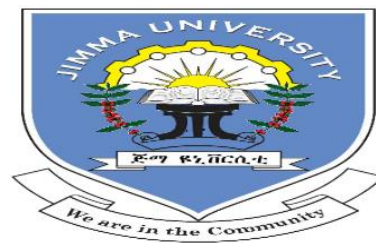


THE RELATIONSHIP BETWEEN MOTIVATION, SELF-EFFICACY, TEST  
ANXIETY AND ACADEMIC ACHIEVEMENT OF SELECTED SECONDARY  
SCHOOL STUDENTS IN GAMBELLA TOWN

BY:  
SEID KELILO ADEM

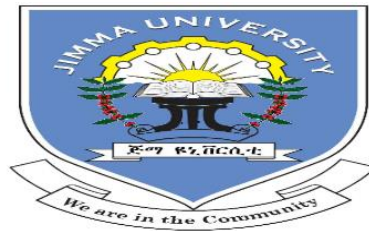


JIMMA UNIVERSITY  
COLLEGE OF EDUCATION AND BEHAVIORAL SCIENCES  
DEPARTMENT OF EDUCATIONAL PSYCHOLOGY

JUNE, 2021  
JIMMA, ETHIOPIA

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*A Thesis Submitted to the Department of Educational Psychology in Partial Fulfilment  
of the Requirement for the MA Degree of Educational Psychology*

JUNE, 2021  
JIMMA, ETHIOPIA

## Letter of approval

Jimma University School of Graduate Studies

This is to certify that this thesis prepared by Seid Kelilo Adem, entitled: “The Relationship between Motivation, Self-Efficacy, Test Anxiety and Academic Achievement of Selected Secondary School Students in Gambella Town” and submitted in partial fulfillment of the requirements for the degree of Master of Art in Educational Psychology fulfills with the regulations of the University and meets the accepted standards with respect to originality and quality.

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## Table of Contents

	Pages
Letter of approval.....	i
Copyright .....	ii
Table of Contents .....	iii
Acknowledgement .....	vi
Abstract .....	vii
List of tables.....	viii
List of figures .....	ix
Descriptions of Abbreviations .....	x
<b>CHAPTER 1: INTRODUCTION .....</b>	<b>1</b>
1.1. Background of the study.....	1
1.2. Statement of the Problem .....	5
1.3. Objectives of the Study .....	10
1.3.1. General Objective.....	10
1.3.2. Specific Objectives .....	10
1.4. Significance of the Study.....	10
1.5. Scope of the Study .....	11
1.6. Definition of Key Terms.....	11
1.7. Organization of the Study .....	12
<b>CHAPTER 2: LITERATURE REVIEW .....</b>	<b>13</b>
2.1. Introduction .....	13
2.2. Students' Academic Achievement.....	13
2.3. Theoretical Overview of Motivation .....	15
2.4. Motivation and Academic Achievement.....	16
2.5. Types of Motivation .....	19
2.5.1. Intrinsic Motivation.....	19
2.5.2. Extrinsic Motivation.....	20
2.5.3. Amotivation.....	20
2.6. The Relationship between Intrinsic Motivation and Academic Achievement .....	21
2.6.1. Characteristics of Intrinsic Motivation .....	22
2.7. The Relationship between Extrinsic Motivation and Academic Achievement .....	23
2.7.1. Characteristics of Extrinsic Motivation .....	24
2.8. Balancing Intrinsic-Extrinsic Motivations .....	25

2.9. Components of Academic motivation .....	26
2.10. The practice of how students are motivated .....	28
2.11. Theoretical Overview of Self-Efficacy .....	30
2.12. Concept of Academic Self-Efficacy .....	30
2.12.1. Self- Efficacy and Academic Achievement .....	31
2.13. Characteristics of Self-Efficacy .....	33
2.14. Theoretical Overview of Test Anxiety .....	35
2.15. The Concept of Test anxiety .....	35
2.16. Test Anxiety and Academic Achievement .....	36
2.17. Components of Test Anxiety .....	38
2.18. Identification of Test Anxiety .....	39
2.19. Coping Test Anxiety in Schools.....	40
2.19.1. Pre-Test Anxiety .....	41
2.19.2. Test Anxiety .....	41
2.19.3. Post-Test Anxiety.....	42
2.20. Conceptual Frame Work .....	43
<b>CHAPTER 3: RESEARCH METHODOLOGY .....</b>	<b>44</b>
3.1. Introduction .....	44
3.2. Research Design.....	44
3.3. Population, Sample Size and Sampling Technique .....	44
3.3.1. Population .....	44
3.3.2. Sample Size Determination .....	46
3.3.3. Sampling Technique.....	46
3.4. Data Collection and Instruments .....	47
3.4.1. Reliability and Validity of the Instruments in the Original Form.....	49
3.5. Pilot Test and Data Collection Procedure .....	50
3.5.1. Pilot Test .....	50
3.5.2. Data Collection .....	51
3.6. Data Analysis Methods .....	52
3.7. Ethical Consideration.....	53
<b>CHAPTER 4: DATA ANALYSIS AND DISCUSSION .....</b>	<b>54</b>
4.1. Data Analysis.....	54
4.2. Discussion .....	67
<b>CHAPTER 5: SUMMARY CONCLUSIONS AND RECOMMENDATIONS .....</b>	<b>71</b>
5.1. Introduction .....	71

5.2. Summary .....	71
5.3. Conclusions .....	74
5.4. Recommendations .....	75
5.5. Limitations.....	76
REFERENCES .....	77
APPENDICES .....	82
APPENDIX A: Figures for the assumptions of multiple linear regressions.....	82
APPENDIX B: Reliability Statistics of Independent Variables. ....	83
APPENDIX C: Name of Schools Under the Study and Number of Students by Grade and Sex.....	84
APPENDIX D: ENGLISH QUESTIONNAIR.....	85
APPENDIX D: AMHARIC QUESTIONNAIR .....	90
APPENDIX E: APPROVAL SHEET.....	95

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## **Abstract**

*The purpose of this study was to investigate the relationship between motivation, self-efficacy, test anxiety and academic achievement of selected secondary school students in Gambella town .Self-report questionnaires were individually administered to 359 secondary students' selected by proportionally stratified and simple random sampling technique. Students' average mark was used to measure academic achievement.*

*Results demonstrated that there was significant difference between male and female students' only in their academic achievement. There was a non-significant difference in academic achievement of students' with different levels of test anxiety.Both intrinsic and extrinsic motivation and self-efficacy were positively and significantly correlated with academic achievement. Moreover, test anxiety was negatively and insignificantly correlated with academic achievement. Stepwise multiple regression demonstrated the combination of intrinsic motivation, self-efficacy and extrinsic motivation as the best predictors of academic achievement. It was concluded that no difference exists among students' intrinsic and extrinsic motivation, self-efficacy and test anxiety in analysis based on gender except academic achievement. The difference in academic achievement of students with different levels of test anxiety was insignificant and most of students (70%) are moderately test anxious. Furthermore, due to the significant prediction of intrinsic and extrinsic motivation on students' academic achievement, it should be given due concern by educators'.*

## List of tables

Table 1: Summary Table of Sample Size and Sampling Technique of the Study .....	47
Table 2: Summary of Response Rate.....	54
Table 3: Descriptive Statistics of Students' Intrinsic and Extrinsic Motivation, Self-Efficacy, Test Anxiety and Academic Achievement .....	55
Table 4: Descriptive Statistics of Students' by School, Gender, Intrinsic and Extrinsic Motivation, Self-Efficacy, Test Anxiety and Academic Achievement.....	55
Table 5: Students' Academic Achievement by Levels of Test Anxiety.....	57
Table 6: Group Statistics of Independent Samples T- Test of Academic Achievement, Intrinsic Motivation and Test Anxiety .....	58
Table 7: Independent Samples T- Test of Academic achievement, Intrinsic- motivation and Test anxiety .....	58
Table 8: Independent Samples T- Test (Non-Parametric Test) of Extrinsic Motivation and Self-Efficacy .....	59
Table 9: Descriptive Statistics of Students' Leveled by TAI Groups .....	60
Table 10: One Way ANOVA of the difference in academic achievement among students' with different levels of test anxiety .....	60
Table 11: Pearson Correlation between Intrinsic and Extrinsic motivation, Self- efficacy, and Test anxiety with Academic achievement.....	61
Table 12: Model Summary of Stepwise Multiple Linear Regression.....	63
Table 13: ANOVA Result of Stepwise Multiple Linear Regression.....	64
Table 14: Coefficients table of Stepwise Multiple Linear Regression .....	64

## List of figures

Figure 1: Conceptual model of the study .....	43
Figure 2: Map of Target Area .....	45
Figure 3: Histogram for normality of residuals.....	<b>Error! Bookmark not defined.</b>
Figure 4: Normality of residuals with a normal probability plot.....	<b>Error! Bookmark not defined.</b>
Figure 5: Homoscedasticity. ....	<b>Error! Bookmark not defined.</b>
Figure 3: Histogram for normality of residuals.....	82
Figure 4: Normality of residuals with a normal probability plot.....	82
Figure 5: Homoscedasticity. ....	82

## **Descriptions of Abbreviations**

AM	Amotivation
AMS	Academic motivation scale
ASES	Academic self-efficacy scale
EME	Extrinsic motivation extrinsic regulation
EMID	Extrinsic motivation identified regulation
EMIN	Extrinsic motivation introjected regulation
GPA	Grade point average
IMA	Intrinsic motivation accomplishment
IMK	Intrinsic motivation knowledge
IMS	Intrinsic motivation stimulation
SDT	Self-determination theory
TAI	Test anxiety inventory
TAI-E	Test anxiety inventory emotionality
TAI-W	Test anxiety inventory worry
TAI-T	Test anxiety inventory total

## CHAPTER1: INTRODUCTION

### 1.1. Background of the study

Education is an essential tool to students that in a course of their schooling life students pass through years of study. Ghaonta, (2017) emphasized education as a process through which we can bring out the potentialities or capacity of an individual or a child. Accordingly when we mention concerns in students learning and education, testing is inevitable concept, since educational testing identifies students capabilities, knowledge, skill or gaps in which it will pave the way to further decision by providing information to educators, parents and most of all to the students themselves. Besides students may find and feel about testing differently, psychological testing is detrimental to their future and a key factor to either success or their failure, hence, their academic achievement is determined from test information in which the raw data or derived score is interpreted. Accordingly, this study focused on factors that might be accounted to academic achievement of students. Thus, motivation, self-efficacy and test anxiety of secondary students' are discussed.

Thus, whether debilitating or facilitating factors are there in schools, students' academic achievement is one important concept in which students in their course of schooling strive to the reimbursements education has; which is important, according to Kpolovie et al., (2014) academic achievement of student is the ability of the student to study and remember facts and being able to communicate his/her knowledge orally or in written form even in an examination condition. Secondary education plays a crucial role in laying the foundation for the further education of students. This study was conducted in secondary schools, for instance Kpolovie *et al.*, (2014) believes that even though different people have explained different factors responsible for the academic achievement of students if a good foundation is laid at the secondary school level, students' can better cope with the challenges of life and profession with great ease.

Moreover, academic achievement is a multifaceted and accounted to different factors. According to Sridevi (2013), to make learning effective, both the students doing it and the teacher guiding it must achieve a nice balance of the interacting factors affecting it. Under the same curriculum provided in schools varying results may happen true and many students fail to achieve what is expected of them. Obviously there are great differences among students in their academic achievement and these reasons are accounted for several factors amongst them; personal, social and intelligence, cognitive styles and educational factors play their roles in determining learning and academic achievements of students (Sridevi 2013; Arulmoly & Branavan, 2017). Thus, Sridevi (2013) pointed that many students, even though they are bright, cannot perform well because of personal and social crises.

In relation to academic motivation, many scholars' firmly believe that motivation is a crucial factor in students' academic achievement. Student's motivation is one of the important factors that show new ways of learning to students (Haider *et al.*, 2015). In *self-determination theory* motivation is extensively discussed and still a very important research topic either in relation to primary or secondary education. According to Schunk *et al.*, (2014), the term motivation is derived from the Latin verb *movere* (to move); the idea of movement is reflected in such common ideas about motivation as something that gets us going, keeps us working, and helps us complete tasks and it's the process whereby goal-directed activities are instigated and sustained (Schunk *et al.*, 2014). To be motivated means to be moved to do something. A person who feels no impetus or inspiration to act is thus characterized as unmotivated, whereas someone who is energized or activated toward an end is considered motivated. Sometimes student's leave a study before completing their study and they started being absent mentally in class or sometimes study turns compulsory for the students instead of pleasure for them (Haider *et al.*, 2015).

Psychologists and educators believe motivation as an important factor that can affect student learning and accomplishment. It is obvious argument that suitable motivational orientations make learning easy for students while unsuitable ones obstruct it. Academic achievement of students' which is gained by relentless effort of students and as a result of a course of their effort, thus, without doubt motivation has its own part in

learning, Filgona *et al.*, (2020) believes that motivation is an influential factor in the teaching-learning situations and motivating the learner to learn is pertinent to curriculum implementation. The success of learning depends on whether or not the learners are motivated, besides, motivation drives learners in reaching learning goals, and hence, it is important to recognize the fact that motivating learning is a central element of good teaching. Thus, this implies that students' motivation is probably the single most important element of learning (Filgona *et al.*, 2020). Moreover, Haider *et al.*, (2015) emphasized that motivation is very important part of students study life and playing a very important role in students success.

Motivation is broadly discussed in many studies by two sub categories of intrinsic and extrinsic motivation. Intrinsic motivation is derived internally in the job or what we did itself. It is that which occurs while a person is performing an activity in which he/she takes delight and satisfaction in doing. Typical example of intrinsic motivation is an internal reward, while extrinsic motivation is incentive or rewards that a person can enjoy after he finishes his work (Arulmoly & Branavan, 2017). More recently Ryan & Deci, (2020) reviewed that both intrinsic motivation and well-internalized forms of extrinsic motivation predict an array of positive outcomes across varied educational levels and cultural contexts, and are enhanced by supports for students' basic psychological needs for autonomy, competence, and relatedness (Ryan & Deci, 2020).

According to Arulmoly & Branavan (2017), human beings are said to be extrinsically or intrinsically motivated. Extrinsic motivation is a behavior or action exhibited by an individual or group in the hope of getting a reward. Thus, the reward involved or given is geared towards increasing the psychological energy of the individual or group to perform (Dickson, 2018). For instance, associated to *extrinsic motivation*, the finding of (Dickson, 2018), showed that, students taught social studies using extrinsically-motivated instructional method significantly performed better than students taught social studies using non extrinsically-motivated instructional method. Besides, in recent times, there has been much interest in respect of extrinsic motivation as it is generally believed to improve human performance in many spheres of life, nonetheless, students as humans cannot be left out as to the effects of extrinsic

motivation as they are likely to enjoy learning and show interest, value and dedicated effort towards achievement when motivated (Dickson, 2018).

Accordingly, academic motivation could be seen as self-determination to succeed in whatever activities one engages in, be it academic work, professional work, sporting events, among others (Arulmoly & Branavan, 2017). Empirical evidence based on *self-determination theory* (SDT) also suggests that both intrinsic motivation and autonomous types of extrinsic motivation are conducive to engagement and optimal learning in educational context. SDT has strong implications for both classroom practice and educational reform policies (Niemic & Ryan, 2009).

Studies conducted in relation to motivation revealed significant relationship with students' academic achievement. For instance, the study of Arulmoly & Branavan, (2017) reveals that there is significant relationship between the academic achievement of highly motivated and lowly motivated students in mathematics and also motivation has impact on academic achievement of secondary students in mathematics with respect to gender. Besides, in relation to intrinsic and extrinsic motivation the study of Ghaonta, (2017) also revealed that school students differed significantly in intrinsic and extrinsic academic motivation with respect to their gender.

Competency and capability of students in line with the concept of academic self-efficacy is important, self-efficacy is defined forty years back by Bandura (1977). The concept of self-efficacy refers to perceived capabilities for learning or performing actions at designated levels, accordingly. Beside, Sharma & Nasa (2014) defined academic self-efficacy as a person's conviction that they can successfully achieve a designated level in a specific academic subject area. On the other hand Gang *et al.*, (2019) defined academic self-efficacy as students' beliefs in their own capabilities to do their school work completely and successfully, thus, academic self-efficacy is also one of the predictors for students' academic achievement.

Furthermore, test anxiety affects achievement along with other variables such as motivation to learn, ability to benefit from formal instruction and gender (Rana & Mahmood, 2010). Thus, test anxiety research has prospered partly due to the increasing



personal salience of test situations for people in modern society, making tests and their long-term consequences significant educational, social, and clinical problems for many (Zeidner & Matthews, 2017). Tests are not always free from influencing factors, test anxiety is common in school, Saha (2014) believed that test anxiety is one of the assessment-related emotions. Thus, in an era when young people are constantly being tested and with great weight placed upon the conclusions of testing, children begin to feel the pressure in their school years (Sridevi, 2013). Besides, the effect of test anxiety is that it somehow hinders the learners' ability to show what they actually know. It is particularly observed when the teachers' perception about the learners' ability does not reflect in their test performances (Saha, 2014).

## **1.2. Statement of the Problem**

Learning capability of students' are affected due to different factors and in schools where teaching learning is a daily practice and students are given achievement tests. Secondary students face many problems in schools', nonetheless it doesn't mean they will not surpass opportunities if the problems are identified and managed appropriately.

According to Sridevi (2013), adolescents face many problems peculiar to their age and they are also worried about their academic performance. Many students are under great parental pressure to score high marks. The entrance preparation and in many cases, high parental expectations double their anxiety and stress. They can't get admission in prestigious institutions without a superior academic record. Mostly, it's common to hear reports of secondary students' achievement and underachievement in schools. In addition, Zimmerman & Cleary (2006) pointed out that adolescents are often seen performing poor at setting their goals and anticipating the consequences of various courses of action. As a result, they fail to employ effective task-specific strategies such as preparing for tests. Thus, students are generally under stress and anxiety during the higher secondary years. The period of examination is considered as an extremely anxious time for students', even apparently well prepared students have their share of emotional difficulties (Sridevi, 2013; Khizar *et al.*, 2020).

Globally, there is an increasing concern in the education sector on how to ensure that students learn optimally at school and achieve academic excellence (Adamma *et al.*, 2018). In predicting students' academic achievement, academic self-efficacy is a construct important to be studied, according to Artino (2012) self-efficacy is assumed to affect an individual's choice of activities, effort, and persistence across a wide range of human functioning. The study of Köseoğlu, (2015) pointed out that students who are more confident and self-assured are more likely to attain higher levels of academic performance, which implies that the beliefs of self-efficacy seem to play an important role in predicting academic achievement. Recently Schunk *et al.*, (2021), recommended the importance of research on learners from different cultural backgrounds and contextual influences on self-efficacy. Due to this, further investigations with students from different cultural backgrounds will expand our understanding of the operation and generality of self-efficacy (Schunk *et al.*, (2021).

Moreover, according to Zeidner & Matthews, (2017) many students have the ability to do well on exams, but perform poorly because of their debilitating levels of anxiety. In fact, test anxiety figures prominently as one of the key villains in the ongoing drama surrounding psycho-educational testing as a source of both scholastic underachievement and psychological distress (Zeidner & Matthews, 2017). Since anxiety is a debilitating factor academic achievement is a concern, "A close perusal of studies related on the effects of anxiety on the academic achievement of students revealed that academic anxiety hampers the academic achievements of students negatively" (Shakir, 2014). Evidently, the studies of Obioma & Obioma, 2019; Parveen & Rizvi, 2019; Henderson & Zhang, 2014; Sridevi, 2013), conducted related to students test anxiety reported an inverse relationship with academic achievement. Generally, higher level of anxiety potentially causes a threat to a person's normal life being difficult such as interfered activities and social life (Vitasari *et al.*, 2010).

