ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

Perceived Academic Competence,Motivational Orientations and Academic Achievement of Junior and High School Students in Bahir Dar Administrative Zone: A Self-Determination Approach.

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ABSTRACT

The major concern of this study was to examine relationships among students' perceived academic competence, motivational orientations and academic achievement; investigate whether the variables jointly influence and predict academic achievement and to see grade and sex differences in students' perceived academic competence, intrinsic, extrinsic and amotivation variables. A total of 750 participants (398 males and 361 females) from grade 6, 8, and 10 were involved in the study. A questionnaire was used to gather data about students' perceived academic competence and motivational orientations. Students' first semester average academic scores (academic achievement) were collected from rosters of respective schools record offices. Correlation, multiple regression, and Two Way ANOVA were used for analysis. Results obtained through correlation displayed that perceived academic competence significantly correlated with academic performance at the three grade levels. Self determined and motivational orientation also correlated significantly with academic achievement at grade 10. Multiple regression analysis revealed that perceived academic competence and amotivation had statistically direct effects in predicting academic achievement respectively for the three grade levels. Extrinsic motivation also had a direct negative predicting effect for grade 8 and 10 students. The proportion of academic achievement variance accounted for by the independent variables decreased as grade level increases. Analysis of ANOVA also indicated that the grade main effect found to be statistically significant for perceived academic competence intrinsic, extrinsic and amotivation variables. The sex and grade-sex interaction were significant in perceived academic competence, intrinsic, extrinsic and academic achievement variables.

Finally it was concluded that self determined students and students who have higher perception of academic competence would score higher in academic achievement. Implications are discussed and recommendations are also forwarded.

CHAPTER ONE

1.1. BACKGROUND

Academic achievement is a function of a host of factors. There are different theories today explaining these factors. For example, mastery motivation (Harter, 1981) ,efficacy motivation (Bandura, 1977, 1986; Schunk, 1989, 1991), task motivation (Nicholls, 1984), attribution motivation (Weiner, 1984) and goal orientation (Shraw et al., 1995). One of the popular theories in the field of education is self-determination theory (Deci & Ryan, 1985; 1991& 2000). According to this theory academic achievement is influenced by perceived academic competence, intrinsic, extrinsic and amotivation orientations. The theory states that these orientations are sufficiently powerful to predict behavior in an important real life domain, namely education. Therefore, it is important to make a close investigation how these variables relate to academic achievement of junior and high school students of Ethiopia. Because a number of studies are conducted in Western countries as an antecedents of academic achievement in schools and the findings replicated that students with high self-determined motivational orientations demonstrate high academic achievement. One can argue that this issues might be affected by culture and there is a need to study in the context of the Ethiopia culture where there little supportive environment for autonomy.

The development of competence holds great interest for parents, educators, researchers and society alike. It is critical to the future of a given society that its children become competent adults and productive citizen. Therefore, it seems important or worth investigating students perception of competence in accomplishing academic tasks successfully at different junior and high school grade levels of students in a developing county like Ethiopia.

More recently, apart from the traditional distinction of motivation in to intrinsic and extrinsic, self-determination motivation (Deci & Ryan, 1985, 1991; Ryan & Deci, 2000; Deci et al., 1991) emerged to study the whole spectrum of motivation under the

umbrella of self-determination and postulated that a complete understanding of human behavior in education must go beyond the study of intrinsic motivation alone, and include a profound analysis of motivational forces in operation.

Central to self-determination theory, on motivational issues is the concept of basic psychology needs that are assumed inherent and universal in human life. These needs are needs for competence, relatedness and autonomy or self-determination must be satisfied for people to develop and function in a healthy or optimal ways (Deci & Ryan, 2000; Vallerand & Bissionnette, 1992). With respect to self-determined and controlled types of intentional regulatory processes of motivated action in education findings (Deci & Ryan, 1991; Ryan & Deci, 2000; Deci et al., 1991; Vallerand & Bissonnette, 1992, Vallerand et al., Pellitier et al.,1995., Blaise et al., 1990) show that Self-determined intrinsic, extrinsic motivational orientation in education influence learning and subsequent achievement out of interest, internalizing values and regulatory processes, which are known to be manifestations of high quality learning and conceptual understanding. Based on the regulatory styles self-determination theorists posited that academic behavior can be intrinsically or extrinsically motivated or amotivated.

In our context no conclusive research investigations to date is conducted on self-determination motivation orientations. Therefore it seems important to understand the different types of intrinsic, extrinsic and amotivation orientations and what fosters each of them is an important issue for educators, practitioners, teachers and parents who cannot always rely on intrinsic motivation to foster learning. Many of the tasks that educators want their students to perform are not inherently interesting or enjoyable, knowing how to promote more active or controlling forms of extrinsic motivation become an essential strategy for successful teaching.

The relation between gender, motivation and grade level are also reported to be significant and independent contributors to academic persistence (Vallerand & Bissonnette, 1992). Therefore, it needs further investigations in the context of Ethiopia.

The theoretical framework for conceptualizing students' motivational orientations is based on self-determination theory model of motivational analysis (Deci & Ryan, 1985, 1991, Deci et. al, 1991; Ryan & Deci, 2000; Vallerand & Bissonnette, 1992; Vallerand et. al., 1992; 1993) and is adopted for the present study. The model proposes that intrinsic, extrinsic and amotivation orientations affect student performance.

Apart from the investigations conducted, the relationships among the aforementioned variables, other studies revealed inconsistent findings. For instance, the developmental pattern of student's perception of competence was studied by Stipek (1988) and concluded that it declines with grade level or overtime in school. On the other hand, Harter (1982) indicated that students' self-assessed competence grows more impressive as they mature from early-elementary into late-elementary and high school years. Harter (1981) and Eccles et. al. (1984) found that student's intrinsic motivation declines with increasing grade level.

Another area of interest that affects motivational orientation and achievement is culture. Social-cultural factors play their roles in making certain behavioral options more important and acceptable than others. One's culture appears to affect achievement not only by defining what success and failure means (Maehr & Nicholls, 1980) but also by delineating how success and failure should be pursued (Fyans et al., 1983).

In line with the relationship between culture and motivation, inconsistent findings were observed. According to Kohn (1997) cultures differ in their definitions of novelty, hazard, opportunity, and gratification, and in their definition of appropriate responses. Thus, the response a student has to a learning activity reflects his or her culture.

On the other hand Ryan & Deci (2001) and Sheldon et al., (2001) claim that although there are considerable surface diversity in cultural goals and values, nonetheless there exist certain universal or invariant aspect of human nature in the

form of basic developmental tendencies. These writers argue that people from all cultures share basic psychological needs for autonomy, competence and relatedness.

This socio-cultural orientation of Ethiopian society seems not reflect the assertion proposed by self-determination theory that mainly emphasize individualism and autonomy (Belay, 1999). Therefore, it needs further investigation to see the motivational orientations of school students in our context.

In sum, these inconclusive or inconsistent research findings with respect to the development of perceived academic competence and motivational orientations indicate the need for further investigations of these variables since they are closely related to school achievement.

Although different investigators, indicated that student's perception of academic competence and motivational orientations are strongly related to school achievement and their developmental trends are inconclusive and need further research, the exploration of the relationships between these variables and the investigations of their developmental patterns among junior and high school students of developing countries like Ethiopia have been limited. In Ethiopian context, where there exists cultural diversity, the issue has received little or no research attentions. The present study, therefore, focuses on important and unexplored research questions, which have implications to teaching learning process, especially at junior and high school levels.

1.2. Statement of the Problem

The present study, therefore, focuses on important and unexplored research questions, which have implications to teaching learning process, especially at junior and high school levels. The following basic research questions are the concern of this study.

1. How are perceived competence and motivational orientations (intrinsic, extrinsic and amotivation styles) relate to students academic achievement ?
2. What does this relationships look like across grade levels?
3. Do perceived academic competence intrinsic, extrinsic and amotivation

variables jointly influence or predict students' academic achievement?

4. Are there grade and sex differences in students' perceived academic competence, intrinsic, extrinsic and amotivation variables?

1.3. Operational Definitions

The definitions of major terms that are used in this study are given below.

Perceived Academic Competence- refers to how a student believes the extent to which he or she posses the ability to do well in the academic work. For example students select and express more positive affect when working on tasks that are optimally challenging. If tasks are too easy, students tend to be bored; if too hard, they tend to be anxious. Therefore optimally challenging tasks are possible to master and succeeding at them leaves the student feeling competent.

Intrinsic Motivation- It is performing school activities for the pleasure and satisfaction derived from student participation in the academic work. When students do classroom activities, homework, study subjects they are learning in order to know more about the contents, because they find it interesting and are receiving no reward for doing it, they are considered to be intrinsically motivated.

Extrinsic motivation- Performing school activities for external reasons that is out of the school work, homework, participation in class discussions to attain an external consequence, such as earning money, receiving a good grade on an exam, getting approval of the teacher or parents, this students are externally motivated.

Amotivation- refers to a relative absence of student intentional actions neither in the form of intrinsic nor extrinsic motivation. These students are careless about their learning, they do not know the reasons why they are learning, spend their time, and earn low grades in school.

Motivational orientations-concerns the underlying attitudes and goals that give rise to action that is the why of actions, which include intrinsic, extrinsic and amotivation styles (Ryan & Deci, 2000).

Academic Achievement- Students' average score of the first semester final examination of school subjects in grade 6, 8 and 10 in the year 2003-2004.

1.4. Significance

As it is mentioned, little or nothing is known about the developmental patterns of perceived academic competence and motivational orientations (intrinsic, extrinsic and motivational variables), and their empirical relationships with each other, and academic achievement have not yet been explored among junior and high school students in Ethiopia . The present study, therefore, will have the following theoretical and practical contributions.

1. The study will have some contributions in the sense that the results could shed some light on the problem mentioned above.
2. Additional information could be found concerning the appropriateness of the AMS in cross-cultural studies.
3. The study may make teachers aware of the importance of student's perception of competence and motivational orientations in the teaching-learning process. It may help teachers identify instructional methods that enhance students' perception of academic competence and motivational regulatory processes.
4. It may illuminate light on the employment of the Academic Motivation Scale (AMS) for different purposes, such as predication of academic success and guidance and counseling services.
5. Educational decision makers may make use of the results of this study in support of the teaching learning process.

6. Students are also the beneficiaries of the results of this study. The outcome of the study may help students give attention to their motivational orientations and academic competence which are said to be important in learning.
7. The study may also help as a basis for further research in the area.

1.5. Delimitation

The study was delimited to students of grade6, 8 and 10. The study was conducted in Bahir Dar administrative zone junior and secondary schools. Bahir Dar was selected as an area of this study, because to make the study manageable relative to the time constraint and minimize the problems of some intervening variables. This Study was also delimited to see effects of perceived academic competence, intrinsic, extrinsic and amotivation orientations on academic achievement.

CHAPTER TWO

REVIEW OF RELATED LITRATURE

2.1. The Nature and meaning of Motivational Orientations: An over view.

The term motivation is used by educators to describe the process of initiating, directing, and sustaining goal oriented behavior. Motivation is a construct involving many factors that affect an individual's choice of action and persistence in completing tasks and shows the reasons why people engage in a particular behavior.

Theories of motivation such as behavioral humanistic and cognitive perspectives that highlighting different reasons for sustained goal oriented behavior have been proposed. These different orientations have dominated teacher's traditional thinking about motivation. The behavioral theory of motivation suggests that an important reason for in engaging in the activity is that reinforcement follows the action. If the reinforcement is controlled external to the individual then the motivation is extrinsic. In contrast, behavior may also be initiated and sustained for intrinsic reasons such as curiosity or mastery. This approach view motivation in terms of intensity and duration of behavior. For instance the student who works harder and longer on a task is perceived as more motivated than the student who fails to expend similar energy and persistence and finding appropriate incentives or reinforces to maintain task behavior is an important aspect of this approach (Dembo, 1994).

Another orientation drives from the work by Atkinson (1964) and McClelland (1965), who view motivation as unconscious drive or need that is socialized early in child's life. This view closely relates motivation with the study of personality and from this perspective, responsibility for increased academic involvement rests with students. Since motivation is strongly influenced by child-rearing experiences, teachers are limited in what they can do to change achievement motivation. In this respect, Dembo (1994) states that teachers often complain about student's family backgrounds and lament over them.

Still another orientation comes from Humanistic approaches to motivation that concerned with the social and psychological needs of individuals. According to this perspective, humans are motivated to engage in behavior to meet these needs. The founder of humanistic psychology, Abraham Maslow, proposes that there is a hierarchy of needs that directs behavior, beginning with physiological and safety needs and progressing to self-actualization. Other important needs that influence motivation are the need for affiliation and belongingness with others, recognition, status, competence, achievement and autonomy.

The dominant view of motivation in educational psychology literature is the cognitive approach. This set of theory proposes that our belief about our success and failure affects our expectations and goals concerning future performance (Bandura, 1977, Shunk, 1989) As to these writer students who believe that their success is due to their ability and effort are motivated toward mastery of skills, students who blame their failures on inadequate abilities have low self-efficacy and tend to set ability and performance goals that protect their self image. Ames & Ames (1984) presented their argument that the teacher who is concerned with cognitive mediation process deals with the personal explanations for success and failure and information processing that occur in instructional settings. In this case, motivation is reflected in how students think about their goals, the tasks and their feelings about completing the task. This approach as revisited by Dembo (1994), seeks to understand why students choose to engage in academic tasks rather than what they do or how long they spend doing so. The central principle of this approach is that if one wants to change students' motivation he needs to change their beliefs or self-perceptions. In connection with this (Pintrich and Garcia (1992) argue that motivational beliefs help student for an intention to learn.

In recent years another theory of motivation (Deci, Connell & Ryan, 1985; Deci & Rayn, 2000; Ryan & Deci, 2000; Deci et al., 1991 emerged to study motivation under self-determination perspective. According to this approach, people have not only

different amounts but also different kinds of motivation that is they vary not only in level of motivation (how much type of motivation). This position mountains that orientation of motivation concerns the underlying attitudes and goals that give rise to action, it concerns the why of actions. A student can be highly motivated to do homework out of curiosity and interest or, alternatively, because he or she wants procure the approval of a teacher or parent. A student could be motivated to learn a new set of skills because he or she understands their potential utility or value or because learning the skills will yield a good grade and the privileges a good grade affords. In these examples the amount of motivation does not necessarily vary, but the nature and focus of the motivation being shown certainly does (Ryan & Deci, 2000).

2.2. The Concept and Development of Self-determination theory Motivation.

The starting and central point for self-determination Theory (Ryan, Connell & Deci, 1985; Deci et al., 1991; Ryan & Deci, 2000; Deci & Ryan, 2000; Ryan & Connell, 1989; Pellitier et al., 1995; Vallerand & Bissonnettee, 1992) is an organismic dialectical theory. It describes the continual process of how humans develop and grow. The dialectic occurs between the active self and the various forces with in and without that the person encounter in the development. The theory has focused on the results of this dialectical process on intrinsic motivation, internalization of social values, and the integration of emotion. This organismic process works for the satisfaction of three basic psychological needs: competence, autonomy and relatedness (Deci & Ryan., 1991). The environment can foster or impair healthy human development to the extent that these three needs are supported or thwarted. The theory also postulates that humans are active, growth-oriented organisms who are naturally inclined toward integration of their psychic elements into unified sense of self and integration of themselves into larger social structures. This perspective suggests that it is the adaptive design of the human organism to engage in interesting activities, to exercise capacities, to pursue connectedness in social groups and to integrate intrapsychic and interpersonal experiences into a relative unity.

According to this theory of motivation, self-determination is an approach to human motivation and personality that highlights the importance of human's evolved inner resources for personality development and behavioral self-regulation (Ryan, Kuhl & Deci, 1997; Deci & Ryan, 2000). Thus, its main focus is the investigation of individual's inherent growth tendencies and innate psychological needs that are the basis for their self-motivation and personality integration as well as for the conditions that foster those positive processes.

Several studies based on self-determination theory have examined the utility of psychological need satisfaction for predicting motivation and achievement in the school organization. The theory posit three universal psychological needs, the need for competence that requires succeeding at optimally challenging tasks and attaining desired outcomes (White, 1959; Deci & Ryan, 2000; Deci et al., 2001; Deci et al., 1991; Vallerand & Bissonnettes, 1992; Gronlick & Ryan, 1987; 1989; Pelletier et al., 1995). Autonomy that requires experiencing choice and feeling like the initiator of ones own action (deCharms, 1968; Deci, 1975); and Relatedness that requires a sense of mutual respect, caring and reliance with others. Self-determination theory defines these needs as nutriments that are essential for individuals' survival, growth and integrity (Ryan, Sheldon, Kasser, & Deci, 1996).

2.2.1. Self-Determination and Culture

Self-determination theory of motivation asserts that the three psychological needs-the need for competence, relatedness and autonomy are universal that are basic to all people. Therefore, satisfaction of these needs should yield positive outcome in all culture (Deci et al., 2001). This theory tells us that though there are considerable surface diversity in cultural goals and values, there exist certain universal or invariant aspect of human nature in the form of basic developmental tendency and psychological needs.

On the contrary to self-determination motivation and cultural similarity in basic psychological needs there has been considerable controversy about whether there are universal psychological needs (Heine et al., 1999). Similarly, (Markus et. al., 1998)

presented that different cultures engender different goals, motives and values and these, in turn, are assumed to be differently associated with how one pursues and attains well-being and social integration. In support of the above writers (Miller, 1997) noted that in some cultures, adherence to controlling pressures yields more satisfaction than does autonomy. In support of this, Chirkov et.al., (2003) have maintained that the internalization view of autonomy can be similarly understood in divers cultural settings and any type of cultural practice can be described as more or less autonomy enacted.

