Early Adolescents' Perceived School Environment, Goals, Belongingness and Their Psychological and Academic Adjustment in Bonga and Wush Wush Upper Primary Schools: A Path Analyses

A Thesis Submitted to the School of Graduate Studies

Addis Ababa University

In Partial Fulfillment of the Requirements for the Degree of the Master of Arts in Educational Psychology

June, 2004
Acknowledgement

I wish to express my heartfelt gratitude to my advisor, Dr. Teka Zewdie, for his invaluable guidance & advice in undertaking the thesis. He has been willing to devote his time & energy for giving me suggestions & comments, and detailed review of the study from its conception to its realization.

My thanks also go to directors, teachers, & students of Bonga & Wush Wush upper primary schools for their cooperation during data collection.
## Table of Contents

<table>
<thead>
<tr>
<th>Contents</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acknowledgement</td>
<td>i</td>
</tr>
<tr>
<td>List of tables</td>
<td>vi</td>
</tr>
<tr>
<td>Abstracts</td>
<td>vii</td>
</tr>
</tbody>
</table>

### CHAPTER- I

1. Introduction
   1.1. Background of the Study                                           1
   1.2. Statement of the Problem                                           5
   1.3. Justification and Significance of the Study                        8
   1.4. Specific Objectives of the Study                                   9
   1.5. Operational Definition of Terms                                    10
   1.6. Delimitation of the Study                                          11
   1.7. Limitations of the Study                                           11

### CHAPTER -II

2. Review of Related Literature                                          12
   2.1 General Overview of School Environment                             12
   2.2. Perceived School achievement goal Dimension                       13
      2.2.1. The nature and Back Ground of Achievement Goal theory        13
      2.2.2. Achievement Motivational Goal Orientations                  15
      2.2.3. the nature and background of Goal orientations              16
         2.2.3.1. Mastery Goal Orientation                                18
         2.2.3.2. Performance Goal Orientation                           19
         2.2.3.3. Performance Avoidance Goal Orientation                 19
      2.2.4. Certain Issues with Achievement Goal Orientation            20
         Constructs                                                      20
CHAPTER –II

2.2.5. How Achievement Goals Create Different Patterns Of Cognition, Affect and Behavior -------------------------- 23
2.2.5.1. Mastery Goals, Cognition, Affect and Behavior ------ 24
2.2.5.2. Performance Approach Goals, Cognition, Affect and Behavior -------------------------- 26
2.2.5.3. Performance Avoidance Goals, Cognition, Affect and Behavior -------------------------- 27

2.3. Perceived School Relationship Dimension -------------------------- 28
2.4. Social Cognitive Achievement Goals -------------------------- 29
2.5. Perceived School Achievement Goal Structures and Personal Achievement Goal Adoption and Belongingness -------------------------- 31

2.5.1. Relationship Between Personal Achievement Goals, Self-Beliefs, Emotions, School Affect, and Academic Achievement -------------------------- 32
2.5.2. Relationship Between Perceived Positive Teacher-Student Relationship, Feelings of School Belonging, Self-Beliefs, Emotions and Academic Achievement -------------------------- 33
2.5.3. Relationship Between Perceived Positive Peer Relationship, Feelings of School Belonging, Self-Beliefs, Emotions and Academic Achievement -------------------------- 34

CHAPTER –III

3. Methodology and Research design -------------------------- 36
3.1. Subjects -------------------------- 36
3.2. Sampling Procedure -------------------------- 37
3.3. Instruments -------------------------- 37
3.4. Data Collection Procedures -------------------------- 38
3.5. Variables Considered in the Study -------------------------- 38
3.6. Pilot Study -------------------------- 41
3.7. Methods of Data Analyses -------------------------- 42
CHAPTER - IV

4. RESULTS--------------------------------------------------43
  4.1. Bivariate correlations ----------------------------------43
  4.2. Direct Relationships-----------------------------------46
    4.2.1. Perceived School Environment as Predictors of Personal Goals and Belongingness-----------------------------------------------46
    4.2.2. Perceived School Environment as predictors of Psychological Outcomes-------------------------------------------------------------47
    4.2.3. Personal Goals and Feelings of Belongingness as Predictor of their Psychological Outcomes---------------------------------49
    4.2.4. Personal Goals and Belongingness as Predictors of Academic Achievement------------------------------------------------------------50
    4.2.5. Psychological Outcomes as Predictors of Academic Achievement---------------------------------------------------------------51
  4.3. Mediational Analyses------------------------------------52
    4.3.1. Personal Goals and Feelings of Belongingness as Mediators of the Effects Perceived School Environment on Psychological Outcomes---53
    4.3.2. Psychological Outcomes as Mediators of the Effects of Personal Goals and Belongingness and Academic Outcomes------------------58

CHAPTER - V

5. Discussions--------------------------------------------------61
  5.1. Perceived School Environment as Predictors of Personal Goals and Belonging--------------------------------------------------------61
  5.2. Perceptions of School Environment as Predictors of Psychological Outcomes----------------------------------------------------------63
  5.3. Personal Goals and Belongingness as Predictors of Academic Achievement------------------------------------------------------------65

CHAPTER - VI

6. Summary, Conclusion and Recommendations---------------------68
  6.1. Summary and Conclusions-----------------------------------68
  6.2. Recommendations-------------------------------------------72
    References---------------------------------------------------------75
Appendix-A: Questionnaires (English version) to be filled by Students
Appendix-B: Questionnaires (Amharic version) to be filled by Students
Appendix-C: Perceived School Mastery Goals Scale Inter-items Correlations
Appendix-D: Perceived School Performance Approach Goals Scale Inter-items Correlations
Appendix-E: Perceived School Performance Avoidance Goals Scale Inter-items Correlations
Appendix-F: Perceived Positive Teacher-Students Relationship Scale Inter-item Correlation
Appendix-G: Perceived Positive Peer Relationship Scale Inter-item Correlations
Appendix-H: Personal Mastery Goals Scale Inter-item Correlations
Appendix-I: Personal Performance Approach Goals Scale Inter-items Correlations
Appendix-J: Personal Performance Avoidance Goals Scale Inter-items Correlations
Appendix-K: Feelings of School Belongingness Scale Inter-items Correlations
Appendix-L: Academic Self-Efficacy Beliefs Scale Inter-items Correlations
Appendix-M: Feelings of Academic Self-Consciousness Scale Inter-items Correlation
Appendix-N: Feelings of Positive School Affect Scale Inter-items Correlations
Appendix-O: Formula to Calculate Mediated Effects of Predictor Variables
Appendix-P: Formula to Calculate Test of Significance for Mediated Effects of Predictor Variables
List of Figures and Tables

Figure -1  A Model Depicting the Mediational  Relationship the First set of
Variables  ........................................................................................................6
Figure-2. A Model Depicting the Mediational Relationship the Second set of
Variables ........................................................................................................7
Figure -3.  A Model Summary of Path Coefficients for the First set of Variables ------58
Figure-4. A Model Summary of Path Coefficients for the Second set of Variables ----60
Table -1. Bivariate Correlations between the Variables in the Study ----------------- 45
Table-2. Perceived School Environment as Predictor of Personal
Goals and Belongingness ..............................................................................47
Table-3. Perceived School Environment as Predictors of Psychological
Outcomes .....................................................................................................48
Table-4. Personal Goals and Belongingness as Predictors of Psychological
Outcomes .....................................................................................................50
Table-5. Personal Goals and Belongingness as Predictors of Academic
Achievement .................................................................................................51
Table-6. Psychological Outcomes as Predictors of Academic Achievement ------- 52
Table-7. Personal Goals and Belongingness as Mediators of the
Effects of Perceived School Environment on Psychological Outcomes-------57
Abstract

This study examined the relationship between early adolescents’ perceived school goal for learning and perceived positive teacher-student and peer relationships with their personal achievement goals, feelings of belongingness and their psychological and academic adjustment in school. The study also examined the role that students’ personal achievement goals, feelings of belongingness play in mediating the liaison between perceptions of the school environment, and school related beliefs, affect and achievement.

Three hundred eighty eight early adolescents of two upper primary schools were included in the study. Survey scales were employed to collect the data. Series of multiple regression analyses and path model coefficients depicted that perceived school goals and positive teacher-student and peer relationships predicted the adoption of personal goals and feelings of belongingness in school respectively.

Personal mastery goals and feelings of belongingness mediated the positive effects of perceived school mastery goals on academic self-efficacy and positive school affect. Similarly personal performance approach and personal performance avoidance goals mediated the effects of perceived school performance approach and performance avoidance goals on feelings of academic self-consciousness. Feelings of school belongingness mediated the positive effects of perceived positive teacher-student relationship and positive peer relationship on academic self-efficacy and positive affect in school.

Feelings of academic self-efficacy and positive affect in school were positively related to achievement (as described by semester academic average scores). However, feelings of academic self-consciousness were negatively related to achievement and mediated the negative effects of personal performance avoidance goals. Yet no evidence was obtained for other psychological variables to mediate the effect of personal goals and feelings of belongingness on academic achievement. Finally, the results disclosed that both the perceived cognitive and affective aspects of school environment significantly affected early adolescents’ psychological and academic adjustment (details are presented in the result section).
CHAPTER- I

1. INTRODUCTION

1.1. Background

The theoretical framework for conceptualizing students’ motivation in school, expectancy model, proposes that individuals' achievement motivation is composed of three components (Pintrich & DeGroot, 1990). The first is an expectancy component, which represents individuals' beliefs about their ability to carry on the task (efficacy beliefs). The second is a value component, which embodies individuals' goals and beliefs about the importance and interest of the task. The third is an emotional reaction to the task. The model also presumes that these motivational and learning components have to be intricately interwoven in a way that tune and bear influence on one another.

In a social cognitive achievement motivation, this model bears the implication that students academic achievement motivation alone is not sufficient for successful academic performance (Blumenfeld, Pintrich, Meece and Wessels, 1982). Students’ perceptions of the classroom/ school wide/ achievement setting, their individual goal orientations, and beliefs about learning are all relevant to cognitive engagement and academic performance (Ames & Archer, 1988). Supporting the foregoing contention Guay, Boivin and Hodges (1999) and Wentzel. (1999) highlighted that non cognitive factors such as affective dispositions, feelings, attitudes, interests and motivations constitute situations that enhance or impede students’ cognitive achievement.

The above researchers and theorists seem to suggest that students need to have both the will and skill to be successful in academic achievement settings. The basic tenet of the foregoing approach is that if one wish to bring about change in students motives, both the affective and cognitive aspects of it have to be paid due attention. With regard to school situation, these
contentions have the implication that perceived schools' achievement settings (both the affective and cognitive) have the potential to either foster or impair students' achievement motives.

During the early adolescence years, school plays an important role in facilitating or in inhibiting successful adolescent development (Roeser, Midgley and Urdan, 1996; Carnegie Council on adolescent development cited in Roeser et al., 1996). School potentially provides early adolescents with the opportunity to develop their intellectual capacities, to experience a sense of competence and belonging and to interact with supportive non-parental adults (Wentzel, 1998; Solomon, 1996; Wentzel, 1999; Ames, 1992; Ames and Archer, 1988; Wentzel, 1989; Butler, 1987).

Early adolescence is a time of change and transition (Wigfield, Eccles, and Mc Iver Reuman and Midgley, 1991). These changes reflect a growing psychological and emotional dependence and a corresponding dependence on positive peer and teacher-student relationships to establish and maintain positive perceptions of the self (Eccles and Midgley, 1989). There is an increasing recognition among scholars that children's overall adjustment and success at school requires willingness and ability to meet social as well as academic challenges.

The goals for education held by teachers and school administrators reflect desires for children to develop social and academic competences as well as intellectual skills (Bong, 2001; Weiner, 1979). Moreover, students try to achieve socially appropriate and academic goals at school (Ames and Archer 1989, Meece, Blumenfeld and Hoyle, 1988; Solomon, 1996). Each day at school children work to maintain and establish interpersonal relationships, strive to develop social identities and a sense of belonging, observe and model standards for performances displayed by others and are rewarded for behaving in ways that are valued by teachers and peers. Quite often, children who succeed in these social endeavors are also the most successful students in their academic pursuit (Wentzel, 1999; Wentzel, 1998; Schunk, Hanson and Cox, 1987, Guay, et. al, 1999).
Unfortunately, just when adolescents are particularly in need for these opportunities, the school environment may fail to provide them (Eccles and Middelgley 1989). At a time when adolescents are known to be sensitive about how they appear to others, schools emphasize relative ability and social comparison in learning situation (Middelgley, Anderman and Hicks, cited in Roeser, et al, 1996). And at a time when adolescents are particularly in need of supportive relationships with adults outside the home, the quality of relationships with teachers and peers is less than optimal (Wentzel, 1997; Wentzel, 1998; Ames and Archer, 1988; Guay, et al, 1999).

Researchers assert that problems that arise early in children's school careers predict school drop out, failure, and dissatisfaction (Ames 1992a, Butler, 1987; Jagacinski and Nicholls, 1987). Of particular concern is that young adolescent who does not enjoy positive, supportive relationships with teachers and peers are often at risk for academic motivation and achievement.

Early adolescent's perceptions of the goals for learning, which is emphasized in the school (Roeser, et al 1996; Ames, 1992), and perceived positive teacher-students' relationship and positive peer relationship (Guay, et. al, 1999; Roeser et. al, 1996) relate to both adaptive and maladaptive patterns of academic motivation and achievement.

In Ethiopia, students' poor academic performance, low retention rate and dropouts are frequently reported by researchers Tekeste, Alemtsehay, Syum (cited in Assefa, 1998; Habtamu, 1999). Moreover, these problems are often attributed to school motivational environments. This low retention rate, dropouts and poor academic performance in school in turn suggest great wastage to the country.