Nonetheless, the study of Khizar *et al.*, (2020) conducted on the relationship between examination anxiety and academic achievement among university students' revealed that there is no relationship between low, average and high achiever students and examination anxiety. Though conducted on post graduate students, Rana & Mahmood, (2010) reported that a cognitive factor (worry) contributes more in test anxiety than

affective factors (emotional). These findings are differed potentially due to study design and sample

Students' academic achievement is a major variable that interest both teachers and educational psychologists (Akomolafe *et al.*, 2013), besides Gang *et al.*, (2019)pointed out that in today's academic world, academic achievement is one of the major concerns among parents, teachers and particularly students. It is a common occurrence to hear teachers' comment that a certain student gets so upset that he "falls to pieces" or "chokes up" during an examination and fails to live up to the promise shown in his class work due to test anxiety (Sridevi, 2013). Consequently, test anxiety can jeopardize students test assessment validity in the cognitive domain and constitute a major source of test bias in which anxious examinees may perform less well than their ability and skills would otherwise allow them to perform(Zeidner & Matthews, 2017). These pointes clearly depict that if test anxiety in not handled the consequences it will bring to students could be very harsh in terms of their time, effort and their future aspirations.

The future highly depends on secondary students. As a progress of a nation depends upon its students' academic achievements the senior secondary stage is the most important stage, because, this stage provides the base for further education and it's a milestone to their future life (Shakir, 2014; Köseoğlu, 2015).Secondary education has the broad aim of preparing students for useful living within the society and preparing them for higher education. During this period, the student and his/her parents take the crucial decisions of future career selection (Akomolafe *et al.*, 2013;Köseoğlu, 2015).However, students in secondary school are not free from problem, since stress and anxiety can easily affect accustomed behavior, providing students with relevant insight and means for managing stressful conditions can be an irreplaceable cache for both advancing self-efficacy and motivation and consequently achieving higher levels of learning and performance (Köseo, 2015).Faqe *et al.*, (2016), asserted that anxiety or test anxiety becomes a salient point of concern since students' are expected to meet the needs and standards of a certain determined criteria; individuals are being tested to pass a certain level. These points, implies that knowing the level of students' anxiety is a concern needing further study.

Nonetheless, until now there are gaps in recent literature, for instance from a recent study, as the study of Alemu & Feyssa, (2020) suggested that sampling only one grade level from the secondary school students may inhibit generalizing the results beyond the setting. In the second place, they suggested on the future studies to come up with other intervening variables that could affect students' academic achievement. Similarly, for instance, though test anxiety had impact on Iranian adolescent's academic achievement Yousefi *et al.*, (2010) reported that their finding should not be generalized to all high school students, not even to the overall Iranian high schools, this shows that there is still existing gap to be filled. Yet again, one of the gaps reported by Steinmayr *et al.*, (2019) indicates that relations between different aspects of motivation might differ between academically selected samples and unselected samples and also more balanced samples are needed to generalize their findings specially to secondary students.

Furthermore, motivation is fundamental to learning and achievement in the classroom (Akomolafe *et al.*, 2013). However, the gaps in motivational study and the academic support is evidently a gap observed in part of the globe. Ryan & Deci, (2020) stressed ironically that despite substantial evidence for the importance of psychological need satisfactions in learning contexts, many current educational policies and practices around the globe remain anchored in traditional motivational models that fail to support students' and teachers' needs, which is a knowledge versus policy gap need to be closed. On the other hand, Ugwuany *et al.*, (2020) recommended that a conducive academic environment should be created for learners to promote their motivation and self-efficacy. Thus, Arulmoly & Branavan, (2017), also asserted that of all the personal and psychological variables that have attracted researchers in this area of educational achievement, motivation has gained more popularity and leading other variables.

Accordingly, in addressing the issues and deficiencies in the existing literature, there are still unfilled gaps in the education sector on employing what empirical studies revealed on constructs of motivation. More recently, Ryan & Deci, (2020) reported the existing gaps between dominant policies and practices in educational institutions and these gaps are differing with what *self-determination theory* (SDT) research and observations reveal about best practice. Thus, the gaps must be closed to provide students with the skills, habits, interests, and capabilities they will need to meet the

challenges of the 21<sup>st</sup> century (Ryan & Deci, (2020). On the other hand there are also deficiencies in the constructs related to students' academic *self-efficacy* and *test anxiety*. These gaps specifically are on how *test anxiety* and level of *self-efficacy* directly preceding an exam and how will it affect the exam score, besides there is a little understanding about how test-anxiety and self-efficacy will affect short-term success in the classroom (Barrows *et al.*, 2013).

In a nut shell, despite a research conducted in many other countries with these discussions related to motivation, self-efficacy and test anxiety, in regional context research related to these factors in educational settings is especially scarce. It is surprising that so little empirical research has actually been conducted on the identified topic of this study, especially from the perspectives of secondary schools in *Gambella regional state*. Thus, to fill the existing gap of insufficient research coupled with personal experience and observation it turn out to be an issue of concern for the researcher to study how motivation, self-efficacy and test anxiety affect students' academic achievement of secondary students' in Gambella town. To this end, the study will address the following research question:

1. What is the variability of intrinsic and extrinsic motivation, self-efficacy, test anxiety and academic achievement among secondary school students?
2. Is there a gender difference in intrinsic and extrinsic motivation, self-efficacy, test anxiety and academic achievement among secondary students?
3. Is there a difference in academic achievement among secondary school students' with different levels of test anxiety and what are their level of anxiety?
4. Is there a significant relationship between secondary students' intrinsic motivation, extrinsic motivation, self-efficacy and test anxiety with their academic achievement?
5. How does the combination of intrinsic and extrinsic motivation, self-efficacy and test anxiety predicts secondary school students' academic achievement?

### **1.3. Objectives of the Study**

#### ***1.3.1. General Objective***

The main purpose of this study is to examine the relationship between motivation, self-efficacy, test anxiety and academic achievement of selected secondary school students in *Gambella town* and to identify feasible solution for future improvement.

#### ***1.3.2. Specific Objectives***

1. To identify the variability of intrinsic and extrinsic motivation ,self-efficacy, test anxiety and academic achievement among secondary school students.
2. To identify the gender difference in intrinsic and extrinsic motivation, self-efficacy, test anxiety and academic achievement of secondary school students'.
3. To identify levels of students' test anxiety and the difference in academic achievement among secondary school students' with different levels of test anxiety.
4. To assess the relationship of secondary students' intrinsic and extrinsic motivation, self-efficacy and test anxiety with their academic achievement.
5. To identify what combination of intrinsic and extrinsic motivation, self-efficacy and test anxiety predicts secondary school students' academic achievement.

### **1.4. Significance of the Study**

The significant of the study is basically, to understand the relationship between intrinsic motivation, extrinsic motivation, self-efficacy and test anxiety with students' academic achievement; and also to understand to what extent the psychological factors of the study (motivation, self-efficacy and test anxiety) affect the academic achievement of secondary school students there by provide feasible solution. Thus, this study is supportive for students to be competent in their academic life, enables educational Psychologists, school principals and teachers in providing appropriate support for students learning process in the school, help parents to give psychological support that will have invaluable role in students' academic achievement and assist concerned

stakeholders to be involved very much in improving students' academic achievement in secondary schools.

Moreover, this study will significantly help the regional bureau of education to identify ways to improve students' academic achievement in secondary schools by formulating intervention mechanism and measurable actions for further improvement of the teaching learning process relating to motivation, self-efficacy and test anxiety.

It also facilitates researchers' to do empirical researches on a different factors related to intrinsic and extrinsic motivation, self-efficacy and test anxiety. Furthermore, it will have a significant contribution to academically and professionally like practitioners' for their intervention. Overall, the result of the study will have important contribution by providing information to all concerned bodies to make and modify their interventions, programs, policies and strategies accordingly.

### **1.5. Scope of the Study**

The study was basically focused on examining the relationship between motivation, self-efficacy, test anxiety and academic achievement of selected secondary school students in *Gambella town* within the time frame of January 2021 to May 2021. Precisely the participants of the study are 9<sup>th</sup> to 12<sup>th</sup> grade students randomly selected from *Gambella, Wibur and Newlamd* public secondary school.

### **1.6. Definition of Key Terms**

**Academic Achievement:** In this study academic achievement is secondary schools total academic information the student has at his/her command when he/she completes a year of academic instruction. In this study, academic achievement is student's average mark they scored in the first semester of this academic year.

**Extrinsic motivation:** Extrinsic motivation in this study is secondary students' behaviors and activities that originate from external sources such as rewards, punishment, and social support.

**Intrinsic motivation:** Intrinsic motivation in this study is secondary students' interest, curiosity and needs of doing an activity independent of outside drives.

**Motivation:** Secondary students determination to gain academic knowledge and skill and trying to come across to get what they intend to get.

**Secondary students** :Students who are learning in grade 9<sup>th</sup> to 12<sup>th</sup> in this academic year.

**Self-efficacy:**In this study self- efficacy describes a secondary students' belief in their ability to master and execute the skill and tasks confidently.

**Test anxiety:** The unwell and disturbing feeling of students' before, during or after completion of a classroom-testing situation and which might hinder to focus or concentrate long enough to give a true picture of their actual knowledge.

## **1.7. Organization of the Study**

The study comprised five chapters. Chapter one includes background information of the study, statement of the problem, research questions and significance of the study are discussed. In Chapter two a review of important literatures are presented, basically variables under the study are discussed by over viewing of theories, concepts, and their relationships in terms of secondary students' were discussed. Chapter three includes research methodology of the study; the research design, samples, population, data collection and analysis method are presented. Chapter four presents the discussions of the findings of the study in line with the objectives and research questions of the study. Finally, chapter five presents the summary of main findings, conclusions drawn and recommendations for future studies.



## CHAPTER 2: LITERATURE REVIEW

### 2.1. Introduction

In teaching learning process students' academic achievement is the sum of their academic work in school at the end of a semester or academic year, the total academic information is a vital not only to students, but to teachers', parents, the school, policy makers, school psychologist or any concerned, thus, in this chapter students' academic achievement and the different views, concepts, definitions and relationships in relation to secondary school students will be discussed briefly alongside with predictor variables (intrinsic and extrinsic motivation, self-efficacy and test anxiety).

The concepts discussed in relation to academic achievement have given due attention and remains an important educational issues, for instance, Silva *et al.*, (2018) stated motivation can become an important indicator of all the factors that should be taken into account in the teaching-learning process so that changes can be made to improve what needs improving and maintain what is being properly done. Consequently, knowing all the motivational processes that have to do with students and assessing them can provide one with information on what paths to follow and what policies to implement to improve academic achievement. On the other hand, self-efficacy has been a key component in theories of motivation and learning in varied contexts. Furthermore, over the last four decades, educational researchers from diverse fields of inquiry have used the notion of self-efficacy to predict and explain a wide range of human functioning, from athletic skill to academic achievement (Artino, 2012). Besides, test anxiety has become a universal experience in contemporary society since test scores are so important for academic and career development, students are naturally under tremendous pressure to achieve high test scores (Rana & Mahmood, 2010).

### 2.2. Students' Academic Achievement

Students' academic achievement in secondary school is attained with the efforts being committed by students in multifaceted way from studying hard to getting to a fruitful juncture to their future life. The concern of academic achievement is extended far beyond schools; it is about raising a successful generation which will make a

contribution to the welfare of the country and humanity is a common expectation of the educators, politicians and the community. Thus, from the assertions, achievement in education can be considered as an important parameter (Karadağ, 2017). It is common to say academic achievement or in schools students achievement, besides Karadağ, (2017) differentiated distinctively the term achievement and academic achievement; the former is a positive expression of the activities that individuals display in accordance with their competencies, while in the later individuals are classified according to an achievement scale.

Shakir (2014) conceptualized that academic achievement is the achievement level of the students in which they will be leveled in learning of a particular area of subject in terms of knowledge, understanding, skill and application usually evaluated by teachers in the form of test scores in their annual examination. Thus, It is a accustomed practice to promote a student from a lower class to a higher class on the basis of his/her academic achievement. Consequently, students' will be benefited from academic information declared to them if they are successful or unsuccessful (Shakir, 2014). Students and their parents' demand all what they expect and it is obviously a score to be high in their academic achievement, every effort of students, teachers and parents will have its own impact on students' achievement.

Furthermore, in a broad view, education is a process through which we can bring out the potentialities or capacity of an individual or a child (Ghaonta, 2017). Nonetheless, inspiring learners to learn is a major concern in any training situation since motivation is one of the prime tasks of teaching, the motivation of learning activities helps the learner to concentrate on what he/she is doing, and thereby gain satisfaction. Due to the unstopping effort needed to motivate students, Filgona *et al.*, (2020) noted that continuous motivation is needed to help learners concentrate on the lessons to be learned. Consequently if a student is motivated, he/she will show some form of satisfaction and achievement.

Yousefi *et al.*, (2010) rely on the idea that education can also become a burden to the country as low academic achievement is one of the major problems contrary to high academic achievement in which families, society and government may suffer at large.

Above all, students and teachers have significant role for students' academic success. For instance, Sridevi (2013) pointed that to make learning effective, both the students doing it and the teacher guiding it must achieve a nice balance of the interacting factors affecting it, besides under the same curriculum provided in schools varying results may happen true and many students fail to achieve what is expected of them.

Finally, it's important to realize the dimensions that influence academic achievement, according to Sharma & Nasa, (2014) a person's attributions about his performance are related to his motivation to achieve. One is the *locus of control*, which is attributed to the internal and external causes and beliefs about whether a given outcome was caused by the individual or by some external factor outside of his control, the other is *stability*, which is attributed to long term and short term effects, a cause being attributed to either unstable or stable factors that lead to positive or negative results. *Controllability* will also influence achievement, including controllable and uncontrollable factors, whether or not a person feels that he has control over a given outcome (for more see Sharma & Nasa, 2014). Thus, students' academic achievement is an important factor and accounted to different factors for the students' either progress or failure and has its own significance in field of education. Moreover, according to Shehzad, (2019) there are numbers of factors contribute to enhance it, factors like students' motivation, students' interest, goals orientation, learning strategies and many others have effect on academic achievement.

### **2.3. Theoretical Overview of Motivation**

Human motivation is discussed under the broad umbrella of self-determination theory, which is a macro theory of motivation, thus, self-determination theory encompasses wide aspects, however; the general idea is related basically to the objectives of this study. *Self-determination theory* (SDT) defines intrinsic and several types of extrinsic motivation and outlines how these motivations influence situational responses in different domains, as well as social and cognitive development and personality (Legault, 2017). The applications of self-determination theory in education is focused on facilitating the satisfaction of the basic psychological needs of both students and teachers and their necessary role in self-determined motivation, well-being, and growth (Legault, 2017; Ryan & Deci, 2020).

Both *intrinsic and extrinsic motivation* are based on self-determination theory, SDT focuses on the “nature” of motivation, that is, the “why of behavior.” The underlying assumption is that “human beings are active, growth-oriented organisms who are naturally inclined toward integration of their psychic elements into a unified sense of self and integration of themselves into larger social structures”. Consequently, SDT distinguishes between *intrinsic motivation* (i.e., “doing an activity for its own sake because one finds the activity inherently interesting and satisfying) and *extrinsic motivation* (i.e., doing an activity for an instrumental reason”, (Deci & Ryan, 2000). According to Reeve, (2016), Self-determination theory is a macro theory of motivation comprised of five interrelated mini theories namely basic needs theory, organismic integration theory, goal contents theory, cognitive evaluation theory and causality orientations theory (see Reeve, (2016, for more).

#### **2.4. Motivation and Academic Achievement**

Motivation is what causes a person to want to know, act, understand, believe, or gain particular knowledge, skills, attitude, or values. Students’ perform best when they recognize the need, and develop the desire to learn through motivation because motivation stimulates students’ to think, concentrate, and learn effectively (Filgona *et al.*, 2020). Schools, parents, peers and others might contribute to academic motivation of secondary students, particularly motivating students in the class room is an integral part of teaching learning though the magnitude is different from school to school or at individual level from student to student.

Motivation has been a central and perennial issue in the field of psychology, for it is at the core of biological, cognitive, and social regulation. Though, individual characteristics such as intelligence, cognitive styles, and personality crucial role teaching learning process, of all the personal and psychological variables that have attracted researchers in this area of educational achievement, motivation seems to be gaining more popularity and leading other variables (Arulmoly & Branavan, 2017; Ryan & Deci, 2020). Consequently, in the real world, motivation is highly valued because of its consequences and become a preeminent concern to those in roles such as manager,

teacher, religious leader, coach, health care provider, and parent that involve mobilizing others to act (Ryan & Deci, 2020).

According to Bonjour (2016), the practice of motivating students must be constant and spill over to outside the boundaries of school as well. To do this, the teacher in the classroom must evolve into a motivator, facilitator and guide students inside and outside the classroom situations. Thus, the applications of motivation in all teaching and learning processes are significant because they create life-long learning process towards an individual (Yahaya *et al.*, 2010). Thus, motivation requires commitment and considerable effort. Ryan pointed that motivation concerns in needs energy, direction, persistence including aspects of activation and intention.

Furthermore, Filgona *et al.*, (2020) noted that motivation, which is a psychological construct, is also a teaching technique that could be used to enhance learning in the classroom. As the quality of students' academic achievement continues to fluctuate year in year out, the need to develop strategies for motivating learners to enhance their learning outcomes is imperative. Without proper motivation of learners, learning may not take place, and if learning does not take place, the objective of developing the curriculum may not be achieved (Filgona *et al.*, 2020).

Academic motivation is crucial to a students' academic success at any age. Because students form self-concepts, values, and beliefs about their abilities at a young age, the development of early academic motivation has significant implications for later academic careers. Students' high in academic motivation are more likely to have increased levels of academic achievement and lower dropout rates (Ghaonta, 2017).

Learning is inherently hard work; it is pushing the brain to its limits, and thus can only happen with motivation. Students' motivation to learn is of special importance because students' mere presence in the class is of course, not a guarantee that students want to learn. It is only a sign that students live in a society where children are required to attend school. Highly motivated learners are likely to learn readily, and make any class fun to teach, while unmotivated learners may likely learn very little and generally make teaching painful and frustrating. Since modern education is compulsory, teachers

cannot take learners' motivation for granted, and they have a responsibility to ensure learners are motivated to learn (Filgona *et al.*, 2020).

Motivation has a multi-dimensional structure instead of a simple and basic one, in this regard, Ryan & Deci, (2020) examined three categories of motivation that affects achievement, those needs are seen as particularly fundamental, namely those for *autonomy*, *competence* and *relatedness*. Niemiec & Ryan, (2009), also stated that teachers' support of students' basic psychological needs for autonomy, competence, and relatedness facilitates students' autonomous self-regulation for learning, academic performance and well-being (Niemiec & Ryan, 2009; Ryan & Deci, (2020).

*Autonomy* concerns a sense of initiative and ownership in one's actions. It is supported by experiences of interest and value and undermined by experiences of being externally controlled, whether by rewards or punishments. The student believes he or she has the ability to complete the task (Deci & Ryan 2020; Filgona *et al.*, 2020). *Competence* is the feeling of mastery, a sense that one can succeed and grow. The need for competence is best satisfied within well-structured environments that afford optimal challenges, positive feedback, and opportunities for growth. The student feels in control by seeing a direct link between his or her actions and an outcome and retains autonomy by having some choice about whether or how to undertake the task (Deci & Ryan 2020; Filgona *et al.*, 2020). Finally, *relatedness* is related to a sense of belonging and connection. It is facilitated by conveyance of respect and caring.