With regard to the socio-cultural scenario of the Ethiopian society Belay (1999) indicated supporting evidence that the Ethiopian Society takes a collectivist orientation. He further characterized collective society in such a way that in collective society, individuals are born into extended families and kinship systems with an unwritten curriculum of a sense of "weness" emphasized; personal and same time demands loyalty, conformity, and respect to group norms and values and privacy is reduce. According to Belay the culture of Ethiopian is not foster autonomy or individualism oriented for there exists control from the society in general and the family in particular. Self-determination theory (Deci & Ryan, 1985; Deci, Connell & Ryan, 1985; Deci & Ryan 1991; Deci et al., 1991; Deci & Ryan 2000; Ryan and Deci 2000) has been able to identify several distinct types of motivation each of which has specifiable consequences for learning performance and personal experience.

With respect to self-determined and controlled types of motivational orientations in education (Deci & Ryan, 1991; Deci et al., 1991; Vallerand & Bissonnettee, 1992; Vallerand etal., 1992; 1993; Vallerand, Fortier & Guay, 1997; Gronlick & Ryan, 1987; Pellitier et al., 1995) claim that self-determined motivational orientations in education influence learning and achievement, which are manifestations of high quality learning and conceptual understanding. These theorists posit that academic behavior can be intrinsically motivated, extrinsically motivated or a motivated.

2.2.2. Intrinsic Motivation to Know, toward Accomplishments and to Stimulation

Intrinsic motivation is a prototypic manifestation of the human tendency toward learning and creativity. Perhaps no single phenomenon reflect the positive potential of human nature as much as intrinsic motivation, the inherent tendency to seek out novelty and challenges, to extend exercise one's capacities, to explore and learn (Ryan and Deci, 2000). In connection to this develop mentalists acknowledge that from the time of birth, children, in their healthiest states, are active, inquisitive, curious, and playful, even in the absence of specific rewards (Harter, 1978). The construct of intrinsic motivation well presented by Csikszentmihalyi & Rathunde, (1993); Ryan (1995) as a natural inclination toward assimilation, mastery, spontaneity and social development and that represents the principal source of enjoyment and vitality through life it is through acting on one's inherent interest that one grows in knowledge and skills.

The postulate of intrinsic motivation begins with a proactive organism; it presupposes that humans are naturally active and that there are natural tendencies toward development that require nutriments to function effectively (Ryan & Connell, 1989, Deci & Ryan, 2000, Ryan & Deci, 2000, Deci et al., 1991). In Particular, intrinsic motivation concern active engagement with tasks that people find interesting and that in turn promote growth.

Writers that support self-determination theory defined intrinsic motivation in a similar fashion. Intrinsically motivated activates defined as those individuals find interesting and would do in the absence of operationally separable consequence (Deci & Ryan, 2000). The concept of intrinsic according to White's (1959) proposition that people often engage in activities simply to experience efficacy or competence. deCharms (1968) assertion that people have a primary motivational tendency to feel like causal agents with respect to their own actions. Deci (1975) stated that intrinsically motivated behaviors represent the prototype of self-determined activities, they are

activities that people do naturally and spontaneously when they feel free to follow their inner interests.

The phenomenon of intrinsic motivation was first acknowledged with in experimental studies of animal behavior, where it was discovered that many organisms engage in explanatory, playful, and curiosity driven behaviors even in the absence of reinforcement or reward (White, 1959). This shows that in humans, intrinsic motivation is not only the form of motivation, but it is a pervasive and important one. The inclinations to take interest in novelty, to actively assimilate, and to creatively apply our skills is not limited to childhood, but is significant feature of human nature that affects performance, persistence, and well-being across life's epochs (Ryan & La Guradia, 2000). Various studies confirmed that intrinsic motivation is associated with better learning, performance and well-being (Benware & Deci, 1984; Deci et al., 1981; Gronlinck & Ryan, 1987; Valas & Sovik, 1993).

In the recent past based on self-determination theory and intrinsic motivation literature (Vallerand et al., 1992, 1993) have postulated that intrinsic motivation could differentiate into three specific motives that have been researched on and independent basis. The three types of intrinsic motivations are intrinsic motivation to know, toward accomplishments and intrinsic motivation to experience stimulation.

Intrinsic motivation to know refers to the fact of performing an activity for the pleasure and satisfaction that one experience while learning, exploring or trying to understand something new (Vallerand et al., 1992; Pelletier et al., 1995). Similarly, Gottfried (1985) discusses that intrinsic motivation to know can be related to exploration, curiosity, learning goals, intrinsic intellectuality to learn, the epistemic need to know and understand, and that of the search for meaning. For instance, students are intrinsically motivated to know when they read a book for the sheer pleasure that they experience while learning some timing new (Vallerand et al,; 1993). Schraw et al., (1995) findings revealed that highly motivated students invest more time and effort in mastering course material for they motivated to improve their

knowledge. Students may perceive a variety of reasons for trying to succeed academically; a student may believe that academic success may represent the opportunity to learn new and interesting information (Urdan & Mahaer, 1995).

Intrinsic motivation toward accomplishments refers to the fact of engaging in an activity for the pleasure and satisfaction experienced when one attempts to accomplish or to create something (Pelletier etal., 1995; Vallerand et al., 1993). This type of intrinsic motivation has been studied in developmental psychology as well as in educational research under the concept of mastery motivation (Harter, 1981); efficacy motivation (Bandura, 1977), and task orientation (Nicholls, 1984). Further more, Deci & Ryan (1991) maintained that individuals interact with the environment in order to feel competent and the create unique accomplishments. Individuals focus on the process of achieving rather than on the outcome (Vallerand et al., 1992). Trying to master or accomplish certain difficult academic tasks or activities in order to experience personal satisfaction r students who extend their work beyond the requirements of a given task in order to surpass themselves represent intrinsic motivation toward accomplishments (Vallerand, Fortier & Guay, 1997)

Intrinsic motivation to experience stimulation occurs when some one engages in an activity in order to experience stimulating sensations such as sensory pleasure, aesthetic experiences as well as fun and excitement derived from one's engagement in the activity (Vallerand et al., 1992, 1993, Pelletier et al., 1995). Students who attend classes in order to experience the excitement of stimulating class discussions, or who read a book for the intense feelings of cognitive pleasure derived from passionate and exciting passages represent examples of individuals who are intrinsically motivated to experience stimulation in education (Vallerand & Bissonnettee, 1992).

2.2.3. Extrinsic Motivation: external, introjected and identification regulations

Although intrinsic motivation is clearly an important type of motivation, most of the activities people do are not, strictly speaking, intrinsically motivated. This is

especially the case after early childhood, as the freedom to be intrinsically motivated becomes increasingly reduced by social demands and roles that require individuals to assume responsibility for none intrinsically interesting tasks (Ryan & Deci, 2000; Ryan & La Guardia, 2000).

Self determination theorists propose that extrinsic motivation can vary greatly in the degree to which it is autonomous (Ryan & Connell, 1989, Vallerand, 1997). For instance, a student who does his homework only because he fears parental sanctions for not doing it is extrinsically motivated because he is doing the work in order to attain the separable outcome of avoiding sanctions. Similarly a student who does the work because she personally believes it is valuable for her chosen career is also extrinsically motivated because she too is doing it for its instrumental value rather than because she finds it interesting (Ryan & Deci, 200). Both examples involve instrumentalities, yet the latter case entails personal endorsement and a feeling of choice, whereas the former involves mere compliance with an external control. Both represent intentional behavior, but the two types of extrinsic motivation vary in their relative autonomy (Deci et al, 1991) Deci & Ryan, 2000).

Extrinsic motivation is thought as behavior performed in the absence of self-determination and thus could only prompt by external contingencies. However, Deci & Ryan, (1985, 1991); Deci et al., (1991) proposed that different types of extrinsic motivation exist, in terms of the degree to which it has been internalized, suggesting that the more fully it is internalized and integrated with one's self, the more it will be the basis for autonomous behavior. The three types of extrinsic motivation (behavioral regulations) defined in terms of the degree to which the regulation of an externally motivated activity internalized, ordered from lower to higher levels are external regulation, introjected regulation and identified regulation (Self-determination continuum is presented in figure 1. page 27).

External regulation refers to behaviors for which the locus of initiation is external to the person. A student who does an assignment for teacher's praise or avoids teacher's criticism is externally regulated. The behavior is performed because of an external

contingency and this contingency is considered as the loci of initiation and regulation (Deci et al., 1991). The reason for participation lies outside the activity itself. The individual experiences an obligation to behave in a specific way and feels controlled (Vallerand & Bissonnette, 1992). Activities are performed for instrumental purposes such as to obtain positive consequences or to avoid negative ones (Blais et al., 1990; Vallerand et al., 1992). To do something because one is pressured by some one to do it (Vallerand et al., 1993). The behavior is controlled by external sources imposed by others (Pelletier et al., 1995; Vallerand et al, 1997). It is not inherent in the performance of took itself rather alien to the task in an important sense, to the individual's personal reasons for performing the task (Maehr, 1984). External regulation may also be fueled by desire for rewards. For instance, students may work hard at school in order to receive a prize promised by their parents or to have prestigious future life through learning.

Introjection involves taking in a regulation but not fully accepting it as one's own. It is a relatively controlled form of regulation in which behaviors are performed to avoid guilt or anxiety or to attain ego enhancements such as pride. Put differently, introjection represents regulation by contingent self-esteem (Deci & Ryan, 1995), A classic form of introjection is ego involvement (Decharms, 1968; Nicholls, 1984; Ryan, 1982), in which people are motivated to demonstrates ability (or avoid failure) in order to maintain feelings of worth.

According to Vallerand et al., (1992) introjected regulation is operative when the individual begins to internalize the reasons for his or her action. Such regulation involves internalized rules or demands that pressure one to behave and obey his action as appropriate (Deci et al., 1991). Behaviors are initiated and regulated by internally controlling imperatives (Ryan, 1982). It is a process where by an external becomes an internal representation, which the person uses to approve or disprove of his or her actions (Fortier et al., 1995). Thus, the student might say "I study the night before exams because I feel guilty when I don't or that is what good students supposed to do". Here beliefs and controls are now imposed by the individual and

not by other and experience as pressure and tension toward specific aims (Vallerand Bissonnettee, 1992). Therefore, individuals regulated by introjection are said to have non-self- determined form of motivation.

A more autonomous, or self-determined, form of extrinsic motivation is regulation through identification. Identification reflects a conscious valuing of a behavioral goal or regulation, such that the action is accepted or owned as personally important (Ryan & Deci, 2000; 2000). Similarly, identified regulation occurs when the behavior becomes valued and judged important for the individual, and perceived as chosen by the individual, then the internalization of extrinsic motives becomes regulated through identification. With identification the regulatory process becomes more fully a part of the self, so the individual does the activities more willingly, because identification allows the person to feel a sense of choice about behaving (Deci et al., 1991). Students might go to school because they feel that this is path they have chosen to follow to have access to the career they have chosen to follow to have access to the career they have selected (Vallerand et al., 1997). It is a form of extrinsic motivation based more on choice. The source of regulation comes not only with in the person but is carried out in a self-determined way where by the person values or identifies with the activity in which he or she engages (Blais et al., 1990). The activity is personally chosen without any external or internal pressure from the environment (Fortier et al., 1995).

Moreover, Vallerand & Bissonnette, (1992) maintained that individuals experience a sense of direction and purpose instead of obligation and pressure in performing a behavior. For instance, a student who willingly does extra work in mathematics because the student believes it is important for continuing to succeed at mathematics. What one understands from this is that the motivation is extrinsic because the activity or task is performed primarily because of its instrumentality of for the goal of improving physics performance and succeeding in future endeavors, rather than because it is interesting. In this case the behavior is relatively self-determined

because the student does it willingly, for personal reasons, rather than external pressure.

2.2.4. Amotivation

A part form intrinsic and extrinsic motivation, Deci and Ryan (1985; 1991) have posited that a third type of motivational construct is important to consider in order to fully under standing human behavior. This type of motivation termed as amotivation. Different authorities have treated the term almost in a similar way.

A motivation is the state of lacking the intention to act. When amotivated, individual either do not act at all or act without intent rather they just go through the motions (Ryan & Deci, 2000). Amotivation results from not valuing an activity (Ryan, 1995), not feeling to do it (Bandura, 1986), not expecting it to yield a desired outcome (Seligman, 1975).

Individuals are a motivated when they do not perceive contingencies between outcomes and their own actions they are neither intrinsically nor extrinsically motivated (Deci et al., 1991). A motivated individuals experience feelings of incompetence and expectancies of uncontrollability, they perceive their behaviors as caused by forces out of their own control (Vallerand et al., 1992). Amotivated individuals engage in the activity without any sense of purpose and do not see any relationship between their actions and the consequences of such behavior (Vallerand et al., 1997). Amotivated individuals also feel undeceived, and start asking themselves why in the world they go to school; eventually they may stop participating in academic activities (Vallerand et al., 1993). When individuals are in such a state, they no longer identify any good reasons for why they continue to learn (Petillier et al., 1995). There is no reward intrinsic or extrinsic and participation in the activity eventually ceases (Vallerand and Bissonnette, 1992).

2.3. The Relationship between Motivational Orientations and Academic Achievement

Motivational Orientations refer to stable orientation of the individual to behave in a predisposed ways; to some extent the situational variables can lead individuals to

engage in a task with specific orientation such as intrinsic orientation (Vallerand & Bissonnette, 1992). This concept has been treated as individual difference variables, assessing the degree to which each person expresses each type of regulatory styles (Deci et al., 1991; Deci & Ryan, 2000 Ryan & Deci, 2000, Ryan, Connell & Deci, 1985). With respect to learning domain Grolnick & Ryan, (1987); Vallerand & Bissonnette, (1992) have ascertained individuals' motivational orientations toward education and examined the relationship between this orientation and various outcomes. Based on their assertion students who do their academic activities out of choice (i.e. identification) or for the pleasure and satisfaction experienced while doing academic activities (i.e., intrinsic motivation) have been defined as individuals with self determined motivational orientation toward education, whereas students who do their academic activities because of external pressure or demand (i.e., external regulation) and internal controls (i.e., introjections) or those who feel that they are not motivated (i.e., a motivation) have been defined as individuals who show a non self-determined motivational orientation in academic domain.

The results of Ryan & Connell, (1989) revealed that differences in the type of extrinsic motivation were associated with different experiences and outcomes; such as the more students were externally regulated the less they showed interest, value, and effort toward achievement and the more they tended disown responsibility for negative outcomes, blaming others such as the teacher. Introjected regulation was positively related to expending more effort, but it was also related to feeling more anxiety and coping more poorly with failures. In contrast, identified regulation was associated with more interest and enjoyment of school and with more positive coping styles, as well as with expending more effort.

With respect to the relationship between the different motivational orientations with educational outcomes (Vallerand et al., 1992; 1993) findings demonstrated that the most negative association were obtained with amotivation, while the most positive correlation were found with intrinsic motivation and with identification variables.

External and introjected regulation were related either negatively or not to educational outcomes.

Other studies in education extended these findings, showing that more autonomous extrinsic motivation was associated with more engagement (Connell & Wellborn, 1991), better performance (miserandino, 1996), lower dropout (Vallerand & Bissonnette, 1992), high quality learning (Grolnick & Ryan, 1987).

Similarly, a study conducted on college students Vallerand & Bissonnette, 1992), reported that a motivation had negative significant correlation with intrinsic motivation, integration and identification, but it was related insignificantly with introjection and significant relationship was observed between external regulation and intrinsic motivation, integration and identification, but positive association with introjected regulation.

Amotivation was found to be a vary important predictor of academic achievement, being negatively related to performance and represent a strong antecedent of negative quencequence (Deci & Ryan; Deci et al., 1991; Vallerand & Bissonnette, 1992; Vallerand et al., 1992, 1993; Vallerand Fortier & Guay, 1997; Fortier et al., 1995).

2.4. The Nature and Meaning of Perceived Academic Competence

Researchers agree that perception of competence results from complex interactions between a child and his or her environments; thus, it will change as the child develops and change or when the context changes (Masten & Coastsworth, 1998). According to these writers the child's capabilities and the nature of the context in which the child lives will influence competence. Moreover, the same child could be judged as competent in one context and incompetent in another. It is true that when children enter school, they face new challenges and a new world of expectations outside the family. Some children bring a strong set of skills; motivations and self-perception that will facilitate learning others bring behavior or self-regulation problems and negative expectations for self that will hinder learning.

Perceived competence (Vallerand & Bissonnette, 1992) involves understanding how to attain various internal and external outcomes and being efficacious in performing

the requisite action. The feelings of academic competence with respect to activity or domain (Deci & Ryan, 2000) theorized that it is important both because it facilitates individual's goal attainment and also provides them with a sense of need satisfaction from engaging in an activity at which they feel effective. In support of the above idea, Thomas (1988) perceived academic competence combines self-control-the belief that learning is no one else's responsibility but ones own. Student's perception of academic competence is important predictor of his or her task engagement and performance. For instance students who perceive themselves as highly competent are more likely to persist when they confront difficulties and are more likely to use the abilities and strategies they possess. Similarly, Grolnick & Ryan, (1989) stated that another affective goal of education is the building of a sense of competence in relation to learning and achievement. Therefore perception of academic competence in school is reflected in the child's knowledge concerning control over academic outcomes and in the internalized belief that one is able to affect such outcomes

2.5. The Relationship between Perceived Academic Competence, Motivational Orientations and Academic Achievement

Past experimental studies (Vallerand & Reid, 1984, 1988) have shown that perceived academic competence represents an important determinant of intrinsic motivation. They also revealed that when perceived competence is operative, positive and negative feedback increase and decrease intrinsic motivation respectively, and these changes in intrinsic motivation are caused by changes in perceived academic competence. In line with this, Gottfried, (1985) found that Academic intrinsic motivation relates significantly and positively with student's school achievement and perception of academic competence. This finding also supported by Dweck & Elliott (1983); Harter, (1981) in that students with higher levels of academic intrinsic motivation should experience task mastery and should therefore perceive that they are more competent in school learning than those with lower levels.

