively small when compared with the sample size for the male students. This disproportionate size of sample may have reduced the predictive power of the variables for the sex groups. As evidenced in this study, the sex group differences in the predominantly practiced type of parenting style as well as the interrelationships between or the effects of the predictor variables on criterion variables might be due largely to differential sample sizes. Therefore, future research should use proportionate sample size of the female and male students to make sound the generalizability of the results and improve the predictive power of the variables.

In addition, it is believed that the potential factors affecting academic achievement of students cannot be understood fully without considering and examining the ethnicity of the students because different ethnic groups of the country may have different sub-cultural values, traditions, customs, norms, and beliefs specifically associated with the importance of and achievement in education. It is imperative to examine whether or not the parenting styles practiced and the students’ academic, self-efficacy, achievement motivation, and academic achievement differ as a function of ethnicity. By understanding this, it was attempted in the current study to scrutinize the effects of ethnicity on the study variables (i.e., parenting styles, academic self-efficacy, achievement motivation, and academic achievement) by taking four ethnic groups (i.e., Amhara, Oromo, Tigre, and Wolayta ethnic groups) with large sample sizes in preliminary analysis. However, this was not possible. As mentioned in Chapter 4, Section 4.2., Sub-Section 4.2.2., due to disproportionate sample sizes of some ethnic groups (e.g., Oromo and Amhara ethnic groups) relative to the total population of these ethnic groups in the country, the findings obtained from these disproportionate sample sizes of the ethnic groups may not be dependable. It is worthwhile to note that the Oromo ethnic group is the number one populous ethnic group of the country, followed by the Amhara ethnic group (Central Statistical Agency, 2008), but in the current study,
this ethnic group was represented by very small sample compared to that of the Amhara ethnic group. It is important to examine the potential factors responsible for the academic achievement of students in light of ethnicity, particularly in a multiethnic country such as Ethiopia where access to and equity in education is under question. Therefore, future research should address this by using proportionate sample sizes from the largest and dominant ethnic groups (i.e., Oromo, Amhara, and Tigre) and some other minority ethnic groups of Ethiopia.

Second, as noted by some researchers (Crowne & Marlowe, 1960), a common concern of self-report data is social desirability (i.e., the bias in self-report data accounted for by respondents’ desire to look good, which is because of the respondents’ need for self-protection and social approval). Since the data for parenting styles, academic self-efficacy, and achievement motivation were collected using self-report questionnaires, the participants’ responses may have been influenced by social desirability. This, in turn, might have affected the predictive power of some independent variables on the criterion variables. In addition, it is to be acknowledged that, as mentioned above, the data for three scales (i.e., parenting styles, academic self-efficacy, and achievement motivation scales) were self-reported and therefore may carry all the known validity problems associated with this type of data. It is important to note that although late adolescent and young adult children can respond behaviorally and emotionally to their own perceptions of the parenting that they experience and their own academic self-efficacy and achievement motivation, what they experience and recall may differ from what is actually experienced in families with regard to their parents’ parenting styles and also their perceptions of their own academic self-efficacy and achievement motivation may differ from their actual academic self-efficacy and achievement motivation.

Third, the proposed and tested model in the current study did not control for prior achievement or ability level, as measured by the Ethiopian General Secondary Education Certificate Examination (EGSECE) results, university preparatory high school Grade-Point-Averages (GPAs), and the Ethiopian Higher Education Entrance Qualification Certificate Examination (EHEEQE) results. It would have been preferable to investigate the effects of the various components of the model of academic achievement of undergraduate first year university students with the effects of prior achievement or ability partialled out. Therefore, future research in this area should
include in the model and control for prior achievement or ability level, as measured by the Ethiopian General Secondary Education Certificate Examination (EGSECE) results, university preparatory high school Grade-Point-Averages (GPAs), and the Ethiopian Higher Education Entrance Qualification Certificate Examination (EHEEQCE) results.

Fourth, while Structural Equation Model (SEM) analyses were employed to test the proposed model of academic achievement, the current study did not use an experimental or longitudinal design, and thus it is inappropriate to make clear statements concerning causality. Future research, therefore, should use a longitudinal design and provide more insight into the causal relationships among the variables.

Fifth, it must be acknowledged that there can be several other factors which are likely to affect the academic performance of students because of the complex nature of academic achievement in higher learning institutions, although this study examined the effects of various key factors. Therefore, it would be important to include some of these factors into the model so as to better predict academic achievement. A first important factor to consider is prior achievement or ability as measured by the Ethiopian General Secondary Education Certificate Examination (EGSECE) results, university preparatory high school Grade-Point-Averages (GPAs), and the Ethiopian Higher Education Entrance Qualification Certificate Examination (EHEEQCE) results. This is because, although there are several factors affecting academic achievement of students in higher education institutions, the most relevant is prior achievement (Campbell, 2007; House, Hurst, & Keely, 1996; Ismail & Othman, 2006; Mathiasen, 1984; McKenzie & Schweiter, 2001; Zeegers, 2004). In addition, it is important to consider attitudes towards learning in future research because, as some researchers (Bakar et al., 2010; Pajares & Miller, 1994) reported, attitudes towards learning play a crucial role in affecting the academic achievement of students in higher learning institutions.

Furthermore, it is imperative to examine the academic self-concept of students because, as reported by both previous local research (Demewez, Mehadi, & Tesfaye, 2005) as well as international research (Choi, 2005; Cokley & Patel, 2007), academic self-concept is significantly and positively related to the academic achievement of college students. Still another important factor associated with students’ personal characteristics which needs to be considered in the future research is adjustment to higher learning institutions environment. This is because, as documented by some
previous international studies (Elias, Noordin, & Mahyuddin, 2010; Lent et al., 2009), university students’ adjustment to the college/university environment is regarded as a potential factor in predicting the academic achievement of students (i.e., if students are better adjusted to their higher learning institutions academic environment, they will be better in their academic performance). It would also be worthwhile to consider factors related to the educational institutions because, as documented by some previous international studies (Van den Berg & Hofman, 2005; York, 2004), factors related to educational institutions have strong effects on the academic performance of students.