Consequently, being aware of motivational needs is an important know how; however, thwarting of any of these three basic needs is seen as damaging to motivation and wellness. For that reason, self-determination theory analysis of educational settings is primarily focused on the extent to which they meet or frustrate these basic needs. For students completing among these tasks, such as of *relatedness*, brings to them social rewards, such as a sense of belonging to a classroom or other desired social group or approval from a person of social importance to the student (Deci & Ryan 2020; Filgona *et al.*, 2020).

## 2.5. Types of Motivation

Some authors distinguished that *interest* is not a type of motivation, Schunk *et al.*, (2014) noted that interest is not a type of motivation but rather an influence on motivation. according to *self-determination theory*(SDT) of Ryan & Deci(2000), there are intrinsic and extrinsic types of motivation, however, types of motivation vary in quality and outcomes and are frequently used in research as predictors of educational outcomes such as learning, performance, engagement, and persistence (Utvær & Haugan, 2016).

### 2.5.1. Intrinsic Motivation

*Intrinsic motivation* (IM) remains an important construct reflecting the natural human tendency to learn and assimilate. People do certain activities because these activities give them pleasure, develop a particular skill, or these are morally the right thing to do involving doing a behavior because the activity itself is interesting and spontaneously satisfying (Deci & Ryan, 2008;Bonjour, 2010). It denotes to engagement in behavior that is inherently satisfying or enjoyable. Intrinsic motivation (IM) is non-instrumental in nature, that is, intrinsically motivated action is not contingent upon any outcome separable from the behavior itself. Rather, the means and end are one and the same. For example, a child may play outdoors running, skipping, jumping for no other reason than because it is fun and innately satisfying which shows internal desires to perform a particular task (Bonjour, 2010;Ghaonta, 2017; Legault, 2017).

Technically intrinsic motivation pertains to activities done for its inherent satisfactions rather than for some separable outcome. Play, exploration and curiosity spawned activities exemplify intrinsically motivated behaviors, as they are not dependent on external incentives or pressure, but rather provide their own satisfactions and joys (Ghaonta, 2017; Ryan & Deci, 2000), The basis of *self-determination theory* (SDT) that need supports enhance intrinsic motivation and internalization, resulting in higher achievement, whereas, paradoxically, attempting to control achievement outcomes directly through extrinsic rewards, sanctions, and evaluations generally backfires, leading to lower-quality motivation and performance (Ryan & Deci, 2000).

### **2.5.2. Extrinsic Motivation**

*Extrinsic motivation* (EM) refers to performance of behavior that is fundamentally contingent upon the attainment of an outcome that is separable from the action itself. In other words, EM is instrumental in nature. It is performed in order to attain some other outcome and can be understood as a factors external to the individual and unrelated to the task they are performing(Ryan & Deci, 2000; 2008; Bonjour, 2010; Ghaonta, 2017; Legault, 2017). For instance, students' are eager to be sent for their parents at home in order to receive a reward or some kind of allowance, similarly, a student may study for a test in order to receive an award and recognized in school. Thus, giving the appropriate reward is important, in line to this point Dickson, (2018) believes that concept of speech and prize giving day, especially at the end of academic schedule should be embraced by all secondary schools.

In schools teachers for instance alongside their academic activity they are expected to enhance students' level of extrinsic motivation. One of the recommendations according to the finding of Dickson (2018), is that teachers should always strive hard to apply available forms of extrinsic motivation in the school instructional process to spur students to higher academic achievement. Furthermore, though teachers are busy since they are the implementers of the teaching objectives the government should make it as a matter of priority to always provide token reward for the best graduating student of every secondary school to encourage other students strive towards excellent academic achievement needed to drive the development process of any nation(Dickson, 2018). On the other hand, outside of school, parents and guardians should on their parts always striving to reward students who perform well in promotion and certificate examinations as such gesture will help to promote better performance in subsequent examinations taken(Dickson, 2018).

### **2.5.3. Amotivation**

Students in secondary education might be *amotivated* in which they neither intrinsically nor extrinsically motivated. For students learning, amotivation, all too common in class room settings, can result from either lack of felt competence to perform, or lack of value or interest, thus, it has been a strong negative predictor of



engagement, learning, and wellness(Ryan & Deci, 2008; Ryan & Deci, 2020). Besides Silva *et al.*,(2018) pointed out that amotivation is considered as the lowest level of autonomy on the continuum of motivational styles. For instance, Ryan & Deci, (2000)also reported that amotivation is a category that represents the least autonomous forms of extrinsic motivation, a category labeled as external regulation, such amotivated behaviors are performed to satisfy an external demand or obtain an externally imposed reward contingency. Thus, amotivation is characterized by the individual's lack of willingness or motivation (intrinsic or extrinsic) to engage in an activity and his/her feeling incompetent or failing to carry out a given procedure(Vallerand *et al.*, 1992; Ratelle *et al.*, 2007;Silva *et al.*,2018).

## **2.6. The Relationship between Intrinsic Motivation and Academic Achievement**

Motivation is a broad concept applicable in educational setting and other organizations to and widely studied, specifically the distinctive intrinsic and extrinsic motivation, according to Ryan & Deci (2000), even though intrinsic and extrinsic types of motivation have been widely studied, the distinction between them has shed important light on both developmental and educational practices in which intrinsic motivation remains an important construct reflecting the natural human propensity to learn and assimilate.

Intrinsically motivated students earn higher grades and achievement test scores on average than extrinsically motivated students. They are more likely to feel confident about their ability to learn new material, use more logical information-gathering and decision-making strategies than do extrinsically-motivated students, engage themselves in tasks that are moderately challenging, retain information and concepts longer, and are more likely to be lifelong learners, continuing to educate themselves (Ghaonta, 2017). Thus, students motivated intrinsically work because they want to do so and to utilize their selves for the personal satisfaction. They are not looking towards a reward or some sort of prize to work. These type of students like responsibilities to challenge themselves whereas, students motivated extrinsically seeks some sort of star, flagship, leading role, prize or something that can may be dominant to them(Haider *et al.*, 2015). Because intrinsic motivation results in high-quality learning and creativity, it is

especially important to detail the factors and forces that engender versus undermine it (Ryan & Deci, 2000).

Moreover, according to Schunk *et al.*, (2014) students who are motivated to learn about a topic are usually apt to engage in activities they believe will help them learn, such as attend to instruction, mentally organize and rehearse material to be learned, take notes to facilitate subsequent studying, check their level of understanding, ask for help when they do not understand the material, hold positive beliefs about the value of learning and their capability for learning, and create a productive emotional climate for learning (Zimmerman, 2000).

Several important assumptions can be drawn from studies conducted to related the intrinsic motivation, according to Niemiec & Ryan, (2009), both teachers' orientations and specific aspects of learning tasks that are perceived as autonomy supportive are conducive to students' intrinsic motivation, whereas controlling educational climates undermine intrinsic motivation. On the other hand, students tend to learn better and are more creative when intrinsically motivated, particularly on tasks requiring conceptual understanding. The way in which teachers introduce learning tasks impacts students' satisfaction of the basic psychological needs for autonomy and competence, thereby either allowing intrinsic motivation to flourish and deeper learning to occur, or thwarting those processes (Niemiec & Ryan, 2009). Adamma *et al.*, (2018) conducted a study on the influence of extrinsic and intrinsic motivation on pupils' academic performance in mathematics of primary six pupils ;they reported that motivation improves academic performance of the pupils and there is gender difference in motivation type and academic performance.

### ***2.6.1. Characteristics of Intrinsic Motivation***

According to Schunk *et al.*, (2014) although a goal of educators may be to develop students' interest and intrinsic motivation in learning, there are many reasons underlying students' interests and not all of them reflect intrinsic motives, "students who are interested in learning about a topic or improving their skills in a domain should display motivated behaviors, such as choice of the activity, effort, persistence, and achievement". Intrinsically motivated students do much better in classroom activities

because they are willing and eager and happy to learn new things. These learning experience becomes more meaningful and enable students to understand what they have learned and practiced in school (Bonjour, 2010). However, Schunk *et al.*, (2014) pointed out that students may be personally or situationally interested in a topic for intrinsic or extrinsic reasons. Thus, motivating students to become intrinsically motivated is not an easy task for teachers since they are facing some students who enjoy learning, or others who are a real challenge and fail to comply with teachers' instructional direction (Bonjour, 2010).

Furthermore, though in schools intrinsic motivation is very important concept needing attention, Ryan & Deci (2000) noted that despite intrinsic motivation is clearly an important type of motivation, most of the activities people do are not only intrinsically motivated, similarly, in schools, for example, intrinsic motivation becomes weaker when students advance to each grade level.

## **2.7. The Relationship between Extrinsic Motivation and Academic Achievement**

Students are motivated extrinsically and supportive to them in their academic achievement. Ghaonta (2017) stated that by combining intrinsic and extrinsic motivators, teachers can help students learn the subject at hand as well as valuable life skills. However, educators typically consider intrinsic motivation to be more desirable than extrinsic motivation, and learning outcomes of intrinsic motivation are better than those obtained under extrinsic motivation (Ghaonta, 2017). Contrary to this, however, Yahaya *et al.*, (2010) contends that though both intrinsic and extrinsic motivational factors influence students in their learning but we can promote better extrinsic motivation to students when we understand what are the extrinsic factors that motivating them. On the other hand, Dickson, (2018) in his the study reported that academic achievement could be due to the fact that, *extrinsic motivation* (rewards) helps to increase the psychological energy of the individual to perform.

### ***2.7.1. Characteristics of Extrinsic Motivation***

Extrinsic motivation is multidimensional and which paves the way for the individual to set goals and varies completely from simply external, performing an activity to get some kind allowance to completely internal like engaging in recycling because one perceives oneself to be an environmentally responsible citizen (Bonjour, 2010; Legault, 2017). However, there are considerable points about the effectiveness of extrinsic motivation, Bonjour (2010) pointed out that extrinsic motivation does prompt an individual to perform a certain task even if there is no interest in it because of the fact that external reward lengthens the duration of the anticipated reward even if interest is long gone.

There are crucial aspects of extrinsic motivation; setting ones' eyes on the prize, the students' will associate to playing by the rules and even develop a huge amount of persistence towards getting that reward. Extrinsic motivators can release stress. Nonetheless, lack of extrinsic motivation cannot distract a students' from the pressure that he/she gets from his/her job. Extrinsic motivation is not sustainable; for instance, if teachers eliminate the reward and punishing students might reduce their action (Bonjour, 2010). Moreover, in classroom situations students' internalization of extrinsic motivation is viewed as psychological and more observed in students in relation to their academic accomplishment. Niemiec & Ryan, (2009), asserted that internalization of extrinsic motivation is critical for effective psychological and academic functioning among students at all educational levels.

Thus, teachers' role is very important in the classroom in shaping students', for instance according to Niemiec & Ryan, (2009) teachers support is crucial, in classroom contexts that support students' in satisfaction of *autonomy, competence, and relatedness*. SDT maintains that when students' basic psychological needs for autonomy, competence, and relatedness are supported in the classroom; students' *autonomy* can be supported by teachers' minimizing the salience of evaluative pressure and in the classroom by maximizing students' perceptions of having a voice and choice in those academic activities in which they are engaged; students' *competence* can be supported by educators' introducing learning activities that are optimally challenging,

thereby allowing students to test and to expand their academic capabilities; in addition to the needs for autonomy and competence, SDT posits that satisfaction of the need for *relatedness*; relatedness is deeply associated with a student feeling that the teacher genuinely likes, respects, and values students. Thus, People tend to internalize and accept as their own the values and practices of others (Niemiec & Ryan, 2009).

## **2.8. Balancing Intrinsic-Extrinsic Motivations**

The distinctions between intrinsic and extrinsic motivation is dependent on activities and the goals of the students. Extrinsic motivation contrasts with intrinsic motivation because it refers to doing an activity simply for the enjoyment of the activity itself, rather than its instrumental value (Ryan & Deci, 2000). The same activity can be intrinsically or extrinsically motivating for different people, intrinsic and extrinsic motivation characterize people at a given point in time in relation to a particular activity (Schunk *et al.*, 2014). Both intrinsic and extrinsic motivational factors influence students in their learning but we can promote better extrinsic motivation to students when we understand what are the extrinsic factors that are motivating to them (Yahaya *et al.*, 2010). However, Bonjour, (2010) stated that extrinsic motivation vary considerably in its relative independence and can either reflect external control or true self-regulation. On the other hand, Schunk *et al.*, (2014)believe that students may be high on both, low on both, medium on both, high on one and medium on the other, and so forth,as we think of intrinsic and extrinsic motivation as separate continuums, each ranging from high to low. These balanced views are also evident in the study of Bonjour, (2010), according to Bonjour intrinsically motivated students learn more than extrinsically motivated students due to the fact that intrinsically motivated students are also extrinsically motivated, similarly, extrinsically motivated students to some extent are found to be intrinsically motivated.

Thus, intrinsic motivation and extrinsic motivation are time and context dependent and they characterize people at a given point in time in relation to a particular activity (Karadağ, 2017). Consequently, students' might be motivated bi-directionally by both intrinsic and extrinsic motivations, according to Bonjour (2016) some people are motivated by tangible, extrinsic benefits, such as salary and the trappings of position; others may be motivated by factors at the opposite end of the spectrum. On contrary,

others tend to do without the tangible rewards of monetary benefits by favoring their self-satisfaction. Basically, balancing both type of motivation is important, Bonjour believes that to gain the most from the basics of intrinsic and extrinsic motivation, it is perhaps best to remember that most people are motivated by a combination of the two because people are influenced by complex factors like socio economic factors, age and family status.

Both intrinsic and extrinsic motivation increase students' academic performance (Haider *et al.*, 2015). Besides both intrinsic and extrinsic motivation are based on self-determination theory, SDT focuses on the "nature" of motivation, that is, the "why of behavior." The underlying assumption is that "human beings are active, growth-oriented organisms who are naturally inclined toward integration of their psychic elements into a unified sense of self and integration of themselves into larger social structures" (Deci & Ryan, 2000). SDT generally applies to activities that people find interesting, optimally challenging, or aesthetically pleasing. SDT also assumes that people are by nature active and self-motivated, curious and interested (Deci & Ryan, 2008). Consequently, SDT distinguishes between intrinsic motivation (i.e., doing an activity for its own sake because one finds the activity inherently interesting and satisfying) and extrinsic motivation (i.e., doing an activity for an instrumental reason), (Deci & Ryan, 2000). Thus, to conclude, by combining intrinsic and extrinsic motivators, teachers can help students learn the subject at hand as well as valuable life skills (Ghaonta, 2017).

## **2.9. Components of Academic motivation**

Academic motivation is rooted in the self -determination theory (SDT). "In SDT, ways of conceiving internalization and types of regulation have shifted, primarily from a differentiation of the intrinsic from the extrinsic motivation to one of autonomous from controlled motivation" (Utvær & Haugan, 2016). There are three types of *intrinsic motivation* (IM); *intrinsic motivation for knowledge, accomplishments, stimulation*; *intrinsic motivation for knowledge*, which assesses the desire to perform an activity for the pleasure and satisfaction experienced while learning exploring, or trying to understand something new (Vallerand *et al.*, 1992; Utvær & Haugan, 2016). For

instance, “students' are intrinsically motivated to know, when they read a book for the sheer pleasure that they experience while learning something new.” (Vallerand *et al.*, 1992). *Intrinsic motivation toward accomplishments*, which assesses the desire to perform an activity for the pleasure and satisfaction experienced from accomplishment or creation (Vallerand *et al.*, 1992; Utvær & Haugan, 2016). Typically, students who extend their work beyond the requirement of a term paper in order to experience pleasure and satisfaction while attempting to surpass themselves (Vallerand *et al.*, 1992). *Intrinsic motivation for stimulation*, which measures the desire to perform an activity in order to experience stimulation or sensation (Utvær & Haugan, 2016). This is typically when students engage in sensory pleasure, aesthetic experiences, as well as fun and excitement (Vallerand *et al.*, 1992).

Regarding extrinsic motivation, *Self-determination theory* (SDT) posits that there are different types of motivation that vary according to their level of self-determination which reflects the aspect of quality of motivation, thus, there are three types of extrinsic motivation; these internalized extrinsic motivation are, namely external regulation, introjection and, identification (Vallerand *et al.*, 1992; Ryan & Deci, 2008). *External regulation* is the least autonomous type of extrinsic motivation. *External regulation* is evidenced when students are engaged in an activity in order to obtain a reward, or in order to avoid a punishment, this type of EM is labeled as *external regulation* and is evidenced when individuals' behavior is motivated by the desire to obtain a reward or to avoid punishment (Vallerand *et al.*, 1992; Ratelle *et al.*, 2007; Reeve, 2016; Utvær & Haugan, 2016).

A second type of extrinsic motivation (EM), is *introjected regulation*, refers to behaviors performed because of the internal pressures such as obligation and guilt. The reasons for doing something are somewhat endorsed by the person but in a controlled fashion, for instance, the student complies with external requests to affirm or maintain self-worth in the eyes of others or to silence a self-esteem threat (Ratelle *et al.*, 2007; Reeve, 2016). Thus, introjected regulation is the least effective type of internalization and is slightly autonomous. It involves people taking in an external contingency, demand, or regulation but not accepting it as their own (Ryan & Deci, 2008; Reeve, 2016; Utvær & Haugan, 2016).

A third type of extrinsic motivation, (EM) is *identified regulation*, whereby individuals identify with the reasons for performing a behavior. In this autonomous form of EM, for instance, students engage in an activity because they personally find it important (Ratelle *et al.*, 2007). Thus, a more autonomous, or self-determined, form of extrinsic motivation is regulation through identification (Ryan & Deci, 2000; 2008).

Moreover, the most autonomous form of extrinsic motivation is *integrated regulation*; it occurs when identified regulations are congruent with other values and needs, share many qualities with intrinsic motivation, being both autonomous and uncomplicated. However, they are still extrinsic because behavior motivated by integrated regulation is done for its presumed instrumental value with respect to some outcome that is separate from the behavior, though it's volitional and valued by the self (Ryan & Deci, 2000; Ratelle *et al.*, 2007; Reeve, 2016;).

Finally, *amotivation* (AM) is a category that represents the least autonomous forms of extrinsic motivation, such behaviors are performed to satisfy an external demand or obtain an externally imposed reward contingency and it implies the lack or absence of motivation and is observed when individuals do not perceive the contingencies between their actions and their consequences (Ryan & Deci, 2000; Ratelle *et al.*, 2007).

## **2.10. The practice of how students are motivated**

In schools' students' valuable time mostly spent on academic related activities in classroom or in out of classroom learning, perhaps a field trip or a visiting program, besides students' self-effort is also crucial. Teachers, school administration, parents, peer groups and the community at large plays a crucial role on how students are motivated. According to Yahaya *et al.*, (2010) enthusiastic teachers care about what they teach and communicate and look for new topics to discuss to their students so that students understand the knowledge gained are important for further studies and job applications. Similarly, SDT specifically maintains that for teachers to actively support students' needs, they themselves must experience need supports (Ryan & Deci, 2020). Moreover, classroom practices that support students' satisfaction of autonomy,



competence, and relatedness are associated with both greater intrinsic motivation and autonomous types of extrinsic motivation (Niemiec & Ryan, 2009). Thus, clearly there is considerable evidence that basic need-supportive classroom strategies promote students autonomous motivation, initiative, engagement, and adjustment (Ryan & Deci, 2020).

Strategies for enhancing *autonomy* include providing choice and meaningful rationales for learning activities and acknowledging students' feelings about those topics, strategies for enhancing *competence* include providing effective instruction, as opposed to norm-based evaluative, feedback and optimally challenging tasks. Strategies for enhancing *relatedness* include conveying warmth, caring, and respect to students (Niemiec & Ryan, 2009). However, autonomy-supportive teaching is not always easy since teachers are mostly busy, besides, like their students, teachers also have basic psychological needs for autonomy, competence, and relatedness, on the other hand supports to some extent may come from student's abiding inner resources that support their ongoing feelings of competence and autonomy (Ryan & Deci, 2000;2020).