Deci and Ryan, (1985) identified perceived academic competence as determinant of motivational orientations, which are associated with psychological consequences

pertinent for the education domain. As to these writers, individual's motivation varies in line with changes in perception of competence and self-determination. They further go on to say that events (success in exams) lead to increase the three forms of intrinsic motivation and identification, but to decrease in introjections, external regulation and a motivation. On the other hand, events that undermine one's feeling of competence (failing in exams) will lead to a loss of the three intrinsic forms of motivation, and identified regulation, but to increase in introjections, external regulation and a motivation.

Research findings (Vallerand et al., 1993) revealed that student's perceived academic competence associates positively and strongly with the three forms of intrinsic motivation and identification. On the other hand, it was correlated negatively with a amotivation. Relationship consisting the introjections and external regulations were found to be negative and no relationship, respectively.

2.6. Gender differences in Perceived Academic Competence, Motivational Orientations and Academic Achievement

A research conducted by Vallerand & Bissonnette (1992) noted that gender and motivation are significant and independent contributors to behavioral persistence, thus females persist more than males in part because their more self-determined motivational profile and because some psychological characteristic associated with their gender. Though these writers stated that females persist more than males, they do not specify the psychological characteristic females own than males. Their study finding revealed that female students reported being more intrinsically motivated, integrated and identified, whereas male students were externally regulated and a motivated toward academic activities. But no difference was observed on introjected.

A study carried out by Vallerand & Reid (1988) shown that no gender difference was observed on perceived academic competence after performance feedback. Local studies conducted on high school students (Yalew, 1996; 1997) demonstrated that

male students scored higher mean in their feeling of academic efficacy and performance than female students.

With regard to motivational orientations (Vallerand et al., 1992) reported that female students scored higher means than males on the three intrinsic motivation sub scales as well as on the identification sub scales, however, no sex differences was found on external regulation and amotivation.

On the other hand research findings (Dweck, 1986) shown that female students exhibited higher levels of learned helplessness or amotivation than male students in educational settings.

2.7. Perceived Academic Competence, Motivational Orientations and Academic Achievement Related to Grade Levels.

Motivation is an integral aspect of student learning, research studies indicating that different motivational constructs are correlated with effective classroom learning and achievement (Ames, 1992). The motivation for school learning generally declines in the middle years and, more specifically, that science is a domain in which this trend has been documented (Hidi & Hardckiewicz, 2000). However, when motivation is considered as being created, developing and maintained in social contexts, in which the individual and situation are inter dependent, then variation across the socio cultural practices of individuals, classes and schools results in differences in student motivation and achievement.

According to Ryan & Deci (2000) in schools it appears that intrinsic motivation becomes weaker with each advancing grade, this is because the freedom to be intrinsically motivated becomes increasingly reduced by social demands and roles that require students to assume responsibility for extrinsically interesting tasks.

Many researchers have commented uniformly on children's' positive, sometimes exaggerated, perceptions of their abilities (parsons & Ruble, 1977). As children progress through school their exaggerated perceptions of their own ability began to

diminish. In line with this idea Nicholls (1979) has shown that between first and six grade student's perceived academic competence increasingly reflects their actual relative performance in school.

Developmental studies on children perception of competence have found that children's rulings of their own ability do not begin to correlate with their actual performance until the third or fourth grade (Nicholls, 1978, 1979). He believes that the absence of a relationship between perceived and actual competence of attainment in the earlier grades reflects the younger children's inability to analyze causes of success and failure in a logical adult like manner.

Ryan et al., (1985) tried to see the developmental trend for the extrinsic regulatory orientations cross-sectionals at age and grade levels during grade three through six and their results revealed that a significant decrease with both age and grade in the degree of extrinsic regulation. Thus, with development, students are less likely to experience their behavior in schools extrinsically regulated. In contrast, introjected and identified orientations show little change as student's progress into higher-grade levels. A similar study conducted by Chandler and Connell (1983) portrayed that a negative correlation between extrinsic reasons and age and a positive correlation between internalized reasons and age.

Summary of the Review of Literature

In general, most of the theories aforementioned above, reviews and research findings revealed and concluded the following:

- Students who have high perception of academic competence will show higher academic achievement and on the other hand when learners felt incompetent in academic domain their autonomous motivation would fall and finally lead them to a drop in their academic performance.

- Students who exhibit self-determined motivational orientations in academic settings will demonstrate higher academic achievement than students who show low self-determined motivational orientations.
- The type of motivational orientations a student has affects positively or negatively his performance this is also supported by the social context.
- Students who are amotivated will show low academic achievement.
- The developmental pattern of students perceived academic competence, motivational orientations and academic achievement vary with their ages, grade level, and sex.

The relationship between perceived academic competence and motivational orientations and academic achievement as observed in different research findings, seem not exhaustive, and cultural influences can foster or hinder their applicability.

It has been also found that the developmental pattern of students perceived academic competence and motivational orientations is not consistent or inconclusive among males and females. These problems, therefore, indicate the need for further investigations in this area.

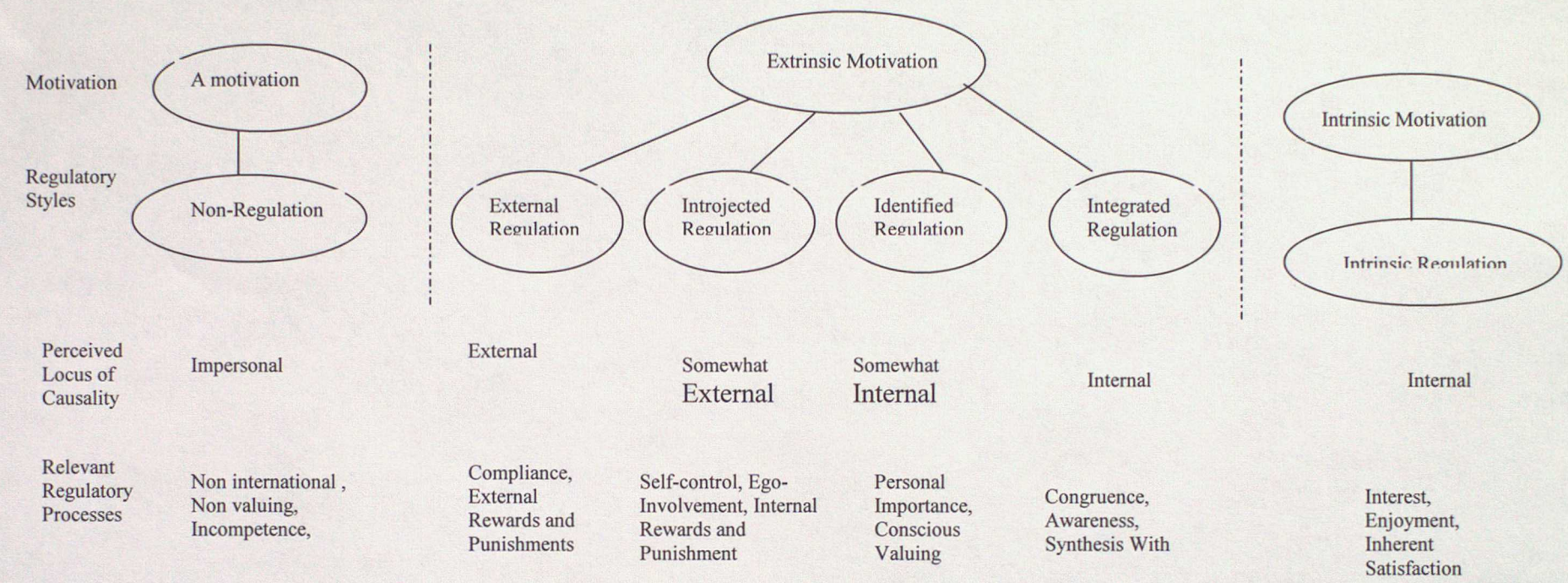


Figure 1 The self-Determination Continuum Showing Types of Motivation With Their Regulatory Styles, Loci of Causality, and Corresponding Processes. (Adapted from Deci and Ryan, 2000)

CHAPTER THREE

Method

This section describes the participants included in the study, sampling procedures, the instrument used, the procedure employed for data collection and data analysis.

3.1 Participants

The participants of this study were students of junior and secondary schools of Bahir Dar administrative zone. Bahir Dar is located north west part of Ethiopia; the town is the capital of the Amhara National Regional state. The reason Bahir Dar selected as an area of this study was that the researcher has been teaching in one of higher institutions in the area and this helped him to make a close relationship with teachers of both junior and high schools. The researcher also had a periodic discussion with some of these teachers particularly on issues of students' motivational orientations on school related achievement behaviors. Another assumption of the researcher was that conducting research in Bahir Dar area can facilitate proper administration and gathering of data.

The target population of this study were grade 6, 8, and 10 students. Grade 6, 8, and 10 were selected having the assumptions that students at these grade levels will seat for exams prepared by the Regional Education Bureau of the Amhara Regional State and at national level. It is, therefore, students of these grade levels required to take more subject matters in depth and breadth, and get ready for the examination that determine the transfer of each student to the succeeding cycle. This in turn, demand students to work hard and compete to be successful. This as a result calls students for to show their competence and the motivational orientations they manifest to achieve need to be studied. Because competence and motivational orientations begin at the early stage of the child development and grow up as the child explore his environment. In order to examine the developmental trend or pattern this seems to be a subject of research investigations.

3.2 Sampling

In Bahir Dar administrative zone two high schools and six junior schools are available. The high schools are Fasilo and Ghion Secondary Schools and the junior ones are Sertse Dingil, Dil Chibo, Ewket Fana, Shimbit, Tseyahy Gibat and Meskerem 16.

Of the total of 6 Junior Schools three schools (Sertsedingil, Dilchibo and Shimbit) and the two high schools (Fasilo and Ghion) were selected as the sample schools of the study. Of the high schools ten sections (five each) were selected out of 21 sections using purposive and random sampling method. Of the total of 1050 students two-hundred fifty students (30 from each class) were selected as follows. Firstly, students' academic rank of the first semester over all GPA(in 2003-2004 academic year) was obtained for each class, then an attempt was made to select equal number of students with equal number of higher achievers, average achievers and low achievers scores - 10 students occupying the first ranks called higher achievers ,the second 10 students ranking the middle called average achievers and another 10 with the lowest ranks called lower achievers selected as the subject of this study from each sections by referring from students' Rosters. This was done, in order not to select more average students from each sample sections. Because it is assumed that 68% of the students occupy average ranks and in order not generalize the findings on more of these students.

The same procedure was performed for both grade 6 and 8. From the three schools (Sertse Dingil, Dilchibo and Shimbit) 4 sections from each school were randomly selected out of a total of 19 sections forming 950 students and a total of 300 students, 100 from each school and 25 from each of the sections selected based on their ranks (8 higher achievers, 9 average achievers and 8 low achievers). A total of 750 students 250 from each grade level selected

3.3 **Instrument**

A questionnaire already designed by self determination theory website and Vallerand et al., (1992-1993) was used as data gathering instrument and designed to fit for the present study. The following reasons evoked the investigator of this study to employ the scales :

1. The wording of the items in the original scale are not ambiguous and do not seem to be cultural bound.
2. Each of the subscales are very reliable in their original forms.
3. Originally the instrument is developed for junior -high school students and the number of items reasonably acceptable and can be administered to junior and high school students. For the purpose of the present study the items were modified and translated into Amharic and a sample provided to experts in the area to collect feedback and retain high face validity. Finally the items arranged in random order to reduce response biased of the respondents.

   Additional questions also attached to obtain participants' personal profile such as age, sex, grade level and Id.No.

Instrument used in this study was presented on Table1.

Table 1. Subscales, contents, illustrative items and Reliability indices.

Name of Sub scales	Contents	Illustrative items	Reliability indices determined by alpha
1. Perceived Academic competence	- is a short, 4 items questionnaire. Typically written to be specific to the learning domain. Assesses participants feelings of competence about their academic work, students' ability in mastering tasks.	- I feel able to meet the challenges of performing well in school subjects.	0.88
2. Intrinsic motivations - Intrinsic motivation to know - Intrinsic motivation toward accomplishments - Intrinsic motivation to stimulation.	- is a 12 item, having 3 sub scales intended to assess participant interest to know, to accomplish and to be stimulated in academic work required by their learning. 4 items measure each of the subscales.	- "For the pleasure that I experience in broadening my knowledge about subjects which appeal to me." - "For the satisfaction I feel when I am in the process of academic activities." - "For the high felling that I experience while reading about various interesting subjects." Total intrinsic motivation scale.	0.83 0.68 0.87 0.89

Name of Sub scales	Contents	Illustrative items	Reliability indices determined by alpha
Extrinsic Motivation - External regulation - Introjected regulation - Identified regulation	- is a 12 item, having 3 subscales intended to assess participants external reasons for being involved in academic learning, identifying oneself with the activities, internalization of reasons. 4 items measure each subscales.	- "I need high school certificate in order to find a high paying job later on". - "To prove to may self that I am capable of completing my education" - "I believe that my education will improve my compliance as a worker - Total extrinsic motivation	0.88 0.87 0.72 0.89
Amotivation	- is a 4 item scale intended to assess about participants reasons whether they feel not motivated in academic learning or not.	- "I don't know; I can't understand what I am doing in the school."	0.72
Academic achievement	- Students rank or over all average scores of school subjects in final examination in 2003-2004 academic year.		

Perceived academic competence scale was adapted from Ryan and Deci (2000) self-determination website and Academic Motivation Scale was adapted from Vallerand et al., (1992-1993). The format of the items designed in such a way that the items stated first and below are the degree of agreement; students respond by reading each of the items and circle his or her level of agreement. The scales were arranged in a likert-type scale with scale value ranging from strongly disagree 1 to strongly agree 5. The scale values used here found to be appropriate for this sample group. The norms of the scales allow administering to junior and high school students with the age of 12 and above. The items are arranged in random order to reduce response biase of the respondents.

Academic Motivation Scale (AMS HS-28) was originally developed to measure students' stable motivational orientations such as intrinsic, extrinsic and amotivation toward education and assess students' perceived reasons "Why do you go to school" as a general guide. The scale has three major components of motivational orientations namely: intrinsic, extrinsic and amotivation.

Academic Achievement is defined as students average score after he/she has taken final examination on the courses given in grade 6, 8 and 10. Students' academic achievement was collected from each respective schools record office for the purpose of comparisons as dependent variable in this study.

The academic Achievement score was converted to standard scores using T-score. To make the scores normalize. $T = 50 + 10z$ $(Z = \frac{x-x)}{s}$

3.4 Procedure

The Amharic version of the questionnaire first administered to pilot sample subjects. The purpose was to see each of the items working as intended or not and retain high

internal consistency reliability among each of the subscales. To improve poor items, inappropriate wordings and the like. The subjects of the pilot study were selected from grade 6, 8 and 10. From these grade levels 36, 37 and 38 participants selected using random sampling techniques from one junior and a high school respectively.

In the pilot study, the questionnaire was administered to the subjects during a regular class time. The investigator told the purpose of the questionnaire to the participants and gave illustration how to fill in. Three days, a day for each grade level was assigned to complete the pilot study. The results of the internal consistency reliability revealed that some of the subscales had very low coefficient alpha. The interitem correlation results showed that there was negative relationship between some of the items of the same sub scales measuring the same construct. After this, there was a need to see the phrasing of items of each of subscales especially for motivational orientations. There was also a need to raise the scale value form three to five and this allowed the participants range of agreement to be appropriately indicative of their behavior. Finally, relatively higher level of internal consistency reliability attained through chronbac alpha after another pilot test.

In the main study, except the dependent variable of academic achievement, a questionnaire that contained scales for perceived academic competence, intrinsic, extrinsic and amotivation orientations subscales prepared in the booklet form and administered to the sample subjects in a regular class time. Apart from the instruction given on each of the scales, the investigator an his assistants given additional instruction how to fill in the questionnaire orally. The investigator explained the purpose of the study i.e. the purpose of the questionnaire is to find out more information about students feeling of competence to do academic work required by their learning and students perceived reasons why do they go or learn in the school. The investigator told to the participants to read carefully each of the items and gave ample time to complete the questionnaire independently. The investigator clearly disclosed the anonymity and confidentiality of their responses kept highly at all times. Finally, the participants thanked for their cooperation.

3.5. Data Analysis

3.5.1. Variables included in the study.

3.5.1.1 Dependent variables

1. Academic achievement (students GPA at the end of the first semester)
2. Perceived academic competence.
3. Intrinsic motivation
4. extrinsic motivation
5. Amotivation.

3.5.1.2. Independent variables of the study were

1. Perceived academic competence
2. Intrinsic motivation to know
3. Intrinsic motivation toward accomplishment
4. Intrinsic motivation to stimulation
5. Identified regulation.
6. Introjected regulation.
7. External regulation.
8. Amotivation
9. Total intrinsic motivation.
10. Total extrinsic motivation.

3.5.1.3. Both dependent and independent variables

1. Academic achievement
2. Perceived academic competence.
3. Intrinsic motivation
4. Extrinsic motivation
5. Amotivation.