According to various sources, the different components of school environment such as teachers, peers, various interactions (Roeser, et al 1996; Wentzel, 1998) and goals for learning (mastery vs performance -both the approach and the avoidance) are important factors in students' achievement motivation and school performance (Ames 1992, Ames and Ames, 1984).
Brand, Felner, Shim, Seitsinger and Dumas, (2003) argued that the social and academic environment of the educational setting might have a profound and pervasive impact on the academic and social adaptation of the students and student’s perceptions of the school environment are strongly associated with both their academic adaptation and achievement and their socio-emotional and behavioral adjustment in school.

Students’ perceptions of support and caring from teachers and positive peer relations in school context and various tasks in school are some of the school related factors associated to students’ achievement motives and subsequent performance (Guay, et. al, 1999; Murdock, 1999; Wentzel, 1997).

The above-summarized studies seem to suggest that school adjustment and achievement are important for adolescents' continued engagement with school general well being and future opportunities. Yet few studies have addressed how students’ perceptions of the different aspects of the school environment (the goal and relationship aspects) are related to motivation and achievement during early adolescent years when it comes to the Ethiopian situation. Furthermore, no adequate research has looked at how perceived school relations and goals for learning are linked to students' personal goal adoption, perceived academic competence, feelings of academic self-consciousness, school affect and subsequent academic achievement both in abroad and here in Ethiopia.

Thus study of students’ perceptions of the social and academic environment in school setting may help us to understand the ways in which these developmental settings serve as contexts that shape students’ learning, achievement and psychological adjustment. Understanding how these particular aspects of school environment relates to both adaptive and maladaptive patterns of early adolescents’ academic motivation and achievement seems to be of
paramount importance and study of such relationships in school setting having yet to be undertaken.

Therefore, this study focuses on how early adolescents' perceptions of the goals for learning, which are emphasized in their school (task mastery vs. performance approach and performance avoidance school goal). In addition, it looks into how students' perceptions of peer and teacher-student relationships relate to their personal goal adoption, feelings of school belonging, beliefs about their academic efficacy, affect toward school and academic achievement.

It, therefore, would be imperative to note that this study highlights only on students' perceptions of their school wide environment (i.e. students' perceptions of the school goal structure and positive teacher-student and positive peer relationship). It does not focus on the objective environmental reality because it is felt that students' perceptions of school environment play more important role in students' feelings of belonging and personal goal adoption process (Ames, 1992; Maehr and Midgley, 1991).

The study focused both on how the perceived goal and relationship aspects of school environment independently relate to early adolescents' psychological and academic outcomes; and the role that students' personal goal adoption and feeling of relatedness play to link students' perceptions of the school environment with their psychological and behavioral outcomes.

1.2. Statement of the Problem

Studies on associations between students' perceptions of the goals emphasized in school and their personal goal adoption, school relatedness and early adolescents' psychological and academic adjustment and subsequent achievement is so scant. However, experience and observation of the existing school environment and status of students' academic achievement indicate the existence of problematic situation in the school under study. Hence, in an effort to address/examine/ the aforementioned problems this study was setup on
a) Studies that take the social cognitive achievement goal perspective to understand the quality of students' achievement motivation (Ames, 1992, Maehr and Midgley, 1991; Dweck and Leggett, 1988; Roeser, et al, 1996), and

b) Considered constructs from research that stressed on the associations among trichotomous achievement goal orientations, peer relationships, teacher-student relationships, and feelings of belonging in school and adolescents' academic motivation and behavior (Roeser, et.al, 1996; Wentzel, 1989; Wentzel, 1997). The intention here was to examine how the perceived goals and the relationship aspects of the school environment are related to early adolescents' personal goal adoption and psychological and academic adjustment during these years.


In an attempt to examine the direct and indirect relations between the variables identified, the following hypotheses were formulated based on the two models below.

![Diagram](image)

Figure-1: A model portraying the variables considered and the hypothesized directions for the first set of mediational relationship.
1. Perceived school mastery goal is positive predictor of personal mastery goals and feelings of belonging.

2. Perceptions of performance approach goal in school is positive predictor of personal performance approach goal.

3. Perceptions of school performance avoidance goal are positive predictor of personal performance avoidance goal.

4. Perceptions of positive teacher-student relationships and peer relationships are positive predictors of students’ feeling of school belongingness.

5. Personal mastery goals and feelings of school belongingness mediate positive effects of perceived school mastery goal on academic self-efficacy and positive school affects.

6. Personal performance approach goal mediates positive effects of perceived school performance approach on feelings of academic self-consciousness.

7. Personal performance avoidance goal mediates positive effects of perceived school performance avoidance goal on feelings of academic self-consciousness.

8. Feelings of school belongingness mediate positive effects of perceived positive teacher-student relationships and peer relationships on academic self-efficacy and positive school affect.

Figure 2: A model portraying the variables considered and the hypothesized directions for the second set of mediational relationship.
9. Students’ personal mastery goals and feelings of belongingness are positively related to students’ academic achievement and this relation are mediated through students' feelings of academic self-efficacy and positive school affect respectively.

10. Students’ personal performance approach goals and personal performance avoidance achievement goals are negatively related to their academic achievement with these relations mediated through feelings of academic self-consciousness.

1.3. Justifications and Significance of the Study

For early adolescents the school offers opportunities to learn new information and widen their social contact. Early adolescence is a time of changes and transition. These changes reflect a growing psychological and emotional independence, which in turn influence their academic achievement. Hence, it is not easy for early adolescents in school to cope up with their new behavioral manifestation and adjust themselves to the environment around schools. Many school environment related variables the most important of which are perceived school goal structure, perceived peer relationship and perceived teacher-student relationships may facilitate or inhibit early adolescents' success in their schoolwork.

Thus examining the relations among early adolescents' perceptions of goals for learning, perceived peer relationship and teacher-student relationships and their psychological academic achievement in schools is justifiable for its practical implication. Hence, the study has the following specific significances.

1. Study of students’ perceptions of the social and academic environment in school setting may help us to understand the ways in which these developmental settings serve as contexts that shape students’ learning, achievement and psychological adjustment.
2. Understanding how this particular aspect of school environment relates to both adaptive and maladaptive patterns of early adolescents' academic motivation and achievement will be helpful to suggest some of the ways by which school can help facilitate early adolescents' adoption of adaptive patterns of cognition affect and subsequent academic achievement in school settings.

1.4. Specific Objectives of the Study

The study has the following specific objectives

1. It tries to shed light on how early adolescents' perceived goals for learning and perceived peer relationship and teacher-student relationship relate to their personal achievement goal adoption and their feelings of belonging in school respectively, and to their subsequent academic achievement.

2. It tries to provide further evidence on how personal goals and belongingness mediate early adolescents' perceived goals for learning and perceived positive peer relationship and teacher-student relationship to their psychological outcomes and their subsequent academic achievement.

3. It highlights on the process through which the cognitive and affective aspects of perceived motivational aspects of school environments independently and jointly affect students' psychological and academic achievement.

4. It also suggests ways by which school environment can help facilitate early adolescents' adoption of adaptive patterns of cognitions, affect (psychological adjustment) and subsequent academic achievement in school setting.
1.5. Operational Definition of Terms

**Academic Achievement:** - students' semester average result (score) in the core subjects offered in upper primary school.

**School Environment:** - perceived goals for learning and peer and teacher student-relationships that students in upper primary school experience in their school.

**Perceptions:** - feelings and attitudes formed and expressed by early adolescents about school goals for learning and quality of peer and teacher-student relationship in their school context.

**Psychological Adjustment:** - students' feeling that they belong to their school, their expectations, and confidence in their ability to learn, their belief that they can learn.

**Early Adolescent:** - school children at about the age of 13-15.

**Feelings of Belonging:** - Early adolescents’ feeling that they are accepted and loved by their peers, that teachers are supportive and caring and their belief that they are valued and are active participants in all aspects of the learning process in school.

**Academic Self-Efficacy:** - Early adolescents’ beliefs that they can master or learn the subjects offered (taught to them) in school if they are given enough time and exerted enough effort.

**Positive Affect:** - Early adolescents’ feelings that they are happy, proud and feel good about one self and school learning.

Mastery goal structure: - students perception that the school emphasizes effort, understanding and a belief that all students can learn.

Performance approach goal structure: - students’ perception that school emphasizes relative ability, and reward as a marker of success and that higher achieving students are treated better than others are.
Performance avoidance goal structure: students' perception that relative ability is salient, the importance of performance evaluation is emphasized to the extent that it minimizes the likelihood of success in schoolwork.

1.6. Delimitation of the Study

It is important to note that the generalizability of the results of this study is delimited to early adolescents of Bonga and Wush Wush upper primary schools in Kaffa zone. Literatures also suggest that, school environment influences students' motivations through its policies and practices (existing environmental realities). Yet this study investigated the relationship between individual students' perceptions of school context, motivational patterns and subsequent academic outcomes rather than the link between students' perceptions and school policies and practices. It is also believed that the psychological variables considered in this study can be related to such other variables as task persistence, choice of tasks, learning strategies, students' prior achievement goals, sex and socio-economic status.

Therefore, future longitudinal study is needed to determine the generalizability of the results with other age groups and to examine the link between the variables in the study and these other variables.

1.7. Limitations

The data in the present study were correlational that definitive conclusion about causality cannot be drawn. Therefore, future research is needed to determine the causal direction of the relationships between the variables.
CHAPTER -II

2. REVIEW OF RELATED LITERATURE

2.1. General Overview of School Environment

School environment is defined as a social environment of a setting or learning environment in which students have different experiences depending upon standards set by teachers and administrators (Moos, 1979). Moose further proposed that school environment embrace the following important components:

- Personal growth or goal orientation, which includes the personal development and self-enhancement of all members of the environment.

- Relationship, which includes involvement, affiliation with others in schools and teacher support.

The extent of future economic, social and cultural development of a given nation (society) is greatly determined by the degree of intellectual development of the young generation. This intellectual development is again determined by the skill, competence, knowledge and behavior that young children acquire in schools. As a result, psychologists and educators have long been interested in understanding how students learn better. Furthermore, they disclosed that the extent of the attainment of these qualities by students is considerably influenced by different cognitive and psychological (affective) factors in schools (Schunk, Hanson and Cox 1987, Jagacinski and Nicholls, 1987; Butler, 1987; Wentzel 1989; Ames and Archer, 1988; Ames, 1992; Wentzel, 1999; and Roeser, Deci and Ryan, 1985 cited in Roeser, et.al , 1996).

Within educational psychology, social and cognitive views of motivation that emphasize how students derive meaning from their experience in achievement setting have gained increasing prominence (Ames and Archer, 1988; Ames, 1992a; Butler, 1987; Roeser, et.al, 1996).
The first approach focuses on aspects of the learning environment that relate to the goals that students adopt in a given academic setting as they strive for competence (Ames, 1992b; Jagacinski and Nicholls, 1987; Butler, 1987; Meece, Blumenfeld and Hoyle, 1988; Shell, Murphy and Bruning, 1989; Ames and Archer, 1988; Roeser, et.al, 1996). The second approach advocates the relations between aspects of the learning environment and students’ sense of relatedness (belongingness) in school contexts (Roeser, et.al, 1996; Schunk, Hanson and Cox, 1987; Guay, Boivin and Hodges, 1999; Wentzel, 1998).

These studies seem to contend that the way success and failure is defined, feelings of school belonging, positive peer relations; and care and support from teachers have been associated with school motivation and expectancies for academic success. Students attend to school activities concerning how successful learning is defined and the way teachers; peers and other professionals in school interact with and relate to students. Thus, perceptions of such school environment in turn shape students’ own school related beliefs, affect and behavior.

2.2. Perceived School Achievement Goal Dimension

2.2.1. The Nature and Background of Achievement Goals Theory

Goals are broadly defined as specific representation of what the individuals would like to achieve, spurring individuals to action and directing their behavior (Ames, 1992; Dweck and Leggett 1988). More specifically, achievement goal concerns the reasons why individuals are engaged in certain achievement behavior. When defined in this way, achievement goals relate to more than what students hope to gain from specific actions. Instead, achievement goals pertain to the reasons underlying students' behaviors and desire to achieve. It is concerned with the purpose of achievement behavior integrating both cognitive and affective components to define the
different ways or patterns of approaching, engaging in and responding to achievement activities (Ames, 1992; Dweck and Leggett, 1988; Nicholls 1984). Consequently, achievement goals are viewed as an organized system theory, or schema for approaching, engaging and evaluating one’s performance in achievement context (Pintrich 2001).

Achievement goal theory proposes that the ways in which individual assign meanings to achievement situations affect their motivation, considering questions that revolve around what people strive for and what success and failure means. While different individuals may be motivated by the same goal, the goal may hold quite different meaning and thus result in different motivational patterns and the goals individuals are pursuing create the framework with which they interpret and react to events in achievement situations (Nicholls, 1984; Ames& Ames, 1984; Elliot and Dweck, 1988).

A major tenet of achievement goal theory is that individuals will be predisposed to mastery and performance goal (both the approach and the avoidance) orientations as a result of socialization experiences including interaction with peers, teachers, and significant others in their activities. These orientations will subsequently influence whether individual will adopt mastery goals or performance goals (both approach and avoidance) in a specific situation. More specifically, the prevailing motivational environment perceived by individuals affects their adoption of achievement goals, i.e. motivational environment created by peers, teachers and anyone who has the potential for influencing individuals form an important and powerful influence on their motivation. In brief, the nature of the goal state, i.e. levels of mastery goal, performance approach goal & avoidance goal that is adopted in a specific achievement setting will be determined by individuals’ preference (goal orientation) and situational cues of motivational environment (Weiner, 1979; Phillips and Gully, 1997).
When it comes to the school context, achievement goal theory has the implication that the types of school wide pedagogical practices and policies that students experience in school environment influence students’ adoption of personal goal orientation in that particular achievement setting (Weiner, 1979; Ames and Archer, 1988). Students' goal orientation may be influenced by the motivational environments that are created by what teachers and significant others say and do in school setting.