Thus, teacher's should ensure that motivation is built in every lesson presentation and should be started during the introduction of the lesson and should continue throughout the entire lesson presentation (Filgona *et al.*, 2020).In line to this point Bonjour (2010)discussed that teachers energize the way they teach to make it appeal to the students, whether it be in the tone of voice, body language, appearance, or all of the above and they close the lessons leaving students with a question to ponder on dealing with the subject material that was taught. Consequently, students in their spare time will continue to ponder on the lesson and the question at hand.

Furthermore, because peers with close age range tend to have closer mindset in thinking and point of views from the same perspectives they may influence the learning motivation among students; gang of peer-group, those skip classes have interactions, therefore, the arrangement of seats in a classroom becomes a factor that motivates students in learning (Yahaya *et al.*, 2010). Moreover, the formative effect of parents on students motivation to learn as an impact at every stage of development and this

influence will last through the high school years and beyond (Yahaya *et al.*, 2010). On the other hand, schools should be supportive in contexts for development, provide conditions that enhance students' adaptive capacities and mental health, and importantly, do not harm (Ryan & Deci, 2020).

### **2.11. Theoretical Overview of Self-Efficacy**

Academic self -efficacy theory is Albert Bandura's component of *social cognitive theory*. *Self- efficacy theory* was proposed by Bandura (1977) with in the *social cognitive theory*; *social cognitive theory* stresses the idea of human agency, or the belief that one can exert a large measure of control over the important events in one's life (Schunk & DiBenedetto., 2021). Agency embodies the endowments, belief system, self-regulatory capability and distributed structures and functions through which personal influence exercised (Bandura, 2001). Personal agency is one's capability to originate and direct actions for given purposes and influenced by the belief in one's effectiveness in performing specific tasks termed as *self- efficacy* (Zimmerman & Cleary, 2006).

Individuals as agents contribute to their personal well-being by improving their emotional, cognitive, or motivational processes, increasing their behavioral competencies, or altering their environmental conditions in a reciprocal nature and *self- efficacy* of a students is influenced in this process (Schunk & DiBenedetto., 2021). Thus, this agentic behavior is manifested in students; students with higher self- efficacy participate in academic activities with persistence by showing greater interest in learning than students who doubt their capabilities (Bandura, 1997).

### **2.12. Concept of Academic Self-Efficacy**

Academic self-efficacy will affect students' academic achievement in different ways. Zimmerman & Cleary (2006)asserted that self-efficacy will enhance students' academic performance directly as well as indirectly through its influence on their self-concept. Besides, academic self-efficacy is receiving increasing recognition as a predictor of educational performances (Sharma & Nasa, 2014). Self-efficacy is important to be studied further, this is due to according Basith *et al.*,(2020)there is still confusing gender differences associated with the academic self-efficacy, and the relationship

between academic self-efficacy and academic achievement which is important if studied.

Self-efficacy generally refers to the trust an individual has towards himself to produce certain tasks or responsibilities properly and effectively (Bandura, 1977). Likewise Artino (2012) defined self-efficacy as a personal belief in one's capability to organize and execute courses of action required to attain designated types of performances which often described as task-specific self-confidence. According to Sharma & Nasa, (2014) self-efficacy is generally regarded as a multidimensional construct differentiated across multiple domains of functioning. Self-efficacy view point can be built up on four bases of knowledge, vicarious experiences, enactive mastery and physical and emotional states (see Sharma & Nasa, 2014). To achieve academic success and develop relevant strategies in handling academic work, Gang *et al.*, (2019) stressed that students need to increase their academic self-efficacy, such as the ability to figure out difficult homework and complete schoolwork successfully.

### ***2.12.1. Self- Efficacy and Academic Achievement***

In relation to students' academic achievement, when students' exert maximum effort and when they believe in their personal efficacy to control their own educational processes and outcomes to become proficient in challenging subject matter they are more likely to achieve what they aspired, this means students who have overall confidence in their capability will demonstrate high self-efficacy (Sharma & Nasa, 2014). Students' academic achievement is highly related to students' self-efficacy, this is confirmed by various empirical evidences, the recent study of Basith *et al.*, (2020) posited that any improvement in academic self-efficacy will be accompanied by an improvement in the academic achievement. Self-efficacy often found to be associated with academic performance, thus, academic self-efficacy is the most important aspect for the students to be able to master the learning materials well (Hasan & Parvez, 2019; Basith *et al.*, 2020).

A high level of self-efficacy apparently fosters the ability to exert self-control and perseverance, which may be conducive to a higher GPA (Köseoğlu, 2015). On the other hand, students' with low self-efficacy also do not seek out opportunities to gain the

knowledge or skills necessary to make success more likely, including building self-confidence in their own abilities. In contrary, high levels of self-efficacy typically builds courage and confidence in students' own ability to complete hard tasks and thus positively influences academics (Barrows *et al.*, 2013).

Students' may behave differently with different self-beliefs, according to Sharma & Nasa (2014) students' are in different levels of cognitive, social and emotional engagement in schools and this is due to the reason that school related experience makes up a major portion of students' lives and shapes the early path to important life outcomes. Educational researches try to grasp the meaning of self in student's minds. Besides, instructional practices designed to develop students' self-efficacy beliefs and improve learning should include encouraging students to set clear, specific, and challenging proximal goals; provide students with honest and explicit feedback; facilitate accurate calibration of self-efficacy and use peer modeling (Artino, 2012).

Moreover, among studies conducted related to academic self-efficacy Köseoğlu, (2015) found that students who are more confident and self-assured are more likely to attain higher levels of academic performance, which implies that the beliefs of self-efficacy seem to play an important role in predicting academic achievement (Köseoğlu, 2015). In addition, Karadağ, (2017) reported that self-efficacy has a positive and significant effect on achievement and it can be said that self-efficacy is an important variable affecting achievement. The change observed in the self-efficacy perception of individuals is reflected accordingly to achievement either positively or negatively (Karadağ, 2017). Furthermore, Gana *et al.*, (2019) conducted a study on the contribution of psychological factors to academic achievement and their finding showed that students' academic achievement in physics is predicted by their motivation, self-efficacy and locus of control respectively, though non-included characteristics of the sample such as students' gender and school location may also be responsible for some observed relationship in the study. The study conducted related to academic self-efficacy by AL-Baddareen *et al.*, (2015) reported that learners' self-efficacy significantly predicts their academic achievement. Subject specific studies are also evident, the finding of Ugwuany *et al.*, (2020) also revealed that there is a positive relationship between self-efficacy and learners' academic achievement in Physics.

### 2.13. Characteristics of Self-Efficacy

*Self-efficacy* is focused on students capabilities, for instance with regard to the content it measures, Zimmerman, (2000) reviewed that self-efficacy measures focus on performance capabilities rather than on personal qualities, such as one's physical or psychological characteristics. Thus, Self-efficacy determines how successfully somebody can accomplish something, how much effort he/she will put into it, how long the perseverance will last especially in the face of difficulties and how much the person is resistant (Firoozi *et al.*, 2017).

As a result, self-efficacy is defined as the way an individual judges or perceive their capabilities and how he/she views his/her confidence and ability in accomplishing specific results (Firoozi *et al.*, 2017; Gana *et al.*, 2019). There are basic distinguishing characteristics of self-efficacy construct in many literatures; those are *Perceived control, perceived competence and self-regulation and persistence*. *Perceived control* refers to general expectancies about whether outcomes are controlled by one's behavior or by external forces, and it is theorized that an internal locus of control should support self-directed courses of action, whereas an external locus of control should discourage them, thus, self-efficacious individuals and those with an internal locus of control will exhibit more self-directed behavior than will low self-efficacious individuals or those with an external locus of control (Zimmerman, 2000; Zimmerman & Cleary, 2006).

A second issue concerns *perceived competence*, Ryan & Deci, (2000), stressed that adopting as one's own an extrinsic goal requires that one feel efficacious with respect to it. In particular, students will more likely adopt and internalize a goal if they understand it and have the relevant skills to succeed at it based on their perception. More importantly, students' *competence* can be supported by educators' introducing learning activities that are optimally challenging, thereby allowing students to test and to expand their academic capabilities and provide students with the appropriate tools and feedback to promote success and feelings of efficacy (Niemiec & Ryan, 2009).

Thirdly, *self-regulation*, *self-regulated* students' naturally feel empowered because of their adaptive self-motivational beliefs. Therefore, a broader, more long-term goal of secondary education should involve empowering students to become independent, which means *self-regulated learner*. Moreover, Self-efficacy beliefs also provide students with a sense of agency to motivate their learning through use of such *self-regulatory* processes such as goal setting, self-monitoring, self-evaluation, and strategy use (Zimmerman, 2000; Zimmerman & Cleary, 2006). Finally, in relation to *persistence*, "people with high *persistence* have little fear of the unknown, are able to stand up for what they believe in, and have the courage to face whatever may come along" (Dullas, 2018).

Moreover, "self-efficacy differs from the lay term self-confidence, or a general capability self-belief that often fails to specify the object of the belief (e.g., one who exudes self-confidence). Although self-confident individuals often are self-efficacious, there is no automatic relation between these variables" (Schunk & DiBenedetto., 2021). According to Bandura (2013; cited in Basith *et al.*, 2020), students with *high self-efficacy* level can be seen from their ability to manage, carry out, and solve the problems related to the learning tasks, certainly with the belief that the tasks can be completed successfully, for instance, students may show good enthusiasm in working on the tasks, such as collecting the assignments punctually, never complaining when an assignment is given, and always trying to do the tasks given despite having a high level of difficulty. In contrast, for students having *low self-efficacy*, rejection of a task that is considered complex, are easy to complain when they are given a task with a short time span, often late in collecting it, and easy to give up on difficult task.

Consequently, Basith *et al.*, (2020) conceptualize the nature of self-efficacy as it is not oriented to the ability of a person to complete a given task, but rather to the belief that he is capable of completing various jobs that have been given. Moreover, self-efficacy as sources; according to Schunk *et al.*, (2021) sources of self-efficacy are; actual performances; vicarious experiences, (is observation of classmates to experience success); forms of social persuasion (informing students to achieve the tasks assigned to them by social environment) and physiological indexes (for more see Bandura, 1994; Schunk *et al.*, 2021).

## **2.14. Theoretical Overview of Test Anxiety**

Test anxiety is discussed in theoretical models, it is multidimensional and complex construct, to conceptualize to this study, the worry and emotionality components of test anxiety has been theorized by researchers' as *attentional control theory*, attentional control theory is an approach to anxiety and cognition representing a major development of Eysenck and Calvo (1992; as cited in Eysenck *et al.*, 2007). According to this theory anxiety impairs the efficient accomplishment of students' achievement by decreasing their attention, consequently students worry about tests. *Attentional control theory* accounts for both facilitative and debilitating effect of test anxiety. "It is assumed that anxiety impairs efficient functioning of the goal-directed attentional system and increases the extent to which processing is influenced by the stimulus-driven attentional system" (Eysenck *et al.*, 2007). Evidently the emotionality or the feelings (affective) and worry (cognitive) related anxiety are sources of drop in student academic achievement (Rana & Mahmood, 2010).

## **2.15. The Concept of Test anxiety**

Anxiety broadly encompass psychological and physiological condition occupying mind and eventually a negative unpleasant concern about future events and influencing the mood as well as behavior and hence results in impatience and discomfort (Faqe *et al.*, 2016). Test anxiety is a concern in schools, according to Sridevi (2013) the twentieth century has been called "the age of anxiety". Anxiety is a kind of self-preoccupation which is manifested as self-minimization and results in negative cognitive evaluation, lack of concentration, unfavorable psychological reactions and academic failure (Alemu & Feyssa, 2020). One distinction according to Mashayekh & Hashemi, (2011) is that test anxiety is not the same as doing poorly on a certain test because students mind is on something else. Since many students might have other things in their minds such as a breakup or the death of close relative which can also interfere with their concentration and prevent them from doing their best on a test (Mashayekh & Hashemi, 2011).

Moreover, test anxiety is specifically discussed in reference to test situations by many scholars recently. Test anxiety is actually a type of performance anxiety which means the 'fear of poor performance on tests'. It is a conscious or unconscious

apprehension of failure in an academic evaluation situation. Even the well prepared and intelligent students often make mistakes because of this type of anxiety (Saha 2014; Mashayekh & Hashemi, 2011). Thus, students should be fully informed by the faculty and administration of departments about the nature of courses, duration of the semester, and level of commitment necessary for the successful completion of the course (Rana & Mahmood, 2010). Furthermore, students with higher test anxiety must be identified and treated in order to increase their academic achievement and to effectively manage test anxiety, students can be helped by teachers, parents and educational administrators through use of cognitive, affective and behavioral strategies (Rana & Mahmood, 2010).

### **2.16. Test Anxiety and Academic Achievement**

Test anxiety is a common problem and a prominent topic of researchers interested to assess students' academic achievement. According to Anyamene *et al.*, (2016) the problem related to students test anxiety often lead to poor academic performance which has become worrisome and unsatisfactory to students, counsellors, teachers, school administrators, parents and the larger society. Test anxiety importantly addressed by researchers' with different inference, Vitasari *et al.*, (2010) reported that anxiety is one of the major predictors of academic performance.

Barrows *et al.*, (2013) stated that test anxiety plays a role in whether or not students perform well in academics. Due to the nature of test anxiety the relationship between achievement and anxiety is bidirectional and inversely proportional. Zeidner & Matthews (2017) reviewed that much of the test anxiety research over the past half century has been conducted to help shed light on the negative effects of test anxiety on examinee performance and these concerns have stimulated the development of a variety of assessment methods. An increase in achievement causes a decrease in anxiety and an increase in anxiety causes a decrease in achievement. The correlational approach to the study of test anxiety has been most frequently adopted, for instance, Amalu (2017) conducted a study on cognitive test anxiety as a predictor of academic achievement among secondary school students in which her finding revealed that cognitive test anxiety had negative impact on student's academic achievement. Thus, the higher cognitive text anxiety, the lower the academic performance of students



(Amalu, 2017). The finding of Amalu also revealed sex differences in cognitive test anxiety with the females having higher test anxiety than males.

Students who perform poorly may see difficult experiences as threats and attribute the results to their own negative internal characteristics and these perceived incompetence increases test anxiety and typically causes an even greater negative effect on performance (Barrows *et al.*, 2013). However, according to Rana & Mahmood (2010) worrying about a test cannot be regarded as negative phenomenon as a certain level of anxiety contributes positively in successful performance of a test but it accumulates into a negative force when student enters into a cyclic, non-productive process of speculating outcomes based on consequences of the test scores. Similarly, Goonan, (2003) stated that there is some degree of anxiety heightens our senses and awareness, thereby heightening our performance.

Thus, test anxiety can have some sort of importance for students. Vitasari *et al.*, (2010) noted that a person who has a certain level of anxiety has been found to be a facilitative tool for an individual to perform effectively. These assertions indicate that complete elimination is impossible and inadvisable since a reasonable amount of stress can be beneficial in motivating most students. Rather, the goal is to reduce anxiety to a manageable level and to empower students so they have control in testing situations (Mashayekh & Hashemi, 2011). In the study related to foreign language learners by Saha (2014) balanced view also includes; test anxiety which commonly reflects the *debilitating experience* of anxiety that makes the learners think passively, thus, avoiding failure and difficulties during the preparation for a test or during the test itself is important. On the other hand Saha reported that *facilitating anxiety* can stimulate the foreign language learners to act in response rapidly and efficiently, although debilitating anxiety might foster poor responses and restrain responses. Due to this, it's important to guide students to avoid getting indulged into thinking cycle letting anxiety take over their actions (Rana & Mahmood (2010). More importantly, students' test anxiety should be managed appropriately since high level of test anxiety will have debilitating effect on students achievement, for instance, Barrows *et al.*, (2013) stressed that high levels of test anxiety will typically negatively influence students' ability to do well academically.

Consequently, test anxiety is one of the factors which are responsible for students' underachievement and low performance but it can be managed by appropriate training of students in dealing with factors causing test anxiety (Rana & Mahmood, 2010). In addition to this point Yousefi *et al.*, (2010) recommended that academic achievement and mental health be improved in school settings with support strategies such as educational guidance, counseling and psychotherapy or other psycho-educational program such as teaching life skill. Furthermore, teachers, parents and peers can be considered to help students to keep them motivated to perform better without unnecessarily letting the anticipated consequences of failure taking over the positive force bringing performance of student compatible with their abilities and skills (Rana & Mahmood, 2010).

### **2.17. Components of Test Anxiety**

Components of test anxiety is viewed and classified by emotional and worry (cognitive) dimensions. *Emotionality* refers to the affective physiological reactions of feelings of tension generated from increased autonomic physiological arousal. (Bodas & Ollendick, 2005; Kavakci *et al.*, 2015; Zeidner & Matthews, 2017). *Worry* on the other hand is the cognitive manifestation of test anxiety; *worry* refers to focusing of attention on concerns about performance, consequences of failure, negative self-evaluation, evaluation of one's ability relative to others (Bodas & Ollendick, 2005; Kavakci *et al.*, 2015).

In addition, Amalu (2017) reviewed and noted that *cognitive test anxiety* (worry) has connection with academic achievement owing to the fact that test may create irrelevant thought, decreased attention and concentration to students which may lead to academic failure. On the other hand, Rana & Mahmood, (2010) asserted that though cognitive aspects are seen as greater reason of students text anxiety emotional (affective) factors also contribute reasonably. Thus, students can be trained to minimize *affective test anxiety* by providing opportunities to handle unforeseen problem and letting them experience test situation more often (Rana & Mahmood, 2010). Test anxiety is more than normal worry about a test; it is more specific anxiety disorder of students that involves excessive amounts of concern, worry, and fear about negative evaluation during or in anticipation of performance or evaluative situations (Goonan, 2003). It is

important to note that these elements are manifested in students, hence, the combination of feeling anxiety can lead to interference with performance through mind blocking, attention resources, more cognitive interference, worries and fears induced by anxiety (Vitasari *et al.*, 2010).

### **2.18. Identification of Test Anxiety**

In school, teachers should be very alert when students' test score is below what the student is expected to score on each particular test, on the other hand, parents and peer themselves may indicate and share vital information depending on the interaction they have with each other. "When secondary school students develop extreme fear for performing poorly on tests, they usually experience test anxiety" (Anyamene *et al.*, 2016). Test anxiety is a bit complex construct, Goonan, (2003) believes that test anxiety does not have a direct influence on academic achievement, nonetheless, it may manifest differently based on many factors such as familial background, level of achievement, motivation, and intellectual giftedness of students. However, students may exhibit some sign; "students with anxiety disorder exhibit a passive attitude in their studies such as lack of interest in learning, poor performance in exams, and do poorly on assignments" (Vitasari *et al.*, 2010).

According to Saha (2014), "Test anxiety usually comes to light when there is a discrepancy between a students' perceived ability and their outcome on tests". In addition, identifying students test anxiety is important because it enable to get rid of the consequence before it gets worsened. Therefore, identification of students test anxiety as a reason for the discrepancy between students' ability and their performance could be the first step of addressing it. Thus, Rana & Mahmood (2010) stated that the students with higher test anxiety must be identified and treated in order to increase their academic achievement. Besides, in identification of test anxiety of students, these anxiety factors might be multifaceted such as learning disabilities, attention deficit, social difficulties and depression that contribute to an individual not performing to his or her ability(Saha, 2014).