3.5.1.4. Background variables were

1. Sex of the participants.
2. Grade level, both used as independent variables.

3.5.2. Method of Analysis

1. Mean and Standard Deviations were computed for general comparisons.
2. Pearson Product Moment correlation was computed among perceived academic competence, motivational orientations and academic achievement of the three grade levels and at each grade level to see whether there exist the relationships or not.
3. Multiple regression analysis was conducted to see the overall relationship of academic achievement with the independent variables to investigate the relative contribution of perceived academic competence, intrinsic, extrinsic and amotivation variables to the variance in the academic achievement at each grade levels.
4. A 2x3 (sex X grade level) factorial analysis of variance (ANOVA) was performed to determine whether there exist statistical difference among the students of the three grade levels (6, 8 & 10) on the mean scores of perceived academic competence, intrinsic, extrinsic and amotivation variables.

CHAPTER FOUR

RESULTS

The results of this study are presented in the following order: the relationship between perceived academic competence, intrinsic, extrinsic, amotivation orientations and academic achievement, the scores of males and females on academic perceived competence, intrinsic, extrinsic, and amotivation variables, and the relationship of academic Achievement with the independent variables.

4.1. Correlation between Perceived Academic Competence, Motivational Orientations and Academic Achievement.

The first basic question of the study was to see whether there exists relationship between perceived academic competences motivational orientations and academic achievement variables. Table 1 below shows the intercorrelations and summary statistics for perceived academic competence, motivational orientations and academic achievement.

Descriptive statistics of the variable treated presented below in Table 2.

Table 2. Descriptive statistics of the variables (N= 750)

Variables	Min	Max	Mean	SD	coefficient of Variation			Total
					Grade			
					6	8	10	
PAC	4	20	14.53	2.85	17.91	18.01	20.74	19.61
IMK	7	20	17.53	2.45	12.87	13.68	15.30	13.98
IMA	7	20	16.56	2.63	15.48	15.72	16.15	15.88
IMS	5	20	15.26	3.30	18.50	20.45	21.81	21.63
IDR	7	20	17.59	2.35	14.68	13.52	11.69	13.36
INR	4	20	15.15	3.40	18.63	21.21	25.25	22.44
EXR	5	20	17.15	2.74	14.43	14.53	18.13	15.98
AMO	4	20	7.26	3.60	49.75	48.81	48.29	49.59
TIM	8.75	20	16.91	2.07	12.12	12.43	11.86	12.24
TEM	7.56	20	16.16	2.67	14.03	15.14	19.00	16.52
AAC	27.48	74.14	49.93	9.95	19.80	20.21	19.90	19.93

As indicated on Table 2. The minimum score is observed in perceived academic competence (4) and the highest minimum score is shown in total Intrinsic motivation variable which is 8.78. The maximum score for all variables is 20, except academic achievement, is 74.14 for the three grade levels put together. The SDs obtained not clearly indicate which of the variables were closer or far from the center. In order to see how the scores in each of the variables vary from the mean third order analysis using coefficient of variation was determined for each grade level and the total group. Accordingly for the grade 6 and 10 and for the total group the highest variation is obtained on amotivation and the least on the total intrinsic motivation scores. On the hand for grade 10 students the highest score of variation obtained on amotivation and the least on identified regulation.

Table 3

Intercorrelation among Perceived Academic competence, Motivational Orientations and Academic Achievement (N=750).

Variables	M	SD	Correlation Coefficients										
			1	2	3	4	5	6	7	8	9	10	11
1 PAC	14.53	2.85	1.00										
2 IMK	17.53	2.45	.212*	1.00									
3 IMA	16.56	2.63	.295*	.503*	1.00								
4 IMS	15.26	3.30	.157*	.516*	.437*	1.00							
5 IDR	17.59	2.35	.169*	.510*	.430*	.338*	1.00						
6 INR	15.15	3.40	.176*	.357*	.411*	.530*	.285*	1.00					
7 EXR	17.15	2.74	.170*	.303*	.288*	.404*	.408*	.434*	1.00				
8 AMO	7.26	3.60	.108	-. 075*	-.046	.110*	-.132*	.173*	.046	1.00			
9 TIM	16.91	2.07	.264*	.735*	.690*	.718*	.632**	.483*	.420	-.032	1.00		
10 TEM	16.16	2.67	.204*	.411*	.423*	.571*	.410*	.842*	.724*	.141*	.556*	1.00	
11 AAC	49.93	9.95	..288*	.062	.066	-.136*	.034	-.173*	-.086*	-.405*	-.006	-.163*	1.00

P* < 0.05

Note: 1.PAC = Perceived Academic Competence, 2. IMK - Intrinsic Motivation to know, 3. IMA - Intrinsic Motivation toward Accomplishment.
4. IMS = Intrinsic Motivation to Stimulation, 5. IDR = Identified Regulation,
6. INR = Introjected Regulation, 7. EXR = External Regulation, 8. AMO = A motivation, 9. TIM = Total Intrinsic Motivation, 10. TEM = Total Extrinsic Motivation and 11. AAC = Academic Achievement.

As shown on Table 3 there is positive significant correlation between perceived academic competence and academic achievement ($r = 0.2.88^*$, $p < 0.05$). On the other hand, the correlation between intrinsic motivation to stimulation and academic achievement is significant but of course negative ($r = -0.136$, $p < 0.05$); introjected regulation and academic achievement ($r = -0.173^*$, $p < 0.05$); external regulation and academic achievement ($r = -0.086$, $p < 0.05$); amotivation and academic achievement ($r = -0.405$, $p < 0.05$); total extrinsic motivation and academic achievement ($r = -0.163^*$, $p < 0.05$). The correlation between perceived academic competence, intrinsic and extrinsic motivation subscales were all positive and significant, except amotivation which was not significantly correlated with perceived academic competence.

No correlation was observed between academic achievement and other self determined intrinsic motivational subscales. Similarly intercorrelations were computed at each grade levels in order to show trends across grade level. Table4. Table 5. and Table 6. display the correlations among academic perceived competence, motivational orientations and achievement at grade 6, 8 and 10 respectively.

Table 4

Correlations among Perceived Academic Competence, motivational orientations and Academic achievement at Grade Six (N = 250)

Variables	M	SD	Correlation Coefficients										
			1	2	3	4	5	6	7	8	9	10	11
1PAC	15.58	2.79	1.00										
2IMK	17.80	2.29	.221*	1.00									
3IMA	16.92	2.62	.289*	.472*	1.00								
4IMS	16.81	3.11	.203*	..536*	.442*	1.00							
5IDR	17.44	2.56	.249*	.501*	.526*	.412	1.00						
6INR	16.32	3.04	.200*	.362*	.489*	.479	.420*	1.00					
7EXR	17.74	2.56	.200*	.304*	.312*	.385	.495*	.461*	1.00				
8AMO	7.94	3.95	-.049*	-.030	.069	.119	.035	.147*	0.38	1.00			
9TIM	17.25	2.09	.308*	.778*	.775*	.760*	.757*	.546*	.481*	.041	1.00		
10TEM	17.03	2.39	.249*	.411*	.496*	.542*	.504*	.828*	.770*	.135	.646	1.00	
11AAC	50.00	9.90	.198*	0.041	-.010	-.182*	.010	-.134*	.035	-.514*	-.047	-.108	1.00

P* < 0.05

The results of Table 4 shows that there was significant positive relationship between PAC and AAC ($r = 0.198$, $p<0.05$). The correlation between IMS and AAC ($r = -0.182$, $p<0.05$). INR and AAC ($r = -0.134$*, $p<0.05$) and AMO and AAC ($r = -0.514$, $p<0.05$) was negative and significant. But there was no correlation between academic achievement and other subscales. As indicated in Table 2 there was relatively higher correlations between perceived academic competence and intrinsic motivation subscales than extrinsic subscales. Positive significant relationships were observed within intrinsic and extrinsic motivation subscales. Amotivation was significantly correlated with extrinsic motivation sub scale of introjected regulation ($r = .147$, $p<0.05$). This seems that at this grade level students regulated by introjection will be non motivated either intrinsically or extrinsically.

Table 5

Correlations Among Perceived Academic competence, motivational orientations and Academic Achievement at Grade eight (N = 250)

Variables	M	SD	Correlation Coefficients										
			1	2	3	4	5	6	7	8	9	10	11
1PAC	14.27	2.57	1.00										
2IMK	17.54	2.40	.100	1.00									
3IMA	16.54	2.60	.211*	.521*	1.00								
4IMS	16.04	3.28	.026	.559*	.494*	1.00							
5IDR	17.53	2.37	.112	.574*	.464*	.427*	1.00						
6INR	15.18	3.22	.056	.453*	.539*	.572*	.394	1.00					
7EXR	17.28	2.51	0.86	.310*	.285*	.374*	.380*	.328*	1.00				
8AMO	7.13	3.48	-184**	.006	-.055	.098	.104	.164*	-.062	1.00			
9TIM	16.89	2.10	.120	.621*	.561*	.666*	.537*	.492*	.304	-.006	1.00		
10TEM	16.25	2.46	0.82	.521*	.535*	.650*	.519*	.893*	.572*	.102	.550*	1.00	
11AAC	49.87	10.08	0.303*	-.045	-.048	-.089	-.015	-.219*	-.103	-.313*	-.074	-.190*	1.00

P* < 0.05

As indicated in Table 5 there was positive significant relation between perceived academic competence and academic achievement ($r = 0.303$, $p<0.05$). This shows that at this grade level as students' perception of competence in academic domain increases, their academic performance increases. On the other hand, significant negative association was observed between interojected regulation and academic achievement ($r = -0.219$, $p < 0.05$); amotivation and academic achievement ($r = -0.313$, $p < 0.05$); and extrinsic motivation and academic achievement ($r = -0.190$, $p < 0.05$). Moreover, there was no significant association between academic achievement and other variables. Relations within intrinsic and extrinsic subscales were found to be positive. Surprisingly, positive significant association was observed among intrinsic and extrinsic motivation sub scales. Amotivation related positively and significantly with introjected regulation.

Table 6

Correlations among perceived Academic competence, Motivational Orientations and Academic Achievement at Grade 10 (N = 250)

Variables	M	SD	Correlation Coefficients										
			1	2	3	4	5	6	7	8	9	10	11
1PAC	13.74	2.85	1.00										
2IMK	17.25	2.64	.254*	1.00									
3IMA	16.22	2.62	.329*	.502	1.00								
4IMS	15.04	3.28	.092	.446*	.343*	1.00							
5IDR	17.80	2.08	.210*	.499*	.314*	.234*	1.00						
6INR	13.94	3.52	.078	.248*	.194*	.452*	.427*	1.00					
7EXR	16.44	2.98	.084	.271*	.234*	.378*	.136*	.419*	1.00				
8AMO	6.71	3.24	-.253*	-.247*	-.232	.024	-.257*	.116	.076	1.00			
9TIM	16.61	1.97	.288*	.806*	.725*	.721*	.641*	.383*	.439*	-.222*	1.00		
10TEM	15.21	2.89	.108	.308*	.243*	.461*	.342*	.780*	.772*	.093	.473*	1.00	
11AAC	49.91	9.93	.393*	.179*	.256*	-.152*	.121*	-.187*	-.124*	-.395*	.108	-.206*	1.00

P* < 0.05

As indicated in Table 6. There was significant relationship between perceived academic competence and academic achievement ($r = 0.393$, $p < 0.05$); intrinsic motivation to know subscale and academic achievement ($r = 0.179$, $p < 0.05$); intrinsic motivation toward accomplishment subscale and academic achievement ($r = 0.256$, $p < 0.05$); identification and academic achievement ($r = 0.121$, $p < 0.05$). On the other hand negative significant association was observed between intrinsic motivation to stimulation and academic achievement ($r = -0.152$, $p < 0.05$); introjected regulation and academic achievement ($r = -187$, $p < 0.05$); amotivation and academic achievement ($r = -0.395$, $p < 0.05$); external regulation and academic achievement ($r = -0.124$, $p < 0.05$); and extrinsic motivation and academic achievement ($r = -0.206$; $p < 0.05$).

The relationship between perceived academic competence and intrinsic motivation subscales were positive and significant. No correlation was observed between perceived academic competence and extrinsic motivational subscales. Amotivation found to relate negatively and significantly with perceived competence.

To sum up the trend in the correlation analysis shows that significant correlation was found between perceived academic competence and achievement. On the other hand negative significant correlation between non-self determined motivational orientations and academic achievement. Self-determined motivational orientations have no correlation with academic achievement for the total group. It was observed that except perceived academic competence, self-determined motivational orientations were not correlated with academic achievement for grade six and eight. Interestingly, self-determined motivational orientations seem grade specific that as students go to the higher grade especially high school levels their self-determined orientations contributed significantly for academic achievement and non self-determined orientations correlated negatively and significantly with academic achievement. This result goes in harmony with self-determination theorists assertions. So at high school level students with high self-determined motivational orientations will show high academic achievement than students with low self-determined motivational orientations and students of junior schools.

4.2. The multiple correlations of Academic Achievement with Perceived Academic Competence Intrinsic and Extrinsic motivation, and Amotivation.

The second major basic question is to investigate the overall GPA variance of (academic achievement) explained by the independent variables indicated above. To do this regression analysis was utilized and the results are presented on Table 6.

In this section, the proposition of academic achievement variance accounted for by the independent variables taken together the direct effects and independent contributions were examined. Following is a summary of the regression of academic

performance on the independent variables taken together indicated below at each grade level.

Table 7

4.2.1. The proportion of Academic Achievement Variance Accounted for by the Independent Variables: Grade 6(N = 250).

Source of Variation	ss	df	Ms	F	R^2
Regression	7391.062	4	1847.765	26.641*	.303
Residual	16992.858	245	.69.359		
Total	24383.920	249			

*p < 0.05

Adjusted R^2 = .292

Standard Error of Estimate = 8.3282

As indicated on Table 7, about 30.3 % of the variation in academic achievement was explained by all the independent variables (perceived academic competence, intrinsic, extrinsic and amotivation), F-test revealed that this proportion of variance is statistically significant. (F (4, 245) = 26.641, p < 0.05). Moreover the direct effects of the variables on academic achievement were determined using B coefficients. The effects on academic achievement of perceived academic achievement (B=.205, t=3.631, p<0.05), amotivation (B= -.494, t= -9.130, p<0.05) were statistically significant. The independent contribution of the predictor variables was determined s and the results indicated that amotivation contributed higher followed by perceived academic competence, extrinsic and intrinsic motivation respectively for grade 6 (see Table 11).

A similar analysis was also performed for grade 8 and 10.

Table 8

4.2.2. The Proportion of Academic Achievement Variance Accounted for by the independent variables: Grade 8 (N = 250).

Source of Variation	ss	df	Ms	F	R^2
Regression	4932.010	4	1233.002	14.845*	.195
Residual	20349.359	245	83.059		
Total	25281.369	249			

*p < 0.05

Adjusted R^2 = .182

Standard Error of Estimate = 9.1136

As shown on Table 8 about 19.5 % of the variance in academic achievement was explained buy all the independent variables. The F-test portrayed that the obtained proportion of variance is statistically significant (F 4, 245) = 14.845, p < 0.05). Furthermore the direct effects of the variables on academic achievement were determined using path coefficients. The effects on academic achievement of perceived academic competence (B= .274, t= 4.667, p <0.05), extrinsic motivation (B= -.183, t= -2.643, p< 0.05) and amotivation (B= -.244, t= -4.152, p < 0.05) were statistically significant. The independent contribution of the predictor variables was determined and accordingly the contribution of perceived academic competence was higher followed by amotivation, intrinsic and extrinsic motivation respectively for grade 8.

Table 9

4.2.3. The Proportion of Academic Achievement Variance Accounted for by the independent variables: Grade 10 (N = 250).

Source of Variation	ss	df	Ms	F	R^2
Regression	7274.933	4	1818.733	25.806*	0.296
Residual	17266.936	245	70.477		
Total	24541.870	249			

*p < 0.05

Adjusted R^2 = 0.285

Standard Error of Estimate = 8.3951

As indicated in Table 9 about 29.6 % of the variance in academic achievement was explained by all independent variables. The F-test also indicated that the observed proportion of variance is statistically significant (F 4, 245) = 25.806, P<0.05). The direct effects of the variables on academic achievement were determined using path coefficients. The effects on academic achievement of perceived academic competence (B= .330, t= 5.781, p < 0.05), extrinsic motivation (B= -.249, t= -3.992, p < 0.05) and amotivation (B= -.273, t= -4.732, p < 0.05) were statistically significant. The independent contributions of the predictor variables were determined and accordingly the contribution of perceived academic competence was higher followed by amotivation, extrinsic and intrinsic motivation respectively for grade 10.

From the above the trend seems that academic achievement variance accounted for by the independent variables was higher at grade six and lower at grade 8 and there was a rise at grade 10. Therefore the variances in academic achievement explained by all independent variables tend to decrease as grade level increase for this sample group. The independent contribution of the predictor variables was determined and the trend shows that perceived academic competence contribute higher to the variance of academic achievement as students go higher grades

Table 10. Summary of Regression Weights (bi's), Standard Error of Estimate (Se), βeta Coefficients (B's), and t-values.

	Grade Level											
	6(N = 250)				8(N=250)				10(N=250)			
Variables	b	se	β	t	b	se	β	t	b	se	β	t
PAC(x_1)	.724	.200	.205	3.631*	1.074	.230	.274	4.667*	1.151	.199	.330	5.781*
IM(x_2)	-.238	.339	-.050	-.704	-.0377	.331	-.008	-.114	.353	.330	.070	1.070
EM(x_3)	-.258	.302	-.060	-.853	-.748	.283	-.183	-2.643*	-.857	.215	-.249	-3.992*
AMO(x_4)	-1.236	.135	-.494	-9.130*	-.707	.170	-.244	-4.152*	-.836	.177	-.273	-4.732*

P* < 0.05

Note: PAC Perceived Academic Competence, IM = Intrinsic motivation, EM = Extrinsic Motivation and AMO = Amotivation.