Finally, since this study has been limited to regular undergraduate first year university students recruited from three higher education institutions (i.e., Addis Ababa University, Kotebe College of Teacher Education, and Wolayta Soddo University), the findings cannot be generalized to the students from the other higher education institutions. Since there are more than twenty five governmental higher learning institutions in Ethiopia, future research could move some steps forward to examine the potential factors affecting the academic performance of university students in Ethiopia by involving large number of governmental higher learning institutions.

6.4. Practical and Theoretical Contributions of the Study

Despite the aforementioned caveats, the results of this study have both practical and theoretical implications.

6.4.1. Practical Contributions of the Study

The findings of the current study have practical contribution for policy makers, higher learning institutions, parents, and students. That is, from the present findings they can know and understand that there are several factors which can affect the academic achievement of university students, of which parenting styles, academic self-efficacy, and achievement motivation are the crucial ones even if they jointly explained a small amount of variance in the current study. This knowledge and understanding will assist in the development of different strategies for timely interventions aimed at improving the academic success of university students, in general. Knowing and understanding the factors affecting academic achievement of students in higher education will enable higher learning institutions and policy makers to develop
strategies and techniques for intervention to maximise academic success in higher education. For example, higher learning institutions and policy makers can develop strategies and techniques on how students can adjust themselves personally and socially with the new learning environment and life of higher education institutions, how students can develop their study skills, and how students can get the facilities they need as well as how they can be supported when they encounter different types of problems which are associated with their studies.

The administrators of higher education institutions should have an understanding that they can have strong effects on students’ academic self-efficacy, achievement motivation, and academic achievement. Therefore, they can help to develop students’ aspirations, academic self-efficacy, achievement motivation, and academic achievement by providing all essential conditions which are instrumental for students’ success in higher learning institutions and a learning environment that is conducive and rich in high quality course curricula and offering challenges that can be met. In particular, teachers in higher education institutions can play a significant role in enabling students to nurture their academic self-efficacy and achievement motivation and thereby improve academic achievement by establishing and maintaining supportive and appealing pedagogical environments and employing the teaching and evaluation methodologies which are focused on students’ educational needs and overall development.

The findings of this study have important implications for parents, in particular to support the use of an authoritative parenting style in their child-rearing practices and facilitate the conditions which are essential to foster their children’s academic self-efficacy, achievement motivation, and academic achievement. The findings of this study would also help students to know and understand that their own personal characteristics (i.e., academic self-efficacy and achievement motivation) have significant roles in their academic achievement and consequently enable them to take timely measures to promote their academic self-efficacy and achievement motivation, and thereby improve their academic performance.

Particularly, to address the gender disparity in academic achievement, policy makers, higher learning institutions, parents, and other concerned bodies in Ethiopia should give attention to design interventions that focus on improving the academic achievement of female students in higher education by designing the strategies for
interventions early in the academic careers starting from elementary schools to better structure learning environments and support systems for these students. In particular, higher education institutions can play a vital role in rendering special assistance and support through their affirmative programs and gender offices to improve the academic achievement of female students. In addition, society, in general, and parents, in particular, should be encouraged to change their traditional beliefs, expectations, and attitudes towards females’ overall capabilities in their different developmental outcomes and academic achievement, in particular, and believe that females have equal potentials as males if conditions are favourable to them and they are given equal opportunities as males.

6.4.2. Theoretical Contributions of the Study

The findings of the present study have many theoretical contributions. First, the findings of this study enable us understand better the effects of parenting styles, self-efficacy, and achievement motivation on the academic achievement of university students and to contribute in expanding knowledge to theories in these fields. Specifically, the findings of the present study help us to understand that the theories of parenting styles, self-efficacy, and achievement motivation are applicable beyond Western, individualist countries – at least with regard to Ethiopia, and these traits have the same effects on the academic achievement of students in the collectivist African country, Ethiopia, as they do in the individualist countries such as the USA, Great Britain, Australia, Canada, the Netherlands, Italy, and most of the European countries. Second, the findings and implications of this study would have a great importance for theorists in the field of socialization to understand the parenting style predominantly practiced in Ethiopia, which will expand knowledge of the socialization of late adolescents and young adults in the Ethiopian cultural context. Finally, the findings and implications of the current study are critical for building previous research in the area, and fill a gap in empirical work since historically, studies in this area have mainly focused on Asian and Western countries and have excluded sub-Saharan Africa.
References


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Appendices

Appendix A. English Questionnaire

Edith Cowan University
School of Psychology and Social Science
Questionnaire for First Year University Students

The purpose of this questionnaire is to get some relevant information for the PhD research entitled “Effects of Parenting Styles, Academic Self-Efficacy, and Achievement Motivation on the Academic Achievement of University Students in Ethiopia” being conducted in Edith Cowan University, School of Psychology and Social Science, Australia. The prime purpose of the study is to examine the effects of parenting styles, academic self-efficacy, and achievement motivation on the academic achievement of first year university students in Ethiopia. The findings of this research are believed to be useful to improve the child-rearing practices being practiced in Ethiopia, and for designing intervention strategies and techniques for higher education institutions to enhance university students’ academic self-efficacy and achievement motivation. This should enable university students to be effective and successful in their higher education in particular and in their future life in general.

Therefore, the information and responses obtained from you are very important for this research to meet its prime objective. The study can be successfully accomplished only when you complete all the items honestly, frankly, and genuinely.