Test anxiety can be viewed within the context of anxiety distinction. It is generally classified into three types; trait, state and situation specific anxiety. (a) *Trait anxiety*; trait anxiety is a more permanent predisposition to be anxious', refers to individuals' propensity and is viewed as 'an aspect of personality. (b) *State anxiety*; state anxiety is called a state of apprehension experienced at a specific moment while responding to a 'definite' situation. Therefore, this is treated as a 'type of transient anxiety brought on by situations involving threat'. *State anxiety* is reflective of one's interpretation of a particular stressful situation at a particular period of time or at that moment feeling (Vitasari *et al.*, 2010; Saha, 2014). (c) *Situation specific anxiety*; situation specific anxiety refers to the state of individual being anxious in a particular time and situation, thus, specific-situation *anxiety* is anxiety condition that is experienced during study process and in which it will disturb students' academic performance (Vitasari *et al.*, 2010; Saha, 2014).

## **2.19. Coping Test Anxiety in Schools**

Every walk of life is full of happiness and dreadfulness, this is also true of students either in primary or secondary school, however to cope test anxiety is not merely a directional or a support to be provided by psychologists, significant teachers or parents but strategies with full of vital information and meaningful to students. Faqe *et al.*, (2016) pointed out that students would be best advised if they know basic facts about the test and ready confidently by avoiding themselves from relying on unnecessary rumors. It is important that students should arrive with a plan to find out the reality and ignore the myths which are tricks or secrets behind test-questions.

Students should thoroughly study in order to increase their confidence level and leave no room for self-doubt or self-defeating behavior (Amalu, 2017). On the other hand, it is and must to be fully informed by the faculty and administration of departments in school about the nature of courses, duration of the semester, and level of commitment necessary for the successful completion of the course offered (Rana & Mahmood, 2010). Besides, students' should familiarize themselves with the format of the questions, and making an organized study schedule and stick to this will help them counter negative thoughts, which distrust them and freeze them up during the test (Faqe *et al.*, 2016).

Thus, according to Rana & Mahmood, (2010) in testing situations, to effectively manage test anxiety, students can be helped by teachers, parents and educational administrators through use of cognitive, affective and behavioral strategies. On part of students, they have to know well the studying area by well preparing, organizing and practicing their study habit to reduce test anxiety. They have to stay organized and stick to the study plan along with practicing answering questions before test taking situation, this will be beneficial in reducing test anxiety problem since the more they are accustomed to studying, the more comfortable they will feel when they actually sit down to take the test(Faqe *et al.*, 2016).

### ***2.19.1. Pre-Test Anxiety***

Students are anxious before exams. Kavakci *et al.*, (2015) noted that test anxiety is common among the students who are going to take the university entrance examination. Test anxiety is a combination of physiological over-arousal, tension and somatic symptoms, along with worry, dread, fear of failure, and catastrophizing, that occur before or during test situations (Khizar *et al.*, 2020). Thus, the learners study less; get confused; make wrong selection of items; memorize without understanding to be prepared quickly; become occupied with irrelevant thoughts; forget learnt things; grow wrong self-perception about ability and performance; take long time to learn something and waste time by doing anything other than study to get relief of the tension. In short, pre-test anxiety dispirits them to study the course content properly and utilize the cognitive ability to achieve it (Saha ,2014). Moreover, its' important if students are familiar with pre- test anxiety ,hence, knowing the sources of fear and the techniques of study through practice will enable them to be free and relaxed during the times of taking tests (Faqe *et al.*, 2016)

### ***2.19.2. Test Anxiety***

Test anxiety is an observable fact that many students encounter during tests (Anyamene *et al.*, 2016). Related to assessment practice, in schools it's important to note that test anxiety had impact on adolescent's academic achievement, Saha (2014)noted that test anxiety is one of the assessment-related emotions. It decreases adolescents' learning capabilities and hinders excellent academic performance. Test-

anxiety decreases motivation towards the ability for attention, concentration and worst, it leads to academic failure (Yousefi *et al.*, 2010). Thus, when students are anxious before and during tests, test anxiety has a significant impact on their academic performance (Rana & Mahmood, 2010). For students in many cases, test anxiety is evident, anxious students may freeze up and be unable to provide information on tests that they know before the tests (Mashayekh & Hashemi, 2011).

Test anxiety directly affects reproducing what has been learnt. It makes learners feel blank and miss important information; confuses them about right answer and induces them to choose the wrong one; creates stress in time management etc. The learners also find the interrelated answers mingled with each other; produce same syntaxes and use same words repeatedly out of anxiety (Saha ,2014). Consequently, test anxiety is one of the most prevalent and which can hinder students' performance even if students have superior intelligence (Parveen & Rizvi, 2019).

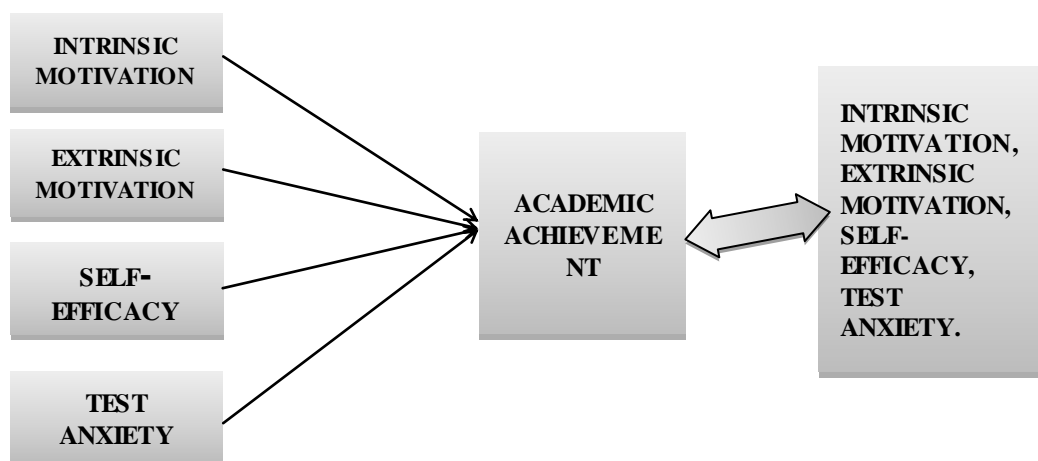
### ***2.19.3. Post-Test Anxiety***

Post- test anxiety enthuse the learners to see the result; compare own performance with others; think others will do better; believe own answer wrong and insufficient; feel that they could do better in case of being not anxious. Nevertheless, few learners, especially females, report a little positive effect like a greater urge to study because of anxiety. Moreover, when they think that others are doing better, they work harder and thus achieve higher scores (Saha ,2014).

## 2.20. Conceptual Frame Work

The conceptual framework is the basis of research problem (Kumar, 2011). It indicates the crucial process useful to show direction of the study, the researcher indicated the relationship between intrinsic motivation, extrinsic motivation, self-efficacy and test anxiety with students' academic achievement. The following is the conceptual model developed: The below shown conceptual frame work indicates the direction and the relationship with single headed arrow pointing from independent variable to the dependent variable and double headed arrow pointing to both dependent and independent variable:

**Figure 1:** *Conceptual model of the study*



*Conceptual model of the study:* source (developed by author).

## CHAPTER 3:RESEARCH METHODOLOGY

### 3.1. Introduction

This chapter outlined the research methodology used for the study. The main focus of this chapter is to discuss the research design, population, sample size and, sampling technique, data collection and procedure ,data analysis & interpretation methods and finally ethical considerations employed for the study.

### 3.2. Research Design

The research design used in this study is quantitative research design using the cross-sectional survey approach, because this design matches the research question of this study. Survey research provides a quantitative or numeric description of trends, attitudes, or opinions of a population by studying a sample of that population and from sample results the researcher generalizes or draws inferences to the population (Creswell, 2014).

### 3.3. Population, Sample Size and Sampling Technique

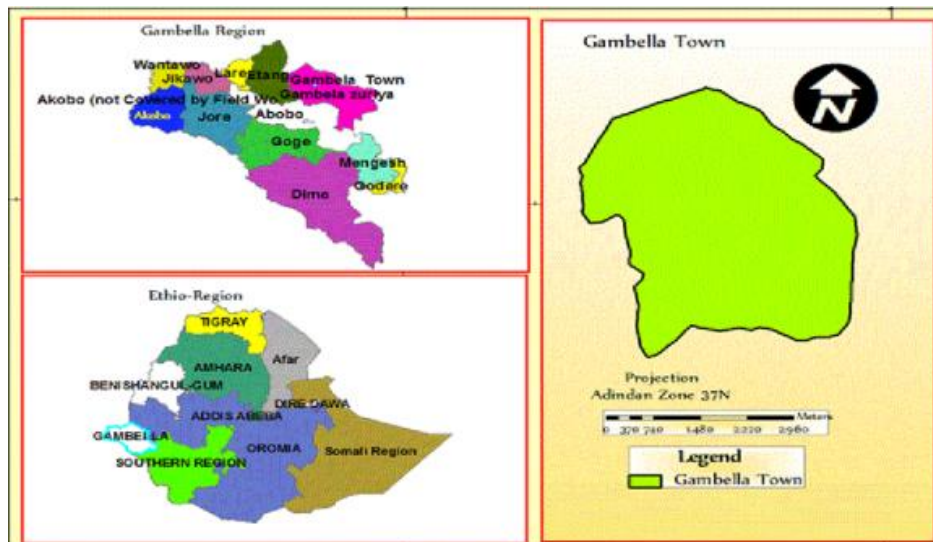
#### 3.3.1. Population

Population is a group of individuals who have the same characteristic(Creswell, 2012). Population refers to the entire group of people, events, or objects of interest that a researcher wishes to investigate. It is a complete set of elements that possess some common characteristic defined by the sampling criteria established by the researcher. It forms the basis from which the sample or subjects will be drawn (Bryman & Bell, 2011). *Gambella* is located in the south western part of Ethiopia and borders Oromia region to the north and east and the Southern Nations, Nationalities and Peoples' Regional State to the south and South Sudan to the west. The name *Gambella* served for both regional name and the city, *Gambella* is located about 766 kilometers west of Addis Ababa perched at an elevation of 526 meters above sea level. Baro River which is one of the tributary of the Nile crosses the town and the only navigable river in Ethiopia.



Based on the report of FDRE Population Census Commission (2008), in 2007, the Gambella town has a total population of 38,994 comprising of 20,766 men and 18,228 women. The target populations of this study are students' of selected secondary schools in Gambella town. According to the Gambella city administration education office (2021), in the town of Gambella in the academic year of 2021 there are 17,931 students enrolled in primary school of which *Male* = 9,075 (51 %), *Female* = 8,856 (49 %) and 5,644 students enrolled for secondary school; *Male*= 3,199 (57%), *Female* =2,445 (43%). Currently in Gambella; one University, one College of Teachers and Health Science Education and one poly Technique College are serving the community.

**Figure 2:** Map of Target Area



Source: Map of target area adapted from Asebe *et al.*, (2015)

### 3.3.2. Sample Size Determination

The sample size was determined for this study by using the calculated value and it was found to be appropriate for the target population of this study. To determine the sample size from the aggregate population comprising 5,545 (male 3,141 and female 2,404) secondary students a formula of Krejcie & Morgan (1970) was employed; as this technique was also suggested by Bartlett *et al.*, (2001; Bukhari, 2021), applied for known population, according to this technique:

$$S = \frac{X^2 NP(1-P)}{d^2 (N-1) + X^2 P(1-P)}$$

Where: S= required sample size.

$X^2$  = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

$N$  = the population size.

$P$  = the population proportion (assumed to be .50 since this would provide the maximum sample size).

$d$  = the degree of accuracy expressed as a proportion (.05).

$$\begin{aligned} \text{Thus, } S &= \frac{3.841 * 5,545 * .50(1 - .50)}{(.05^2 * (5,545 - 1)) + (3.841 * .50(1 - .50))} \\ &= 5324.58 / 14.82 = 359, \text{ thus, } 359 \text{ was taken as a total sample size.} \end{aligned}$$

### 3.3.3. Sampling Technique

From the target population 359 respondents (students) were sampled, and *Male* 203 (3.6%) and *Female* 156 (2.8%) representing the total population. The Sampling of respondents was conducted by employing stratified random sampling technique from selected secondary schools according to their proportion of students. For each grade level in all schools their proportion to the total population was calculated by considering their sex to draw a representative sample from all schools.

To select samples of respondents' simple random sampling technique was employed. In simple random sampling, any individual has an equal probability of being selected from the population (Creswell, 2012). The typical procedure used in simple random sampling was first, a list of participants' in the target population (students') were ascertained, secondly, a number was assigned to each student and finally students were randomly selected.

There are six secondary schools in *Gambella* town of which two are private schools. For this particular study except *Wibur* secondary school where pilot test was conducted from the six secondary schools three schools were selected by simple random sampling technique and included in the study due to limitations in time. The secondary schools having grades 9<sup>th</sup> to 12<sup>th</sup>, namely, *Gambella*, *Ellay* and *Newland* secondary schools were included. The sampling technique is appropriate because the study focused on students' in secondary schools of *Gambella* town and it had provided a sample that is highly representative of the studied population.

**Table 1:** *Summary Table of Sample Size and Sampling Technique of the Study*

Name of School	Population			Sample				Sampling Technique
	Male	Female	Total	Male	Female	Total	%	
1. Gambella Secondary School	1,744	1,171	2,915	113	76	189	53	Proportionally Stratified and Simple Random
2. Ellay secondary school	716	951	1,667	46	62	108	30	
3. Newland Secondary School	681	282	963	44	18	62	17	
	3,141	2,404	5,545	203	156	359	100	

Source: Gambella city administration education office(2021).

### 3.4. Data Collection and Instruments

For the study, primary as well as secondary data were collected. The primary source of data used in the study comprised a set of structured questionnaire. The secondary information is gathered from the selected schools, official publications, records, text books, magazines, journals, and published materials.

To collect primary data structured questionnaires written in English and interpreted questionnaires of Amharic were used. A questionnaire is a form used in a survey design that participants in a study complete and return to the researcher. The participant chooses answers to questions and supplies basic personal or demographic information

(Creswell, 2012). The researcher found a self-report questionnaire appropriate instrument for collecting data. Self-report instruments typically are easy to administer, complete, score and the most common means that researchers have used to assess motivation (Schunk *et al.*, 2014). Besides, Self-report assessments of test anxiety responses are most often elicited via questionnaires (Zeidner & Matthews, 2017). Moreover, AL-Baddareen *et al.*, 2015; Basith *et al.*, 2020; Ugwuany *et al.*, 2020), measured self-efficacy using self-report surveys eliciting responses with Likert type scale.

Thus, to measure secondary school students *intrinsic and extrinsic motivation* the instruments are adopted from AMS of Vallerand *et al.*, (1992). From the AMS the *amotivation* sub-scale was not variable of interest. Only items pertaining to *intrinsic and extrinsic motivation* were included. Recent researchers like (Adamma *et al.*, 2018; Ayub, 2014) preferred to adopt Vallerand *et al.*, (1992) academic motivation scale.

The instrument used to measure *self-efficacy* was adapted from Davis & Dullas, (2018) academic self-efficacy scale for Filipino junior high school students (ASES-FJHS). Originally, “The Final Form validated consists of 62 items” (Davis & Dullas, (2018). On the other hand, instead of taking the whole instrument, most of the self-efficacy items are reduced to fit students in *Gambella* town, for instance from *perceived control items*, items like “I will be able to finish Junior high school because I am smart enough to do so” was modified as “I will be able to finish high school because I am smart enough to do so”, likewise, for instance from *self-regulated learning items*, items like “I am motivated to pass Edukasyon sa Pagpapakatao (Values Education) subject” were among reduced items.

*Test anxiety inventory* (TAI), was an instrument adopted from Spielberger (1980). Eight items of *test anxiety inventory* measure the TAI-W, eight items measure TAI-E and the remaining four for measuring TAI-T. Though developed long time, test anxiety instrument is very widely used by researchers like Chapel *et al.*, (2005; Rana & Mahmood, 2010; Kavakci *et al.*, 2015; Henderson, 2016). Hence, the most prevalent contemporary measure is the *test anxiety inventory* (Zeidner & Matthews, 2017).

The questionnaires were of two sections; the 1<sup>st</sup> section comprised the demographic data of the respondents (students) while the 2<sup>nd</sup> section contains items on motivation, self-efficacy and test anxiety. The questionnaires are structured in a close-ended type and responses to the questions were measured on a five point Likert rating scale where the response continuum is a linear scale indicating the extent respondents agree or disagree with each statement. Thus, for measuring motivation and self-efficacy the response continuum is 1 = *Strongly Disagree*, 2 = *Disagree*, 3 = *Neutral*, 4 = *Agree*, and 5 = *Strongly Agree*. For measuring test anxiety the response continuum is 1 = *Almost Never*, 2 = *Sometimes*, 3 = *Often*, 4 = *Almost Always*, 5 = *Always*, the use of Likert scale is to make it easier for respondents to answer question in a simple way. Students' academic achievement was measured by using their record of final exam mark and depending on their average score (academic achievement; based on grade point average in last semester).

#### ***3.4.1. Reliability and Validity of the Instruments in the Original Form***

The instrument reliability of academic motivation, academic self-efficacy and test anxiety were sound according to the developers of the items. With respect to the English version of *academic motivation scale* (AMS) the internal consistency reliability was satisfactory with a *mean alpha value* = .81 (Vallerand *et al.*, 1992). For the *academic self-efficacy*, reliability measures manifested high coefficients. The result of Cronbach's alpha of the final form was 0.95 on its standardized items (Dullas, 2018). The total reliability value of alpha coefficient of the original version of *test anxiety inventory* (TAI) was 0.96 (Spielberger, 1980). Similarly, with respect to validity of *academic motivation scale* (AMS) results from the confirmatory factor analysis confirmed the seven factor structure of the AMS supported factorial validity (for detail see Vallerand *et al.*, 1992). Convergent validity of academic self-efficacy scale final form and Bandura's Children Self-Efficacy Scale has significant moderate relationship (Dullas, 2018). *Test anxiety inventory* also demonstrated strong convergent validity with the test anxiety scale (Spielberger, 1980).

### 3.5. Pilot Test and Data Collection Procedure

#### 3.5.1. Pilot Test

A pilot test of a questionnaire survey is a procedure in which a researcher makes changes in an instrument based on feedback from a small number of individuals who complete and evaluate the instrument (Creswell, 2012). Originally, the instruments adapted for measuring students' *academic motivation, self-efficacy* and *test anxiety* are psychometrically sound; however, the instruments might not be equally applicable to secondary students in *Gambella* town.

Before the final administration of the questionnaires the researcher checked the *face validity* of the items; in face validity the appearance of the questionnaire in terms of feasibility, readability, consistency of style and formatting, and the clarity of the language used are evaluated subjectively (Taherdoost, 2017). For students in secondary schools English was a foreign language and students have different background of mother tongue language. Assuming the difficulties students might face and to minimize language problem the instruments were translated from English version to Amharic version by the researcher and two senior masters holder language teachers and psychology instructor in college. Then after, the researcher collected feedbacks from and evaluated each of the translated items by comparing with the original items to ensure that the items were properly worded in context of Amharic in order to maintain their original meaning. Very little comments were given and simplified in context of Amharic.

After assuring the *face validity* the instruments were then administered by randomly selecting 40 ( $M = 18$  (45%) and  $F = 22$  (55%)) students' of *Wibur* secondary school which is not included in the main study. During this procedure the students' were informed that they can ask clarification for unclear items during the process and also the importance and confidentiality of the study. The pilot test was done from 7<sup>th</sup> to 8<sup>th</sup> May 2021. Accordingly, to check the reliability of the items, if response continuum to the items are scored as Likert rating scale used in this study, the alpha provides a coefficient to estimate consistency of scores on an instrument (Creswell, 2012). According to Straub *et al.*, (2004; cited in Taherdoost, 2017), for an exploratory

or pilot study, it is suggested that reliability should be equal to or above 0.60. The computed overall internal consistency reliability of the instrument was found to be 0.83, 0.74, and 0.95 for motivation, self-efficacy and test anxiety respectively (see Appendix B, for more).