Table 11. The Independent contribution of the predictor variables determined by partial regression.

Grade Level									
	6			8			10		
Variables	**R^2**	**Independent contribution**	**Percent**	**R^2**	**Independent contribution**	**Percent**	**R^2**	**Independent contribution**	**Percent**
PAC	30.3	4.059	13.38	19.5	8.302	42.57	29.6	12.969	43.81
TIM		0.235	0.77		0.059	0.30		0.756	2.55
TEM		0.648	2.14		3.477	17.83		5.129	17.33
AMO		25.40	83.72		7.637	39.16		10.784	36.43

4.3 Scores on Perceived Academic Competence, Intrinsic, Extrinsic, Amotivation and Academic Achievement Variables.

The third question of this study was to examine whether there exist sex difference at grades 6, 8 and 10 on the variables treated. To do this, Two way analysis of variance was employed and the results are presented below.

4.3.1 Perceived Academic Competence.

Table 12 shows the number of observations, means and standard deviations of perceived academic competence scores at each grade level arranged by sex.

Table 12

Number of observations, Means and Standard Deviations for Perceived Academic competence scores* at each grade level arranged by sex.

Grade level	Male			Female			
	N	Mean	SD	N	Mean	SD	Total Mean
6	112	15.77	2.51	138	15.43	3.00	15.58
8	132	14.27	2.57	118	14.28	2.59	14.27
10	145	13.97	3.11	105	13.43	2.43	13.74

* The maximum possible raw score in perceived academic competence was 20.

As indicated in Table 12 at each grade levels there was no mean score difference between males and females in perceived academic competence scores. The variation of both females' and males' mean scores greater between grade 6 and 10 than scores of grade 8 of both the sexes. The least mean scores obtained in grade 10 and the highest in grade 6 by both males and females. Table 13 presents the result of analysis of variance.

Table 13

Two-way ANOVA Summary Table for Perceived Academic competence scores.

Source of Variation	ss	df	Ms	F
Grade (G)	15.301	2	15.301	2.036*
Sex (S)	467.449	1	233.724	31.098
GXS	9.644	2	4.822	0.642
Residual	5591.772	744	7.516	
Total	6084.795	749		

*$p < 0.05$

Table 13 shows that the grade main effect is statistically significant. Tukey multiple comparisons test (Hinkle, et al., 1994) demonstrated that means in the three grades were found to be statistically significant that is all the three grades found to score higher perceived academic competence score. The higher mean score (15.58) found in grade 6 and the lowest found in grade 10 (13.74). The sex main effect and grade-sex interaction was not statistically significant at the determined level of significance which shows that little joint effect of grade level and sex on students' perceived academic competence. There is also a decrease in perceived academic competence between grades 6 to grade 10.

The proportion of variances accounted for by grade level, sex and interaction are 0.074 0.001 and 0.001 respectively. The statistic Omega square (ϖ^2) found to be 7.6% which is a measure of association between the independent and dependent variables. It provides the proportion of total variability in a set of scores that can be accounted for by the independent variables. Therefore 7.4% of the variance in the dependent variables (Perceived academic competence) is accounted for by grade level and 0.2% accounted for by sex and grade sex interaction.

4.3.2 Intrinsic Motivation

A summary of data regarding intrinsic motivation is given on Table 14 and 15.

Table 14

Number of Observations, Means and Standard Deviations for Intrinsic Motivation Orientation scores* at each Grade level arranged by sex.

Grade level	Male			Female			
	N	Mean	SD	N	Mean	SD	Total Mean
6	112	17.20	2.21	138	17.29	1.98	17.25
8	132	16.45	2.15	118	17.38	1.93	16.89
10	145	16.62	2.04	105	16.60	1.87	16.61

* The maximum possible raw score in intrinsic motivation was 20.

As shown in Table 14 females scored higher mean scores at grade 8 level than males counterparts. Both males and females exhibited almost similar average scores in both grade 6 and 10. The variability of scores of both males and females observed between grade 6 and 10. Both sexes scored higher in grade 6.

Table 15

Two-way ANOVA Summary Table for Intrinsic Motivation Scores.

Source of Variation	ss	df	Ms	F
Grade (G)	49.647	2	24.824	5.976*
Sex (S)	21.088	1	21.088	5.077*
GXS	33.441	2	16.721	4.025*
Residual	3090.248	744	4.154	
Total	3194.424	749		

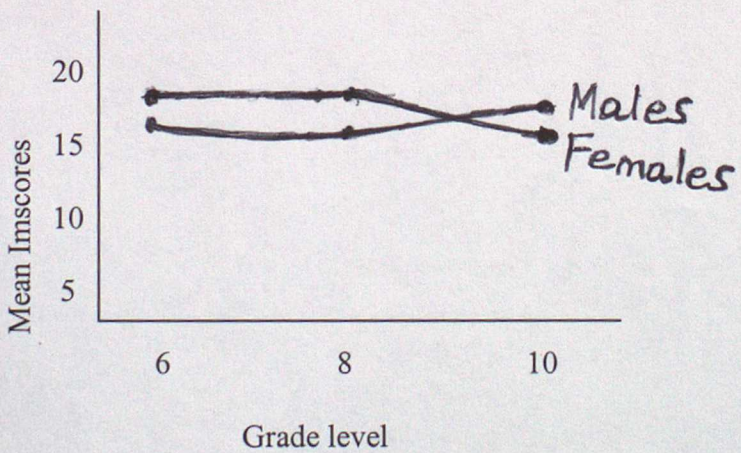
* $p < 0.05$

As indicated in Table 15 there was statistically significant difference among the grade main effect, the sex main effect and grade-sex interaction to the dependent variable, intrinsic motivation. To answer which of the grade level and sex obtained have the higher mean score, Post HOC multiple comparisons tests, were computed. The result revealed that only the mean (17.25) of grade 6 found to be significant than grade 8 and 10. This shows that students of grade six had higher intrinsic motivation than grade 8 and 10 students. The students intrinsic motivation decreased as grade level increased.

Shiffee multiple comparison test was also employed to examine the sex main effect and the result demonstrated that females (mean = 17.09) scored higher than males (mean = 16.76) in intrinsic motivation. Grade levels affected males and females differentially on intrinsic motivation scores. It seems that there is difference among grades 6, 8 and 10 students in their intrinsic motivation scores.

Moreover, the grade - by - sex interaction was statistically significant.

Figure 2 shows the interaction.



The grade-sex interaction, as indicated in Figures 2, above, portrays that in grades 6 and 8 females had higher intrinsic motivation scores than males. But in grade 10 males scored higher than females. The magnitude of the disparity in intrinsic motivation score varied from one grade level to another. The variation was higher among grades 6 and 8. In general, the disordinal interaction in Figure 2 suggests that the effect of grade level is different for male and female students in intrinsic motivation to learn. The statistical Omega (ϖ^2) clearly showed that the total explained variance accounted for by the independent variables was 2.6%. Of this, 0.013 (1.3%), 0.005(0.5%) and 0.008(0.8%) were accounted for by grade, sex and grade-by-sex interaction respectively.

4.3.3 Extrinsic Motivation

A summary of data concerning Extrinsic Motivation is presented in table 16 and 17.

Table 16

Number of Observations, Means and Standard Deviations for Extrinsic Motivation Orientation Scores* at each Grade Level Arranged by Sex.

Grade level	Male			Female			
	N	Mean	SD	N	Mean	SD	Total Mean
6	112	16.95	2.57	138	17.10	2.10	17.03
8	132	15.84	2.44	118	16.69	2.42	16.25
10	145	14.65	3.08	105	15.97	2.42	15.21

* The maximum possible score in extrinsic motivation was 20.

As presented in Table 16 females scored higher means in the three grade levels than males. The mean scores of both the sexes decreases as they go to higher grade levels. The variation of the scores obtained by males and females were higher between grade 6 and 10.

Table 17

Two-Way ANOVA Summary Table for Extrinsic Motivation Scores.

Source of Variation	ss	df	Ms	F
Grade (G)	361.811	2	180.906	28.165*
Sex (S)	110.475	1	110.475	17.299*
GXS	42.289	2	21.145	3.292*
Residual	4779.014	744	6.423	
Total	5293.589	749		

*$p < 0.05$

As indicated in Table 17 that there was statistically significant difference among grade and sex main effect, and grade-by-sex interaction in extrinsic motivation. It seems that there is difference between male and female students among the three grade levels in use of extrinsic motivation in academic achievement.

Further more, post Hoc comparison procedures were performed in order to see which of the means scores contributed higher in grade levels and sex differences. The results depicted that both grade 6 and 8 scored significant higher means (17.03, 16.25) respectively. Grade 6 and 8 students showed higher extrinsic motivation scores. The magnitude is higher in grade six and decreases as grade levels increase.

The sex main effect comparison of means found to be in favor of females (16.59). Females' use of extrinsic motivation in academic achievement is higher than males in grade 6 8 and 10.

Likewise, grade-by-sex interaction found to be statistically significant. Figure 3 shows this interaction.

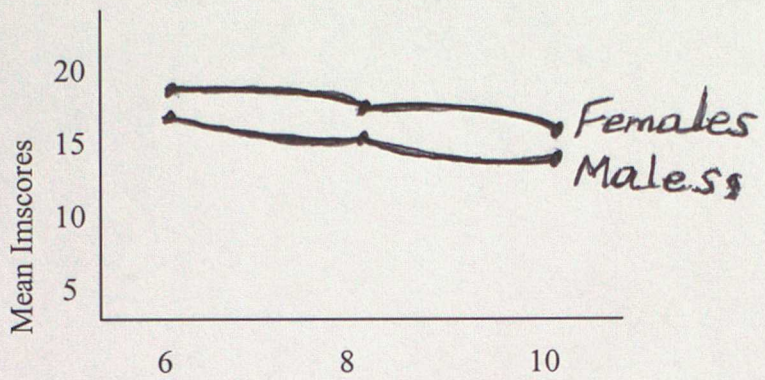


Figure3 clearly shows that grade-by-sex interaction was in favor of females in all the three grades. Females had higher extrinsic motivation scores in grade 6, 8 and 10. Female students' extrinsic motivation orientation is higher at lower grade and the score decreases as females increase in grade levels. The ordinal interaction in figure 2 depicts that the effect of grade level for both males and females contribute differently in use of extrinsic motivation in academic settings. The proportion of variance accounted for by the independent variables (ω^2) was 9.2%. Of this, grade level, sex and grade-sex interaction contributed 0.066(6.6%), 0.020(2%) and 0.006(0.6%) respectively.

4.3.4. Amotivation

A summary of data pertaining Amotivation is presented on Table 18 and 19.

Table 18

Number of Observations, Means, Standard Deviations for Amotivation Scores* at each Grade Level Arranged by sex.

Grade level	Male			Female			
	N	Mean	SD	N	Mean	SD	Total Mean
6	112	7.86	3.95	138	8.01	3.97	7.94
	132	6.79	3.34	118	7.52	3.60	7.13
10	145	6.10	2.72	105	7.54	3.70	6.71

* The maximum possible score in motivation was 20.

As indicated in Table 18 females scored higher mean than males in the three grade levels. The score obtained were higher at lower grade 6 and lower at the highest grade 10. The variations of scores were more pronounced between grade 6 and 10 male students.

Table 19

Two-way ANOVA Summary Table for Amotivation scores.

Source of Variation	ss	df	Ms	F
Grade (G)	160.767	2	80.383	6.389*
Sex (S)	111.202	1	111.202	8.838*
GXS	50.599	2	25.299	2.011
Residual	9360.717	744	12.582	
Total	9683.285	749		

*P < 0.05

As shown in Table 19 both the grade main effect and the sex main effect found to be statistically significant. This indicates that sex of students and grade levels contribute in students' amotivation. Post Hoc comparison procedures indicated that the mean scores of grades 6 and 8 were significant. Both grade 6 and 8 students more amotivated than grade 10 counterparts. The sex main-effect comparisons of means found to be in favor of females (mean = 16.59). On the other hand grade-by-sex interaction was not statistically significant. This shows there is little joint effect of grade level and sex on students' amotivation.

The total proportion of amotivation variance accounted for by the independent variables of grade level, sex and interaction was 0.014, 0.010 and 0.003 respectively. The measure of association, Omega (ω^2) was 0.027%.

4.3.5 Academic Achievement

A summary of data about Academic achievement is indicated below on Table 20 and 21.

Table 20

Number of Observations, Means, and Standard Deviations for Academic Achievement scores* at each grade level arranged by sex.

Grade level	Male			Female			
	N	Mean	SD	N	Mean	SD	Total Mean
6	112	52.34	10.97	138	48.10	8.51	50.00
8	132	52.23	10.63	118	47.22	8.73	49.87
10	145	53.83	9.76	105	44.49	7.28	49.91

* The maximum possible raw score in Academic Achievement was 20.

Table 20. indicates that, at each grade levels, males have higher mean of achievement scores than females. The variability of females' scores in grade 6 and 10 is greater than that of males, but the scores of males in grades 6, 8 and 10 is almost similar.

Table 21 presents the result of analysis of variance.

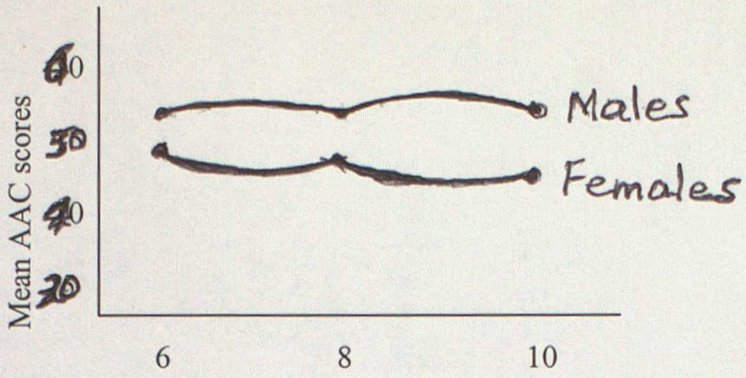
Table 21

Two-way ANOVA Summary Table for Academic Achievement.

Source of Variation	ss	df	Ms	F
Grade (G)	138.373	2	69.186	0.777
Sex (S)	7106.363	1	7106.363	79.849*
GXS	929.393	2	464.697	5.221*
Residual	66213.876	744	88.997	
Total	74388.005	749		

*$p < 0.05$

Table 21 indicates that the grade main effect is not statistically significant. It appears that there is no difference among the students of grade 6 through 10 in academic achievement. The gender difference in academic achievement was statistically significant. Closer investigation of the Sheffee method indicated that males (mean = 52.80) scored higher than females (mean = 46.60) in academic achievement. Furthermore, the grade-by-sex interaction was statistically significant and Figure 4 shows the interaction below.



Grade level.

The grade-by-sex interaction, as indicated in Figure 4, indicated that in grade 6, 8 and 10 males had higher academic achievement scores than females. The difference is higher in grade 8 and 10. In general the ordinal interaction in Figure 4 shows that the effect of grade level is different for males and females in their academic achievement. The total explained variance accounted by the independent variables was 10.4%. The explained variance accounted by sex is 9.4%.

In short the grade, sex and the interaction influences show that there was significant grade main effect. The three grade levels scored higher mean score in perceived academic competence. The higher score was obtained in grade six; the lowest in grade 10, but sex and grade–sex interaction were not significant. There was significant difference on grade main effect, sex, and grade-sex interaction on intrinsic motivation. The grade main effect was found to be significant for grade 6. Females were also found to display higher in intrinsic motivation in grades 6 and 8 but in grade 10 males scored higher.

Similarly, there was significant difference among grade, sex and grade by sex interaction in extrinsic motivation. The grade main effect was in favor of grade 6 and 8, but the magnitude is higher in grade 6 in the use of extrinsic motivation. Females found to use higher extrinsic motivation than males in the three grades and grade level contributed higher in extrinsic motivation than sex and grade-sex interaction.

With regard to amotivation grade 6 and 8 found to be more amotivated than grade 10 students. Females found to be more amotivated than males. Concerning academic

achievement males scored higher grades than females but the grade main effect was not statistically significant. In all the three grades males scored higher than females in academic achievement scores. The variance accounted by sex was higher than the grade main effect and grade by sex interaction.

CHAPTER FIVE

DISCUSSION

The main concern of this study was to examine the relationships between perceived academic competence, motivational orientations and academic achievement variables. The second purpose of this study was to investigate the proportion of academic achievement variance accounted for by the independent variables. The third objective was to compare mean score differences between male and female students across grade levels on the independent variables.

5.1 Correlation among Perceived Academic Competence, Motivational Orientations, and Academic Achievement

The results obtained from correlation analysis in Table 1 indicated that positive significant association was obtained between perceived academic competence and academic achievement. On the other hand negative significant association between intrinsic motivation to stimulation, introjected regulation, external regulation, amotivation and total extrinsic motivation with academic achievement as grade levels increase. This shows that as students' perception of competence raises their academic achievement increases with grade levels. In contrary to this, as students intrinsically stimulated, introjected, externally regulated and amotivated their academic achievement decreases with an increased grade level. It appears that non self-determined motivational orientations lead low level of academic achievement in school settings. This result is exactly in agreement with findings obtained by (Vallerand et al., 1992; 1993) who reported that perception of academic competence has significant relationship with student reported grades. Interestingly, they stressed that intrinsic motivation to experience stimulation lack importance in education than faulty measurement. Similarly, Blaise et al. (1990); Pelletier et al., (1995) found out that this type intrinsic motivation was extremely important source of motivation in other life domains such as in the quality of couple relationships and sports than education. Moreover, non self-determined motivational orientations such as external

regulation, introjected regulation and amotivation were negatively and significantly associated with students academic achievement (grades). This finding is in consonant with Vallerand et al., 1992; 1993; Vallerand et al., 1997; Vallerand & Bissonette, 1992; Grolnick & Ryan, 1978; Ryan & Connell, 1989), suggested that performing a learning task with predominantly low self-determined motivational regulatory orientations lead to low conceptual learning in academic behavior.