The information and responses obtained from you will be kept confidential and used only for the purpose of this research.

You are not required to write your name at any place in the questionnaire.

Thank You Very Much for Your Kind Cooperation!
Part I: Background Information (BGI)

**Direction:** The following are some items about your background information. In some of the items you are required to write the necessary information in the blank space provided but in others you are required to indicate your response by encircling the number of your appropriate answer(s).

1. ID. No.: ____________________
2. Department: ____________________
3. Sex: (1) Female (2) Male
4. Age: ______
5. Ethnicity: _____________
6. With whom are you living now?
   (1) With both father and mother
   (2) With father
   (3) With mother
   (4) With father and step mother
   (5) With mother and step father
   (6) With other relative (e.g., grand parents, aunts, uncle, etc.)
   (7) With foster parents who are no relatives
   (8) Others (specify):__________
7. Where do your parents or guardians reside?
   (1) Rural
   (2) Suburban
   (3) Urban
8. 1. Your father’s/male guardian’s level of education is:
   (1) No formal education
   (2) Primary/Junior secondary
   (3) Senior secondary
   (4) Certificate/Diploma
   (5) First degree and above
2. Your mother’s/female guardian’s level of education is:
   (1) No formal education
   (2) Primary/Junior secondary
   (3) Senior secondary
   (4) Certificate/Diploma
   (5) First degree and above
## Part II: Parenting Styles Scale (PSsS)

**Direction:** Please read each of the following statements carefully and for each item from 1-13, think about your parents'/guardians’ attitudes and behaviors in raising you, and rate them using the scale below by encircling the number that indicates the alternative which you believe best describes your response. Do not forget to respond for both your father/male guardian and mother/female guardian if you are living with both parents (two guardians).

<table>
<thead>
<tr>
<th>S.N°</th>
<th>Items</th>
<th>Father/Male Guardian</th>
<th>Mother/Female Guardian</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I trust my parents/guardians to help me out, if I have any kind of problems.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>2</td>
<td>My parents/guardians keep pushing (helping) me to do my best in what I do.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>3</td>
<td>My parents/guardians allow me to tell them if I think my ideas are better than theirs.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>4</td>
<td>My parents/guardians always speak to me with a warm and friendly voice (manner).</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>5</td>
<td>When my parents/guardians want me to do something, they explain why.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>6</td>
<td>When I get good grades in school/university, my parents/guardians praise me.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>7</td>
<td>When I get poor grades in school/university, my parents/guardians encourage me to work harder.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>8</td>
<td>My parents/guardians are interested in what I am learning at school/university.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>9</td>
<td>My parents/guardians are involved in my education (e.g., helping with assignments when asked and helping me in selecting courses or fields of study).</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>10</td>
<td>My parents/guardians know who my friends are.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>11</td>
<td>My parents/guardians spend time taking with me when there is an issue (a case) of interest.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>12</td>
<td>My parents/guardians enjoy staying home with me more than going out with friends.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
<tr>
<td>13</td>
<td>My parents/guardians give me a lot of care, attention, and support.</td>
<td>1 2 3 4</td>
<td>1 2 3 4</td>
</tr>
</tbody>
</table>
14. In a typical week, what is the latest time your parents/guardians allow you to stay out on school nights (Monday-Friday)?

<table>
<thead>
<tr>
<th></th>
<th>Your father/ Male guardian:</th>
<th>Your Mother/Female guardian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>As late as I want</td>
<td>As late as I want</td>
</tr>
<tr>
<td>2</td>
<td>9:00 P.M - Mid-night</td>
<td>9:00 P.M - Mid-night</td>
</tr>
<tr>
<td>3</td>
<td>7:00- 9:00 P.M</td>
<td>7:00- 9:00 P.M</td>
</tr>
<tr>
<td>4</td>
<td>Doesn’t allow me out</td>
<td>Doesn’t allow me out</td>
</tr>
</tbody>
</table>

15. In a typical week, what is the latest time your parents/guardians allow you to stay out during weekend (Non-school) nights (Friday, Saturday or Sunday)?

<table>
<thead>
<tr>
<th></th>
<th>Your father/ Male guardian:</th>
<th>Your Mother/Female guardian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>As late as I want</td>
<td>As late as I want</td>
</tr>
<tr>
<td>2</td>
<td>9:00 P.M - Mid-night</td>
<td>9:00 P.M - Mid-night</td>
</tr>
<tr>
<td>3</td>
<td>7:00- 9:00 P.M</td>
<td>7:00- 9:00 P.M</td>
</tr>
<tr>
<td>4</td>
<td>Doesn’t allow me out</td>
<td>Doesn’t allow me out</td>
</tr>
</tbody>
</table>

16. How much do your parents/guardians try to know exactly where you are and what you are doing?

<table>
<thead>
<tr>
<th></th>
<th>Your father/ Male guardian:</th>
<th>Your Mother/ Female guardian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Doesn’t try</td>
<td>Doesn’t try</td>
</tr>
<tr>
<td>2</td>
<td>Tries a little</td>
<td>Tries a little</td>
</tr>
<tr>
<td>3</td>
<td>Tries a lot</td>
<td>Tries a lot</td>
</tr>
</tbody>
</table>

17. How much do your parents/guardians try to know whether you go to school or not?

<table>
<thead>
<tr>
<th></th>
<th>Your father/ Male guardian:</th>
<th>Your Mother/ Female guardian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Doesn’t try</td>
<td>Doesn’t try</td>
</tr>
<tr>
<td>2</td>
<td>Tries a little</td>
<td>Tries a little</td>
</tr>
<tr>
<td>3</td>
<td>Tries a lot</td>
<td>Tries a lot</td>
</tr>
</tbody>
</table>