### **3.5.2. Data Collection**

The researcher followed a procedure at the arrival of each secondary school and begun his work by meeting the school principals and vice principals and briefed them about the study to be conducted orally and then after the letter of cooperation written from Jimma University Department of psychology was submitted to them and after an agreement was obtained the researcher scheduled to contact them the next time to continue to collect all necessary information. Data collection consisted of the following procedural steps:

The researcher recruited one focal teacher from each selected secondary school in order to facilitate the whole procedure that enabled the researcher to collect all relevant information. Because of the COVID 19 pandemic all secondary schools were opened in shift schedule (grade 9<sup>th</sup> -10<sup>th</sup> students 1<sup>st</sup> shift and 11<sup>th</sup> - 12<sup>th</sup> grade 2<sup>nd</sup> shift), accordingly the researcher and assistants (focal teachers) conducted a shift of two time data collection schedule in each school.

To make sure students consent before the instruments of *motivation, self-efficacy and test anxiety* are distributed they were briefed about the purpose and confidentiality of the study and they were given instructions on how to complete the questionnaire, once they are ready to participate, the questionnaires are given to them in a scheduled accordance to save their regular study time and it took them 40-55 min to complete the whole questionnaire. The same procedure is applied during the pilot test. The respondents were asked to provide their last semester *Grade Point Average* and based on these information the researcher confirmed the data from the schools' registrars.

Finally, after the students completed and returned the questionnaires the researcher thanked students and all who facilitated for their valuable cooperation. This data collection procedure was conducted from 10<sup>th</sup> to 21<sup>st</sup> May 2021. From all distributed

questionnaires the researcher inspected if there were missing data in order to exclude them and statistical analysis was conducted by including questionnaires with complete information using SPSS version 24 and Microsoft Excel 2010.

### **3.6. Data Analysis Methods**

According to Walliman (2011) data analysis is a process of gathering, modeling and transforming data with an aim of retrieving useful information, suggesting conclusions and supporting decision making. Before data is analyzed and presented it has to be organized, involves putting the data into some systematic form (Jackson, 2009). Each data were double checked before subject to further analysis. Before running the analysis based on the summated score uniformity is maintained for variables in which the minimum and maximum score was obtained by transforming the collected raw data and the means for each variable are computed and used for further analysis. To avoid potential source of bias before the analysis of inferential statistics the statistical assumptions were checked. Thus, *Mann-whitney U test* was conducted to compare the gender difference among students *extrinsic motivation* and *self- efficacy* due to the assumptions of homogeneity of variance (*Levene's test*) was not met.

For this particular study, both descriptive and inferential statistics were employed. In the descriptive analysis basically the range, mean and standard deviation were used to describe and summarize variability among students'. By employing inferential statistics; *independent samples t test* was conducted to identify the difference in gender among students' intrinsic and extrinsic motivation, self-efficacy, test anxiety, and academic achievement. The *one way ANOVA* was employed to assess the difference in academic achievement among the identified test anxiety groups. To identify the relationship between students intrinsic and extrinsic motivation, self-efficacy and test anxiety with their academic achievement *Pearson product moment correlation* was computed. Finally, to identify the best combination of independent variables (intrinsic and extrinsic motivation, self-efficacy and test anxiety) predicting secondary students' academic achievement *stepwise multiple linear regression analysis* was computed because according to Kothari (2004) *multiple regression analysis* is adopted when the researcher has one dependent variable which is presumed to be a function of two or more independent variables. Based on the objectives of this study the researcher found



appropriate to conduct *stepwise multiple linear regression*. In *stepwise regressions* decisions about the order in which predictors are entered into the model are based on a purely mathematical criterion (Field, 2009).

### **3.7. Ethical Consideration**

A letter of cooperation to all concerned written from Jimma University College of Education and Behavioral Science Department of Psychology was submitted to the Gambella city administration education office and to selected schools under the study. School principals and vice principals were also contacted in person and discussed on the purpose and importance of the study. An informed consent was obtained from students before they fill the self-report questionnaires in which the researcher briefed to students in advance about the importance, confidentiality and anonymity of the study and after approval of all, the data collectors distributed the questioners to students in a face to face schedule in each selected secondary schools.

## CHAPTER 4: DATA ANALYSIS AND DISCUSSION

### 4.1. Data Analysis

This chapter presents the results obtained from the analysis of the study and discussions of the final results based on the data collected. Additionally respondents background information is also presented. The statistical analysis methods of the study including descriptive statistics, correlation analysis, independent samples t-test, one way ANOVA and stepwise multiple regression are discussed. The interpretation of the data is presented by summarizing according to the objectives and the research questions guiding the study.

For this particular study, based on determined sample size, totally 359 questionnaires were distributed; 156 for male, and 203 for female student who are included in the sample. From the total distributed questionnaires 349 (97%) of which 199 (57 %) by male and 150 (43 %) by female students' properly filled questionnaires were returned and 10 (3%) of the questionnaires were not properly filled and returned.

**Table 2:** *Summary of Response Rate*

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Responded	349	97.2	97.2	97.2
Not responded	10	2.8	2.8	100.0
Total	359	100.0	100.0	

The age distribution of students under the study was identified, thus, male students age ranged between 16 to 21 years ( $M = 18, SD = 1$ ), female students age ranged between 17 to 26 years ( $M = 18, SD = .7$ ). Students entire age ranged between 16 to 26 years ( $M = 18, SD = 1.3$ ).

**Table 3:** Descriptive Statistics of Students' Intrinsic and Extrinsic Motivation, Self-Efficacy, Test Anxiety and Academic Achievement

	Intrinsic Motivation	Extrinsic Motivation	Self-efficacy	Test anxiety	Academic achievement
Mean	67.2923	65.6819	64.2550	64.2407	67.0258
Std. Deviation	6.47397	7.69670	9.77569	10.41859	7.85003
Minimum	51.60	40.00	30.00	40.00	40.00
Maximum	86.60	86.60	100.00	100.00	80.00

**Table 4:** Descriptive Statistics of Students' by School, Gender, Intrinsic and Extrinsic Motivation, Self-Efficacy, Test Anxiety and Academic Achievement

Name of school	Gender	N	Intrinsic Motivation		Extrinsic Motivation		Self- Efficacy		Test Anxiety		Academic Achievement	
			M	SD	M	SD	M	SD	M	SD	M	SD
Gambella Secondary School	Male	112	67.9	6.6	65.2	7	65	10.7	64.4	11.5	66	9.3
	Female	74	65	5	65	6	62.6	10	63.7	7.5	66.8	6
Ellay Secondary School	Male	44	66.7	6.4	66	10.7	62	10	64	9.5	67	6.8
	Female	61	66.8	7	63	7.7	65.4	7.3	62	10.6	68	7.7
Newland Secondary School	Male	43	68.8	6.3	68.5	6.3	67	5.9	65	10.9	69	7.4
	Female	15	73	4.5	72.8	4.2	57.7	12	69	13.5	67.7	7

Descriptive statistics (Table 4) was conducted to answer the research question “What is the variability of intrinsic and extrinsic motivation, self-efficacy, test anxiety and academic achievement among secondary school students?”, as indicated in descriptive statistics (Table 4) the minimum mean value of students’ intrinsic motivation is ranged between 65 ( $SD = 5$ ) from female student of *Gambella secondary school* to a maximum mean score of 73 ( $SD = 4.5$ ) from female student of *Newland secondary school*. It’s evident from the result (Table 4) that female students score of intrinsic motivation is higher ( $M = 73$ ,  $SD = 4.5$ ) than male students and the rest of the schools under this study, nonetheless, the minimum mean intrinsic motivation score of male students 66.7 ( $SD = 6.4$ ) is higher than female students mean 65 ( $SD = 5$ ).

It was also evident from the result of descriptive statistics (Table 4) that the students’ minimum mean value of extrinsic motivation is ranged between 63. ( $SD = 7$ ) for female

student of *Ellay secondary school* to a maximum mean score of 72.8 ( $SD = 4.2$ ) for female student of *Newland secondary school*. However, the minimum mean extrinsic motivation score of male students 65.2 ( $SD = 7$ ) is higher than female students minimum mean 63 ( $SD = 7$ ).

Descriptive statistics (Table 4) result also indicated that the minimum mean value of students' self- efficacy score is ranged between 57.7 ( $SD = 12$ ) for female student of *Newland secondary school* to a maximum mean score of 67 by male student of *Newland secondary school* with ( $SD = 5.9$ ) However, the minimum mean academic self- efficacy score of male students 62 ( $SD = 10$ ) is higher than female students minimum mean 57.7 ( $SD = 12$ ).

As indicated in the above descriptive statistics (Table 4) the minimum mean value of students test anxiety score is ranged between 62 ( $SD = 10$ ) for female student of *Ellay secondary school* to a maximum mean score of 69 by female student of *Newland secondary school* with ( $SD = 13.5$ ). Moreover, the maximum mean score 69 ( $SD = 13.5$ ) of female students academic test anxiety is higher than male students maximum mean 65 ( $SD = 10.9$ ). Finally, minimum mean value of students' Academic achievement score is ranged between 66 ( $SD = 9.3$ ) for male student of *Gambella secondary school* to a maximum mean score of 69 ( $SD = 7.4$ ) by male student of *Newland secondary school*. However, the minimum mean 66.8 ( $SD = 6$ ) score of female students of *Gambella secondary school* was higher than male student mean 66 ( $SD = 9.3$ ).

**Table 5:** *Students' Academic Achievement by Levels of Test Anxiety*

Levels of anxiety	TAI score	Gender	N	%	Mean GPA	SD
Low	≤53.83	Male	17	5	70	8
		Female	12	3	66	6
		Total	29	8		
Moderate	53.83 to 74.65	Male	141	40	66	8
		Female	103	30	69	7
		Total	244	70		
High	≥ 74.65	Male	41	12	65	8
		Female	35	10	66	7
		Total	76	22		

*Note.* Low, mean -1SD; High, mean +1SD; moderate, between low and high.

Moreover, to answer research question three, besides the descriptive statistics discussed above, *levels of students test anxiety* presented in Table 5 was identified based on the formula of  $M \pm 1SD$  for leveling students test anxiety proposed by Chapel *et al.*, (2005), thus, the researcher identified three levels of test anxiety (low, moderate and high). TAI score for students with a TAI score of 1 SD or more above the mean study score were assigned to high test anxiety group, for students with a TAI score of 1 SD or more below the mean study score were assigned to low test anxiety group and for students between the high and low group assigned to moderate anxiety group. As indicated in Table 3 the mean test anxiety score is 64.24 and the standard deviation is 10.41. Therefore, the identified students test anxiety level presented in Table 5 was based on  $M \pm 1SD$  criteria, students' scored  $64.24 - 10.41 = 53.83$  ( $\leq 53.83$ ) have low test anxiety, students' scored  $64.24 + 10.41 = 74.65$  ( $\geq 74.65$ ) have high test anxiety and students' scored between 53.83 to 74.65 have moderate test anxiety scores based on the collected data.

Thus, the results presented in Table 5 showed that only 29 (8%) of students have low level of test anxiety, whereas maximum of students, 244 (70 %) have shown to be moderately test anxious and 76(22%) of students have high test anxiety scores. Thus, it

was evident that most of secondary students in the selected schools have moderate level of test anxiety.

**Table 6:** Group Statistics of Independent Samples T-Test of Academic Achievement, Intrinsic Motivation and Test Anxiety

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Academic Achievement	Male	199	66	8.2	66
	Female	150	68	7.3	0.6
Intrinsic Motivation	Male	199	67	6	0
	Female	150	68	6	1
Test Anxiety	Male	199	64	10	1
	Female	150	65	11	1

**Table 7:** Independent Samples T-Test of Academic achievement, Intrinsic- motivation and Test anxiety

		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Academic achievement	Equal variances assumed	0.35	0.55	-2.36	347	0.02	-1.99	0.84	-3.65	-0.33
	Equal variances not assumed			-2.40	336.9	0.02	-1.99	0.83	-3.62	-0.36
Intrinsic motivation	Equal variances assumed	1.06	0.30	-1.361	347	0.175	-0.95	0.70	-2.33	0.42
	Equal variances not assumed			-1.36	319.81	0.18	-0.95	0.70	-2.33	0.43
Test anxiety	Equal variances assumed	1.51	0.22	-0.92	347.00	0.36	-1.03	1.13	-3.25	1.18
	Equal variances not assumed			-0.90	301.85	0.37	-1.03	1.14	-3.28	1.22

To answer the research question “Is there a gender difference in intrinsic and extrinsic motivation, self-efficacy, test anxiety and academic achievement among secondary school students?” an independent samples t- test - was conducted:

Thus, the result of an independent samples t-test presented above (Table 7) was conducted to compare the *academic achievement* of males ( $M = 66, SD = 8.2$ ) and females ( $M = 68, SD = 7$ ); the difference,  $-1.99$ , CI  $[-3.6, -0.33]$ , was statistically significant,  $t(347) = -2.36, p < .05, r = .12$ .

The result of an independent samples t- test (Table7) also revealed that the difference in *intrinsic motivation* of males ( $M = 67, SD = 6$ ) and females ( $M = 68, SD = 6$ ); the difference,  $-0.95, CI [-2.33, 0.42]$ , was not statistically significant,  $t(347) = -1.36, p > .05, r = 2.3$ .

Finally, the result of an independent samples t- test (Table7) demonstrated the difference among *test anxiety* of males ( $M = 64, SD = 10$ ) and females ( $M = 65, SD = 11$ ); the difference,  $-1.03, CI [-3.25, 1.18]$ , was not statistically significant,  $t(347) = -0.92, p > .05, r = 1.56$ .

**Table 8: Independent Samples T-Test (Non-Parametric Test) of Extrinsic Motivation and Self- Efficacy**

Gender	N	Mean Rank	Sum of Ranks	Mann-Whitney U	Z	Asymp. Sig. (2-tailed)
Extrinsic Motivation	Male	170	33827	13927	-1.09	0.27
	Female	181.7	27249			
	Total	349				
Self-Efficacy	Male	167.3	33287	13387	-1.7	0.08
	Female	185.3	27788			
	Total	349				

*Mann-whitney U test* (non-parametric) was conducted to compare the gender difference among students' extrinsic motivation and test anxiety. The result of *Mann-whitney U test* (Table 8) showed that the difference in *extrinsic motivation* of male ( $Mdn = 61$ ) and female ( $Mdn = 65$ ) students' was not statistically significant,  $U(N \text{ male} = 199, N \text{ female} = 150) = 13,927, z = -1.09, p > .05, r = -0.05$ .

The result of *Mann-whitney U test* (Table 8) also demonstrated that the difference in *self- efficacy* of male ( $Mdn = 60$ ) and female ( $Mdn = 65$ ) students' was not statistically significant,  $U(N \text{ male} = 199, N \text{ female} = 150) = 13387, z = -1.7, p > .05, r = -5.00$ .

**Table 9:** *Descriptive Statistics of Students' Leveled by TAI Groups*

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Low	29	68.14	7.67	1.42	65.22	71.06	60	80
Moderate	244	67.34	7.88	0.50	66.35	68.34	40	80
High	76	65.58	7.73	0.89	63.81	67.35	40	80
Total	349	67.03	7.85	0.42	66.20	67.85	40	80

**Table 10:** *One Way ANOVA of the difference in academic achievement among students' with different levels of test anxiety*

	SS	df	MS	F	Sig.
Between Groups	219.7	2	110	1.79	0.17
Within Groups	21225	346	61		
Total	21445	348			

Furthermore, to explore the research question, “Is there a difference in academic achievement among secondary school students' with different levels of test anxiety”, a one way ANOVA was run, thus, the result of one way ANOVA (Table 10) demonstrated that the academic achievement of students' with different levels of test anxiety,  $F(2, 346) = 1.79$ ,  $p = 0.17$ ,  $\eta^2 = .45$ . Therefore, it was evident that no statistically significant difference exists among academic achievement of secondary students' having different levels of test anxiety.



**Table 11:** *Pearson Correlation between Intrinsic and Extrinsic motivation, Self- efficacy, and Test anxiety with Academic achievement*

		Academic achievement	Intrinsic motivation	Extrinsic motivation	Self- efficacy	Test anxiety
Academic achievement	Pearson Correlation	1				
	Sig. (2-tailed)					
	N	349				
Intrinsic motivation	Pearson Correlation	.603**	1			
	Sig. (2-tailed)	0.000				
	N	349	349			
Extrinsic motivation	Pearson Correlation	.544**	.439**	1		
	Sig. (2-tailed)	0.000	0.000			
	N	349	349	349		
Self efficacy	Pearson Correlation	.372**	0.096	.221**	1	
	Sig. (2-tailed)	0.000	0.074	0.000		
	N	349	349	349	349	
Test anxiety	Pearson Correlation	-0.087	-0.012	-.107*	-0.022	1
	Sig. (2-tailed)	0.105	0.827	0.047	0.687	
	N	349	349	349	349	349

Note. Correlation is significant at .01 and .05 level (2-tailed).

To answer the research question, “Is there a significant relationship between students’ intrinsic and extrinsic motivation, self-efficacy and test anxiety with their academic achievement?” *Pearson product moment correlation* was conducted:

The analysis of correlation (Table 11) demonstrated that intrinsic motivation and academic achievement were positively and highly correlated ( $r=.603$ ,  $n=349$ ;  $p < .001$ ), therefore, the higher the intrinsic motivation of students, the higher their academic achievement.

It is also evident from the analysis of correlation result (Table 11) that extrinsic motivation and academic achievement of secondary school have statistically significant positive correlation ( $r = .544$ ,  $n = 349$ ;  $p < .001$ ), this indicates that the higher the extrinsic motivation of students, the higher their academic achievement.

The analysis of correlation (Table 11) revealed that self-efficacy and academic achievement of secondary school students have statistically significant positive correlation ( $r=.37$ ,  $n = 349$ ;  $p < .001$ ), this shows that every time when students self-efficacy improves their academic achievement also improves significantly.

The result of Pearson correlation (Table 11) demonstrated that there is statistically very weak negative and non-significant relationship between secondary students test anxiety and academic achievement ( $r = -.087, n = 349; p > .05$ ), this result indicates inverse relationship; the higher the students' test anxiety the lower their scores on academic achievement.

In order to address the research question guiding the study, "How does the combination of intrinsic and extrinsic motivation, self-efficacy and test anxiety predict secondary students' academic achievement?" *stepwise multiple linear regression* was conducted; the multiple regression equation is:

$$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$$

Y = Dependent variable (Academic achievement)

$\beta_0$  = Constant variable

$\beta_1$  = Coefficient of first control variable, X1

$\beta_2$  = Coefficient of second control variable, X2

$\beta_3$  = Coefficient of third control variable, X3

$\beta_4$  = Coefficient of fourth control variable, X4

X1 = Controlled variable (intrinsic motivation)

X2 = Controlled variable (extrinsic motivation)

X3 = Controlled variable (self-efficacy)

X4 = Controlled variable (test anxiety)

$\varepsilon$  = Error.

The criterion probability of F to enter independent variables is  $\geq .05$  and  $\geq .100$  to remove, in the out-put of *stepwise multiple linear regressions* presented below:

**Table 12:** *Model Summary of Stepwise Multiple Linear Regression*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	Change Statistics			
						F Change	df1	df2	Sig. F Change
1	.603 <sup>a</sup>	0.364	.362	.313	0.364	198.6	1	347	0.000
2	.681 <sup>b</sup>	0.464	.461	.288	0.100	64.5	1	346	0.000
3	.726 <sup>c</sup>	0.538	.523	.277	0.064	46.5	1	345	0.000

a. Predictors: (Constant), intrinsic motivation

b. Predictors: (Constant), intrinsic motivation, self-efficacy

c. Predictors: (Constant), intrinsic motivation, self-efficacy, extrinsic motivation

From the result (Table 12) of the stepwise multiple linear regressions the first model selected intrinsic motivation as the first variable that contributed most for secondary students' academic achievement. The result of the first model ( $R^2 = 0.364$ , adjusted  $R^2 = .362$ ), indicates that 36% of the variation in secondary students' academic achievement is accounted for by intrinsic motivation alone. Intrinsic motivation is strongly correlated with academic achievement  $r = .6$ , as presented in Table 11 above.