Consecutive intercorrelations were computed at each grade level to see the relationship patterns of perceived academic competence, motivational orientations and academic achievement in school settings. The intercorrelation in Table 2 demonstrates that the relationship between perceived academic competence and academic achievement was significant. At this grade level students who have higher perception of competence scored higher grades than students who have low perception of competence in their learning. On the other hand inverse significant association was obtained between intrinsic motivation to stimulation and academic achievement, introjected regulation and academic achievement, and amotivation and academic achievement. This finding is consistent with the existing literature that non self-determined motivational orientations relate with student performance (Ryan and Connell, 1989; Deci et al., 1992, Ryan & Deci, 2000).

As indicated in Table 3 a similar results of correlation analysis also obtained between independent and dependent variables for grade 8. In both grade six and eight self-determined motivational orientations were not related to student achievement. Correlation analysis among perceived academic competence, motivational orientations and academic achievement at grade 10, as indicated in Table 4 has a different trend than the preceding grade levels. The intercorrelations among perceived academic competence, self-determined and non-self-determined motivational were related as expected. Self-determined types of motivation, intrinsic motivation to know, intrinsic motivation toward accomplishment and identified regulation were significantly associated with students' academic achievement. As opposed to self-determined motivational orientations, non self-determined ones i.e.

introjected regulation, external regulation and amotivation had negative significant relationships with academic achievement. This indicates that students with higher levels of self-determined motivational styles earn higher grades than those students who have low self-determined motivational orientations. Non self-determined motivational styles also correlated negatively with students grade. This seems that students who regulate externally in academic setting, students who consider or partially internalize their action as appropriate and students who are neither internally nor externally motivated will show lower grades in achievement behavior. This finding is in line with the findings of research conducted by Ryan & Deci (2000); Deci et al. (1991); Fortier et al (1995); Vallerand et al., (1992, 1993). Concerning the relationship between extrinsic motivation and educational outcome, past research works in the field has led the assumption that extrinsic motivation is generally related to outcomes. The relationship between extrinsic motivation and outcomes depends on the type of extrinsic motivation involved (Deci & Ryan, 1991; Vallerand & Bissonnette, 1992). In the context of the present study, non self-determined types of extrinsic motivation, external and introjected regulations were not related to academic achievement. However, self-determined type of extrinsic motivational orientation (identified regulation) found to relate to students achievement. The findings of this study may share the suggestion made by Vallerand & Bissonette (1992); Vallerand et al., (1992, 1993); Deci et al, (1991) that extrinsic motivation need not lead to negative effects. It can be beneficial for the individual, depending on the type of extrinsic motivation involved; we know little about the other types extrinsic motivation and the effects they may have an achievement behavior.

5.2 The Proportion of Academic Achievement Variance Accounted for by the Independent Variables

The results of the multiple regression analysis indicated that all independent variables, taken together, accounted for different amounts of variance which ranged .303, .195 and .296 in academic achievement in grade 6, 8 and 10 respectively. The proportion of academic achievement accounted for by the independent variables at each grade level seems good, considering the many other influencing variables that

are associated with academic achievement in school settings. The proportion of academic achievement variance accounted for by the independent variables increased at grade 6 level and decreased also at grade 8 and 10 level. The highest proportion of variance obtained in grade 6(.303), followed by grade 10(.296) and the least proportion of variance demonstrated at grade 8 which was .195. This probably suggests that there are other more important factors that contribute for academic achievement for students of grade 8 than grade 6 and 10.

At this sample group with development one can see inconsistent variance accounted for by the independent variables in academic achievement. The contributions of perceived academic competence, intrinsic, extrinsic and amotivations have effects at lower grade level and at higher grade level other factors such as school environment, social factors, students personal factors, teacher-student relationship may contribute a lot for student achievement.

The results of multiple regression analysis in this study displayed that perceived academic competence and amotivation found to be the best predictors of academic achievement among the variables at all grade levels. Each of the variables predicting academic achievement in opposite directions, perceived academic achievement is to predict academic achievement in the positive directions whereas amotivation is in the negative direction. The present finding is consistent with Deci et al., (1991), Vallerand and Bissonnettee (1992); Ryan and Deci (2000). Who suggested that amotivation is a very important predictor, being negatively related to academic behavior.

Students' extrinsic motivation was also found to predict achievement in the negative direction in this study at grade 8 and 10. This finding is in agreement with previous studies that students who regulate externally or demonstrate non self-determined motivational orientation will show low academic achievement (Ryan & Deci, 2000; Deci & Ryan 1991; Ryan & Connell, 1989; Deci at al., 1991; Vallerand et al., 1993; Fortier et al., 1995). On the other hand self-determined intrinsic motivation was not

significant in predicting academic achievement in all the three grade levels. This result is in contrary with the findings obtained by other researcher in advanced countries (Ryan & Connell, 1989).

In this study it appears that the developmental patterns of perceived academic competence and amotivation are consistent through out with the advancement of grade levels. With regard to developmental patterns of extrinsic motivation the present study is similar with the results obtained by Ryan et al., (1985) who revealed that a significant decrease of extrinsic motivation with grade levels. With development, students are less likely to experience their behavior in schools externally regulated.

5.3 Grade level and Sex difference in Perceived Academic Competence Intrinsic Extrinsic and Amotivation.

As presented in chapter four, students' perceived academic competence, intrinsic, extrinsic, amotivation and academic achievement have been examined among the students of grade 6, 8 and 10. The results demonstrated that, except academic achievement, perceived academic competence, intrinsic, extrinsic and amotivation seem to be a function of grade level.

As to this study, perceived academic competence score found to be statistically significant in the three grades of 6, 8 and 10 after applying pair-wise comparisons. Perceived academic competence scores seem to decrease with increasing grade levels. As indicated in chapter four, 6^{th} graders (mean = 15.58) greater than 10^{th} graders (mean 13.74). The proportion variance explained by grade level is 7.4% which is a lion's share. This may indicate that grade level is an important variable that contribute to the variances in perceived academic competence.

Research conducted by (Nicholls, 1979; Stipek; 1981) revealed a similar result that students self-perceptions' of competence decline from the time they enter school

through high schools. Similarly, Eccles as noted by Dembo, (1994) pointed out that when elementary grade students move to a junior high school, they tend to show a decline in perception of competence is some academic discipline.

Achievement has been shown to vary directly with a person's level of perceived competence. In general, the more perceived competence a person shows, the greater will be his/her performances and accomplishments (Dworetzky (1988)). In connection to this, in the present study, perceived academic competence scores of lower grade students was higher than higher grade levels, this shows that students of lower grades have relatively higher perception of academic competence than higher grade levels. Perceptions of competence are relevant to the development of self-confidence and task interest, whereas valuing competence may be important to the maintenance of enhancement of interest. If competence is highly valued, its attainment will have more significant for subsequent interest.

The result of the present study is, however, inconsistent with the findings of Zimmerman and Martinez-Pons (1990). Which explored that high school students' academic competence surpassed that of junior high school counterparts and the academic competence of junior high schools, in turn, surpassed that of elementary school children.

One possible explanation for the inconsistencies between the present study and the previous studies may refer to the aspects perceived academic competence that develops across grade levels. This aspect of academic competence is the capability of successfully performing various types of academic tasks in developing countries like Ethiopian context seems difficult. In Ethiopia, particularly in Bahir Dar, it is obvious that high school students are challenged by increasing difficulty of subjects they learn and their academic performance may decrease as they proceed from one grade level to the next higher grade level. This poor academic performance may arise due to the difficulty of the subject matter students learn as they go to higher grade level.

Another explanation may be attributed to the child rearing practices and educational system in the developed social contexts (USA), in which all the studies cited above were conducted, that probably enhance academic competence as grade level increases. In the USA, the environment is, in general, conducive so that children's perception of academic competence may not decline with increasing grade level. This could probably be explained that parents are educationally capable of providing supplementary instruction to their children at home. They can organize activities directly or indirectly related to school learning in which children can participate and make their own decisions. Parents can also reward or provide feedback appropriately to their children's effort and accomplishments; they know how to evaluate children's performance at home, and in such kind of educationally oriented homes children spend more time reading than doing household menial work.

The child rearing practice in this high supportive environment seems to be marked by pressures for independence and praise for successful performance (Schell & Hall, 1979). In this study, intrinsic motivation found to exhibit a significant mean score only in grade 6, intrinsic motivation does not seem to increase with increasing grade level. As mentioned in chapter four, 6^{th} graders (mean = 17.25) were found to score significantly higher on intrinsic motivation than did 10th graders (mean = 16.61); $F(2, 749) = 5.976$, $p < 0.0050$. The mean scores of students on intrinsic motivation seem to decrease with increasing grade level. This is because there was no statistically significant difference between the mean scores of 8^{th} and 10^{th} graders after applying pair-wise comparisons. The proportion of variance explained by grade level is only 1.3%. This probably indicates that there are other more important variables than grade level which contribute to the variance in intrinsic motivation.

The result of this study in consonant with the findings obtained by Gottfried (1985) who reported that intrinsic motivation is an important motivation in elementary and Junior school students in academic achievement.

In seems that in this study 6th graders students have high intrinsic motivation than students of higher grade-levels. This shows that these students are more interested in liking of school work and school activities.

The outcome of the present study regarding intrinsic motivation is consistent with the previous findings obtained in educationally conducive environment. Harter (1981), for instance, found as students move from third through night grades, a declining intrinsic motivation. Similarly, Eccles et al. (1984) reviewed related literature in the nature of changes in children's beliefs and concluded that children's interest, attitudes toward school and academic activities decline with age. Harter, 1978 (cited in Skinner & Belmont, 1993) further explicates that, across preschool to high school years, children's intrinsic value decreases. Yet Eccles (cited by Dembo, 1994) and Harter (1982) pointed out that when students move to junior high schools, they tend to show a decline in intrinsic motivation. So, it seems that the result of this study does not appear to stand in contrast to the developmental trends of intrinsic motivation so far as observed in different research works.

Even though the results of the present study and of those conducted in developed countries seem to be similar with respect to the developmental pattern of students', intrinsic motivation, the conditions under which this result were obtained, nevertheless, appear to be generally different. First, most of the parents of students in west had an exposure to modern education whereas most of the parents of students in Bahir Dar area do not seem to have the kind of experience. Secondly, the area of the research conducted possibly matters for the findings obtained. This study was conducted in less urban area than research conducted in urban areas of the west. In spite of these different, conditions, similar developmental trends of intrinsic motivation have been observed in the present study.

The above conclusion may make sense considering the educational environments students experience as they move from one grade level to the next higher grade level. With respect to this (Eccles & Midgley, 1989) suggest that as students move from

elementary to junior high school, the size of the school and the student body, the extent of departmentalization, use of competitive motivational strategies, rigor in grading, increased teacher control affect students motives, beliefs, value and behaviors. Other investigators (e.g., Fraser & Fisher, 1983; Hunt, 1975) indicated that environmental changes coupled with normal course of individual development; result in developmental mismatch in which the fit between the young adolescent and the classroom environment is particularly, poor, which in turn, increase negative motivational outcome.

According to this study, extrinsic motivation score found to be statistically significant in grade 6 and 8, after pair wise comparison procedure employed. The mean scores of extrinsic motivation showed a decreasing trend as students advance from lower to the higher grade levels. Both 6^{th} graders (mean = 17.03) and 8^{th} graders (mean = 16.25) were greater than students of 10^{th} graders (mean = 15.21). The use of extrinsic reasons in academic achievement more prevails at junior school levels. The proportion of variance explained by grade level is (6.6%). This may show that grade level has contribution as any other variables variance in extrinsic motivation.

In connection with the above result Ryan, Connell & Deci (1985) have conducted a research looking cross-sectionally at age and grade trends in self-regulation during grades three through six, and the result obtained revealed a significant decrease with both age and grade in the degree of extrinsic regulation reported by children during this period. Thus, with development, children are less likely to experience their behavior in school as extrinsically motivated. Similarly, Chandler and Connell (1983) also looked at the internalize on issue cross-sectionally for home behaviors and found a similar pattern of developmental changes to that of Ryan, Connell & Deci have found with in academic domain. They interviewed a large sample of children (N = 121) between the ages of 5 and 13 years, asking them why they did various behavior that were not originally intrinsically motivating. As they predicted, they found a less extrinsic motivation as age increase. One can note that extrinsic motivation is also an important source of achievement motivation, particularly

because children of elementary grade level engage in and master activities that engender little spontaneous interest or intrinsic motivation.

Deci & Ryan (1982a) stated the contribution of schools in the development of child's extrinsic motivation that the hard fact of schooling is that it is more than just the place in which the child's innate curiosity and intrinsic motivation develops. It is also the milieus in which children are being trained to conform with the social fabric, to learn what adults have determined they need to know, and to behave according to external standards and adult values. Because most of these lessons are ones that do not come spontaneously or naturally to the child, school is also a significant socializing agency, armed with a battery of extrinsic incentives and controls to accomplish tasks. Through a system of rewards, supports; and punishments, a child learn in school what to attend to, what to know, how to behave, and what to value. Moreover, teachers are increasingly being evaluated, in such environment it is clear that children will be asked to learn much that is not currently intrinsically motivating to them.

As opposed to the above, motivational researchers now acknowledge that hum motivation does not result from purely intrinsic or extrinsic factors but from a combination of these, although many researchers continue to negatively regard rewards (Hidi, 2000) and view learning as superior and more desirable when it results from what may be considered as intrinsic motivation (Hidi & Harachiewicz, 2000). These writers assert, however, that over the past two decades such negative evaluations of extrinsic motivators may have hindered the use of external interventions that could have created more equitable situations in classrooms for students who are not oriented towards school learning and academic achievement.

Despite the multitude of factors that exist between the western students and ours, the findings obtained in the present study go in harmony with the results reported by other research works that supports the use of extrinsic motivation by students of elementary level.

Another variable that was found to be significant as a function of grade level is amotivation score, in grade 6 and 8. A close investigation of pair-wise comparison evidenced that both grade 6(mean=7.94) and grade 8(mean = 7.13) greater than grade 10(mean = 6.71) students. Still there was a decrease in mean scores as one goes form grade 6 to grade 10. The proportion of variance explained by grade level is 1.4, which is very small.

In the light of this Dworetzky (1988) contended that individuals may not be motivated to help themselves when they could easily do so. If they have lost this motivation because of their experiences with failure, they may be suffering from learned helplessness. Giving up, even though success is possible, because of previous experience with situations in which success was possible, not motivated to help themselves, even they could easily do so.

A study conducted by Vallerand & Bissonnette (1992) disclosed that amotivation occurs as students reach at high school or above through dropout form the school. In contrast to this, in this study students of junior level reported higher level of amotivation than high school students.

One can infer from this result that these students possibly have a problem of clearly identifying the reasons why they go to school at this age level. They are not able to see future encounters or vision that they would like to be through attending schooling.

The third question of this study was to answer whether there exist sex difference in perceived academic competence, intrinsic, extrinsic, amotivation and academic achievement variables.

The univariate factorial analysis portrayed that there is no sex difference between male and female students on perceived academic competence in grade 6, 8 and 10. This indicates that in this sample group grade level difference makes no disparity an being maleness or femaleness on perceived academic competence.

The result of the present study is inconsistent with past research findings (Printrich and DeGroot, 1990) who reported among grade seven students in which boys rated themselves more competent than girls did.

With regard to expectation of success, some studies (Sadker, Sadker & Klein, 1991) suggest that females as compared to males enter learning situations with low expectation of success and with a lack of confidence in their ability to achieve and the consequence of these perceptions is that males are more likely to develop a sense of mastery and control over their fate, experience greater self-confidence, and Persist longer on difficult academic tasks.

Local studies conducted on efficacy in high school students of (Yalew, 1996; 1997) Addis Ababa and Bahir Dar disclosed that males were highly efficacious than female students who were less competent both in a general efficacy scores and in particular subject efficacy scores, despite, the above unequivocal findings, the present result showed no significant difference between male and female students in this sample group.

A possible explanation that can be attached to this may be females are now becoming competent and improving their low perception in achieving academic tasks successfully in Bahir Dar area where this research was conducted.

In the present study, sex difference observed on intrinsic motivation. This shows that there is difference between male and female students on intrinsic motivation. A close examination of mean scores resulted that females (mean = 17.09) greater than males (mean = 16.76) in use of intrinsic motivation to know, accomplish academic tasks and display interest in domains of leaning. In line of this, it has been suggested by different investigators that intrinsic enjoyment of learning appears to be associated with greater creativity (Amabile, 1985) and higher school achievement in elementary school (Gottfried, 1985). With reference to the latter idea, as observed by investigator in the present study, the students academic achievement seems to

decrease for females with advancing grade level, and to increase for males with advancing grade level.

This result is in agreement with the findings reported by Vallerand and Bissonette (1992) which revealed that females were more intrinsically motivated, integrated and identified toward academic activities than males. It is also note worthy that these findings have been replicated with consistency in the literature and that much research reveals that females appear to display lower levels of external control but higher levels of internal control than males. In addition, the present findings appear robust since it is in congruent with elementary school children in the United States (Ryan & Connell, 1989), one high school sample (Daoust, Vallerand, & Blias, 1988), two samples of junior-college students and with one sample of elderly individuals (Vallerand & O'connor, 1989).

Despite the differences that exist between students of USA and Ethiopia, in particular, Bahir Dar the present result supports what has been reported in the literature. This outcome possibly inform us that since Bahir Dar is urbanized area parents seem aware and encourage female's education by allowing sufficient time to study than involve them in household tasks.