18. How much do your parents/guardians try to know what you do with your free time?

<table>
<thead>
<tr>
<th></th>
<th>Your father/ Male guardian:</th>
<th>Your Mother/ Female guardian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Doesn’t try</td>
<td>Doesn’t try</td>
</tr>
<tr>
<td>2</td>
<td>Tries a little</td>
<td>Tries a little</td>
</tr>
<tr>
<td>3</td>
<td>Tries a lot</td>
<td>Tries a lot</td>
</tr>
</tbody>
</table>

19. How much do your parents/guardians try to know where you are most afternoons after school?

<table>
<thead>
<tr>
<th></th>
<th>Your father/ Male guardian:</th>
<th>Your Mother/ Female guardian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Doesn’t try</td>
<td>Doesn’t try</td>
</tr>
<tr>
<td>2</td>
<td>Tries a little</td>
<td>Tries a little</td>
</tr>
<tr>
<td>3</td>
<td>Tries a lot</td>
<td>Tries a lot</td>
</tr>
</tbody>
</table>
20. How much do your parents/guardians try to know what you do with your money?

<table>
<thead>
<tr>
<th></th>
<th>Your father/ Male guardian:</th>
<th>Your Mother/ Female guardian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Doesn’t know</td>
<td>Doesn’t know</td>
</tr>
<tr>
<td>2.</td>
<td>Knows a little</td>
<td>Knows a little</td>
</tr>
<tr>
<td>3.</td>
<td>Knows a lot</td>
<td>Knows a lot</td>
</tr>
</tbody>
</table>

21. How much do your parents/guardians really know exactly where you are and what you are doing?

<table>
<thead>
<tr>
<th></th>
<th>Your father/ Male guardian:</th>
<th>Your Mother/ Female guardian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Doesn’t know</td>
<td>Doesn’t know</td>
</tr>
<tr>
<td>2.</td>
<td>Knows a little</td>
<td>Knows a little</td>
</tr>
<tr>
<td>3.</td>
<td>Knows a lot</td>
<td>Knows a lot</td>
</tr>
</tbody>
</table>

22. How much do your parents/guardians really know exactly whether you go to school or not?

<table>
<thead>
<tr>
<th></th>
<th>Your father/ Male guardian:</th>
<th>Your Mother/ Female guardian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Doesn’t know</td>
<td>Doesn’t know</td>
</tr>
<tr>
<td>2.</td>
<td>Knows a little</td>
<td>Knows a little</td>
</tr>
<tr>
<td>3.</td>
<td>Knows a lot</td>
<td>Knows a lot</td>
</tr>
</tbody>
</table>

23. How much do your parents/guardians really know exactly what you do with your free time?

<table>
<thead>
<tr>
<th></th>
<th>Your father/ Male guardian:</th>
<th>Your Mother/ Female guardian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Doesn’t know</td>
<td>Doesn’t know</td>
</tr>
<tr>
<td>2.</td>
<td>Knows a little</td>
<td>Knows a little</td>
</tr>
<tr>
<td>3.</td>
<td>Knows a lot</td>
<td>Knows a lot</td>
</tr>
</tbody>
</table>

24. How much do your parents/guardians really know exactly where you are most afternoons after school?

<table>
<thead>
<tr>
<th></th>
<th>Your father/ Male guardian:</th>
<th>Your Mother/ Female guardian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Doesn’t know</td>
<td>Doesn’t know</td>
</tr>
<tr>
<td>2.</td>
<td>Knows a little</td>
<td>Knows a little</td>
</tr>
<tr>
<td>3.</td>
<td>Knows a lot</td>
<td>Knows a lot</td>
</tr>
</tbody>
</table>

25. How much do your parents/guardians really know exactly what you do with your money?

<table>
<thead>
<tr>
<th></th>
<th>Your father/ Male guardian:</th>
<th>Your Mother/ Female guardian:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Doesn’t know</td>
<td>Doesn’t know</td>
</tr>
<tr>
<td>2.</td>
<td>Knows a little</td>
<td>Knows a little</td>
</tr>
<tr>
<td>3.</td>
<td>Knows a lot</td>
<td>Knows a lot</td>
</tr>
</tbody>
</table>
### Part III: Academic Self-Efficacy Scale (ASES)

**Direction:** Please read each of the following statements carefully and for each item, think about your beliefs regarding your competence and ability to be successful in university education and rate yourself using the scale below by encircling the number that indicates the alternative which you believe best describes your answer. Note that there is no right or wrong Answer.

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Items</th>
<th>(1) Strongly Disagree</th>
<th>(2) Disagree</th>
<th>(3) Agree</th>
<th>(4) Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I ask questions in class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>I participate in class discussion well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>I talk to my teachers and other university staff well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>4</td>
<td>I make friends at university well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>I understand university rules and regulations well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>6</td>
<td>I study very hard to perform well on assignments, tests, and examinations.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>I am good at research and writing papers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>I keep up well with required readings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>9</td>
<td>I understand my course materials very well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>10</td>
<td>If I have a problem in doing assignments and writing term papers I ask my friends and/or teachers.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>11</td>
<td>I take very good class notes.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td>I do well on assignments, test, and exams.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>13</td>
<td>I am a very good student.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>I usually do very well in university and academic tasks.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>15</td>
<td>I usually get the grades I want.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>16</td>
<td>I understand my teachers very well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17</td>
<td>I schedule and manage time efficiently to accomplish my tasks.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18</td>
<td>I find my university academic work interesting and absorbing (important).</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19</td>
<td>I meet my parents’ expectation of my grades.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>I usually get along with family members well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21</td>
<td>I usually get along with my friends very well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>
### Part V: Academic Motivation Scale (AMS)

**Direction:** Using the scale below, indicate to what extent each of the following items presently corresponds to one of the reasons why did you join university by encircling the number that best applies to you.