As indicated in Table 12, by the second model of the stepwise multiple linear regression when students' self-efficacy was added to the second model ( $R^2 = 0.464$ , adjusted  $R^2 = .461$ ), and the  $R^2$  changes from model one to two is .10, and the change is statistically significant ( $p < 0.001$ ), by adding self-efficacy the  $R^2$  is improved, accordingly, 46 % of the variation in secondary students' academic achievement is accounted for by the linear combination of intrinsic motivation and self-efficacy.

In the third model (Table 12) of the stepwise multiple linear regression still test anxiety is not included due to suppressor effects. Consequently, in the final model intrinsic motivation, self-efficacy and extrinsic motivation are added by removing test anxiety with the  $R^2 = 0.53$ , adjusted  $R^2 = .52$ ), and the  $R^2$  changes from model two to three is 0.06, the  $R^2$  change is statistically significant ( $p < 0.001$ ), therefore, by the third model 53 % of the variation in secondary students' academic achievement is explained by the linear combination of intrinsic motivation, self-efficacy and extrinsic motivation.

**Table 13: ANOVA Result of Stepwise Multiple Linear Regression**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.51	1	19.51	198.59	.000 <sup>b</sup>
	Residual	34.10	347	0.10		
	Total	53.61	348			
2	Regression	24.87	2	12.44	149.71	.000 <sup>c</sup>
	Residual	28.74	346	0.08		
	Total	53.61	348			
3	Regression	28.28	3	9.43	128.41	.000 <sup>d</sup>
	Residual	25.33	345	0.07		
	Total	53.61	348			

a. Dependent Variable: Academic achievement

b. Predictors: (Constant), Intrinsic motivation

c. Predictors: (Constant), Intrinsic motivation, Self-efficacy

d. Predictors: (Constant), Intrinsic motivation, Self-efficacy, Extrinsic motivation

The ANOVA result of the stepwise multiple linear regression (Table 13) demonstrated significant value of model 1,  $F(1, 347) = 198.59, P < .001$ ; model 2,  $F(2, 346) = 149.71, P < .001$  and model 3,  $F(3, 345) = 128.41, P < .001$ , this shows that the models are statistically adequate, hence, each model was statistically significant to predict academic achievement.

**Table 14: Coefficients table of Stepwise Multiple Linear Regression**

Model		Unstandardized Coefficients		Standardized Coefficients		Collinearity Statistics		
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	0.89	0.18		5.05	0.000		
	Intrinsic_motivation	0.73	0.05	0.603	14.09	0.000	1.00	1.00
2	(Constant)	0.19	0.18		1.05	0.297		
	Intrinsic_motivation	0.70	0.05	0.573	14.49	0.000	0.99	1.01
	Self_efficacy	0.26	0.03	0.318	8.03	0.000	0.99	1.01
3	(Constant)	-0.14	0.18		-0.79	0.428		
	Intrinsic_motivation	0.55	0.05	0.452	10.98	0.000	0.81	1.24
	Self_efficacy	0.21	0.03	0.266	7.01	0.000	0.95	1.05
	Extrinsic_motivation	0.29	0.04	0.287	6.82	0.000	0.78	1.29

Dependent Variable: Academic achievement

Based on the coefficients result (Table 14) of the stepwise multiple linear regression the first model of the stepwise selection included only intrinsic motivation which explained secondary students academic achievement significantly ( $B = 0.73, t = 14.09, p < .001$ ).

In model 2 of the stepwise multiple linear regression result (Table 14), intrinsic motivation ( $B = 0.7, t = 14.49, p < .001$ ) and self-efficacy ( $B = 0.26, t = 8.03, p < .001$ ) explained secondary students academic achievement significantly. The final model of the stepwise multiple linear regression result included three independent variables by adding extrinsic motivation. Thus, intrinsic motivation ( $B = 0.55, t = 10.98, p < .001$ ), self-efficacy ( $B = 0.21, t = 7.01, p < .001$ ) and extrinsic motivation ( $B = 0.29, t = 6.82, p < .001$ ) predicted secondary students academic achievement significantly. Therefore, based on the result of the stepwise multiple linear regression (Table 14) which showed the coefficients statistics of each model, three models are developed by using the multiple linear regression equation ( $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \varepsilon$ ) as follows:

Model 1:  $Y = \beta_0 + \beta_1X_1$

Academic achievement =  $0.89 + 0.73(\text{intrinsic motivation})$ :

The first Model developed from the result of stepwise multiple linear regression (Table 14) demonstrated a positive  $\beta$  (beta) value which indicates that there's a 0.73 units of increase in students' academic achievement for each one time increase in students' intrinsic motivation.

Model 2:  $Y = \beta_0 + \beta_1X_1 + \beta_3X_3$

Academic achievement =  $0.19 + 0.70 (\text{intrinsic motivation}) + 0.26 (\text{self-efficacy})$ :

The second Model developed from the result of the stepwise multiple linear regression (Table 14) showed a positive  $\beta$  (beta) values which indicates that there's a 0.70 and 0.26 units of increase in students' academic achievement for each one time increase in students' intrinsic motivation and self-efficacy respectively.

$$\text{Model 3: } Y = \beta_0 + \beta_1 X_1 + \beta_3 X_3 + \beta_2 X_2$$

Academic achievement = -0.14 + 0.55 (intrinsic motivation) + 0.21(self-efficacy) +0.29 (extrinsic motivation):

The final model developed from the result of the stepwise multiple linear regression (Table 14) showed a positive  $\beta$  (beta) value which indicates that there is a 0.55, 0.21 and 0.29 units of increase in students' academic achievement for each one time increase in students' intrinsic motivation, self-efficacy and extrinsic motivation respectively.

Hence, as indicated in Table 14, the analysis of the stepwise multiple linear regression revealed that the best independent predictor was students' intrinsic motivation; unstandardized ( $B = 0.73$ ,  $t = 14.09$ ,  $p < .001$ ), on the other hand, as it was evident in the model summary result of the stepwise multiple linear regression (Table 12) the third model with the  $R^2$  value 0.53 (53%) is higher than the first model  $R^2 = 0.36$  (36 %) and the second model  $R^2 = 0.46$  (46 %); thus, as the  $R^2$  increase the better the model predicts secondary students' academic achievement. As a result, the joint contribution of intrinsic motivation, self-efficacy and extrinsic motivation predicts secondary students' academic achievement better than the first and the second model.

#### *Assumptions of multiple linear regressions:*

Before the analysis of the stepwise multiple linear regressions the assumptions of Multicollinearity, Normality, linearity and Homoscedasticity were checked. By the Assumption of *Multicollinearity*, the result of stepwise multiple linear regression demonstrated that there was no multicollinearity problem observed among the independent variables since the VIF (Variance inflation factor) is less than 10 and tolerance level is greater than 0.1. Moreover, assumptions of *normality* of residuals *linearity* and *homoscedasticity* were checked (see Appendix A).

## 4.2. Discussion

The main purpose of this study was to investigate the relationship between motivation, self-efficacy, test anxiety and academic achievement of selected secondary school students in *Gambella town*.

For this particular study, based on determined sample size, totally 359 questionnaires were distributed to male (156), and for female (203) students' who are included in the sample. From the total distributed questionnaires, 349 (97%) questionnaires were returned. The age distribution of students under the study was identified, thus, students' age ranged between 16 to 26 years. Therefore, all students' were < 30 years of age; this indicates most of respondents are young in age.

To summarize the variability among students, descriptive statistics was run since it is important to understand the nature of the sample and the degree to which results can be drawn. Besides, based on the formula of  $M \pm 1SD$  for leveling students test anxiety proposed by Chapel *et al.*, (2005), the results showed that only 29 (8%) of students have low level of test anxiety, whereas maximum of students, 244 (70 %) have shown to be moderately test anxious and 76 (22%) of students have high test anxiety scores. Thus, it was evident that most of secondary students in the selected schools have *moderate level of test anxiety*. Moreover, these groupings' were used in the analysis of one way ANOVA.

An independent samples t- test - was conducted to assess the gender difference among students' intrinsic and extrinsic motivation, self-efficacy, test anxiety and academic achievement; the result of an independent samples t-test revealed that the gender difference among *academic achievement* of males and females was statistically significant. However, the result of the study showed that the difference in *intrinsic motivation* of males and females was not statistically significant; the difference among *test anxiety* of males and females was also not statistically significant.

*Mann-whitney U test* was conducted to compare the gender difference among students *extrinsic motivation* and *self- efficacy* due to the assumptions of homogeneity

of variance (*Levene's test*) was not met. Thus, the result of *Mann-whitney U test* (non-parametric) revealed that the difference of male and female students' extrinsic motivation was not statistically significant, similarly, the difference in *self- efficacy* of male and female students' was not statistically significant, this implies that students' difference in gender does not have a significant effect in both students' extrinsic motivation and self- efficacy.

Furthermore, to explore the research question, "Is there a difference in academic achievement among secondary school students' with different levels of test anxiety?", one way ANOVA was run, thus, the result of one way ANOVA demonstrated that no statistically significant difference exists among academic achievement of secondary students' having different levels of test anxiety, with medium effect size. This indicates, though students have different levels of test anxiety their score in academic achievement is not attributable to their test anxiety level.

To answer the research question, "Is there a significant relationship between secondary students' intrinsic motivation, extrinsic motivation, academic self-efficacy and test anxiety with their academic achievement?" *Pearson product moment correlation* was conducted:

The analysis of correlation demonstrated that intrinsic motivation and academic achievement were positively and highly correlated ,this shows, the higher the intrinsic motivation of students, the higher their academic achievement. It was also evident from the analysis of correlation result that extrinsic motivation and academic achievement of secondary school have statistically significant positive correlation, thus, intrinsic and extrinsic motivation evidently showed relationships with academic achievement.

Furthermore, the analysis of *Pearson correlation* revealed that self-efficacy and academic achievement of secondary school students were significantly correlated, this shows that every time when students self-efficacy improves their academic achievement also improves significantly. Besides, the result of *Pearson correlation* demonstrated that there is statistically very weak negative and non- significant relationship between secondary school students test anxiety and academic achievement. Thus, the more



students are anxious before during and after test taking situations the less their score on tests.

Though the relationship between test anxiety and academic achievement is directionally inverse and higher in magnitude insignificant results are evident as indicated in the findings, nonetheless, to explore more and get clear picture conducting multiple regression was found to be appropriate, for instance stronger relationship existing between students' achievement scores and total scale scores as well as the subscales scores encouraged Rana & Mahmood, (2010) for further analysis to explore the possibility of test anxiety as a predictor of students' achievement.

In order to address the research question guiding the study, "How does the combination of intrinsic and extrinsic motivation, self-efficacy and test anxiety predict secondary students' academic achievement?" *stepwise multiple linear regression* was conducted, since the study is based on exploratory outlook stepwise multiple linear regression was conducted in order to get full evidence and the extent how independent variables contribute to secondary school students academic achievement, therefore, the researcher preferred the stepwise selection method since this method combines both forward and backward methods. In the stepwise selection method each time a predictor is added to the equation, a removal test is made of the least useful predictor. Like the forward selection method, it starts with no variable in the model, and variables are added one by one to the model by fulfilling the p criteria and deletes any variable that show a p-value greater than the critical value. This process continues till none of the variables outside the model have a p-value less than the critical value and every single variable in the model satisfies the p criteria (Haque *et al.*, 2018; Field, 2009).

Thus, by the analysis of the stepwise multiple linear regressions the first model selected intrinsic motivation as the first variable that contributed most for secondary students' academic achievement. The result of the first model indicates that 36% of the variation in secondary students' academic achievement is accounted for by intrinsic motivation alone. The stepwise selection is based on variable that is highly correlated with dependent variable, as the result of the study showed; intrinsic motivation is strongly correlated with academic achievement. In the second model when students'

self-efficacy was added to the model 46 % of the variation in secondary students' academic achievement is accounted for by the linear combination of intrinsic motivation and self-efficacy. Finally, by the third model, still test anxiety is not included due to suppressor effects. Consequently, by the third model 53 % of the variation in secondary students' academic achievement is explained by the linear combination of intrinsic motivation, self-efficacy and extrinsic motivation. As a result, the combination of intrinsic motivation, self-efficacy and extrinsic motivation predicts secondary students' academic achievement better than the first and the second model.

In a nutshell, it is evident based on the finding of this study that the assumptions of inferential statistics have been met, thus, on the clear picture of the stepwise multiple linear regression analysis the models are accurate for the sample and generalizable to the population.

## CHAPTER 5: SUMMARY CONCLUSIONS AND RECOMMENDATIONS

### 5.1. Introduction

This chapter consists of the summary, conclusions and recommendations sections respectively. Further, limitations of the study are stipulated by the researcher, which discussed and indicated directions for future research. The first section provides the summary of the main elements in line with the study objectives, methods and the findings. The next section offers the conclusion and finally recommendations and limitations of the study.

### 5.2. Summary

The main purpose of this study was to investigate the relationship between motivation, self-efficacy, test anxiety and academic achievement of selected secondary school students in *Gambella town*. Statistical analysis techniques including *Pearson correlation coefficient, Independent samples T-tests, one way ANOVA and Stepwise multiple regression* were employed and with all statistical assumptions being checked. Individually administered *self-report questionnaires* were used to collect data. Assumptions for all inferential tests used in this study were checked before the analysis. Accordingly, the major findings are summarized as follows:

For the study secondary students of which 156(43 %) *Males* and 203 (57 %) *Females*, total= 359, student were samples of the study selected randomly. From the total distributed questionnaires 349 (97%) of which 199 (57 %) by male and 150 (43 %) by female students' properly filled questionnaires were returned and 10 (3%) of the questionnaires were not properly filled and returned.

Descriptive analysis revealed that students entire age was ranged between 16 to 26 years ( $M = 18, SD = 1.3$ ). Male students age ranged between 16 to 21 years ( $M = 18, SD = 1$ ), female students age ranged between 17 to 26 years ( $M = 18, SD = .7$ ). From the analysis of descriptive, run to analyze variability's among students, the result revealed that female students score level of *intrinsic motivation* is higher ( $M = 73, SD = 4.5$ ) than male students and the rest of the schools under this study, nonetheless, the

minimum mean intrinsic motivation score of male students 66.7 ( $SD = 6.4$ ) is higher than female students mean 65 ( $SD = 5$ ). This score is the highest mean compared to the overall descriptive analysis and deviation from the mean ( $SD = 13.5$ ) of students scored in test anxiety is the highest compared to the overall descriptive analysis (for details see Table 4).

Moreover, by employing  $M \pm 1SD$  criteria (Low, mean -1 SD; High, mean +1 SD; moderate, between low and high) proposed by Chapel *et al.*, (2005), the findings demonstrated that 29 (8%) of students were having low level of test anxiety whereas maximum of 244 (70 %) of students have shown to be moderately test anxious and 76(22%) of students have high test anxiety scores. Thus, most of students were moderately test anxious.

An *independent samples T- test* was conducted to compare the gender difference among students. The study revealed that; there was statistically significant difference between *academic achievement* of male and female students,  $t(347) = -2.36, p < .05, r = .12$ . There was no statistically significant difference between male and female students *intrinsic motivation*,  $t(347) = -1.36, p > .05, r = 2.3$ . The result of an independent samples t- test also demonstrated the difference among *test anxiety* of males and females was not statistically significant,  $t(347) = -0.92, p > .05, r = 1.56$ .

*Mann-whitney U test* (non-parametric) was conducted to compare the gender difference among students' extrinsic motivation and test anxiety, results of *Mann-* showed that the difference in *extrinsic motivation* of male and female students' was not statistically significant,  $U(N \text{ male} = 199, N \text{ female} = 150) = 13,927, z = -1.09, p > .05, r = -0.05$ ; the difference in *self- efficacy* of male and female students' was also not statistically significant,  $U(N \text{ male} = 199, N \text{ female} = 150) = 13387, z = -1.7, p > .05, r = -5.00$ . Thus, only secondary students' *academic achievement* revealed statistically significant difference between male and female students.

Furthermore, to explore if there is a difference in the levels of students test anxiety and academic achievement of secondary students a one way ANOVA was run, the result of the one way ANOVA revealed that there was no statistically significant

difference exists among academic achievement of secondary students' having different levels of test anxiety,  $F(2, 346) = 1.79, p = 0.17, \eta^2 = .45$ .

*Pearson product moment correlation* was conducted to assess the relationship between independent and dependent variables; results demonstrated that there was a positive and significant relationship between intrinsic motivation and academic achievement ( $r = .603, n = 349; p < .001$ ); there was a positive and significant relationship between extrinsic motivation and academic achievement ( $r = .544, n = 349; p < .001$ ); there was a positive and significant relationship between academic self-efficacy and academic achievement ( $r = .37, p < .001$ ) and a negative and insignificant relationship between test anxiety and academic achievement ( $r = -.087, n = 349; p > .05$ ).

Finally, *stepwise multiple linear regression* was conducted to assess the best combination of predictors among independent variables, The ANOVA result of the stepwise multiple linear regression demonstrated significant value of model 1,  $F(1, 347) = 198.59, P < .001$ ; model 2,  $F(2, 346) = 149.71, P < .001$  and model 3,  $F(3, 345) = 128.41, P < .001$ , by the first model alone, students' intrinsic motivation explained secondary students' academic achievement significantly ( $B = 0.73, p < .001$ ), 36% of the variation in students' academic achievement is explained by intrinsic motivation. In the second model intrinsic motivation ( $B = 0.7, p < .001$ ) and self-efficacy ( $B = 0.26, p < .001$ ), explained 46 % of the variation in students' academic achievement significantly. In the final model, the combination of intrinsic motivation ( $B = 0.55, p < .001$ ), self-efficacy ( $B = 0.21, p < .001$ ) and extrinsic motivation ( $B = 0.29, p < .001$ ) explained 53 % of the variation in secondary students' academic achievement.

### 5.3. Conclusions

From the overall results of the study which basically answered the guiding research questions in line with the objectives of this study the following conclusions have been reached based on the major findings of the study:

Maximum of students (70 %) are moderately test anxious and 76 (22%) of students have highly anxious. There is no statistically significant gender difference among students in both intrinsic and extrinsic motivation, self-efficacy and test anxiety, on the other hand, academic achievement resulted with significant difference between male and female students. Therefore, it can be concluded that there is no difference in gender among students in both intrinsic and extrinsic motivation, self-efficacy and test anxiety except academic achievement. There is no statistically significant difference in academic achievement between students with different level of test anxiety. As a result, it can be concluded that students 'academic achievement is not different across different groups of students with test anxiety.

There is a relationship between both intrinsic and extrinsic motivation of students with academic achievement, similarly both intrinsic and extrinsic motivation are also found to be key contributors to academic achievement, thus it can be concluded that when students' are intrinsically as well as extrinsically motivated their success in academic achievement will be higher. However, intrinsic motivation is a better predictor variable as it was evident by the stepwise multiple regression.

There is a positive and significant relationship between self-efficacy of students with their academic achievement; self-efficacy also predicted academic achievement, therefore it can be concluded that self-efficacy can have meaningful impact on students' academic success.

Finally, students' test anxiety insignificantly related with their academic achievement and the excluded predictor in stepwise multiple regression. However, by insignificant relationship could not be concluded as if there is no relationship since inverse

correlation of test anxiety is due to the fact that as students are more anxious their academic achievement conversely decreases.