Another explanation that could go in line with the above findings is positive school climate that support their learning. Another driving factor perhaps would be that presently more female students are joining the university based on the passing criteria of ESLCE; this may initiate female students who are currently attending their schooling and inform them to be internally motivated.

In this study, significant sex difference was observed on the use of extrinsic motivation. There is difference between male and female students in extrinsic motivation in grade 6, 8 and 10. Comparisons of means of both sexes females (mean = 16.59) and males (mean = 15.81) revealed that females utilize extrinsic motivation

in the three grades to achieve higher than males. The mean scores are in decreasing pattern from each grade level to the other higher level.

The present study is in contrary with the findings of past research conducted by Vallerand & Bissonnette (1992) who found that one would expect females to display a more self-determined motivational profile than males. In this sample group it is females of junior school exhibited higher extrinsic motivation than females and males in the high school level. Furthermore, a look at the results of this study one can understand that female students are more entertained by the two opposing motivational orientations than male counterparts. This may lead us to accept the suggestion given by Hidi (2000) who acknowledge that human motivation should be the combination of intrinsic and extrinsic rather than solely intrinsic or extrinsic.

In contrast to intrinsic motivation where the behavior itself is interesting or satisfying, extrinsic motivation concerns doing a behavior to obtain some separable consequence that has been made contingent on the behavior. Seeking rewards and avoiding punishments represent prototype of extrinsic motivations. When externally motivated, people engage in activities because the activities are instrumental; that is, they are means to desired ends (Ryan & Deci, 2000). In connection to the above, (Deci & Ryan, 2000) stated that Achievement-related behaviors can be motivated by either intrinsic or extrinsic motivation and are often motivated by a combination of the two.

Another line of explanation would be interpersonal relationship that an authority figure-a teacher or parent has with students. Being controlling starts from the adult's perspective, conveying what the adult wants the student to do while failing to take account of the student's desired or feelings. Being autonomy supportive, in contrast, recognizes and acknowledges the student's desires and feeling and makes on from there. The idea quite simply, concern, being responsive to the student rather than simply being demanding of him or her.

In the present study, there was statistically significant difference between male and females students amotivation. Females scored higher (mean = 7.69) than males (mean = 6.92) at all the three grade levels. This shows that females are more amotivated, the reasons why they go to school and learn seem less internalized or externalized than males who have les amotivated.

This finding is intriguing because they run in line with past research which has found females to display higher levels of learned helplessness than males in educational settings (Dweck & Goetz, 1978). Vallerand & Bissonnette (1992) reported males are more amotivated than females.

The sex differences in attribution patterns suggest that females may be prone to a learned-helplessness response especially for tasks involving mathematics. If this is the case, then sex differences in math and language achievements may be mediated by sex differences in amotivation (Dweck & Licht, 1980). Although it has been argued that there is a sex difference in the incidence of learned-helpless behaviors, careful review of the literature suggests that the sex differences are neither as consistent nor as strong as one might expect (Parsons, 1983). However amotivation has rarely been studied for subject areas that are sex typed. Boys and girls may vary in the frequency of learned-helpless behaviors depending on the subject domain under consideration. Girls may be more likely to show amotivation behaviors in a male stereotyped subject such as mathematics, where as boys may be more likely exhibit learned helpless behaviors in a female-stereo typed subject such as language arts (Eccles et al., 1984).

The literature indicated above show the differences between males and females with regard to amotivation seem more of subject specific. The present study on the other hand identified disparity between the two sexes on general educational setting related to academic achievement that females more amotivated than male students.

Generally, most of the present findings are not new. What is relatively new is the developmental patterns and sex difference in perceived academic competence, intrinsic extrinsic and amotivation orientations which are a little bit different from the developmental trends observed in advanced countries. The developmental trend in motivational orientations seem to decrease with increasing grade level in this study, some of the orientations found to be the opposite of the findings obtained in other countries and this difference is not common in the existing literature. On the other hand, the present data support some of the previous research findings which explored different developmental patterns for extrinsic and intrinsic motivational orientations. With regard to the developmental trend of perceived academic competence and sex differences a different trend is observed with the previous research findings.

With respect to the relationship between intrinsic extrinsic motivational styles and academic achievement there is a similar trend as students go to the higher grade level.

The present findings have practical implication to the teaching-learning process and further research. Regarding the practical implication teachers should encourage student's self-determined motivation rather than controls over students' action. Students could be regulated by internally and externally, it is important to find out those regulations which are responsible for students actions and to create ways in order for the students driven by internal than external controls and contingencies in the instructional process. Many techniques have been outlined to improve student's motivational orientations in advanced countries. (See Deci & Ryan, 2000, Ryan et al., 1985).

However, only some of them may be applicable in the present context, For instance, in order to improve students' motivational orientation the following likely to be applicable in the instructional process.

- Teachers need to support classrooms that allow students to participate in their own course of learning and to engage in active types of learning. It provides a

context in which students can find optimal challenges and perform meaningfully with responsibility so they will learn to be more self-governing. In such classrooms, students fell related to their teachers and to other students, for in these non controlling contexts students will able to interact in ways that provide a greater sense of competence and autonomy, as well as acceptance. When teachers create atmosphere in which all students are respected, the students will be more likely to identify with the goals and values that are manifest by the teachers.

- Controlling conditions have also been found to impair internalization and integration, resulting in poor achievement, and it thus further implies that supporting students' intrinsic need satisfaction rather than controlling their behavior is advantageous for academic performance.
- Encourage students' involvement in learning through classroom discussions and group activities.
- Encouraging students to have confidence in what they learn and make them responsible for their learning.

In addition to the practical implication of the findings provided above, this study also suggests various areas for future investigation. Among these are replicating the research by improving adequacy of the present instrument (AMS) including other relevant variables that have paramount importance in the teaching-learning process of different schools in Ethiopia.

Finally, it seems appropriate to mention limitations of this study, first, the present study employed self-report instrument for all the variables treated, this may lead the items to be susceptible to response set. Second this study did not use an experimental design. Thus it is inappropriate to interpret the present results in terms of causality. Future research is called for in order to more clearly determine the causal effects of motivational orientations on academic achievement. Another limitations of this study pertains to the level of generality at which motivational orientations was assessed. The investigator assessed perceived academic competence and motivational

orientations towards school in general. One could argue that a more specific measure assessing motivational orientations toward a particular subject area should have been used.

The other limitation pertains the scope of the study. Due to its limited scope (only Bahir Dar Administrative zone) the generalizability of the study may be limited to the population studied.

The study treated motivational orientations on academic achievement it would have been better some social variables that directly or indirectly influence these orientations. The transformation of T-score was used to change students' average achievement score to a normal score but other non cognitive variables scores were not changed. The factorial designs of ANOVA requires randomness and the subjects in each cell should have been equal.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDETIONS

The first purpose of the present study was to examine the relationships between perceived academic competence, motivational orientation and academic achievement; the second purpose was to see how academic achievement relates with the independent variables (perceived academic competence, intrinsic, extrinsic and amotivation variables). And the third objective was to investigate grade level and sex differences in students' perceived academic competence, intrinsic, extrinsic and amotivation variables among grade 6, 8 and 10 students in Bahir Dar administrative zone. .

A total of 750 (389 male and 361 female) students drawn from 3 Junior and two high schools were used as a sample.

The instrument used in this study was academic motivation scale (AMS-28) used to assess junior and high school students' perceived academic competence and motivational orientations and adapted from the instrument reported by Vallerand et al., (1992-1993) that was used for both junior high school population. The instrument was administered to a pilot sample (N = 90), and based on this, some items were improved and internal consistency reliabilities determined.

Pearson product moment correlation was employed to examine inter correlations between perceived academic competence, motivational orientations and academic achievement at each grade levels. At the three grade levels, perceived academic competence found to correlate with students academic achievement. Introjections, amotivation and total extrinsic scores were negatively related with academic achievement. A different trend observed in grade 10 that both self-determined motivational orientations and non-self determined motivational orientations

correlated with students' academic scores as predicted. This indicated that grade 10 students had better orientation than grade 6 and 8.

To determine the overall relationship of the independent variables and academic achievement multiple regressions was used.

The results of multiple regression analysis indicated when academic achievement was regressed on all the independent variable, (Perceived academic competence, intrinsic, extrinsic and amotivation), the obtained multiple coefficients of determination were .303, .195 and .296 for grade 6, 8 and 10 respectively. The results suggest that the independent variables, when combined together, have a significant relationship with academic achievement at each grade level. The regression analysis also demonstrated that perceived academic competence and amotivation were relatively better in predicting academic achievement the other two variables in the study at the three grade levels.

The results of ANOVA'S portrayed that the grade main-effect was statistically significant for perceived academic competence intrinsic, extrinsic and amotivation scores. After a pair-wise comparision made, it was found that grade 6, 8 and 10 scored significantly higher means. The magnitude is higher in grade six followed by grades 8 and 10. Regarding intrinsic motivation only grade 6 score found to be significant. Concerning extrinsic and amotivation scores both grade 6 and 8 found to be statistically significant than grade 10 students. The proportion of variance accounted for by grade level to the variances in perceived academic competence, intrinsic, extrinsic and amotivation were 0.074, 0.013, 0.066 and 0.014, respectively.

The sex main-effect was statistically significant for intrinsic extrinsic and amotivation. Females scored significantly higher means on the three variables in the three grade levels than males. But there was not sex difference on perceived academic competence to the differences in intrinsic, extrinsic and amotivation were 0.005, 0.020 and 0.010 respectively.

The sex-by-grade interaction was statistically significant for intrinsic and extrinsic variables at the predetermined level of significance. This indicated that the effect of grade level was different for males and females on intrinsic and extrinsic motivation. The proportion of variances accounted for by grade-by-sex interaction in intrinsic and extrinsic motivation was 0.008 and 0.006, respectively.

In general, the results of the present study were good indicatives for further research. Some of the results obtained at lower grade levels seem new in the developmental trends observed in developed countries.

From the above findings one may come up with the following conclusions:

1. Students' perceived academic competence found to correlate with achievement in the three grade level. It was higher at lower grade levels and decreased with the increasement of students' grade level. It also found to be predictor of academic achievement in this study; therefore teachers need to devise mechanisms that uplift students' competence in the academic arena by tailoring fitting the tasks to the levels of students with optimal challenges.
2. In this study self-determined motivational styles of intrinsic motivation to know, to accomplish and self-determined extrinsic motivation i.e. identified regulation were not related to achievement at grade six and eight but non-self-determined motivational orientations i.e. introjections, external regulations and amotivaitons related negatively with students' academic achievement. At higher grade level (grade ten) both self-determined and non self-determined motivational styles were correlated as predicted and support the existing literature. It seems that at lower grade levels the use of self-determined motivation was minimal and teachers control seems higher to guide students' learning. One can also observe the achievement of students' of grade 10 which was higher than the preceding two grades, may be they utilize self-determined motivational orientations to achieve higher. Amotivation also found to predict negative learning outcome in all of the specified grade levels.

3. The contribution of perceived academic competence, intrinsic extrinsic and amotivation together on academic achievement at the three grade levels was investigated. The results obtained seem reasonably good considering the multitude factors that affect the academic achievement of students in educational settings.
4. Compared to the variances accounted for by grade level, the variances in perceived academic competence, intrinsic, extrinsic and amotivation scores that were accounted for by sex was lower. It appears, therefore, that the grade level of the student is more important than his or her grade level in contributing to the variances in the dependent variables. Again considering the small amount of variances accounted by both grade level and sex, it appears that there are other variables that are more important affect than grade level and sex in contributing to the differences in students' perceived academic competence, intrinsic, extrinsic and amotivation.
5. Even though students' perceived academic competence, intrinsic, extrinsic and amotivation variables decline among all students with increasing grade levels, in perceived academic competence and intrinsic variables. The decline seems to be more pronounced in the case of male students. With reference to the use of extrinsic, motivation and amotivation, however, it appears that females are more non self-determined with decreasing grade levels. Therefore, to up lift females' self-determined motivation parents and teachers' use of external controls should be minimized at lower levels.

In light of the findings obtained the following recommendations could be forworded.

- Perceived academic competence found to correlate and predict significantly academic achievement, therefore teachers and parents could raise students' feelings of competence by providing positive verbal feedback. Teachers should respond positively to students' questions with encouragement and could create conducive environments responsive to students needs.

- Teachers directors and parents should encourage the use of self-determined motivation to students of junior level in order to up lift their academic performance rather than using external constraints or controls over student learning.
- Teachers and school personnel need to devise intervention mechanisms for female students at junior grade levels in order to alleviate feelings amotivation in academic learning by promoting self-initiated learning and helping them whenever they have academic problems.
- Students to be actively participate in academic learning they should value learning, achievement and accomplishment when lessons are not so interesting.

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APPEDICES

APPENDIX A

QUESTIONNAIRE ENGLISH VERSION

Addis Ababa University School of Graduate Studies Department of Psychology

Questionnaire to be filled by Junior and Secondary school students.

Objective: - The main objective of this questionnaire is to know more about junior and secondary school students about their perception of academic competence and motivational orientations have effect on their academic achievement. Therefore you are candidly requested to read each of the items carefully and provide your authentic response about your perception of academic competence and motivational orientations in academic learning.

The questionnaire has three parts

Part I deals with background profile.

Part II contains perceived academic competence items

Part III has questions pertinent to student motivational orientations in academic learning.

Directions are provided in each parts of the questionnaire. Read each of the items and provide your own authentic response. Your genuine responses contribute highly for the success of this study at large. The responses will be kept highly and confidentially at all times.

Thank you

Part I

Provide your information indicated below

1.1. Background Information

1.1.1. Name of the school _____

1.1.2. Grade Level _____

1.1.3. Sex _____

1.1.4. Age _____

1.1.5. Roll No. _____

Part II

Below are items that inquire students' perceived academic competence. Read each item carefully and indicate your own level of agreement by circling the one that best describe your self.

1. I feel confident in my ability to learn different subjects in this grade level.
   1. Strongly disagree 2. Disagree 3. Moderately Agree
   4. Agree 5. Strongly Agree
2. I am outstanding student compared to other students in my class.
   1. Strongly disagree 2. Disagree 3. Moderately Agree
   4. Agree 5. Strongly Agree
3. I usually score higher grade in the subjects I am learning now.
   1. Strongly disagree 2. Disagree 3. Moderately Agree
   4. Agree 5. Strongly Agree
4. I feel able to meet the challenge of performing well in this grade.
   1. Strongly disagree 2. Disagree 3. Moderately Agree
   4. Agree 5. Strongly Agree

Part III

In this section different motivational orientation items that describe the reasons why you go to school are indicated below. Each reason is followed by a five point degree of agreement and disagreement. Read each reason and circle the one that best describe you.

WHY DO YOU GO TO SCHOOL?

1. Because I need at least a high-school degree in order to find a high-paying job later on
   1. Strongly disagree 2. Disagree 3. Moderately agree
   4. Agree 5. Strongly agree
2. Because I experience pleasure and satisfaction while learning new things.
   1. Strongly disagree 2. Disagree 3. Moderately agree
   4. Agree 5. Strongly agree

3. Because I think that a high-school education will help me better prepare for the career I have chosen

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

4. Because I really like going to school

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

5. Honestly, I don't know; I really feel that I am wasting my time in school.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

6. For the pleasure I experience while surpassing myself in my studies.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

7. To proved to myself that I am capable of completing my high-school education.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

8. In order to obtain a more prestigious job later on.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

9. For the pleasure I experience when I discover new things never seen before

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

10. Because eventually it will enable me to enter the job market in a field that like

1 Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

11. Because for me, school is fun.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

12. I once had good reasons for going to school however, now I wonder whether I should continue.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

13. For the pleasure that I experience while I am surpassing myself in one of my person accomplishments.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

14. Because of the fact that when I succeed in school I fell important.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

15. Because I want to have "the good life" later on.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

16. For the pleasure that I experience in broadening my knowledge about subjects which appeal to me.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

17. Because this will help me make a better choice regarding my career orientation

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

18. For the pleasure that I experience when I am taken by discussions with interesting teachers.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

19. I can't see why I go to school and frankly, I couldn't care less

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

20. For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

21. To show myself that I am an intelligent person.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

22. In order to have a better salary later on.

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

23. Because my studies allow me to continue to learn about many things that interest me

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

24. Because I believe that my high school education will improve my competence as a worker

1. Strongly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

25. For the "high" feeling that I experience while reading about various interesting subjects.

1. Straggly disagree 2. Disagree 3. Moderately agree
4. Agree 5. Strongly agree

26. I don't know; I can't understand what I am doing in school.

1. Strongly disagree
2. Disagree
3. Moderately agree
4. Agree
5. Strongly agree

27. Because high school allows me to experience a personal satisfaction in my quest for excellence in my studies.

1. Strongly disagree
2. Disagree
3. Moderately agree
4. Agree
5. Strongly agree

28. Because I want show myself that I can succeed in my studies

1. Strongly disagree
2. Disagree
3. Moderately agree
4. Agree
5. Strongly agree

APPENDIX B

QUESTIONNAIRE AMHARIC VERSION

አዲስ አበባ ዩኒቨርሲቲ የድህረ ምረቃ ፕሮግራም

ሳይኮሎጂ ዲፓርትመንት

በአንደኛና ሁለተኛ ደረጃ ት/ቤት ተማሪዎች የሚሞላ መጠይቅ

ዓላማ፣

የዚህ መጠይቅ ዋና ዓላማ የአንደኛና ሁለተኛ ደረጃ ተማሪዎች በትምህርታቸው ያላቸውን ብቁነት (Competence) ና መነሳሳት/መገፋፋት (Motivation) በትምህርት ውጤት ላይ ያለውን አስተዋፅኦ ለማወቅ መረጃ ለማሰባሰብ የተዘጋጀ ነው። በመሆኑም በ6ኛ በ8ኛና በ10ኛ ክፍሎች የተማሪዎች የትምህርት ብቃትና (Competence) ና የትምህርት መነሳሳት (academic motivation) ለማወቅ ለሚደረግ ለዚህ ጥናት ተመርጠሃል/ተመርጠሻል።