### 2.2.2. Achievement Motivational Goal Orientations

The term goal orientation is often used to represent how students’ achievement goals direct their behaviors and orient them to view academic contexts in a particular light. It, therefore, is defined as an individuals' difference variable that states to what degree an individual is predisposed to either type of goals (Dweck and Leggett, 1988; Elliot, Dweck, 1988). Achievement goal orientations, therefore, are presumed to differ as a function of situational demands as well as to vary across individuals. The goal orientation theory is a qualitative rather than quantitative conception of motivation. Rather than focusing on the level of motivation, the focus is on the goal or purposes that are perceived for achievement motivation (Ames, 1992).

The role of students' motivations and beliefs in the learning process has received increased attention in recent decades (Weiner, 1979, Gottfried, Fleming and Gottfried, 2001). In particular, researchers have focused on students' academic goal orientations (Pintrich & Schunk, 1996). A series of studies and research programs have addressed the nature and structure of students’ goal orientations (Ames & Archer, 1988, Dweck, 1986, Maehr & Midgley, 1991, Nicholls, 1984, Pintrich, 2000); the impact of these goals on students motivation and learning (Pintrich & De Groot, 1990); as well as factors that contribute to the adoption of particular goals (Ames, 1992;
What is more is that, distinction has to be made between two varying forms of performance goals so that one can distinguish students’ desire to achieve in order to be looked upon favorably (i.e. an approach / self enhancing orientation) from their desire to achieve in order to avoid appearing incompetent (i.e. an avoidance /self defeating orientation).

2.2.3.1. Mastery Goals Orientation

Mastery goal orientation is defined as the degree to which the individual is predisposed to preferring mastery-oriented goal (Dweck and Leggett, 1988; Dweck, 1989; Hafsteinsson, 2002). Students who are mastery oriented are concerned with increasing their competence and mastering what they are dealing with. Since their focus is on learning and mastering certain skills these students are likely to evaluate their performance relative to their own previous achievements and measure success in terms of personal progress (Gottfried, Fleming and Gottfried; Butler, 1987; Wentzel, 1989; Pintrich, 2000; Midgley, Kaplan and Middleton, 2001, Nicholls, 1984). Thus, challenging tasks become an opportunity for growth and learning.

The emphasis on learning along with the sense of control makes these students likely to set challenging tasks independent perceptions of their abilities (Phillips and Gully, 1997). Furthermore, mastery oriented students see effort as a means to success and are, therefore, likely to be persistent when facing challenges on their way to achievement (Elliot and Church, 1997). These students tend to perceive negative feedback as valuable information on how to improve and they treat failure as a learning experience not as a sign of insufficient ability (Dweck and Leggett, 1988)
2.2.3.2. Performance Approach Goal Orientation

Performance approach goal orientation refers to the degree to which the individual is predisposed to setting performance approach oriented goals. Achievement goal theorists have pointed out that students with performance approach oriented goals are concerned with being perceived or judged as competent and with gaining favorable judgments. They tend to adopt normative standards of success, i.e. they evaluate their performance relative to others (Ames and Archer, 1988; Butler, 1987; Meece, et.al, 1988; Wentzel 1989; Jagacinski and Nicholls, 1987; Dweck and Leggett, 1988; Hafseinson, 2002; Nicholls, 1984). Students show evidence of ability by being successful, by out performing others or by achieving success with little effort and are likely to show limited persistence in the face of failure and a tendency to be disturbed when difficulty at a task is encountered.

However, recent researchers advocate that performance approach goal orientation is grounded in self-regulation that is based on attainment of positive outcomes i.e. superior performance compared with others and its adoption is predicted by need for better achievement and high competence expectancies (Elliot and Harakiewicz, 1996). Hence approach performance goals leads to involvement based on competition and trying harder to do better than others, the overall effect being an increase in involvement in the task with a variety of positive outcomes including higher grades.

2.2.3.3. Performance Avoidance Goal Orientation

Performance avoidance goal orientation is defined as the extent to which the individual is predisposed to setting performance avoidance oriented goal. Students with performance avoidance goal orientation are concerned with avoiding lack of competence or looking stupid or
inferior (Phillips and Gully, 1997; Elliot, McGregor & Gable, 1999). Performance avoidance goal orientation is grounded in self-regulation that is based on avoiding potential negative outcomes.

As compared to performance approach goals, avoidance goals are more likely to produce cognitive sensitivity to negative stimuli, anxiety about negative possibilities to explore and avoid the multiple potentially negative outcome paths (Middleton and Midgley, 1997; Elliot, et.al, 1999).

Performance avoidance goal orientation has the implication that when students pursue or perceive performance avoidance goals, they use strategies that protect their self worth (Covington, 1992) and self-handicapping strategies (Middleton and Midgley, 1997; Elliot et.al, 1999; Pintrich, 2000). These involve purposefully withdrawing effort- procrastinating or fooling around with friends instead of studying so that if subsequent performance is low, those circumstances rather than lack of ability will be seen as the causes. They may also feel anxious about tests and evaluation, fearing that they might reveal a lack of ability.

2.2.4. Certain Issues with the Goal Orientation Construct

In the course of defining and setting goal orientation construct and its relation to goal adoption process, there has been a debate and confusion among researchers in the area on two crucial issues. The first is the dimensionality of the construct (whether it is two or three dimensional); and the second is whether goal orientation is a stable personality trait (dispositional) or situationally induced (Hafsteinsson, 2002, Nicholls 1984; Pintrich, 2000; Vandwalle, et.al, 2001; Midgley, Kaplan and Middleton, 2001).

This confusion and debate about stability of goal orientation seems to stem from the following important issues. "What leads individuals in the same situation to favor performance goals (both approach and avoidance) over mastery goals or vise versa?" and "Why do some
individuals focus on the adequacy of their ability whereas others focus on the development of their ability?” (Sternberg, Conway, Ketron, and Bernstein, 1981).

Historically, goal orientation has been treated either as a situational variable which can be manipulated for the purpose of a given study (Ames and Archer, 1988; Elliot and Dweck 1988; Dweck and Leggett, 1988); or as a stable and measured dispositional trait which influence the response patterns of individuals across situations (Thorkildsen, 1988; Nicholls, 1984; Hafsteinsson, 2002).

Furthermore, the literature on the issue of whether to treat goal orientation construct as a trait or state spans the whole range of treatments. That is from a highly situational state variable to a domain state variable (Vandewalle et.al, 2001) to a trait variable that is somewhat susceptible to situational influences (Button et.al, 1996 cited in Hafsteinsson, 2002); and finally stable trait variable (Elliot and Church, 1997). However, study by Carr, Deshon and Dobbins (2001) Breland, (2001); Donovan and Swander (2000) cited in Hafsteinsson (2002) concluded that the field favors the situationally influenced trait approach.

Achievement goal orientation theorists propose that individuals’ personal belief (implicit conceptions) about the nature of ability is a predictor of their goal orientation. Some individuals favor what is termed as incremental theory of intelligence (a belief that intelligence (ability) is a malleable, increasable, controllable quality). Others are inclined towards an entity theory of intelligence or ability (-a belief that intelligence is a fixed or uncontrollable trait (Nicholls, 1984; Steinberg et.al, 1981; Vandewalle, 2001; Elliot and Dweck, 1988). Hence, mastery orientations and performance (both approach and avoidance) goal orientations are associated with different personal beliefs about ability and effort.
Individuals who believe that intelligence are increasable trait (a belief that ability can be developed and that effort is an efficacious strategy for developing the wherewithal needed for successful task performance); pursue the mastery goal of increasing their ability (competence). In contrast those who believe intelligence is a fixed entity (i.e. a belief that ability is difficult to develop and that successful task in performance is primarily based on possessing the requisite innate ability) are more likely to pursue the performance goal of securing positive judgments of that entity or preventing negative judgments of it.

Because ability is perceived as difficult to develop, effort is not seen as a means for enhancing task performance. Rather the need to exert effort is interpreted as evidence of low ability because individuals would not need to struggle so hard to succeed if they had high ability (Vandewalle, et.al, 2001; Dweck and Leggett, 1988; Hafsteinsson, 2002; Nicholls, 1984; Elliot and Dweck, 1988; Middleton and Midgley 1997; Elliot, et.al, 1999; Pintrich, 2000).

Achievement goal theorists contend that the adoption of mastery orientations and performance goal orientations (both approach and avoidance) is also contingent on situational influences in achievement settings. Mastery goal orientation is more internal, emphasizes inner standards and growth towards improvement without much regard for situational influences, while performance goal orientations’ focus is on demonstrating ability in a given situation. Furthermore, the situation determines whether performance goal orientation turns into “approach” or “avoidance” goals (Hafstensson, 2002; Middleton and Midgley, 1997; Elliot, et.al, 1999; Pintrich, 2000).

In addressing this issue Dweck and Leggett (1988), Nicholls (1984) Ames and Ames (1984), Ames (1992) contended that the choice of an individual is determined by the combination of situational and dispositional factors. If the situation offers strong cues favoring one type of goal over the other, this is likely to override the individuals' predisposition to some degree.
(depending on how strong it is) and affect the choice of the goals and individuals' behavior in the direction of the situational cues. On the other hand, when the situation offers no cues, the disposition will dominate the decision making process and be likely to lead to goals that are persistent with the individuals' dispositional goal orientation.

In general, although there seems to be no consensus among theorists regarding the issue of whether to consider the goal orientation construct as a trait or state, recently the field seems to favor an integration of both entity and incremental theories i.e. recognition of present differences in relative ability but an emphasis on individual growth in ability over time. Furthermore, students' implicit beliefs about ability and situational cues in a given achievement setting will predict the type of their achievement goal adoption (i.e. whether they will be oriented toward developing their ability, demonstrating, or documenting the adequacy of their ability).

2.2.5. How Achievement Goals Create Different Patterns of Cognition, Affect and Behavior?

Achievement goal theorists suggest that the goals individuals are pursuing to create a framework for interpreting and responding to events that occur in achievement situations. Thus, the same events may have completely distinct meaning and impact if it occurs within the context of mastery goals, performance approach and performance avoidance goals. That is different goal orientations lead to unique/different/ response patterns of cognition, affect and behaviors (Dweck and Leggett, 1988; Elliot and Dweck, 1988; Roeser, et.al, 1996; Vandwalle, et.al, 2001; Midgley, Kaplan and Middleton, 2001; Pintrich, 2000; Elliot, et.al, 1999; Steel-Johnson, Beauregard, Hoover and Schmidt, 2000).
Individuals adopting the different goals can be seen as approaching a situation with different concerns, asking different questions and seeking different information. For each individual, the data in the situation are interpreted in terms of their focal concerns and provide information relevant to their question (Dweck and Elliot, 1988; Dweck and Leggett, 1988; Nicholls, 1984; Ames, 1992; Elliot, et.al, 1999; Pintrich, 2000).

The foregoing contentions have the implication that in school settings, students pursue different achievement goals depending on their individual needs and competencies or on the demands of the achievement situation in school. The salience of different goals in turn influences their choices of achievement tasks, personal goal adoption, definition and attribution for success (Ames and Ames 1984; Wentzel, 1989; Roeser, et.al, 1996; Elliot, et.al, 1999; Middleton and Midgley, 1999). Goal orientations, therefore, are presumed to be important mediators and determinants of cognitive, affective and behavioral patterns in achievement situation.

2.2.5.1. Mastery Goals, Cognition, Affect and Behavior

A mastery goal situation creates a concern with increasing one's ability and extending one's mastery and leads students to pose a question ‘what is the best way to increase my ability or achieve mastery?’ Failure would simply mean that the current strategy may be insufficient to the task and may require revision (Dweck and Leggett, 1988; Ames, 1992; Roeser, et.al. 1996, Nicholls, 1984; Middleton and Midgley, 1997; Elliot, et.al, 1999; Pintrich, 2000).

Mastery oriented students are likely to view effort as a means (strategy) for mastering the task (Ames, 1992); believe in the efficacy of effort (Bandura and Schunk, 1981; Schunk and Cox, 1986; Ames and Archer, 1988; Hafsteinsson, 2002; Bong, 2001). They persist longer, exhibit an adaptive attribution pattern and higher level of efficacy, use a set of deep processing cognitive
strategies. These involve challenging the veracity of information encountered and attempting to integrate new information with prior knowledge and experience (Pintrich, 2000; Middleton and Midgley, 1997; Elliot, et.al, 1999; Wentzel, 1996; Mac Iver, Stipek and Daniels, 1991; Bouffard, Boisvert Vezeau and Larouche, 1995).

Therefore, the fact that failure simply signals that the task will require more effort and ingenuity for mastery, creates for mastery oriented students the opportunity for more satisfying mastery experience. This in turn produces the heightened positive affect, positive self-concept about their ability and high performance expectations. Thus, a sense of accomplishment is derived from inherent qualities of the task such as its challenge, interest or enjoyment (Ames and Ames, 1984; Ames, 1992; Nicholls, 1984; Wentzel, 1998; Elliot and Dweck, 1988). These bring intrinsic rewards, pleasure or pride (Deci and Ryan 1985) willingness to pursue challenging tasks, determination, positive feelings towards the situation (Covington and Omlich, 1979, 1984; Meece, et.al, 1988).