(1) Doesn’t Correspond At All   (2) Corresponds A Little   (3) Corresponds Moderately   (4) Corresponds A Lot   (5) Corresponds Exactly

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Why did you join university?</th>
<th>Doesn’t Correspond At All</th>
<th>Corresponds A Little</th>
<th>Corresponds Moderately</th>
<th>Corresponds A Lot</th>
<th>Corresponds Exactly</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Because I experience pleasure and satisfaction while learning new things.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>2</td>
<td>For the pleasure I experience when I discover new things never seen before.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>3</td>
<td>For the pleasure that I experience in broadening my knowledge in subjects which are useful to me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>Because my studies allow me to continue to learn about many things that interest me.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>5</td>
<td>For the pleasure I experience while surpassing myself in my studies.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>7</td>
<td>For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>Because university allows me to experience a personal satisfaction in my mission for excellence in my studies.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>9</td>
<td>For the intense feelings I experience when I am communicating my own ideas to others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>10</td>
<td>For the pleasure that I experience when I read interesting authors.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>11</td>
<td>For the pleasure that I experience when I feel completely absorbed by what certain authors have written.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>12</td>
<td>For the &quot;high&quot; feeling that I experience while reading about various interesting subjects.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>S. No</td>
<td>Why did you join university?</td>
<td>Doesn't Correspond</td>
<td>Corresponds At All</td>
<td>Corresponds A Little</td>
<td>Corresponds Moderately</td>
<td>Corresponds A Lot</td>
</tr>
<tr>
<td>-------</td>
<td>---------------------------------------------------------------------------------------------</td>
<td>--------------------</td>
<td>-------------------</td>
<td>---------------------</td>
<td>------------------------</td>
<td>-----------------</td>
</tr>
<tr>
<td>13</td>
<td>Because I think that a university education will help me better prepare for the career I have chosen.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>14</td>
<td>Because eventually it will enable me to enter the job market in a field that I like.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>15</td>
<td>Because university will help me make a better choice regarding my career orientation.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>16</td>
<td>Because I believe that a few additional years of education will improve my competence as a worker.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>17</td>
<td>To prove to myself that I am capable of completing my university degree.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>18</td>
<td>Because of the fact that when I succeed in university I feel important.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>19</td>
<td>To show myself that I am an intelligent person.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>20</td>
<td>Because I want to show myself that I can succeed in my studies.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>21</td>
<td>Because with only a high-school certificate I would not find a high-paying job later on.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>22</td>
<td>In order to obtain a more prestigious (high-status) job later on.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>23</td>
<td>Because I want to have &quot;the good life&quot; later on.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>24</td>
<td>In order to have a better salary later on.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>25</td>
<td>Honestly, I don't know; I really feel that I am wasting my time in university.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>26</td>
<td>I once had good reasons for going to college; however, now I wonder whether I should continue</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>27</td>
<td>I can't see why I go to university and frankly, I couldn't care less.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>28</td>
<td>I don't know; I can't understand what I am doing in university.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>
ክፍለ ሰወር፡-

አንድ ይታች-

አንፋር ወረቀት እስካል ወረቀት ውስጥ ያስለኔጉ የሚያስ平台上;

አስፋር ወረቀት እስካል ወረቀት ያስለኔጉ የሚያስ平台上 በይግፋ;

የወረቀት እስካል ወረቀት ያስለኔጉ የሚያስ平台上 ይታችና ሰለኔጉ የሚያስ平台上;

1. የአስፋር ወረቀት ያስለኔጉ ይታች-
2. ዯንብ/ሔግ- ያስለኔጉ ይታች-
3. ዯንብ- (1) እና (2) ይታች-
4. ወፋብ- ያስለኔጉ ይታች-
5. ከፋብስ-
6. ይታች ከፋብ ወር ከፋብስ/የፋብስ ይታች-
(1) ከፋብ ከፋብ ወር (6) ይሎች ከፋብ ወር ይታች-
(2) ከፋብ ወር (7) ይሎች ከፋብ ወር ይታች-
(3) ከፋብ ወር (8) ከፋብ ከፋብ ወር ከፋብ ወር ይታች-
(4) ከፋብ ከፋብ ወር (9) ከፋብ ከፋብ ወር ይታች-
(5) ከፋብ ከፋብ ወር ይታች-

7. ይታች ከፋብስ/የፋብስ ይታች-

(1) ከፋብ ከፋብ ወር ይታች-
(2) ከፋብ ከፋብ ወር ይታች-
(3) ከፋብ ከፋብ ወር ይታች-
(4) ከፋብ ከፋብ ወር ይታች-
(5) ከፋብ ከፋብ ወር ይታች-

8. ከፋብ ከፋብ ወር ይታች-

(1) ከፋቤት ወር ይታች-
(2) ከፋቤት ወር ይታች-
(3) ከፋቤት ወር ይታች-
(4) ከፋቤት ወር ይታች-
(5) ከፋቤት ወር ይታች-

2. ይታች ከፋብ ከፋብ ወር ይታች-

(1) ከፋቤት ወር ይታች-
(2) ከፋቤት ወር ይታች-
(3) ከፋቤት ወር ይታች-
(4) ከፋቤት ወር ይታች-
(5) ከፋቤት ወር ይታች-