ይህ መጠይቅ ሶስት ክፍሎች ይዟል

ክፍል አንድ፡- የተማሪውን የግል መረጃ ይመለከታል።

ክፍል ሁለት፡- ተማሪው በትምህርት ያለውን ብቁነት /Competence / የሚመለክት ጥያቄ።

ክፍል ሶስት፡- ተማሪው በትምህርቱ ያለው መነሳሳት /መገፋፋት/Motivation/ የሚመለከት ጥያቄዎችን ይዟል።

መጠይቁን ለመሙላት የሚያስችሉ መመሪያዎች በእያንዳንዱ የመጠይቅ ክፍል ተገልፀዋል። መመሪያዎችን በማንበብ መጠየቁን እንድትሞሉ እጠይቃለሁ።

ትክክለኛ መልስ መስጠት ለጥናቱ መሳካት ከፍተኛ አስተዋፅኦ አለው። እያንዳንዱ ተማሪ የሚሰጠው መልስ በሚስጥር እንደሚጠበቅ እየገለፅሁ መጠየቁን ለመሙላት በተመባባራችሁ አመሰግናለሁ። ስም መፃፍ አያስፈልግም።

ክፍል አንድ

ከዚህ በታች ለተመለከቱት መረጃዎች መልስህን/መልሽን አመልክቱ፣

1.1 የተማሪው የግል መረጃ

1.1.1 ት/ቤት _____

1.1.2 የትምህርት ደረጃ_____

1.1.3 ፆታ_____

1.1.4 ዕድሜ_____

1.1.5 የክፍል ቁጥር_____

ክፍል ሁለት

ከዚህ በታች የተማሪዎችን በትምህርት ብቁነትን (Academic Competence) የሚመለከቱ ጥያቄዎች ይገኛሉ። እያንዳንዱ ጥያቄ ማንበብ ለራስህ/ ለራስሽ የሚስማማውን መልስ በመክበብ አመልክቱ።

1. በምማራቸው የትምህርት ዓይነቶች ከፍተኛ ችሎታ እንዳለኝ እርግጠኛ ነኝ።

   ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

   መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

2. በምማረው የክፍል ደረጃ ጐበዝ ተማሪ ነኝ።

   ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

   መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

3. በምማራቸው ትምህርቶች ሁሉ የማመጣው ውጤት ከፍተኛ ነው።

   ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

   መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

4. በትምህርቴ ከፍተኛ ውጤት ማምጣት አያስቸግረኝም።

   ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

   መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

ክፍል ሶስት

ከዚህ በታች አንተ/አንቺ ለምን ወደ ትምህርት ቤት እንደምትሄዱ የሚገልፁ በርካታ ምክንያቶች ተዘርዝረዋል። ለእያንዳንዱ ምክንያት ሶስት የስምምነት ደረጃዎች ማለትም "በጭራሽ አልስማማም" "አልስማማም"፣ "በመጠኑ እስማማለሁ"፣ "በትክክል እስማማለሁ"፣ የሚሉ አማራጮች ተሰጥተዋል። እያንዳንዱ ምክንያት አንብበህ/አንብበሽ ከተሰጡት የስምምነት ደረጃዎች አንዱን በመክብብ አመልክት/አመልክቺ።

ለምን ወደ ትምህርት ቤት ትሄዳለህ/ትሄዳለሽ

1. ምክንያቱም ወደፊት ከፍተኛ ክፍያ ያለው ሥራ ለማግኘት እንድንችል ቢያንስ የሁለተኛ ደረጃ ት/ቤት ሠርተፍኬት ስለሚያስፈልገኝ፣

   ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

   መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

2. ምክንያቱም አዳዲስ ነገሮችን ስማር ደስታና እርካታ ስለሚሰጠኝ፣

   ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

   መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

3. ምክንያቱም የሁለተኛ ደረጃ ትምህርት ወደፊት ለምመርጠው የሥራ ዘርፍ በተሻለ እንድዘጋጅ ይረዳኛል ብዬ ስለማስብ፣

   ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

   መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

4. ምክንያቱም ወደ ትምህርት ቤት መሄዱ በጣም ስለምወድ፣

   ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

   መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

5. በእውነት የምሄድበት ምክንያት አላውቅም:: ጊዜዬን በት/ቤት ውስጥ በከንቱ እንደማባክነው ነው የሚሰማኝ፣

   ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

   መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

6. በትምህርት የራሴን ችሎታ ከፍ ማድረግ ስለሚያስደስተኝ፣

   ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

   መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

7. የሁለተኛ ደረጃ ትምህርት የማጠናቀቅ ችሎታው ያለኝ መሆኔን ለማረጋገጥ፣

   ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

   መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

8. ወደፊት ጥሩ ክብር ያለው ሥራ ለማግኘት፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

9. ከአሁን በፊት ያላወቅኋቸውን አዳዲስ ነገሮችን ማወቅ ደስታ ስለሚሰጠኝ፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

10. ምክንያቱም መጨረሻ የምፈልገውን የሥራ መስክ ተወዳድሬ ማግኘት ስለሚያስችለኝ፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

11. ምክንያቱም ትምህርት ቤት ደስታን ስለሚሰጠኝ

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

12. በፊት ወደ ትምህርት ቤት ለመሄድ በቂ ምክንያት ነበረኝ አሁን ግን ለምን እንደምከታተል አላውቅም፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

13. በግሌ ከምፈፅማቸውና ከማደንቃቸው ክንዋኔዎች በአንዱ ችሎታዬን ከፍ በማድረግ ለመደሰት፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

14. ምክንያቱም በትምህርቴ ወጤታማ ስሆን ጠቃሚ ሰው እንደሆንኩ ስለሚሰማኝ፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

15. ምክንያቱም በቀጣይ ዘመኔ "ጥሩ ህይወት" እንዲኖረኝ ስለምፈልግ፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

16. ስሜቴን በሚስቡ የትምህርት ዓይነቶች እውቀቴን ማስፋት ስለሚያስደስተኝ፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

17. የወደፊት የሙያ አቅጣጫዬን በተመለከተ የተሻለ ምርጫ እንዳደርግ ስለሚረዳኝ፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

18. ከጥሩ መምህራን ጋር የማደርገው ወይይት ደስታን ስለሚያስገልኝልኝ፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

19. ትምህርት ቤት ለምን እንደምሄድ እውነታውን ለማየት አልቻልኩም፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

20. ከባድ /አስቸጋሪ/ ትምህርታዊ መልመጃዎችን ሥሠራ ደስታ ስለሚሰማኝ፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

21. አዋቂ /ጎበዝ/ መሆኔን ለማሳየት፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

22. ወደፊት ጥሩ ደመወዝ ለማግኘት፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

23. ምክንያቱም ትምህርት የሚያስደስቱኝን ነገሮች ለማወቅ ስለሚያስችለኝ፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

24. ምክንያቱም ትምህርት ለሥራ የሚኖረኝን ብቃት ያሻሽለዋል ብዬ ስለማምን፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ እስማማለሁ

መ/ በመጠኑ እስማማለሁ ሠ/ በትክክል እስማማለሁ

25. ስለተለያዩ አስደሳች ትምህርቶች ማንበብ ከፍተኛ ደስታ ስለሚሰጠኝ፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ በመጠኑ እስማማለሁ

መ/ እስማማለሁ ሠ/ በትክክል እስማማለሁ

26. ትምህርት ቤት ውስጥ ምን እንደምሰራ ያልተገነዘብኩበትን ምክንያት ማወቅ አልቻልኩም፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ በመጠኑ እስማማለሁ

መ/ እስማማለሁ ሠ/ በትክክል እስማማለሁ

27. ምክንያቱም በምማረው ትምህርቴ የተሳካልኝ /ትጉህ ጐበዝ/ ለመሆን፣ ያለኝን የግል ጉጉት እውን በማድረግ ስለሚያስችለኝ፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ በመጠኑ እስማማለሁ

መ/ እስማማለሁ ሠ/ በትክክል እስማማለሁ

28. ምክንያቱም በትምህርቴ ውጤታማ መሆን እንደምችል ማሳየት ስለምፈልግ፣

ሀ/ በጭራሽ አልስማማም ለ/ አልስማማም ሐ/ በመጠኑ እስማማለሁ

መ/ እስማማለሁ ሠ/ በትክክል እስማማለሁ

APPENDIX C

RESULTS OF PILOT TEST

Reliability - percieved academic competence

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	VAR00001	VAR00002	VAR00003	VAR00004
VAR00001	1.0000			
VAR00002	.7310	1.0000		
VAR00003	.5362	.7103	1.0000	
VAR00004	.7364	.6113	.4955	1.0000

N of Cases = 30.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
VAR00001	11.3667	7.0678	.7851	.6685	.8084
VAR00002	11.3667	7.2057	.7942	.6783	.8073
VAR00003	11.7667	7.6333	.6420	.5109	.8624
VAR00004	11.5000	6.3276	.6992	.5590	.8518

Reliability Coefficients 4 items

Alpha = .8688 Standardized item alpha = .8752

Reliability- external regulation

Rliability external regulation

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	VAR00005	VAR00012	VAR00019	VAR00026
VAR00005	1.0000			
VAR00012	.6871	1.0000		
VAR00019	.5060	.7177	1.0000	
VAR00026	.6431	.8251	.4945	1.0000

N of Cases = 30.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
VAR00005	12.8333	10.2816	.6982	.4932	.8499
VAR00012	12.3667	10.7230	.8798	.8194	.7660
VAR00019	12.0667	14.6851	.6276	.5474	.8777
VAR00026	12.6333	10.2402	.7664	.7122	.8129

Reliability Coefficients 4 items

Alpha = .8676 Standardized item alpha = .8793

Reliability- intrinsic motivation to know

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	VAR00006	VAR00013	VAR00020	VAR00027
VAR00006	1.0000			
VAR00013	.6848	1.0000		
VAR00020	.5639	.3528	1.0000	
VAR00027	.6328	.3983	.6333	1.0000

N of Cases = 30.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
VAR00006	13.1667	4.3506	.7909	.6442	.7022
VAR00013	12.9667	5.8954	.5830	.4716	.8025
VAR00020	12.9000	6.7828	.6140	.4460	.8022
VAR00027	13.2667	5.4437	.6548	.5134	.7703

Reliability Coefficients 4 items

Alpha = .8214 Standardized item alpha = .8269

Reliability- intrinsic motivation to stimulation

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	VAR00008	VAR00015	VAR00022	VAR00029
VAR00008	1.0000			

VAR00015	.7665	1.0000		
VAR00022	.6346	.7700	1.0000	
VAR00029	.4036	.5870	.6319	1.0000

N of Cases = 30.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
VAR00008	11.7667	11.1506	.7035	.5999	.8480
VAR00015	11.8333	10.9713	.8555	.7386	.7757
VAR00022	11.6667	11.3333	.7907	.6503	.8042
VAR00029	11.3333	15.4023	.5941	.4348	.8850

Reliability Coefficients 4 items

Alpha = .8695 Standardized item alpha = .8731

Reliability intrjected regulation

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	VAR00011	VAR00018	VAR00025	VAR00032
VAR00011	1.0000			
VAR00018	.3029	1.0000		
VAR00025	.7714	.3765	1.0000	
VAR00032	.6002	.3515	.6475	1.0000

N of Cases = 30.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
VAR00011	11.8000	10.2345	.7402	.6126	.7106
VAR00018	10.8000	16.8552	.3881	.1618	.8611
VAR00025	12.1000	9.4034	.7945	.6586	.6799
VAR00032	11.5000	11.5690	.6734	.4571	.7458

Reliability Coefficients 4 items

Alpha = .8134 Standardized item alpha = .8053

Reliability extrinsic motivation

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	VAR00005	VAR00012	VAR00019	VAR00026	VAR00011
VAR00005	1.0000				
VAR00012	.6871	1.0000			
VAR00019	.5060	.7177	1.0000		
VAR00026	.6431	.8251	.4945	1.0000	
VAR00011	.5944	.4760	.4820	.4666	1.0000
VAR00018	.3192	.2089	.0889	.2898	.3029
VAR00025	.6240	.5607	.5110	.5884	.7714
VAR00032	.6357	.5550	.4998	.3978	.6002

	VAR00018	VAR00025	VAR00032
VAR00018	1.0000		
VAR00025	.3765	1.0000	
VAR00032	.3515	.6475	1.0000

N of Cases = 30.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
VAR00005	28.2333	48.3920	.7704	.6207	.8702
VAR00012	27.7667	51.8402	.7649	.8384	.8721
VAR00019	27.4667	58.3264	.6263	.5938	.8880
VAR00026	28.0333	50.6540	.6959	.7690	.8780
VAR00011	28.4333	49.2195	.7096	.6318	.8771
VAR00018	27.4333	61.9782	.3617	.2134	.9030
VAR00025	28.7333	46.8230	.7894	.7099	.8684
VAR00032	28.1333	51.0851	.6965	.5956	.8779

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Reliability Coefficients 8 items

Alpha = .8936 Standardized item alpha = .8920

Reliability Intrinsic Motivation

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	VAR00006	VAR00013	VAR00020	VAR00027	VAR00007
VAR00006	1.0000				
VAR00013	.6848	1.0000			
VAR00020	.5639	.3528	1.0000		
VAR00027	.6328	.3983	.6333	1.0000	
VAR00007	.4492	.5422	.3613	.3915	1.0000
VAR00014	.1887	.1325	.2493	.4144	.4855
VAR00021	.3427	.2893	.4421	.6725	.0682
VAR00028	-.0703	-.0176	.2322	.2996	.3599
VAR00008	.6218	.3394	.6129	.5467	.5589
VAR00015	.7017	.5599	.6465	.6404	.5470
VAR00022	.3873	.3102	.6159	.3894	.3905
VAR00029	.4520	.2756	.5685	.6187	.3463
VAR00010	.4113	.7067	.1776	.2168	.3599
VAR00017	.2432	.3168	.3290	.3925	.0798

VAR00024	.3236	.1151	.4446	.3778	.2189
VAR00031	.2603	.1873	.4962	.5428	.5456

	VAR00014	VAR00021	VAR00028	VAR00008	VAR00015
VAR00014	1.0000				
VAR00021	.2569	1.0000			
VAR00028	.1074	.0929	1.0000		
VAR00008	.3613	.2337	.1084	1.0000	
VAR00015	.2978	.5405	-.0305	.7665	1.0000
VAR00022	.2600	.4280	.0034	.6346	.7700
VAR00029	.4147	.5640	.1032	.4036	.5870
VAR00010	-.1147	.1555	.1610	.0276	.1635
VAR00017	.2514	.5380	.1087	.2869	.3876
VAR00024	.3577	.2467	-.0580	.2640	.3188
VAR00031	.3285	.1963	.8092	.2961	.2580

	VAR00022	VAR00029	VAR00010	VAR00017	VAR00024
VAR00022	1.0000				
VAR00029	.6319	1.0000			
VAR00010	.0607	.0148	1.0000		
VAR00017	.1873	.3400	.0098	1.0000	
VAR00024	.3976	.5823	-.0159	.4550	1.0000
VAR00031	.1566	.3406	.1193	.1881	.1243

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	VAR00031
VAR00031	1.0000

N of Cases = 30.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
VAR00006	61.8667	114.6713	.6681	.8606	.8781
VAR00013	61.6667	120.0230	.5564	.8776	.8829
VAR00020	61.6000	120.8000	.7385	.7339	.8804
VAR00027	61.9667	114.9989	.7738	.8674	.8755
VAR00007	62.1000	113.4724	.6053	.8738	.8803
VAR00014	61.8333	121.1092	.4350	.5683	.8866
VAR00021	62.1333	117.7057	.5359	.8166	.8831
VAR00028	61.6000	126.7310	.2121	.8547	.8934
VAR00008	62.3667	108.4471	.6671	.8832	.8777
VAR00015	62.4333	107.2885	.8002	.9214	.8711
VAR00022	62.2667	111.9954	.6159	.8832	.8799
VAR00029	61.9333	117.1678	.6840	.7112	.8787
VAR00010	61.5333	126.2575	.2358	.7739	.8927
VAR00017	62.6000	116.5931	.4330	.8220	.8887
VAR00024	62.4333	117.6333	.4425	.7898	.8875
VAR00031	61.6667	119.6782	.4890	.8910	.8848

Reliability Coefficients 16 items

Alpha = .8893 Standardized item alpha = .8941

Reliability- identified regulation

****** Method 2 (covariance matrix) will be used for this analysis ******

R E L I A B I L I T Y A N A L Y S I S - S C A L E (A L P H A)

Correlation Matrix

	VAR00007	VAR00014	VAR00021	VAR00028
VAR00007	1.0000			
VAR00014	.3077	1.0000		
VAR00021	.4029	.0998	1.0000	
VAR00028	.5834	.4643	.4624	1.0000

N of Cases = 30.0

Item-total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Alpha if Item Deleted
VAR00007	13.1333	3.0851	.5445	.3670	.5533
VAR00014	12.9667	3.4126	.3576	.2374	.7124
VAR00021	13.0000	4.4828	.3751	.2599	.6654
VAR00028	12.8000	3.8207	.7004	.4960	.5099

Reliability Coefficients 4 items

Alpha = .6784 Standardized item alpha = .7161

Reliability - amotivation

****** Method 2 (covariance matrix) will be used for this analysis ******