Furthermore, within mastery goal, effort and persistence mobilizes ones ability for the task mastery. There would be no conflict between the effort requirement of the task and requirement of the goal, for effort is at once the means of mastering the task and the means of maximizing goal attainment. The positive affect generated by heightened interest or determination is consonant with task requirements and may promote an intensification of concentration. Thus, the intrinsic rewards that accompany the meeting of challenge with effort and the attainment of improvement through effort will provide additional impetus to performance (Dweck and Leggett, 1988; Nicholls, 1984).
2.2.5.2. Performance Approach Goals, Cognition, Affect and Behavior

Within performance approach goals, learners are concerned with measuring their ability and with answering the question, "Is my ability adequate or inadequate?" Within such a framework, outcomes will be a chief source of information relevant to this concern and thus failure outcomes may readily elicit the helpless attribution that ability is inadequate. These individuals view effort as an index of high or low ability (Dweck and Leggett, 1988; Elliot and Dweck, 1988; Nicholls, 1984; Middleton and Midgley, 1997; Elliot, et al., 1999; Pintrich, 2000).

Research on examining performance approach goals, psychological and educational outcomes have revealed a somewhat inconsistent pattern of results. A number of studies have reported positive relationship between performance approach and perceived academic self-efficacy persistent and effortful learning behavior (Wolters, Yu, Pintrich, 1996; Pietsch, Walker, and Chapman, 2003). But the inherently instrumental nature of performance approach goals makes it to be related to surface processing which involves repetitive rehearsal and rote memorizations (Middleton and Midgley, 1997; Elliot, et al., 1999); less adaptive in terms of subsequent motivation, use of superficial strategies that maximize short term retention of information for a test (Meece, et al., 1988).

In contrast, Middleton and Midgley (1997), Meece et al (1988), Anderman and Young (1994) found a negative relationship between performance approach goals and perceived academic efficacy. Within performance approach goals, experiencing failure or effort exertion warns of a low ability judgment and thus poses a threat to self-esteem. Such a threat may first engender anxiety and then if the negative judgment appears, an increasing form of depression affect and a sense of shame may set in (Middleton and Midgley, 1997; Printrich, 2000).

Performance approach goal oriented students may also experience less interest, less positive affect and perhaps more anxiety or negative affect given their concern about doing better than others. That is if they experience any difficulty or failure along the way, there could be cost
for them in terms of their affect (Roeser, et al. 1996; Pintrich, 2000; Nicholls, 1984; Vandewalle, et al., 2001; Butler, 1987; Midgley, et al., 2001) and high effort engender anxiety (self-conscious affect). The self-focus in performance-oriented students can have negative effect on their performance. Anxiety over goal failure both the cognitive worry and the aversive affect with performance-oriented individuals may divide attention, inspire escape wishes and interfere with concentration and effective strategy development (Butler, 1988; Vandewalle and Cummings, 1997; Vandwalle, et al., 2001) and this will in turn result in low performance outcomes.

2.2.5.3. Performance Avoidance Goals, Cogitation Affect and Behavior

Performance avoidance goals are construed as fundamentally avoidance forms of motivation that are grounded in fear of failure and focused on the possibility of negative outcome. Like performance approach goals, performance avoidance goal is inherently instrumental in nature (Middleton and Midgley, 1997; Elliot, et al., 1999; Pintrich, 2000).

Performance avoidance goals are likely to evoke self-protective concerns that preclude rigorous persistence and full effort expenditure during learning (Covington, 1984; Jagacinski and Nicholls, 1990); and positively associated with effort minimizing strategies such as copying others work or simply guessing at answers (Vandewalle, et al., 2001; Nicholls, 1984).

Middleton and Midgley (1997), Pintrich (2000), Pokey and Blumenfeld (1990), Elliot, et al. (1999) have shown that performance avoidance goals are related to disorganization (learners' difficulty in establishing and maintaining a structured, organized approach to learning) as the threat appraisals and anxiety they engender encourage procrastination and interfere with attempts to engage in structured focused learning behavior.
Because performance avoidance oriented students have low confidence in their ability, challenging tasks would promise aversive experiences such as high anxiety, expected negative judgments and loss of esteem (Elliot, et.al, 1999; Vandewalle and Cummings, 1997). These students thus orient themselves towards easy tasks that minimize negative outcomes and affect which, in turn, will affect subsequent performance outcomes (Nicholls, 1984; Pintrich, 2000; Church, et.al, 2001).

With respect to school settings, students may adopt this goal orientation as a way of expressing their negative attitudes toward schoolwork, avoiding failure or coping with the constraints and demands of learning environment (Wentzel, 1989). Moreover, they adopt a more defensive, self-protective posture, devaluing the task and expressing boredom or disdain toward it (Middleton and Midgley, 1997; Pietsch, Walker, and Chapman, 2003).

2.3. Perceived School Relationship Dimension

Studies on interpersonal relationship aspects of school environment have demonstrated that perceived positive teacher-student relationship and positive peer relationships in school are related to early adolescents’ psychological and academic adjustments (Wentzel, 1999; Roeser, et.al, 1996; Ames, 1992; Schunk and Hanson, 1985). This aspect of school environment is concerned with how school can play an important role in providing, supportive, caring community within which learning and mental health can flourish and the social aspect of the school environment have to be conceptualized as relating to feelings of school belonging and commitment on the part of the learners.
Studies on socialization experience and academic outcome have focused on students’ perceptions of interpersonal relationships and how these perceptions might motivate and guide subsequent behavior. Perceived social and emotional support and support for learning from teachers and peers have been related positively to motivational outcomes such as perceived competence, a sense of relatedness and academic effort & interest in school (Wentzel, 1989; Wentzel, 1998; Wentzel, 1999).

2.4. Social Cognitive Achievement Goal Theory

Social relationship achievement goals are defined as individuals’ motives to gain approval from others, establish personal relationships with peers, teachers and significant others. The social cognitive motivational theorists contend that social relationship goal motivations play a role in motivating individuals to achieve academic outcomes in almost much the same way that academic motivational processes influence academic outcomes. This theory suggests that children desire to achieve valued outcomes in a given setting including academic success (Wentzel, 1999; Urdan & Maehr, 1995).

Rooted in developmental theory, this theory proposes that the adoption and pursuit of socially appropriate goals in a given situation or context emanates from a more generalized individual’s needs to form interpersonal attachments and to experience a sense of social belongingness and relatedness (Baumeister and Leary, 1995). When these needs are met, individuals experience a positive sense of self, emotional well being, and a belief that the social environment is a benevolent and supportive place, individuals are likely to adopt the goals, and values of those who help them meet these needs (Covington and Omelich, 1979, 1984).
Some empirical support for the above theory suggests that young children’s initial orientation toward achievement at academic tasks appears to be grounded in children’s fundamental view of themselves as morally and socially acceptable human beings (Dweck, 1991; Benes and Dweck, 1986; Burhans and Dweck, 1995). Moreover, students’ emotional well being is related to positive aspects of academic motivation and precedes academic competence (Wentzel, 1999).

Research based on the self worth theory of motivation indicated that domain general levels of self-esteem and self worth influence motivation to achieve in academic domains (Covington, 1992; Covington and Beery, 1979). Conversely, failure threatened perceptions of self worth, predict lack of effort and demonstration of cognitive skills (Urdan and Maehr, 1995); and social organization of schools and children’s interactions with peers and teachers have major influence on students’ motivation (Boekaert et.al, 1993). Teachers’ affective responses are important both academically and at the interpersonal level. Teachers' enthusiasm, humor, love of learning and modeling of positive emotions and motivations are related to learners' positive affects and motivation to learn (Pajares, Britner and Valiante, 2000).

With respect to school situation, this theory seems to suggest that students who perceive their schools as socially supportive environment are likely to pursue those goals that are valued in that context. If students develop a sense of relatedness to their teachers and peers, this might be translated in to pursuing goals valued by these models including goals to behave appropriately and as well as goals to learn and achieve. Moreover, intervention to effect adaptive motivational orientation toward learning in school must begin with due attention to students' cognitive social and emotional needs. In summary, when it comes to school context the aforementioned theories and studies imply that interventions designed to create school environment that have to increase students' levels of academic competence has to address both their cognitive, social and emotional needs.
impels students to adopt performance approach goals (need for achievement) and anxiety that appears to accompany students’ efforts to outperform others and perceived threats to self worth will result in negative school achievement. Furthermore, perceived evaluation focus and harsh evaluation (perceived stringency) leads to the adoption of performance avoidance (fear of failure) which is likely to evoke anxiety or negative affect that debilitating school related self-perception and performance (Roeser et.al, 1996; Church, et.al, 2001; Elliot, et.al, 1999; Boivin Hymel, 1997).

2.5.2. Relationship between Perceived Teacher-Student Relationship, Feelings of Belongingness, Self-Beliefs, Emotions and Academic Achievement

Empirical studies have shown that perceptions of positive teacher-student relationship has been related to positive motivational outcome including the pursuit of the goals to learn and to behave prosocially & responsibly, show educational aspirations and values that match with positive self-concept (Wentzel, 1997; Wentzel, 1999).

Students, who perceive low levels of social support, experience psychological distress that will in turn increase a focus on the self and decrease the likelihood of positive orientations toward learning and social interactions. These include low interest in school (Wentzel, 1990; Wentzel 1999) poor academic performance (Harter 1990; Wentzel, 1999) negative attitude & poor adjustment to school (Anderman and Midgley, 1994) and ineffective cognitive functioning (Urdan and Maehr, 1995).

Students who perceive their school as emphasizing understanding, effort and personal development also perceive that teachers care about, trust and respect students. However, when students perceive that only the most able students are recognized, rewarded and given support,
relatedness—perceiving oneself as being related to peers and significant others

competence—perceiving oneself as effective in one's interaction with school activities.

Supporting the above contention, Guay, et al (1999) revealed that, students' perceptions of positive peer relationship leads to overall feelings of companionship, feeling of belonging, emotional support and affection. Moreover, these feelings of belonging mediate the relation between students’ perceptions of the quality of peer relationship and beliefs about themselves (perceived academic competence), school related affect and self-consciousness, which in turn predict subsequent academic achievement.

The above studies seem to suggest that when perceived relatedness and competence are fostered by the school context, engagement is likely to be manifested in affect (curiosity), cognition and behavior. Conversely when these self-processes are hampered by the school context, disaffection will result along with adverse effects on affect, cognition & behavior and those affective, cognitive and behavioral engagements in school context influence school outcomes such as grades, skills and adjustment. Thus patterns of self-processes (feelings of belongingness) are thought to mediate the acquisition of specific skills and adjustment within the school context.
CHAPTER -III

3. METHODOLOGY

This chapter deals with the description of subjects and the rational for selecting them, sampling and data collection procedure, variables considered, instruments used for data collection, results of pilot study and statistical methods employed.

3.1. Subjects

The target population for the main study was regular grade seven students (males and females) of the selected upper primary school-namely; Bonga upper primary school and Wush Wush upper primary school. The study included only those who are within the normative age of early adolescence (13-15). According to the statistical data procured from the participating schools, there were 1024 students (M=600 & F=424).

Out of this population, 390 students were selected for the study. Two of the selected subjects were excluded from the study because they did not fill the scale properly due to unknown reasons. Upper primary school students were selected to be the subjects of this study because evidences and observations indicate that perceptions of academic competence, academic values and course grades grow more negative (Eccles, Feldlaufer and Midgley, 1989) and that school related worries and concern increase during early adolescence with no exception in the case of Ethiopian schoolchildren.

Bonga upper primary school and Wush Wush upper primary school were selected for this study based on researcher's practical knowledge and the information he has got from observation and many upper primary school teachers and authorities that the issue of poor academic performance, repetition and dropout are the major problems of the of early adolescents.
3.4. Data Collection Procedures

Data were collected when students were at school. Before administering the surveys, necessary rapport was established with the subjects and maintained during survey administration too. The researcher and research assistants administered all the twelve surveys to the selected sample of students in both schools during their regular class time. In both school the scales were administered in one session. Subjects were given the necessary clarifications in filling out the Lickert type scales and were encouraged to ask questions during survey administration if anything is unclear. They were also assured that information they provide will be confidential and surveys would be removed from the school site after they have completed them.

With regard to academic achievement, students’ teacher made average achievement scores for the first semester was obtained from the record office of the respective schools. The average score was computed by averaging each students' score in the core academic subjects (English, math, social studies, biology, chemistry, and physics).

3.5. Variables

The variables of the study consist of the four sets of constructs depicted on the model earlier (figure -1). These are:

1. Perceptions of the school environment (context)
2. Mediating processes,
3. Psychological and
4. Behavioral outcomes
a. The School Context Perceptions

This involved five constructs- three reflecting the school goal structures (mastery goals, performance approach goals and performance avoidance goals) and two reflecting the relationship dimension (teacher-student relationship and the peer relationship). Items for all five of the constructs (scales) were measured on 5-point Lickert scales (1= not at all true in this school, 5= very true in this school.

The school mastery goal structure variable was assessed using a scale consisting of six items. Items in this scale assessed students’ perceptions of an emphasis in the school on effort, understanding, and the belief that all students can learn and be successful. The school performance approach goal structure variable was assessed using a scale consisting of five items. This scale included items tapping student perceptions that relative performance is salient and reward is marker of success and that, higher achieving students are treated better than others. The school performance avoidance goal structure variable was assessed using a scale comprising of five items. The scale was used to assess students’ perception that relative ability is salient, the importance of grade & performance evaluation is emphasized and the grading structure is so difficult that it minimizes the likelihood of success and makes salient the possibility of negative performance outcome.

b. The Teacher-Student Relationship and Peer Relationship Dimension: These are assessed by scales composed of five items for each. The items were used to tap students’ perceptions that the qualities of teacher student relationship and peer relations in school context are warm & supportive.

c. Mediating (intervening) Variables: - Four mediating processes (variables) are identified to mediate the relations between perceived school context and students’ psychological
and behavioral adjustment in school. These included students' personal mastery goal orientation, personal performance goal orientation, personal performance avoidance goal orientation, and their feelings of belonging in school. All of the items for these constructs were assessed on a 5-point Likert scales (1 = not at all true of me, 5 = very true of me).