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<tbody>
<tr>
<td>1.</td>
<td>የሚጠቀም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
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<td>2.</td>
<td>ያለው በልጭ/ልጭም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
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<td>3.</td>
<td>ያለው በልጭ/ልጭም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
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<td>4.</td>
<td>ያለው በልጭ/ልጭም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
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<td>5.</td>
<td>ያለው በልጭ/ልጭም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
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<td>6.</td>
<td>ያለው በልጭ/ልጭም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
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<td>7.</td>
<td>ያለው በልጭ/ልጭም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
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<td>8.</td>
<td>ያለው በልጭ/ልጭም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
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<tr>
<td>9.</td>
<td>ያለው በልጭ/ልጭም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
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<td>10.</td>
<td>ያለው በልጭ/ልጭም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
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<td>11.</td>
<td>ያለው በልጭ/ልጭም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
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<td>12.</td>
<td>ያለው በልጭ/ልጭም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
<td></td>
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<tr>
<td>13.</td>
<td>ያለው በልጭ/ልጭም ያለው በልጭ/ልጭም ከምinsiር ከምinsã</td>
<td></td>
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</tbody>
</table>
14. ከአይ ወንወት ወላ /ከ/ ይሉ እና እር/ ከአት ቃወ ፊል ከአማንባጭ/ወላ ይወ ለማ ምት ይህ؟
   1. ከአማንባጭ (ሮም ከአማንባጭ)-
      1. ከአህ ወላውም ለማ ዓርጋ
      2. ከአማን ዕት ከአማን ዓርጋ
      3. ከአማን ዕት ከአማን ዓርጋ
      4. ወላውም ከአምራወ ውስጥ ከአማንባጭ
   2. ከአማንባጭ (አት ከአማንባጭ)-
      1. ከአህ ወላውም ለማ ዓርጋ
      2. ከአማን ዕት ከአማን ዓርጋ
      3. ከአማን ዕት ከአማን ዓርጋ
      4. ወላውም ከአምራወ ውስጥ ከአማንባጭ

15. ከአይ ወንወት ወላውም ወላ/ከ/ ይሉ እና እር/ ከአማንባጭ/ወላ ይወ ለማ ምት ይህ ለፈረም ማስ ወንወት ወላ ይወ ለማ ምት ይህ?
   1. ከአማንባጭ (ሮም ከአማንባጭ)-
      1. ከአህ ወላውም ለማ ዓርጋ
      2. ከአማን ዕት ከአማን ዓርጋ
      3. ከአማን ዕት ከአማን ዓርጋ
      4. ወላውም ከአምራወ ውስጥ ከአማንባጭ
   2. ከአማንባጭ (አት ከአማንባጭ)-
      1. ከአህ ወላውም ለማ ዓርጋ
      2. ከአማን ዕት ከአማን ዓርጋ
      3. ከአማን ዕት ከአማን ዓርጋ
      4. ወላውም ከአምራወ ውስጥ ከአማንባጭ

16. ወላውም ወลาน እና እር/ ይወ ለማ ምት ይህ ወላ ይወ ለማ ምት ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወላ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወለ ይህ ወWare
19. ወልወካስ/ስ (እስራኤል/የት) ከተማው ከሆነ ዐታ/ለ/ማህ ከታ/ለ/ ከ-
የት ከራሱት/ስ ለማ ሁሉ ያተ- ከራሱት/ስ ለማ ሁሉ ያተ-
የት ከራሱት/ስ ለማ ሁሉ ያተ-

1. ከሆነ/ስ (ማወ: ከላሱት/ስ)- 2. ከሆነ/ስ (ለት: ከላሱት/ስ)-
1. ለማ ለማ ለማ ለማ 1. ለማ ለማ ለማ ለማ

20. ወልወካስ/ስ (እስራኤል/የት) ከረቡ/ስ የ-
የት ለማ ሁሉ ያተ-

1. ከሆነ/ስ (ማወ: ከላሱት/ስ)- 2. ከሆነ/ስ (ለት: ከላሱ tëት/ስ)-
1. ለማ ለማ ለማ ለማ 1. ለማ ለማ ለማ ለማ
2. ከሆነ የ-ነን የ-ነን የ-ነን 2. ከሆነ የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነሳን የ-ነን የ-ነን የ-ነን የ-ን Wilderness/Trip ከራሱት/ስ ለማ ሁሉ ያተ-

21. ወልወካስ/ስ (እስራኤል/የት) ከት-
የት ለማ ሁሉ ያተ-

1. ከሆነ/ስ (ማወ: ከላሱት/ስ)- 2. ከሆነ/ስ (ለት: ከላሱት/ስ)-
1. ለማ ለማ ለማ ለማ 1. ለማ ለማ ለማ ለማ
2. ከሆነ የ-ነን የ-ነን የ-ነን 2. ከሆነ የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ን የ-ነን የ-ነን የ-ን Wilderness/Trip ከራሱት/ስ ለማ ሁሉ ያተ-

22. ወልወካስ/ስ (እስራኤል/የት) ከት-
የት ለማ ሁሉ ያተ-

1. ከሆነ/ስ (ማወ: ከላሱት/ስ)- 2. ከሆነ/ስ (ለት: ከላሱት/ስ)-
1. ለማ ለማ ለማ ለማ 1. ለማ ለማ ለማ ለማ
2. ከሆነ የ-ነን የ-ነን የ-ነን 2. ከሆነ የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ን Wilderness/Trip ከራሱት/ስ ለማ ሁሉ ያተ-

23. ወልወካስ/ስ (እስራኤል/የት) ከት-
የት ለማ ሁሉ ያተ-

1. ከሆነ/ስ (ማወ: ከላሱት/ስ)- 2. ከሆነ/ስ (ለት: ከላሱት/ስ)-
1. ለማ ለማ ለማ ለማ 1. ለማ ለማ ለማ ለማ
2. ከሆነ የ-ነን የ-ነን የ-ነን 2. ከሆነ የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ነን የ-ን Wilderness/Trip ከራሱት/ስ ለማ ሁሉ ያተ-

24. ወልወካስ/ስ (እስራኤል/የት) ከት-
የት ለማ ሁሉ ያተ-

1. ከሆነ/ስ (ማወ: ከላሱት/ስ)- 2. ከሆነ/ስ (ለት: ከላሱት/ስ)-
1. ለማ ለማ ለማ ለማ 1. ለማ ለማ ለማ ለማ
2. ከሆነ የ-ነን የ-ነን የ-ን Wilderness/Trip ከራሱት/ስ ለማ ሁሉ ያተ-
3. ከሆነ የ-ነን የ-ነን የ-ን Wilderness/Trip ከራሱት/ስ ለማ ሁሉ ያተ-
25. የአድርትም ከ (አንወ ከአድርትም) ዝልኝ/ን የሆኔ የ"ም ከተሶም ያርሱት/ንሆ ከርስትም ያህ ውድ ፉት-ቃል?

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ከፍሌ ነበሩ፡- መጠየቁት ይህ ይህ ውስጥ ወይም ውስጥ

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March 25, 2009
Ref. No: ECU/SPSS/2503/2009

Addis Ababa University
P. O. Box: 1176
Addis Ababa, Ethiopia

Subject: Request for Cooperation to Conduct PhD Research on Factors Affecting Academic Achievement of University Students.

In recent years researchers in the field of education and psychology have drawn a great attention to examine the factors associated with the academic performance of university students because of its theoretical and practical significance. Theoretically, the identification of these factors would shed light on students’ behaviours in higher education and, practically, these factors could assist higher education institutions in reducing both academic and persistence risks for the students and maximizing their academic performance by focusing on key areas for developmental intervention.

As part of this research, an Ethiopian student at Edith Cowan University, School of Psychology and Social Science, Australia, Abesha Ayele Gota, who is studying for his Doctor of Philosophy (PhD) in Psychology under my supervision, is conducting a research project on “Effects of Parenting Styles, Academic Self-Efficacy, and Achievement Motivation on the Academic Achievement of University Students in Ethiopia” and Addis Ababa University is one of the higher education institutions in Ethiopia we are inviting to take part in this study. As the part of the study, he will administer a questionnaire to a sample of first year students and will access their Grade
Point Averages (GPAs) from the Registrar’s Office of your university. The participation of students’ in the study is voluntary and their permission to access their Grade- Point-Averages (GPAs) will be obtained through the informed consent form. The information obtained will be used only for the purpose of this research and remain confidential, to the extent allowed by law.

It is expected that this study will generate new insights and wisdom and lead to relevant recommendations for possible strategies and techniques for intervention to maximise the academic success of students at higher education institutions. The purpose of this letter, therefore, is to request your cooperation and support to conduct the proposed research in your university, assist the researcher in recruiting and inviting the students to participate in the study, and permit him to access students’ Grade Point Averages (GPAs) from the Registrar’s Office. The problems associated with the academic performance of university students in general and first year students in particular are the challenges of all higher learning institutions in all nations and thus seek a prodigious attention and efforts to curve the problems. It is my anticipation that the proposed study will come up with realistic and practical strategies for intervention that may help in meeting these challenges. Your cooperation and assistance with the project would be much appreciated.

Warmest Regards,

Dr. Justine Dandy

Telephone: (61 8) 6304 5105
Facsimile: +61 8 6304 5834
E-mail: j.dandy@ecu.edu.au
Appendix D. A Letter of Cooperation to Kotebe College of Teacher Education

March 25, 2009

Ref. No.: ECU/SPSS/2503/2009

Kotebe College of Teacher Education
P. O. Box: 31248
Addis Ababa, Ethiopia

Subject: Request for Cooperation to Conduct PhD Research on Factors Affecting Academic Achievement of University Students.

In recent years researchers in the field of education and psychology have drawn a great attention to examine the factors associated with the academic performance of university students because of its theoretical and practical significance. Theoretically, the identification of these factors would shed light on students’ behaviours in higher education and, practically, these factors could assist higher education institutions in reducing both academic and persistence risks for the students and maximizing their academic performance by focusing on key areas for developmental intervention.

As part of this research, an Ethiopian student at Edith Cowan University, School of Psychology and Social Science, Australia, Abesha Ayele Gota, who is studying for his Doctor of Philosophy (PhD) in Psychology under my supervision, is conducting a research project on “Effects of Parenting Styles, Academic Self-Efficacy, and Achievement Motivation on the Academic Achievement of University Students in Ethiopia” and Kotebe College of Teacher Education is one of the higher education institutions in Ethiopia we are inviting to take part in this study. As the part of the study,
he will administer a questionnaire to a sample of first year students and will access their Grade Point Averages (GPAs) from the Registrar’s Office of your college. The participation of students’ in the study is voluntary and their permission to access their Grade- Point- Averages (GPAs) will be obtained through the informed consent form. The information obtained will be used only for the purpose of this research and remain confidential, to the extent allowed by law.

It is expected that this study will generate new insights and wisdom and lead to relevant recommendations for possible strategies and techniques for intervention to maximise the academic success of students at higher education institutions. The purpose of this letter, therefore, is to request your cooperation and support to conduct the proposed research in your college, assist the researcher in recruiting and inviting the students to participate in the study, and permit him to access students’ Grade Point Averages (GPAs) from the Registrar’s Office. The problems associated with the academic performance of university students in general and first year students in particular are the challenges of all higher learning institutions in all nations and thus seek a prodigious attention and efforts to curve the problems. It is my anticipation that the proposed study will come up with realistic and practical strategies for intervention that may help in meeting these challenges. Your cooperation and assistance with the project would be much appreciated.