The personal mastery goal construct was assessed on a five items scale. The scale was used to assess preference for challenging work, task mastery, understanding, and learning new things. The personal performance approach goal construct was assessed on scale consisting of six items. The scale included items that assess students' desire to demonstrate their ability relative to others (outperforming others in achievement setting and gain favorable judgments of their ability). The personal avoidance goal orientation construct consisted of six items. The items were used to assess students' desire to avoid looking stupid or incompetent and hence avoid the task. The feeling of belonging construct was assessed on scale that consisted of four items. This scale assessed whether students feel that they are important, that they matter and they belong in their school.

d. Psychological Outcome Constructs-

Students' academic self-efficacy, academic self-consciousness and general affective experience in school were included as psychological outcomes related to school.

The academic self-efficacy construct was assessed using the academic self-efficacy scale. The scale composed of six items and assessed students' beliefs that they can master the material and skills taught in school if they are given enough time and exert enough effort.

The positive school related affect construct was assessed using scale consisting of three-items. The positive affect scale assessed the general valence of students' emotional experience while in school. The academic self-consciousness construct was assessed on scale consisting of four items. The items assessed students' worry, their concern about their ability, competence and test results. All of the items were measured by a 5-point Likert scale (1 = not at all true of me, 5 = very true of me).
e. Behavioral Outcomes-

Students' academic achievement was considered as a behavioral outcome constructs. A measure of students' achievement (i.e. scores on teacher made achievement test for the first semester) was taken from students' school record office. The score was computed by averaging scores in the core academic subjects – (English, Math, Social science, Biology Physics and Chemistry).

3.6. Pilot Study

Though the adopted instruments (scales) have already been standardized and their authors have established their reliability and validity, the time, environment and situation under which they were standardized were different from the environment and situation here in Ethiopia. Hence, it was worthwhile that pilot study had to be made to check the reliability of the instrument in contexts like ours.

The objective of pilot study was to test and improve instruments and to create working relationships in the study site. The subjects were 42 grade 7 students \((m=23 & f=19)\) who were between the age of 13-15 of Ginbo upper primary school in Kafa Zone. They were randomly selected from each section while maintaining the proportion of boys and girls relatively equal. The scales were administered during the regular school time by the researcher.

Based on the pilot study results, instruments were improved. Items that indicated poor inter-item correlations were rephrased. Items that were detected as confusing to the subjects to respond to during survey testing were rephrased and made to fit to subjects' level of understanding. Furthermore, since the scales were administered in Amharic, forward and backward translations were employed before they were used for final data collection of the actual
study. Reliabilities for all scales were computed using Crombach's alpha reliability coefficient (refer to appendix C through N).

3.7. Methods of Data Analysis

Once the data were collected they were subjected to scrutiny using various statistical methods. The statistical methods used in this study were selected based on the hypotheses formulated in the study. The formulated hypotheses pertain to relations, predication, and meditations. Gender effect was controlled for each regression coefficients while computing the direct and indirect effects.

Hence, Pearson Product Moment Correlation was used to examine the relationship between variables considered. Partial regression analyses were employed to examine the association between independent variables (predicators) and dependent variables (outcomes) after the raw data were converted into standardized score. Path model coefficients (beta weights) were used to test the direct effects of independent variables on the dependent in the study. A path model is a diagram relating independent, intermediary and dependent variable. A path coefficient (path weight is standardized regression coefficient (beta) showing the direct effect of an independent variable on the dependent variable in the path model.

The statistical package used for computing regression was SPSS (i.e. Statistical Package for Social Science). Indirect effects (mediated effects) of predictor variable on criterion variable via intervening variable was calculated using Sobel product coefficient approach (see appendix -O and section 4.3)

Since a Z-test, a test of significance for mediated effects, is calculated in different ways from the usual one, a method suggested by Sobel (as cited in McKinnon, 2003) was used (refer to Appendix-P).
CHAPTER VI

4. RESULTS

4.1. Bivariate Correlations

Zero order correlations among all the measures are depicted in table-1 below. The bivariate correlations among the variables involved in the study indicated anticipated patterns. Students' perceptions of school environment were correlated with students' personal goals and feelings of school belonging in predicted direction. Perceiving an emphasis on mastery of material and improvement in school was significantly positively related to students' tendency to adopt personal mastery goals, feelings of school belongingness, academic self-efficacy, and positive school affect and students' academic achievement. The same relations hold true for students' perceptions of positive teacher student and peer relationship in school.

However students' perception of school as emphasizing mastery of material and improvement in learning, perceptions of positive teacher student relationships and positive peer relationship in school are negatively related to their perceptions of focus on performance social comparison (both the approach and the avoidance), personal performance approach and personal performance avoidance goals and feelings of academic self-consciousness.

For the same reason, students' perceptions that relative ability and social comparison in performance is emphasized in their school were positively correlated with the adoption of personal performance approach goals. That perceives an emphasis put on outperforming others was related to students' adoption of personal performance approach goals, and feeling of academic self-consciousness. Conversely, students' perceptions of school environment as emphasizing relative ability, evaluation focus and harsh evaluation was significantly positively
correlated with students' adoption of personal performance avoidance goals, perceived performance approach goals, performance avoidance goals and feeling of academic self-consciousness. In addition, it is negatively related with perceived mastery goals, personal mastery goals, feelings of school belonging, academic self-efficacy, school affect and academic achievement.
<table>
<thead>
<tr>
<th>Variables</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Mastery goal structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Performance approach goal structure</td>
<td>.492</td>
<td>.575</td>
<td>.583</td>
<td>.723</td>
<td>.766</td>
<td>.788</td>
<td>.802</td>
<td>.813</td>
<td>.826</td>
<td>.831</td>
<td>.837</td>
<td>.841</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Performance avoidance goal structure</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Peer relationship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Personal performance approach goal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Performance avoidance goal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Positive school Affect</td>
<td>.633</td>
<td>.576</td>
<td>.520</td>
<td>.464</td>
<td>.408</td>
<td>.352</td>
<td>.307</td>
<td>.262</td>
<td>.222</td>
<td>.182</td>
<td>.142</td>
<td>.102</td>
<td>.062</td>
<td>.022</td>
</tr>
<tr>
<td>12. Academic self-consciousness</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Academic achievement</td>
<td>.332</td>
<td>.275</td>
<td>.218</td>
<td>.161</td>
<td>.105</td>
<td>.050</td>
<td>.005</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
<td>.000</td>
</tr>
<tr>
<td>N</td>
<td>388</td>
<td>388</td>
<td>388</td>
<td>388</td>
<td>388</td>
<td>388</td>
<td>388</td>
<td>388</td>
<td>388</td>
<td>388</td>
<td>388</td>
<td>388</td>
<td>388</td>
<td>388</td>
</tr>
<tr>
<td>MEAN</td>
<td>20.20</td>
<td>13.34</td>
<td>13.32</td>
<td>16.97</td>
<td>16.17</td>
<td>17.34</td>
<td>17.12</td>
<td>13.78</td>
<td>13.86</td>
<td>21.34</td>
<td>11.65</td>
<td>10.59</td>
<td>58.46</td>
<td>1.05</td>
</tr>
<tr>
<td>S.D.</td>
<td>6.34</td>
<td>5.79</td>
<td>6.20</td>
<td>5.62</td>
<td>5.21</td>
<td>5.82</td>
<td>6.21</td>
<td>6.52</td>
<td>4.51</td>
<td>7.46</td>
<td>3.33</td>
<td>5.31</td>
<td>13.15</td>
<td>.067</td>
</tr>
</tbody>
</table>

Table 1: Summary Statistics and Bivariate Correlations for Students’ School Environment. Process measure and psychological Outcomes

** All correlation are significant at the 0.05 level 2-tailed.  
* Correlations are significant at .01 level 2 tailed
4.2. Direct Relationships

4.2.1. Perceived School Environment as Predictors of Personal Goals and Belongingness

When students' personal mastery achievement goals and feelings of school belongingness were each regressed on their perceived mastery goal structure, the results disclosed (table-2 next page) that perceived school mastery goal structure was significant positive predictor of students personal mastery goal adoption ($\beta = .394$, $p \leq .05$) and students' feelings of school belongings ($\beta = .312$, $p \leq .05$). Perceived mastery goal accounted for 19% & 39% of the variation in students' personal mastery goals and feelings of school belongingness in schools respectively.

Students perceptions of school performance approach goal structure ($\beta = .265$, $p \leq .05$) had positive predictive effect on students' personal performance approach goal adoption. Similarly students' perceived school performance avoidance goal structure had strong significant positive effect on students' personal performance avoidance achievement goals ($\beta = .740$, $p \leq .05$). In general, 55% of the variance in students' personal performance avoidance goal was accounted for by the variation in their perceived school performance avoidance goals, whereas 6% of the variance in students' personal performance approach goals was explained by the variation in their perceived performance goals. Similarly, students' perceived quality of teacher student relationships ($\beta = .274$, $p \leq .05$ and perceived positive peer relationship ($\beta = .184$, $p \leq .05$) respectively had significant predictive positive effect on students' feelings of school belongingness. When we see the proportion of the variance in students' feelings of school belongingness, their perceived positive teacher –student and positive peer relationship in school, accounted for 38% & 36% of the variance respectively.
4.2.3: Students' Personal Goals and Feelings of Belongingness as Predictors of their Psychological Outcomes

Results of regression of each of the students psychological outcomes on their personal goal adoption and feelings of relatedness displayed (refer to table-4 next page) that students’ personal mastery achievement goals were significant positive predictors of their perceived academic self efficacy ($\beta = .212, p \leq .05$) and positive school affect ($\beta = .254, p \leq .05$) respectively. When the variance in students’ academic self-efficacy and positive school affect were examined, students’ personal mastery goals and feelings of belongingness accounted for 5% & 5% of the variations.

Students' personal performance approach goals ($\beta = .113, p \leq .05$) and personal performance avoidance goals ($\beta = .370, p \leq .05$) respectively were also significant positive predictors of students academic self-consciousness. In general, 2% and 10 % of the variances in students’ feelings of academic self-consciousness were explained by the variations in their personal performance goals and personal performance avoidance goals respectively.

Students' feelings of relatedness in school had strong significant positive effect on their perceived academic self-efficacy ($\beta = .335, p \leq .05$) and positive school affect ($\beta = .353, p \leq .05$) respectively, signifying the importance of the affective component aspects of motivation on students academic effort and willingness in achievement settings. 17% and 13% of the variance in students’ perceived academic self-efficacy and positive affect in school respectively were accounted for by the variation in their feelings of belongingness in school.
Table 4: Summary of standardized regression coefficients and $R^2$ for students’ personal goals, belongingness and psychological outcomes

<table>
<thead>
<tr>
<th>Psychological Outcomes</th>
<th>Academic self efficacy</th>
<th>Academic self consciousness</th>
<th>Positive school affect</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>$R^2$</td>
<td>$\beta$</td>
</tr>
<tr>
<td>Personal goals and belongingness</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personal mastery goal orientation</td>
<td>.212**</td>
<td>.05**</td>
<td>-</td>
</tr>
<tr>
<td>Feelings of school belonging</td>
<td>.335**</td>
<td>.17**</td>
<td>-</td>
</tr>
<tr>
<td>Personal performance approach goal orientations</td>
<td>-</td>
<td>-</td>
<td>.113**</td>
</tr>
<tr>
<td>Personal performance avoidance goal orientations</td>
<td>-</td>
<td>-</td>
<td>.370**</td>
</tr>
</tbody>
</table>

**$p \leq .05$

4.2.4. Personal Goals and Belongingness as Predictors of Academic Achievement

As depicted (on table-5 next page) students’ personal mastery goals ($\beta = .250$, $p \leq .05$) and feelings of school belonging ($\beta = .209$, $p \leq .05$) were significant positive predictors of students academic achievement. Examination of the variance in students’ academic achievement revealed that 7% and 3% of the variance were accounted for by their variation in their personal mastery goals and feelings of belongingness in school respectively.

Likewise students’ personal performance approach ($\beta = .088$, $p \leq .05$) was positive predictor of academic achievement whereas personal performance avoidance goals ($\beta = -.255$, $p \leq .05$) was negative predictor.
had significant negative effect on students’ academic achievement. When personal performance approach goals accounted for .06%, personal performance avoidance goals accounted for 3% of the variances in students’ feelings of academic self-consciousness.

Table-5: Summary of standardized regression coefficients & $R^2$ for students’ personal goals, belongingness and academic achievement

<table>
<thead>
<tr>
<th>Goals and Belonging</th>
<th>Semester Academic Average Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
</tr>
<tr>
<td>Personal mastery goal orientation</td>
<td>.250**</td>
</tr>
<tr>
<td>Feeling of school belonging</td>
<td>.209**</td>
</tr>
<tr>
<td>Personal performance approach goal orientations</td>
<td>.088</td>
</tr>
<tr>
<td>Personal performance avoidance goal orientations</td>
<td>-.255**</td>
</tr>
</tbody>
</table>

**p<.05

**p<.05

4.2.5. Psychological Outcomes as Predictors of Academic Achievement

As displayed on (table-6 next page), the results of regression of students’ academic achievement on each of their psychological measures (academic self-efficacy, academic self-consciousness and positive school affect revealed that students’ perceived academic self-efficacy ($\beta=.213$, p≤.05) and positive affect in school ($\beta=.294$, p≤.05) were significant positive predictors of students’ academic achievement. Whereas students’ feelings of academic self-consciousness ($\beta=-.225$, p≤.05) had significant negative predictive effect on students' academic achievement. It was observed that students’ perceived academic self-efficacy, positive school affect and
academic self-consciousness accounted for 5%, 6%, and 3% of the variance in students’ academic achievement respectively.

Table 6: Summary of standardized regression analysis and $R^2$ for students psychological outcomes and academic achievement

<table>
<thead>
<tr>
<th>Psychological outcomes</th>
<th>Academic Achievement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
</tr>
<tr>
<td>Academic self efficacy</td>
<td>.213**</td>
</tr>
<tr>
<td>Positive school affect</td>
<td>.294**</td>
</tr>
<tr>
<td>Academic self consciousness</td>
<td>-.225**</td>
</tr>
</tbody>
</table>

**p ≤ .05

4.3. Meditional Relationship

Mediation is a hypothesized causal chain in which one variable affects a second variable that, in turn, affects a third variable.

To test for the mediation three requirements need to be met (Baron & Kenny, 1986; David Kenny, 2003). First, the independent variable must affect the mediator; second, the independent variable must be found to affect the dependent variable, third the mediator must affect the dependent variable in an equation that involved both the independent and dependent variables while controlling for mediator. If these three conditions are satisfied, then the effect of the independent variable on the dependent variable, must be less in the third case than in the second (see appendix - O for details)
Two sets of mediation effects were of particular interest in this study. First this study tried to examine whether early adolescents’ personal goals & belongingness measures in school mediated relations between their perceived school environments and the psychological outcomes. Secondly, it was also hypothesized that psychological outcomes mediate the relations between personal goal and school belonging measures and academic achievement while controlling other variables in the model.

Having checked for whether the three requisite conditions set for mediational analysis were met, the indirect effects (mediated effects) of variables in the study were calculated together with their statistical significance using a formula suggested by Sobel (as cited in Kenny 2003) (refer to appendix -P)

4.3.1. Personal Goals & Belonging as Mediators of Perceived School Environment & Psychological Outcomes

The preceding regression analyses and zero order correlations have already satisfied the requirements for mediation. A direct relationship was established between each variable considered in the study. All variable were shown to be related to one another to the hypothesized direction (refer to table 2 through 6).

Results disclosed (refer to table 6 on page 57) that for students' academic self-efficacy and positive school affect evidence for mediation was obtained. When students academic self efficacy & positive school affect were each regressed on their perceived school mastery goal structure & personal mastery goals, while controlling one for the other, they were both shown to be significantly related to students self efficacy ($\beta = .279$, $P \leq 0.05$) and ($\beta = .212$, $P \leq 0.05$) and to students’ positive affect in school ($\beta = .122$, $P \leq .05$) and ($\beta = .254$, $P \leq .05$) respectively. It was
also observed that the direct effects of the independent variable were reduced when the mediator was in an equation ($\beta = .328$ to $2.79$) for academic self-efficacy ($\beta = .238$ to $1.72$) for positive school affect.

As anticipated the mediated effects of students' perceived school mastery goal on their perceived academic self-efficacy via personal mastery goals ($Z = 4.10, P \leq .05$), ($\beta = .08. \leq .05$) and via feelings of school belongingness ($Z = 2.49, P \leq .05$), ($\beta = .11, P \leq .05$) were significant. The results further depicted that the total indirect effects of perceived academic self-efficacy to be ($\beta = .19, P \leq .05$). In general, students’ personal mastery goals and feelings of school belongingness accounted for 72% of the variations in students’ academic self-efficacy in combination. Similarly the indirect effects of students perceived mastery school goal structure on students’ positive school affect through their personal mastery goal orientation ($Z = 4.01, P \leq .05$), ($\beta = .11, P \leq .05$),

and via feelings of belongingness ($Z = 4.61 P \leq .05$), ($\beta = .21, P \leq .05$) respectively were significant. The total mediated effects of students perceived school mastery goals on their positive affect in school ($\beta = .32, P \leq .05$) was significant. Overall 59% of the variations in students’ feelings of positive affect in school were accounted for by variations in their personal mastery goal and feelings of belongingness in combinations; with their feelings of school belongingness accounting for the lion’s share of the variance.

With respect to students’ perceived school performance approach goal structure & perceived performance avoidance goal structure, students’ personal performance approach and personal performance avoidance goal orientations were found to mediate their relations to students' feelings of academic self-consciousness.

When students' academic self-consciousness was regressed on their perceived school performance approach goal structure and personal performance approach goals, while controlling
More specifically, when students' academic self efficacy & positive affect in school were each regressed on their perceived positive teacher-student relationship measures in school in an equation that comprised of the mediator (feeling of belongingness in school) while controlling for the mediator & and other perceived variables in the model, both students’ perceived positive teacher-student relationship and feelings of school belongingness measures positively related to their perceived academic self efficacy ($\beta = .152, p < .05$) and ($\beta = .335, P \leq .05$) and positive affect in school ($\beta = .152, p \leq .05$) and ($\beta = .357, p \leq .05$) respectively.

What is more, the direct effects of perceived positive teacher-student relationship in school on students' perceived academic self-efficacy and positive school affect reduced when students’ feeling of school belonging (mediator) was in an equation ($\beta = .197$ to .152) for academic self-efficacy, and ($\beta = .238$ to .151) for students’ positive school affect. The indirect effects of students' perceived positive teacher-student relations in school on their perceived academic self efficacy ($Z = 4.23, P \leq .05$), ($\beta = .09, P \leq .05$) and on positive school affect ($Z = 4.07, P \leq .05$), ($\beta = .10, P \leq .05$) via their feelings of relatedness in school respectively were all significant.

Similarly when students’ academic self efficacy & positive school affect was each regressed on their perceived positive peer relationships in school & the mediator (feelings of relatedness) while controlling one for the other, students’ perceived positive peer relationship was shown to be positively related to academic self efficacy ($\beta = .081, p \leq .05$ and positive school affect ($\beta = .065, p < .05$) respectively. Feelings of belongingness in school was shown to be significantly positively related to students’ perceived academic self-efficacy, ($\beta = .335, p \leq .05$)) and positive school affect ($\beta = .353, p \leq .05$) respectively.

It was also observed that the direct effects of perceived positive peer relationships in school reduced when the mediator was in the equation ($\beta = .113$ to .081) for academic self efficacy and
(β= .133 to .065) for positive affect in school. As hypothesized, the mediated effects of students’ perceived positive peer relationship on their academic self-efficacy (Z= 2.99, p≤ .05), (β= .06, p≤ .05) and on their positive school affect (Z= 2.93, p≤ .05), (β= .07, p≤ .05) respectively were found to be significant.

Table 7: Summary of indirect (mediated) effects of the independent variable on the dependent variable via intervening variables.

<table>
<thead>
<tr>
<th>Independent variable</th>
<th>Dependent variable</th>
<th>Intervening (mediating) variables</th>
<th>Personal mastery goal</th>
<th>Feelings of belongingness</th>
<th>total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>ME (β)</td>
<td>Z</td>
<td>Δβ</td>
</tr>
<tr>
<td>School mastery goal</td>
<td>Academic Self-</td>
<td>.08</td>
<td>.08</td>
<td>4.10</td>
<td>.328 to .279</td>
</tr>
<tr>
<td></td>
<td>efficacy</td>
<td>Positive affect</td>
<td>.11</td>
<td>4.01</td>
<td>.190 to .122</td>
</tr>
<tr>
<td>Teacher-</td>
<td>Academic Self-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Student</td>
<td>efficacy</td>
<td>Positive affect</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Relationship</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Peer relationship</td>
<td>Academic Self-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>efficacy</td>
<td>Positive affect</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>School performance</td>
<td>Personal performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>approach</td>
<td>approach goal</td>
<td>ME (β)</td>
<td>Z</td>
<td>Δβ</td>
<td>ME (β)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>.03</td>
<td>2.40</td>
<td>.189 to .162</td>
<td>-</td>
</tr>
<tr>
<td>School performance</td>
<td>Personal performance</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>avoidance</td>
<td>avoidance goal</td>
<td>ME (β)</td>
<td>Z</td>
<td>Δβ</td>
<td>ME (β)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
4.3.2. Mediated Effects of Personal Goals & Belonging on Academic Achievement via Psychological Outcomes

Procedures followed for computing mediated effects for the first set of mediation analyses were employed here, too. The result of the study displayed (refer to table-7 that there was no evidence for students perceived academic efficacy and positive school affect to mediate the effects of student personal mastery goal orientations and their feelings of belonging on academic achievement.
The above relationships are summarized and presented on the path model below:

Figure 4: model summary of path coefficients for the second set of mediational relationship
5.1. Perceived School Environment as Predictors of Personal Goals and Belongingness

The results of this study are highly consistent with the hypotheses formulated from the onset. Testing each perceived school environment variable as predictors of early adolescents' personal goal adoption and feelings of school belonging revealed a significant relationship. Students' perceptions of the school environment as emphasizing mastery, improvement, and individual effort in school are positive predictors of their personal mastery achievement goal adoption and feelings of relatedness in school.

These results are in line with previous research on early adolescence and schooling. School environments that are perceived as emphasizing individual effort, mastery of material even at the cost of making errors, are related to more adoptive patterns of cognition, affect and behavior (Eccles, Midgley, et.al, 1993, Roeser et.al, 1996), engender a host of affective and perceptual-cognitive processes that facilitate task engagement (Middleton and Midgley, 1997).

Students’ perceptions of school environment as emphasizing on social comparison of performance outcomes in school are found to predict students’ adoption of personal performance goals (both the approach and avoidance goals). More specifically students who perceived their school as emphasizing relative ability and that only the most able students are recognized and rewarded and mistakes are punished and not considered as part of learning strategy and ability is measured by out performing others tend to adopt personal performance achievement goal. Students’ perceptions that school emphasizes on reward, harsh evaluation, evaluation focus, that
only able students are recognized, rewarded and ability is measured by out performing others mistakes are punished and not recognized as part of learning strategy are related to the adoption of personal performance avoidance goals. These results corroborate with the results of earlier studies, which suggest that students' perceptions of school as emphasizing social comparison and relative ability, reward and evaluation focus are related to students' adoptions of personal performance approach goals (Roeser et al., 1996; Middleton and Midgley; 1997).

Ames (1992) contended that one of the most salient factors that affect students goal adoption are evaluation practices in school and school environment that stress on normative success in turn orient students to the adoption of performance goals. And the adoption of performance approach and performance avoidance goals depends largely on individuals susceptibility to normative concerns (Anderman and Midgley, 1997; Bong, 2001); and harsh evaluation and fear of failure in perceived school environment impels students to adopt performance avoidance goals (Church, Elliot and Gable, 2001).

Hence, it seems that stringent evaluative standards of perceived environment represent a risk factor in the achievement setting in that they lead to the adoption of performance avoidance goals.

It was found that students' perceptions that teachers and peers are supportive, caring and collaborative in their learning were strongly related to their feelings of relatedness in school. This finding is consistent with Randoll and Graudenz, 1996) contention that in schools, situations repeatedly occur in which different needs and interests have to be negotiated particularly between teachers and pupils. Since teachers impart to pupils what officially constitute school, consequently what image learners have of school, teachers and lessons, what personal and occupational perspective they develop in school depends on the ways in which they define (perceive) pupil- teacher relationships. Pupils will only experience school and school learning as
meaningful if teachers take up and relate to their conception of self and reality with fairness, respect and tolerance. Positive peer relationship leads to increase in students' perceived relatedness, which in turn will boost students' perceived academic competence (Guay et al., 1999).

It was also found that students perceived school goal dimension was positively related to their perceptions of the relationship aspects of the school environment. This finding corroborates with earlier research results, which suggest that students who perceive the school as emphasizing understanding, improvement, mastery & personal development also perceive that teachers cared about, trusted and respected students.

On the other hand, when students perceive that only the most able students were recognized, rewarded, and given support, they also tend to perceive that relationships between students and teachers in school were less warm and responsive (Roeser et al., 1996); when students perceive that the school emphasizes mastery of material, individual effort and understanding, they also perceive their peers as collaborators in their effort to achieve whereas students who perceive school as emphasizing social comparison, performance and reward, they perceive their peers as competitors in learning (Ames and Ames, 1984). Guay, et al. (1999) suggested that feelings of school belongingness and peer-teacher support in school have been associated with school motivation and expectances for academic success.

5.2. Perceptions of School Environment as Predictors of Psychological Outcomes

The study also found that students' perceptions of school environment were predictors of their psychological and academic adjustment in school. The results disclosed that students perceived school environment is related to their psychological adjustment in school via the
personal goals they adopt and perceived feelings of relatedness in school. This finding is in line with the contention that personal achievement goals reflect students’ active striving for understanding and interpreting achievement purposes that are stressed in their school (Urdan and Maehr, 1995; Roeser et al., 1996; Haffstein 2002).

Students who perceived their school as emphasizing mastery goals reported feeling more efficacious and positive school affect and this relation is mediated through students' personal mastery goal orientation they adopt in school. It was also found that students who perceived positive teacher student relationship and positive peer relations reported feeling more efficacious with this relation mediated via students' perceived feeling of relatedness in school. These results support the findings, which suggest that perceptions of positive relations are related to students’ academic pursuit; students are more likely to engage in classroom activities if they feel supported and valued (Wentzel, 1997). Access to positive and supportive social relationships is related to students’ adaptive motivational orientations towards school and perceiving being accepted (liked) by peers and teachers has been related to students’ pursuit of social and academic goals and to positive attitudes toward school (Guay et al., 1999); to satisfaction with school academic effort (Brown, 1989). Students’ feelings of belongingness mediate the effect of perceived positive peer relations and positive teacher students' relations on their academic competence, beliefs and affect in school (Guay, et al., 1999).

Students who experienced a feeling of relatedness in their school also felt more efficacious. Feeling positively how teachers and students interact in school may provide a secure emotional basis from which students can both come to enjoy school and also develop their academic competence without feeling self-conscious or worried about failure Boekaert and Connell (Cited in Roeser et al., 1996; Wright and & Cowen, 1982). Students who perceive
mastery goals in school reported that they experienced positive school affect with these relations mediated via the personal mastery goals they adopt and feelings of school belongingness.