Warmest Regards,

Dr. Justine Dandy

Telephone: (61 8) 6304 5105
Facsimile: +61 8 6304 5834
E-mail: j.dandy@ecu.edu.au
March 25, 2009

Wolayta Soddo University
P. O. Box: 128
Wolayta Soddo, Ethiopia

Subject: Request for Cooperation to Conduct PhD Research on Factors Affecting Academic Achievement of University Students.

In recent years researchers in the field of education and psychology have drawn a great attention to examine the factors associated with the academic performance of university students because of its theoretical and practical significance. Theoretically, the identification of these factors would shed light on students’ behaviours in higher education and, practically, these factors could assist higher education institutions in reducing both academic and persistence risks for the students and maximizing their academic performance by focusing on key areas for developmental intervention.

As part of this research, an Ethiopian student at Edith Cowan University, School of Psychology and Social Science, Australia, Abesha Ayele Gota, who is studying for his Doctor of Philosophy (PhD) in Psychology under my supervision, is conducting a research project on “Effects of Parenting Styles, Academic Self-Efficacy, and Achievement Motivation on the Academic Achievement of University Students in Ethiopia” and Wolayta Soddo University is one of the higher education institutions in Ethiopia we are inviting to take part in this study. As the part of the study, he will administer a questionnaire to a sample of first year students and will access their Grade Point Averages (GPAs) from the Registrar’s Office of your university. The participation of students’ in the study is voluntary and their permission to access their Grade-
Averages (GPAs) will be obtained through the informed consent form. The information obtained will be used only for the purpose of this research and remain confidential, to the extent allowed by law.

It is expected that this study will generate new insights and wisdom and lead to relevant recommendations for possible strategies and techniques for intervention to maximise the academic success of students at higher education institutions. The purpose of this letter, therefore, is to request your cooperation and support to conduct the proposed research in your university, assist the researcher in recruiting and inviting the students to participate in the study, and permit him to access students’ Grade Point Averages (GPAs) from the Registrar’s Office. The problems associated with the academic performance of university students in general and first year students in particular are the challenges of all higher learning institutions in all nations and thus seek a prodigious attention and efforts to curve the problems. It is my anticipation that the proposed study will come up with realistic and practical strategies for intervention that may help in meeting these challenges. Your cooperation and assistance with the project would be much appreciated.

Warmest Regards,

Dr. Justine Dandy

Telephone: (61 8) 6304 5105
Facsimile: +61 8 6304 5834
E-mail: j.dandy@ecu.edu.au
INFORMATION LETTER TO PARTICIPANTS OF THE STUDY

Effects of Parenting Styles, Academic Self Efficacy, and Achievement Motivation on the Academic Achievement of University Students in Ethiopia

March 25, 2009

Dear Research Participant,

I am a Doctor of Philosophy (PhD) student in Psychology at Edith Cowan University, School of Psychology and Social Science, Australia. I am conducting a research on “Effects of Parenting Styles, Academic Self-Efficacy, and Achievement Motivation on the Academic Achievement of University Students in Ethiopia” for my PhD in the field of Developmental Psychology under the direction and supervision of Dr. Justine DANDY. The prime purpose of the study is to examine the effects of parenting styles, academic self-efficacy, and achievement motivation on the academic achievement of first year university students in Ethiopia. This research project is being undertaken as part of the requirements of a PhD at Edith Cowan University. The project has been approved and permitted to be conducted by the Edith Cowan University Human Research Ethics Committee.

Therefore, you are asked to indicate your willingness to participate in the study and permit to access your Grade-Point-Averages (GPAs) from the Registrar’s Office by signing on the consent form on next page. Your participation in the study will involve completing the self-report questionnaire and permitting to access your Grade-Point-
Averages (GPAs) from the Registrar’s Office. Your time commitment to complete the questionnaire will be approximately 40-60 minutes. You can give your informed consent freely and voluntarily and you have full right to refuse to participate or to withdraw from participation in study at any stage, there will be no penalty (i.e., it will not affect your grades). The information you provide will remain confidential, to the extent allowed by law.

The results of the research study may be published; no individual responses will be reported (i.e., only group findings will be reported). Your assistance with this research would be much appreciated.

With Regards,

Ayele Gota ABESHA
PhD Student in Psychology
Edith Cowan University
School of Psychology and Social Science
Joondalup Campus, WA 6027
Australia

*N.B: If you have any questions or require any further information about the research project, please contact me at Phone N°: +251 911 673082 (Mobile) when I am in Ethiopia and +61 405 249380 (Mobile) when I am in Australia or you can contact me via e-mail address: abesha.ayele@yahoo.com.au or my principal supervisor: Dr. Justine DANDY, School of Psychology and Social Science, Edith Cowan University, Australia via Phone N°: +61 8 6304 5105 or e-mail address: j.dandy@ecu.edu.au.

*N.B: If you have any concerns or complaints about the research project and wish to talk to an independent person, you may contact: Research Ethics Officer, Edith Cowan University, 100 Joondalup Drive, JOONDALUP WA 6027 or via Phone N°: +61 8 6304 2170 and Email: research.ethics@ecu.edu.au
INFORMED CONSENT FORM

Effects of Parenting Styles, Academic Self Efficacy, and Achievement Motivation on the Academic Achievement of University Students in Ethiopia

Please Give Your Informed Consent Below.

I have read the information regarding this research and I have been informed about all aspects of the study. I understand that there is no known risk or discomfort involved if I agree to participate in this study and give permission to the researcher to access my Grade-Point-Averages (GPAs) from the Registrar’s Office in understanding that the data obtained will be confidential and I will not be identified in any way.

I give my informed consent to participate in the above study and permit the researcher to access my Grade-Point-Averages (GPAs) from the registrar’s office.

Signature: ___________________________ Date: ________________

Thank You Very Much for Participating in This Important Study!