A mediated effect relations were also found for perceptions of school performance approach and performance avoidance goal structures. Students who perceived an emphasis on competition and relative ability in school were more likely to feel self-conscious in academic settings, and this relation is mediated through personal performance goals (both the approach and avoidance) that they adopt in school. It is more interesting to note that personal performance avoidance goal was strong positive predictor of students' academic self-consciousness.

These findings are in line with results the idea of McGuire et.al (cited in Roeser et.al, 1996); Elkind and Bowen (1989), which argued that adolescence is an age of increased concern for academic and general self-consciousness. School environment where social comparison is emphasized may serve to increase these feelings of self consciousness which could, in turn, be most detrimental to child's self image (Ellias, 1989). Students worry that emanate from their attempt to out perform others in school and their desire to come over perceived threat to self-worth under competitive school goal condition would undermine competence for learning and positive development (Covington, 1992; Elias, 1989).

5.3. Personal Goals and Feelings of Belongingness as Predictors of Academic Achievement

In the second set of mediational analyses it was found that students' personal mastery goals and belongingness were positively related to students' semester academic average scores. Students who experienced sense of competence and relatedness (belongingness) in school earned high achievement scores (as described by students' semester academic average score). This
finding is in line with the notion that perceived academic competence and feelings of belongingness in school predict increase in achievement and students' positive attitudes and positive beliefs about school are powerful determinants of school success (Guay et al., 1999; Frase and Fisher 1982).

However, academic self-efficacy and positive affects in school were not found to mediate the relationship between personal mastery goals, feelings of belongingness and achievement. This finding is also congruent with the findings of Roeser et al. (1996), Ames (1992), Pintrich and DeGroot, (1990) Elliot et al. (1999) which suggested that achievement goals primarily relate to other aspects of motivation such as efficacy beliefs, cognition, study strategies ...etc.; and these factors are in turn related to actual achievement and feelings of school belonging has direct effect on academic achievement.

Students' performance avoidance goal was found to be negatively related to their academic achievement and this relation was mediated through students' feelings of academic self-consciousness. Students who are oriented towards personal performance avoidance goals tend to worry about their exam results and how to avoid unfavorable judgments of their performance competence by avoiding performance which will, in turn, have a debilitating effect on their academic achievement. This result corroborates with the results of the previous studies that performance avoidance goals are likely to evoke self protective concerns that preclude rigorous persistence and full effort expenditure during learning and is negatively related to exam performance (Covington, 1984; Elliot et al., 1999; Midgley et al., 2001).

Students' personal performance approach was shown to be positively related to academic achievement when the mediator (academic self consciousness) was included in the equation and its effects were partialled out. However, when the self-consciousness measure was not in the equation, it was found that personal performance approach goal was negatively related to
achievement. This finding is consistent with the notion that performance approach goals are positively associated with achievement as described by course grade and test scores (Church et.al, 1999; Midgley et.al, 2001). Performance approach oriented students may arrive at high level of achievement however they may experience less interest less positive affect and perhaps more anxiety when they face setbacks given their concern for doing better than others (Harackiewicz et.al, 1998).
6. SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1. Summary and Conclusions

It has been found out that the meaning and interpretation one attaches to situations in achievement setting has its own bearing on individual’s cognitive, affective and behavioral adjustments. In addition, the central aim of this study was to examine how early adolescents' perceptions of school environment affect their personal goal adoption psychological and academic adjustment and subsequent achievement in school setting.

The second purpose was to investigate the processes via which the perceived goals and relationship aspects of school setting related to one another to influence students' psychological and academic adjustment.

To this effect early adolescents of Bonga and Wushwush upper primary schools in Kaffa Zone have been selected as the subjects of the study.

Accordingly, the following hypotheses were formulated as basic targets of the study and to be tested in the course of the study.

1. Perceived school mastery goal is positive predictor of personal mastery goals and feelings of belonging.
2. Perceptions of performance approach goal in school is positive predictor of personal performance approach goal.
3. Perceptions of school performance avoidance goal are positive predictor of personal performance avoidance goal.
4. Perceptions of positive teacher-student relationships and peer relationships are positive predictors of students' feeling of school belongingness.
5. Personal mastery goals and feelings of school belongingness mediate positive effects of perceived school mastery goal on academic self-efficacy and positive school affects.

6. Personal performance approach goal mediates positive effects of perceived school performance approach on feelings of academic self-consciousness.

7. Personal performance avoidance goal mediates positive effects of perceived school performance avoidance goal on feelings of academic self-consciousness.

8. Feelings of school belongingness mediate positive effects of perceived positive teacher-student relationships and peer relationships on academic self-efficacy and positive school affect.

9. Students personal mastery goals and feelings of belongingness are positively related to students' academic achievement and this relation are mediated through students' feelings of academic self-efficacy and positive school affect respectively.

10. Students' personal performance approach goals and personal performance avoidance achievement goals are negatively related to their academic achievement with these relations mediated through feelings of academic self-consciousness.

To test the above hypotheses the study was carried out on a sample size of 388 students. Students selected were those between the normative age of 13-15 (early adolescence) while keeping male and female ratio roughly equal in both participating schools.

In an effort to collect data on students' perceptions of school environment and other motivational constructs survey scales were employed. Improving the scales to fit them to the existing situation in Ethiopian context was a necessity. This was done through pilot study.

The instrument has three parts: the first one is scale for perceived school environment (both the goals and social relationship) the second is scales for the mediating process measures (personal goals and relatedness) and the third is the psychological outcomes. The instruments
used were all adopted from Patterns of Adaptive Learning Survey (Midgley, Maehr, Hicks, Urdan, Roeser, Anderman, Kaplan, 2000), which was used with middle school students.

Multiple regression analyses were employed to examine for the direct and indirect effects of each measures to the hypothesized direction. Pearson product moment correlation coefficient was also used to see for direct relationships among the variable measures. Furthermore, path model analyses were used to investigate the mediated effects of perceived school environment on psychological outcomes; and that of personal goals and relatedness on academic achievement.

The results of the study revealed that students' perceptions of school environments were related to their personal goal adoption and affect in school. Perceiving school as emphasizing mastery of materials, effort and understanding predicted students' adoption of personal mastery goals and feelings of relatedness in school whereas students perceptions of school as emphasizing social comparison, reward and evaluation focus was shown to predict students' adoption of personal performance (both the approach and the avoidance) goals. With regard to students perceptions of school relationship dimension both students perceived positive teacher-student and positive peer relationship in school were found to be positive predictors of their feelings of belongingness in school.

Regarding relationships between students' perceived school environment and psychological adjustment, students' personal achievement goals were shown to mediate the relationship between perceived school environment and psychological adjustment.

Students' personal mastery goals and belongingness mediated the relationship between students' perceived school mastery goal structure and their perceived academic self-efficacy and positive affect in school. Feelings of belongingness mediated the relationship between students' perceived positive peer relationship and positive teacher student relationship and their perceived academic self-efficacy and positive school affect.
Similarly, students’ perceived school performance approach and performance avoidance goals were shown to be related to students’ feelings of academic self-consciousness via their personal performance approach and personal performance avoidance goals respectively.

Students’ personal mastery goals and feelings of belongingness were significant positive predictors of students’ academic achievement (as described by students semester academic average score). Yet perceived academic self-efficacy and positive school affect, though significant positive predictors of achievement were not shown to mediate the relationship between students’ personal mastery goals, feelings of belongingness and academic achievement.

Conversely, students’ feeling of self-consciousness was negatively related to achievement and was shown to mediate the negative effects of personal performance avoidance goals on achievement. Academic self-consciousness did not mediate the relationship between personal performance approach and achievement.

Finally, it was found that both the cognitive and affective components of motivation have been very crucial in determining students achievement motivation in school setting and both components of motivation has to be interwoven to bring about desired achievement motives in students.

From the above findings, it would be imperative to conclude that:

Perceptions of the salience of specific goals in school goal structures can orient students to adopt any of the three qualitatively different patterns of personal goals: mastery, approach and avoidance goals, which will, in turn predict students’ psychological and academic adjustment and subsequent achievement.

Learning goals, feelings about school social relations, affective reactions to success and failure in school are linked to early adolescents’ psychological and academic adjustment in school.
• Provide supportive stable peer and teacher relationship and learning environment where by students can enjoy every event in school with out worrying about the winners and the losers.

• Design academic and non-academic activities for students so that they could get the opportunity to know one another and develop a feeling of unity and shared purpose as school, which will in turn enable students to consider new or challenging ideas and mistakes as critical to intellectual growth.

• Provide constructive learning which supports natural effort to learn and make sense of the world. To this effect schools have to provide coherent curriculum organized around important concepts; connect the curriculum to learners natural effort to know the world so that they weigh new information against what they already know, work through discrepancies and construct a new understanding. These in turn make the learners feel that the school is allay to their quest for competence and development; and teachers in such school are seen as supportive valued adults.

• Rely on intrinsic motivation to produce students’ curiosity and interest in learning itself by focusing students’ attention on the activities by implying that the task is inherently worthwhile.

• Employ non-normative evaluation procedures, recognition of students' effort, choices of tasks based on students' interests, task engagement and provision of challenge can be suggested as school wide structures for fostering students’ adoption of adaptive motivational patterns in school achievement.

• It cannot be denied that recognizing and rewarding students' may have positive influence on their motivation under certain circumstances. However, if more emphasis is put
performance reward, it may have a debilitating effect on students' perceptions that schools value and care for them and their sense of feeling success and belongingness at school. Therefore, efforts has to be put into thinking about how to promote adaptive motivational orientation into school, how to provide critical feedback to students about what is wrong with their work and how to improve it without reflecting on their ability.

• Now that the results displayed that both the cognitive and affective aspects of school environment influence students' achievement motivation, any of the interventions suggested above to effect positive motivational orientation towards learning in school has to address both the cognitive and social motivational components.

• Finally, it should be noted that there is also a need for school directors, teachers and immediate educational authorities to sit together and make ongoing dialogue to play their part regarding designing and implementing the above suggested ways (school practices) to promote mastery, effort, understanding and challenge in the learning environment for all students.
REFERENCES


APPENDIX -A

ADDIS ABABA UNIVERSITY SCHOOL OF GRADUATE STUDIES,
DEPARTMENT OF PSYCHOLOGY QUESTIONNAIRE
TO BE RATED BY STUDENTS,

Dear Students,

The objective of these scales is to examine early adolescents' perceptions of school goals for learning, perceptions of school goals for learning perceived teacher-student & peer relationship, their personal goal adoption & feelings of belongingness & psychological outcomes (academic self efficacy, academic self consciousness & positive school affect).

The results of the study will be used for educational purpose; the data will be kept confidential & do not harm the respondents & other related persons. There is our right or wrong answer. After reading each item please responds to it by putting 'X' marks. Since the success of the study rests on your honesty in rating the scale, you are kindly requested to respond accordingly. There is no need of writing our name.

Part one
Instruction: Indicate you sex using 'X' marks on the space provided.
Sex: Male __________ Female __________

Part two
Instruction: The ratings are identified as:
1. Very untrue of school/me
2. Untrue of school/me
3. Cannot decide
4. True of school/me
5. Very true of school/me
Please respond to each items using 'X' marks accordingly.
<table>
<thead>
<tr>
<th>No</th>
<th>Scales</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>In this school teachers believe all students can learn.</td>
</tr>
<tr>
<td>2</td>
<td>In this School understanding the work is more important than getting the right answer.</td>
</tr>
<tr>
<td>3</td>
<td>In this school, mistakes are okay as long as we are learning.</td>
</tr>
<tr>
<td>4</td>
<td>In this school, teachers think how much you learn is more important than test scores or grades.</td>
</tr>
<tr>
<td>5</td>
<td>Teachers in this school want students to really understand their work, not just memorize it.</td>
</tr>
<tr>
<td>6</td>
<td>Trying hard counts a lot in this school.</td>
</tr>
<tr>
<td>7</td>
<td>In this school, teachers treat students who get good grades better than other children.</td>
</tr>
<tr>
<td>8</td>
<td>In this school, only a few students get praised for their schoolwork.</td>
</tr>
<tr>
<td>9</td>
<td>In this school, teachers only care about the smart students.</td>
</tr>
<tr>
<td>10</td>
<td>This school has given up on some of its students.</td>
</tr>
<tr>
<td>11</td>
<td>In this school, special privileges are given to students who get the highest marks (results).</td>
</tr>
<tr>
<td>12</td>
<td>In this school passing tests /exam with good score /marks is valued more.</td>
</tr>
<tr>
<td>13</td>
<td>In this school I feel that it is difficult to get good marks in exam.</td>
</tr>
<tr>
<td>14</td>
<td>In this school, I feel that ability is measured by passing exam with little effort.</td>
</tr>
<tr>
<td>15</td>
<td>In this school, teachers give special attention only to smart students.</td>
</tr>
<tr>
<td>16</td>
<td>In this school, only able students are encouraged to do better in their learning.</td>
</tr>
<tr>
<td>17</td>
<td>In this school students' ideas are listened to and valued.</td>
</tr>
</tbody>
</table>
18 In this school, teachers and students really trust one another.
19 In this school, teachers treat students with respect.
20 In this school, students feel like they belong.
21 This school really cares about students as individual.
22 It is easy to get students in school to like me.
23 I have a lot of friends in my school.
24 I do not feel left out of things at school.
25 There are children I can go to when I need help in school.
26 Students in this school like me
27 Understanding the work in school is make important to me than the grade I get.
28 I like schoolwork that I will learn from even if I make a lot of mistakes.
29 The main reason I do my work in school is because I like to learn.
30 I like the schoolwork the best when it really makes me think.
31 I feel most successful in school when I learn something I didn't know before.
32 I feel good if I am the only one who can answer the teacher's questions in class.
33 I like to show my teachers I am smarter than the other children.
34 I worry about whether my teachers think I am as smart as other students in my class.
35 I would feel successful in school if I did better than other students in my classes
36 I would like to show my parents that I am smarter than the other students in my classes.
37 I worry about doing worse than other students in school.
38 The reason I do my work is so others won't think I am dumb.
39 The reason I do my schoolwork is so my teachers & class mates do not think I know less than others.
<table>
<thead>
<tr>
<th>40</th>
<th>One reason I would not participate in schoolwork is to avoid looking stupid.</th>
</tr>
</thead>
<tbody>
<tr>
<td>41</td>
<td>One of my main goals in learning is to avoid looking like I can't do my work.</td>
</tr>
<tr>
<td>42</td>
<td>It is very important to me that I don't look stupid in schoolwork.</td>
</tr>
<tr>
<td>43</td>
<td>An important reason I do my schoolwork is so that I don't embarrass myself.</td>
</tr>
<tr>
<td>44</td>
<td>I feel like I belong in this school.</td>
</tr>
<tr>
<td>45</td>
<td>I feel like I am successful in this school.</td>
</tr>
<tr>
<td>46</td>
<td>I feel like I am smarter in this school.</td>
</tr>
<tr>
<td>47</td>
<td>I feel like I am important.</td>
</tr>
<tr>
<td>48</td>
<td>I am certain I can master the subjects taught in school this year.</td>
</tr>
<tr>
<td>49</td>
<td>I can do even the hardest schoolwork if I try.</td>
</tr>
<tr>
<td>50</td>
<td>If I have enough time, I can do a good job on all my schoolwork.</td>
</tr>
<tr>
<td>51</td>
<td>I can do almost all the work in school if I don't give up.</td>
</tr>
<tr>
<td>52</td>
<td>Even if the work is hard, I can learn it.</td>
</tr>
<tr>
<td>53</td>
<td>I am certain I can figure out how to do the most difficult schoolwork.</td>
</tr>
<tr>
<td>54</td>
<td>I like being at school.</td>
</tr>
<tr>
<td>55</td>
<td>Most of the time being in school puts me in good mood.</td>
</tr>
<tr>
<td>56</td>
<td>I am happier at school than when I am not at school.</td>
</tr>
<tr>
<td>57</td>
<td>I am afraid to make mistakes in front of others in school.</td>
</tr>
<tr>
<td>58</td>
<td>I am nervous about performing in front of others or making presentations.</td>
</tr>
<tr>
<td>59</td>
<td>I am easily embarrassed in school.</td>
</tr>
<tr>
<td>60</td>
<td>During tests I worry about how other students are working in the school.</td>
</tr>
</tbody>
</table>
የለዳ ለለ ያስወርደ የታምህርት ያቀረበው ከወ ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበው ከወ ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበው ከወ ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፈል በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፍላ በተወካይ

የለዳ ለለ ያስወርደ የታምህርት ያቀረበ废物 ዯረጃ የምፍላ በተወｶየ
3. сродна ляўска
4. лаў-р. ыо.
5. няву лаў-р. ыо. наваў. тэг-тэ. тэг-тэрафа:

<table>
<thead>
<tr>
<th>I.</th>
<th>гп.</th>
<th>сапаб</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>няву траўца ын. саўта сапароўскія ыншыя + саўта ыншыя сапаб (гп. наваў) наваў. тэг-тэрафа::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>няву траўца ын. саўта сапароўскія ыншыя + тэг-тэراك зоічы (гп. наваў) тэг-тэрафы</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>няву траўца ын. саўта траўцы апрацоўкі людзьбы апл. саўта наваў (гп. наваў) наваў. тэг-тэрафа (сапаб)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>няву траўца ын. саўта сапароўскія ыншыя супрацоўкі апрацоўкі людзьбы (супрацоўкі апрацоўкі людзьбы) наваў. тэг-тэрафы</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>няву траўца ын. саўта траўцы зоічы (зоічы) ыншыя тэг-тэрак (зоічы) новы. тэг-тэрафы</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>няву траўца ын. саўта супрацоўкі зоічы ыншыя тэг-тэрак (зоічы) новы. тэг-тэрафы</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>няву траўца ын. саўта супрацоўкі людзьбы (зоічы) ыншыя тэг-тэрак (зоічы) новы. тэг-тэрафы</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>няву траўца ын. саўта супрацоўкі людзьбы (зоічы) новы. тэг-тэрафы</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>няву траўца ын. саўта супрацоўкі людзьбы (зоічы) новы. тэг-тэрафы</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>няву траўца ын. саўта супрацоўкі людзьбы (зоічы) новы. тэг-тэрафы</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Page</td>
<td>Text</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>------</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>የስር (ምር-ቁ) ከውድ መሆኔው ከሆ የምር-ቁ ውስጥ (መሆኔ) ከተጠለቁ::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>የስር ከሆ ከውድ (ስርмеሃን) ከውድ የምር-ቁ ውስጥ ውስጥ ውስጥ ከተጠለቁ ከተጠለቁ::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>የምር-ቁ ከውድር ከሆ ከውድ ውስጥ ውስጥ ከተጠለቁ ውስጥ (መሆኔ) ከተጠለቁ::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>የምር-ቁ ከውድ ውስጥ ከውድ ውስጥ ውስጥ ከተጠለቁ ውስጥ (መሆኔ) ከተጠለቁ::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>የምር-ቁ ከውድ ውስጥ ውስጥ ከተጠለቁ ውስጥ (መሆኔ) ከተጠለቁ::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>54</td>
<td>የምር-ቁ ከውድ ውስጥ ከተጠለቁ::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>የምር-ቁ ከውድ ውስጥ ከተጠለቁ ከውድ ውስጥ ከተጠለቁ::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>የምር-ቁ ከውድ ውስጥ ከውድ ውስጥ ከተጠለቁ ከውድ ውስጥ ከተጠለቁ::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>የምር-ቁ ከውድ ውስጥ ውስጥ ከተጠለቁ ውስጥ ከተጠለቁ ውስጥ ከተጠለቁ::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>58</td>
<td>የምር-ቁ ከውድ ውስጥ ውስጥ ከተጠለቁ ውስጥ ከተጠለቁ ውስጥ ከተጠለቁ::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>የምር-ቁ ከውድ ውስጥ ውስጥ ከተጠለቁ ውስጥ ከተጠለቁ::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>የምር-ቁ ከውድ ውስጥ ውስጥ ከተጠለቁ ውስጥ ከተጠለቁ ውስጥ ከተጠለቁ::</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX FOR RELIABILITY OF ITEMS

Appendix-C
Perceived mastery school Goal structure scale inter- items correlations

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>.63</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>.57</td>
<td>.55</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>.66</td>
<td>.54</td>
<td>.42</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>.35</td>
<td>.38</td>
<td>.39</td>
<td>.39</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>.35</td>
<td>.37</td>
<td>.37</td>
<td>.47</td>
<td>.12</td>
<td>-</td>
</tr>
</tbody>
</table>

Number of subjects = 42
Alpha = .82

Appendix -D
Perceived performance approach school goal structure scale inter item Correlations

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>.28</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>.49</td>
<td>.70</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>.47</td>
<td>.54</td>
<td>.59</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>.40</td>
<td>.47</td>
<td>.64</td>
<td>.60</td>
<td>-</td>
</tr>
</tbody>
</table>

Number of subjects = 42
Alpha = .84
**Appendix-E**

**Perceived performance Avoidance Goal structure Inter- item Correlations**

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>.28</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>.53</td>
<td>.47</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>.69</td>
<td>.48</td>
<td>.52</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16</td>
<td>.12</td>
<td>.72</td>
<td>.39</td>
<td>.28</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Number of subjects=42

Alpha=.80

**Appendix-F**

**Perceived teacher student relationship scale inter- items correlations**

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>17</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>.60</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>.72</td>
<td>.66</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>.52</td>
<td>.55</td>
<td>.54</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>.49</td>
<td>.53</td>
<td>.62</td>
<td>.28</td>
<td>-</td>
</tr>
</tbody>
</table>

Number of subjects=42

Alpha=.86
Appendix-G

Perceived peer relationship scale Inter items correlations

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td></td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>.52</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>.68</td>
<td>.52</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>.37</td>
<td>.40</td>
<td>.36</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>.36</td>
<td>.36</td>
<td>.43</td>
<td>.054</td>
<td></td>
</tr>
</tbody>
</table>

Number of subjects=42

Alpha=.78

Appendix-H

Personal mastery goals scale inter items correlations

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>27</td>
<td></td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>.59</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>.57</td>
<td>.35</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>.69</td>
<td>.69</td>
<td>.39</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>.21</td>
<td>.18</td>
<td>.39</td>
<td>.29</td>
<td>-</td>
</tr>
</tbody>
</table>

Number of subjects=42

Alpha=.78
### Appendix-I

#### Personal performance approach goal inert item correlations

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>32</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>33</td>
<td>.52</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>34</td>
<td>.36</td>
<td>.43</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>35</td>
<td>.40</td>
<td>.36</td>
<td>.05</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>36</td>
<td>.48</td>
<td>.65</td>
<td>.59</td>
<td>.51</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>37</td>
<td>.52</td>
<td>.68</td>
<td>.38</td>
<td>.37</td>
<td>.55</td>
<td>-</td>
</tr>
</tbody>
</table>

Number of subjects=42

Alpha=.84

### Appendix-J

#### Personal performance avoidance goal scale inter item correlations

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>38</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>39</td>
<td>.53</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td>.72</td>
<td>.42</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>41</td>
<td>.65</td>
<td>.43</td>
<td>.62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42</td>
<td>.62</td>
<td>.40</td>
<td>.58</td>
<td>.59</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>43</td>
<td>.52</td>
<td>.04</td>
<td>.23</td>
<td>.36</td>
<td>.30</td>
<td>-</td>
</tr>
</tbody>
</table>

Number of subjects=42

Alpha=.84
**Appendix-K**

**Feelings of school belongingness scale inter item correlations**

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>44</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45</td>
<td>.62</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46</td>
<td>.47</td>
<td>.45</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47</td>
<td>.71</td>
<td>.58</td>
<td>.27</td>
<td></td>
</tr>
</tbody>
</table>

Number of subjects=42

Alpha=.82

**Appendix-L**

**Academic Self efficacy beliefs scale inter item correlations**

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>48</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>.36</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>50</td>
<td>.42</td>
<td>.35</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>.33</td>
<td>.17</td>
<td>.05</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>52</td>
<td>.49</td>
<td>.52</td>
<td>.61</td>
<td>.23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53</td>
<td>.63</td>
<td>.61</td>
<td>.50</td>
<td>.25</td>
<td>.58</td>
<td></td>
</tr>
</tbody>
</table>

Number of subjects=42

Alpha=.80
### Appendix-M

**Feelings of Academic Self consciousness Scale inter item correlations**

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>54</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>55</td>
<td>.42</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56</td>
<td>.46</td>
<td>.56</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>57</td>
<td>.49</td>
<td>.70</td>
<td>.63</td>
<td>-</td>
</tr>
</tbody>
</table>

Number of subjects=42

Alpha=.83

### Appendix-N

**Feelings of positive school affect scale inter item correlations**

<table>
<thead>
<tr>
<th>Items</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>58</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>59</td>
<td>.53</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>60</td>
<td>.40</td>
<td>.62</td>
<td>-</td>
</tr>
</tbody>
</table>

Number of subjects=42

Alpha=.77
Appendix-O: Formula to calculate indirect effects (mediated effects)

Mediation is a hypothesized causal chain in which one variable affects the second variable that in turn affects a third variable. The intervening variable (z) is a mediator. It mediates the relationship between a predictor (x) and an outcome (y). Graphically mediation can be depicted in the following ways.

\[ X \rightarrow Z \rightarrow Y \]

To calculate the indirect effects of the independent variable on the dependent variable via the intervening variable Sobel Product coefficient approach was used. According to this approach to calculate, the mediated effects of independent variable on the dependent variable, two regression coefficients from two different models are required.

1. Regression coefficients for X predicting z (path a)
2. Partial regression effect for Z predicting Y were both the intervening variable and the independent variable are included in the equation while controlling for the mediator (path b)

Then the indirect Effect is obtained by multiplying the two regression coefficients.

i.e. indirect effect = ab
Appendix-P: Formula to calculate test of significance for mediated effects

To test for significance of the indirect effect, a test of significance for mediated effects, which was proposed by Sobel as cited in Mckinnon, 2003 was used. The test requires dividing the product of a and b coefficients (under appendix o) by the square root of their variance and treating the ratio as a Z-test of larger than 1.96 in absolute value to be significant at the .05 level.

\[ Z = \frac{ab}{\sqrt{b^2 S^2_a + a^2 S^2_b - S^2_a S^2_b}} \]

Where,

\[ b^2 S^2_a + a^2 S^2_b - S^2_a S^2_b = \text{variance of } a \text{ and } b \text{ coefficients } (S^2_{ab}) \]

\[ b^2 = \text{squared regression coefficient between mediator and outcome variable} \]
\[ S^2_a = \text{Variance of regression coefficient of mediator variable on predictor variable} \]
\[ a^2 = \text{squared regression coefficient of mediator variable on predictor variable} \]
\[ S^2_b = \text{variance of regression coefficient of outcome variable on the mediator variable}. \]
Declaration

I, the undersigned, declare that this thesis is my original work and that all sources of materials used for this thesis have been duly acknowledged.

______________________________
Assaye Legesse
Declaration

I, the undersigned, declare that this thesis is my original work and that all sources of materials used for this thesis have been duly acknowledged.

Assaye Legesse