#### **5.4. Recommendations**

The study focused on selected secondary school students in *Gambella* town. Moreover, the significance would spill over to schools both publicly and privately owned and potentially will provide invaluable information. The following recommendations are presented by the researcher:

At school level both girls and boys must be offered equal opportunities. This study revealed significant gender difference between the academic achievement of male and female students. Educators especially teachers are responsible as they are the main curriculum implementers. At school level the difference in academic achievement of students must seriously dealt with attention. School administrators, parents and policy makers also play vital role in providing every support to schools.

Both intrinsic and extrinsic motivation are potential predictors of academic achievement, because intrinsic motivation was found to be significant predictor, hence, students autonomous support is very important in line with what SDT theory suggests. On the other hand students' extrinsic motivation could be an important variable that educators and parents should consider when rewarding students or providing students broadly in a parental or school related supports. Thus, due to the significant impact of motivation on secondary students' academic achievement, it should be given due concern by educators', school administrators' and parents'.

Another critical finding is that students who are more self -confident and develop their sense of self- efficacy are likely to attain high academic achievement. Self- efficacy is a potential predictor of academic achievement, higher self -efficacy is associated with students GPA. Therefore, setting goals will be beneficial for students coupled with relaxed and unstopping maximum effort there by the sense of I can do what-ever I was asked in school will enhance their self-efficacy beliefs. Moreover, further study also recommended for detecting the difference among students levels of

test anxiety including the difference in gender and the contribution of test anxiety on academic achievement.

### **5.5. Limitations**

The study is limited by inclusion of samples from three schools in *Gambella* region and only in the selected schools in *Gambella* town, if future studies have included beyond these samples it will be beneficial by improving generalizability of the study results. By design the study is limited to cross-sectional survey approach, other designs also might be included such as pre and post -test for test anxiety and self-efficacy measures, parenting style, peer pressure and other potential variables presumed to affect secondary students within the context of the study area. Moreover, the study is limited by constraints in time. Thus, generalizability of the study is limited by study design and sample. Though there are limitations, the study is will significantly assist regional stakeholders for improving strategies that benefit secondary students, especially educators and regional administrator,



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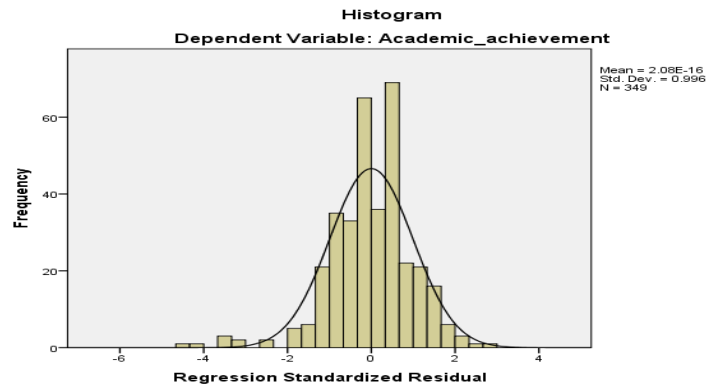
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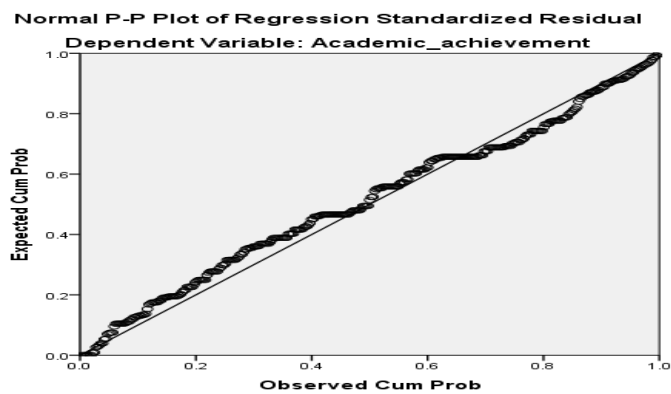
## APPENDICES

APPENDIX A: Figures for the assumptions of multiple linear regressions.

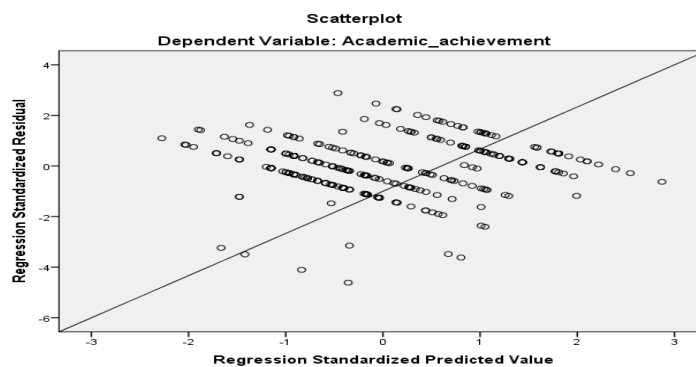
*Histogram for normality of residuals:*



*Normality of residuals with a normal probability plot:*



*Homoscedasticity:*



**APPENDIX B: Reliability Statistics of Independent Variables.**

<b>Variable</b>	<b>Cronbach's Alpha</b>	<b>N of items</b>
<b>Motivation</b>		
Intrinsic motivation	0.623288	12
Extrinsic motivation	0.891114	12
Amotivation	0.793662	4
Overall	0.830996	28
<b>Self-efficacy</b>		
Perceived Control	0.769834	9
Competence	0.828114	9
Persistence	0.635966	8
Self-Regulation	0.774047	8
Overall	0.748232	34
<b>Test anxiety</b>		
worry	0.89	8
Emotionality	0.89	8
TAI-T	0.95	20

**APPENDIX C: Name of Schools Under the Study and Number of Students by Grade and Sex.**

Name of School	Grade	Male	Female	Total
Gambella secondary school	Grade 9	321	187	508
	Grade 10	594	432	1,026
	Grade 11	388	278	666
	Grade 12	441	274	715
	Sum	1,744	1,171	2,915
Ellay secondary school	Grade 9	208	259	467
	Grade 10	227	357	584
	Grade 11	149	174	323
	Grade 12	132	161	293
	Sum	716	951	1,667
Newland secondary school	Grade 9	300	120	420
	Grade 10	170	70	240
	Grade 11	70	42	112
	Grade 12	141	50	191
	Sum	240	112	352
	Grand total	3,141	2,404	5,545



**APPENDIX D: ENGLISH QUESTIONNAIRE**

**JIMMA UNIVERSITY**  
**College of Education and Behavioral Sciences**  
**Department of Educational Psychology**

Questionnaire to be filled by secondary students'

General direction:

Dear students, the purpose of this questioner is to get relevant information for my MA research titled "*The relationship between motivation, self-efficacy, test anxiety and academic achievement of selected secondary school students in Gambella town.*"

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

You are not required to write name at any part of the questionnaire.

Thank you very much for your kind cooperation.

**Section A: Part I: Background Information**

The following are items related to your background information. Please write the appropriate information. (Please tick (✓) where appropriate).

- I. Name of the school-----
- II. Grade----- Section----- Roll. N.-----GPA-----
- III. Gender: Male ( ) Female ( )
- IV. Age (years)-----

**Section B: Part I: Questionnaires of Motivation.**

**Direction:** carefully read the statements below; indicate to what extent each of the items presently relates to one of the reasons why are you learning in secondary school. Please indicate by (✓) for *strongly disagree (1), disagree (2), neutral (3), agree (4), strongly agree (5).*

	<b>Why are you learning in secondary school?</b>	<b>(1)Strongly Disagree</b>	<b>(2)Disagree</b>	<b>(3)Neutral</b>	<b>(4)Agree</b>	<b>(5)Strongly Agree</b>
<b>IMK1</b>	Because I experience pleasure and satisfaction while learning new things.					
<b>IMK2</b>	For the pleasure I experience when I discover new things never seen before.					
<b>IMK3</b>	For the pleasure that I experience in broadening my knowledge about subjects which appeal to me.					
<b>IMK4</b>	Because my studies allow me to continue to learn about many things that interest me.					
<b>IMA1</b>	For the pleasure I experience while surpassing myself in my studies.					
<b>IMA2</b>	For the pleasure that I experience while I am surpassing myself in one of my personal accomplishments.					
<b>IMA3</b>	For the satisfaction I feel when I am in the process of accomplishing difficult academic activities.					
<b>IMA4</b>	Because high school allows me to experience a personal satisfaction in my quest for excellence in my studies.					
<b>IMS1</b>	Because I really like going to school.					
<b>IMS2</b>	Because for me, school is fun.					
<b>IMS3</b>	For the pleasure that I experience when I am taken by discussions with interesting teachers.					
<b>IMS4</b>	For the 'high' feeling that I experience while reading about various interesting subjects.					
<b>EMID1</b>	Because I think that a high-school education will help me better prepare for the career I have chosen.					
<b>EMID2</b>	Because eventually it will enable me to enter the job market in a field that I like.					
<b>EMID3</b>	Because this will help me make a better choice regarding my career orientation.					
<b>EMID4</b>	Because I believe that a few additional years of education will improve my competence as a worker.					
<b>EMI1</b>	To prove to myself that I am capable of completing my high-school degree					
<b>EMI2</b>	Because of the fact that when I succeed in school I feel important					
<b>EMI3</b>	To show myself that I am an intelligent person					
<b>EMI4</b>	Because I want to show myself that I can succeed in my studies					
<b>EME1</b>	Because I need at least a high-school degree in order to find a high-paying job later on.					
<b>EME2</b>	In order to obtain a more prestigious job later on					
<b>EME3</b>	Because I want to have 'the good life' later on					
<b>EME4</b>	In order to have a better salary later on					

## Part II: Questionnaires of Self-Efficacy

**Direction:** Some statements concerning your beliefs about the competence and ability you have in learning are given below. Five responses are given to each statement: for *strongly disagree (1)*, *disagree (2)*, *neutral (3)*, *agree(4)*, *strongly agree (5)*. Carefully read each statement and decide to what extent it is true in your case. Then mark ‘√’ in the column of the given response sheet against the serial number of the statement. Note that the answer you give indicates only the extent it is true and there is no right or wrong answer.

Self- Efficacy Items	(1)Strongly Disagree	(1)Disagree	(3)Neutral	(4)Agree	(5)Strongly Agree
<b>Perceived Control Items</b>					
1. I will be able to finish high school because I am smart enough to do so.					
2. When I am called in recitations, I give the correct answer because I paid attention.					
3. Passing a subject depends on how well I perform					
4. The future depends on what I do now.					
5. My teachers give me high marks because I deserve it.					
6. Because I develop good study habits, I learn more.					
7. My teachers see me as a good student.					
8. I believe that I can pass English subject because I have the ability to do so.					
9. I believe that I can pass Math subject because I have the ability to do so.					
<b>Competence items</b>					
10. In whatever I do, I strive to attain excellence.					
11. I do things creatively and it helps me to get a good mark.					
12. I can perform very well in any field I get into.					
13. On the spot recitations does not make me nervous because I can answer them well.					
14. My teachers see me as one of the best student in class.					
15. I am convinced that I can master the concepts and topics taught in my class.					
16. Compared with my classmates, I think that I am a better academic performer.					
17. I can get good grades in my written works such as quizzes, unit, or long test.					
18. I can perform my tasks in my academics such as group presentation, oral work, multimedia presentations, and research projects.					
<b>Persistence Items</b>					
19. Despite discouragement from peers, I still continue to study hard.					

20. In spite of pressures in school, I continue to maintain my good grades.					
21. I manage to pull through even when others think there is no hope in passing a subject.					
22. When I'm having a hard time understanding the lesson, I never stop trying.					
23. Regardless of obstacles, I keep moving toward my goal.					
24. If I will not give up, I can figure out difficult homework.					
25. I persistently solve problems with regards to my academic subjects.					
26. I consistently figure out how to do the most difficult class works.					
<b>Self-Regulated Learning Items</b>					
27. I can adjust whenever there are hard activities in class.					
28. I can study on my own.					
29. Whenever there are suggestions with regards to my negative study habits, I welcome it to change.					
30. I can submit my requirements before the deadlines.					
31. I can remember the presented discussions in class.					
32. I can apply my lessons in textbooks.					
33. I arrange my study room to learn without distractions.					
34. When I commit mistakes, I am willing to adjust my behavior.					

### Part III: Questionnaire of Test Anxiety

**Direction:** The following statements are related to students' test anxiety level. Read each statement carefully and indicate how you feel by ticking(✓) for *almost never* (1), *sometimes* (2), *often* (3), *almost always* (4), *always* (5) to the right of the statement. Note that the answer you give indicates only the extent you feel and there is no right or wrong answer.

S.N	Test Anxiety Statements	(1) almost never	(2) sometimes	(3) often	(4) almost always	(5) always
1	I feel confident and relax while taking tests.					
2	While taking examinations I have an uneasy, upset feeling.					
3	Thinking about my grade in a course interferes with my work on tests.					
4	I freeze up on important exams.					
5	During exams I find myself thinking about whether I'll ever get through school.					
6	The harder I work at taking a test, the more confused I get.					
7	Thoughts of doing poorly interfere with my concentration on tests.					
8	I feel very jittery when taking an important test.					

<b>9</b>	Even when I'm well prepared for a test, I feel very nervous about it.					
<b>10</b>	I start feeling very uneasy just before getting test paper back.					
<b>11</b>	During tests I feel very tense. E					
<b>12</b>	I wish examinations did not bother me so much.					
<b>13</b>	During important test I am so tense that my stomach gets upset.					
<b>14</b>	I seem to defeat myself while working on important test.					
<b>15</b>	I feel very panicky when I take an important test.					
<b>16</b>	I worry a great deal before taking an important examinations.					
<b>17</b>	During tests I found myself thinking about the consequences of failing.					
<b>18</b>	I felt my heart beating very fast during important tests.					
<b>19</b>	After an exam is over I try to stop worrying about it, but I can't.					
<b>20</b>	During examinations I get so nervous that I forget facts I really know.					

APPENDIX D: AMHARIC QUESTIONNAIR

በጅማየዩኒቨርሲቲ የትምህርትና ስነ ባህሪ ኮሌጅ የድህረ ምረቃ ትምህርት ፕሮግራም የሳይኮሎጂ ትምህርት ክፍል ፡፡

ለሁለተኛ ደረጃ ተማሪዎች የተዘጋጀ መጠይቅ ፤

እኔ በአሁኑ ሰዓት በጅማ የዩኒቨርሲቲ የድህረ ምረቃ ትምህርት ፕሮግራም የሳይኮሎጂ ትምህርት ክፍል ተማሪ ስሆን የመረቂያ ጥናቱንም " The relationship between motivation, self-efficacy, test anxiety and academic achievement of selected secondary school students in Gambella town" .በሚል ርዕስ ጥናቱን እየሰራሁ እገኛለሁ ፡፡ የዚህ መጠይቅ ዓላማም ተማሪዎች ያላቸውን የራስ ተነሳሽነት ፤

መተማመን እና የፈተና ጭንቀት/መረጋጋት ትምህርት ውጤታማነት ላይ ባላቸው ተጽእኖ ዙሪያ ለጥናቱ አስፈላጊ መረጃዎችን መሰብሰብ ነው ፡፡

ይህም የሁለተኛ ደረጃ ተማሪዎች የወደፊት ህይወት ውጤታማነት ላይ የጎላ አስተዋጽኦ ይኖራል ፡፡ ይህንንም አሳካዘን ድንገት/የተማሪዎች ብብርብ ለምያስፈልገኛል ፡፡

ስለዚህ በመጠይቁ መሰረት የምትሰጡት መልስ በግልጽነት በታማኝነትና በጨዋነት ሲሆን ውጤታማነቱ እውን የሚሆነው ፡፡

ለመጠይቁ የምትሰጠው/ጨውም ላሽለጥና ቴብቻ የሚውል ሲሆን መልስ ሽም/ህም በሚሰጥ ላይ ይላል ፡፡

ለትብብር ህ/ሽቦቅ ድሚያ በጣም አመሰግናለሁ!

ማስታወሻ ፡

ክፍል አንድ ፡ የተማሪዎች አጠቃላይ መረጃ/Background Information/

- I. /የትምህርት ቤቱ ስም/Name of the school-----  
-----
- II. የክፍል ደረጃ /Grade----- ሴክሽን/Section----- ተራ ቁጥር/ Roll. N.-----  
--- አማካይ ውጤት/GPA-----
- III. ጾታ/Gender: ወንድ/Male ( ) ሴት/Female ( )
- IV. እድሜ/Age (years)-----

ክፍል ሁለት ፡

መመሪያ 1 ፡-

እባክህን/ሽን የሚከተለትን ጥያቄዎች በጥንቃቄ አንብቦ ህ/ሽ እና ለእያንዳንዱ ጥያቄ የሁለተኛ ደረጃ ትምህርት ህንጻ ለመግር ያነሳሳህን/ሽንም ክንያትን በተመለከተ ያለህን/ሽን ሰላብ ቀጥሎ የተሰጡትን መለኪያዎች በመጠቀም አንተን/ቺን በትክክል የሚገልጽ አማራጭ የሚወክለውን ቁጥር በዚህ ‘√’ ምልክት መልስ ሻል ፡፡

ለቀረቡት ጥያቄዎች የሚከተለት (ከ 1-5) ናቸው ፡፡ 1. በጣም አልሰማም 2. አልሰማም 3. ምንም ዓይነት መልስ ሻም 4. እሰማለሁ 5. በጣም እሰማለሁ ፡፡ በዚህ ‘√’ ምልክት መልስ ሻል ፡፡

ለምንድንነውየሁለተኛደራጃትምህርትየምትማረው/የምትማሪው?	(1) በጣምአልሰማም	(2) አልሰማም	(3) ምንም እይመስለኝም	(4) አሰማማኝለሁ	(5) በጣምአሰማማለሁ
1. አዳዲስነገሮችን በመማር ደስታ እና እርካታን ስለማገኝነው::					
2. ከአሁን በፊት ያልታዩ አዳዲስነገሮችን ማግኘት ደስታን ስለሚሰጠኝነው::					
3. ለኔ በምወዳቸው የትምህርት ዓይነቶቻቸው ቀት አድማሴን ማስፋት ደስታ ስለሚሰጠኝነው::					
4. የትምህርት ጥናቱ ብዙ የሚያስደስቱኝን ገገሮች መማርን እንድትቀጥል ስለሚፈቅድልኝነው::					
5. በትምህርቱ ሌላ ስኬተኛ ደረጃ ማድረስ ደስታን ስለሚሰጠኝነው::					
6. ከግል ከንቀኔዎቹ በእንዲሁ ሌላ ስኬተኛ ደረጃ ላይ ማድረስ ስለሚያስደስተኝነው::					
7. ከበድ ያሉት ምህርታዊ ክብደቶችን በማለፍ ሂደት ውስጥ እርካታ ስለሚሰጠኝነው::					
8. የሁለተኛ ደረጃ ትምህርት በዕውቀት የመምጠቅ ተልዕኮዎን በማሳካት ግላዊ እርካታን ለማግኘት ስለሚያስችልኝነው::					
9. ወደ ትምህርት ቤት መሄድ በጣም ስለምወድነው::					
10. ለኔ ወደ ትምህርት ቤት መሄድ አዝናኝ ስለሆነነው::					
11. በትምህርት ቤት የምወዳቸው መምህራን የሚያሰናዱት ወይም ስለሚያስደስተኝነው::					
12. የተለያዩ የሚያስደስቱ የትምህርት ዓይነቶችን ሳንብዘና ተኛ ስሜት ስለሚፈጥርልኝነው::					
13. የሁለተኛ ደረጃ ትምህርት ወደ ፊት በመረጥኩት የሥራ መስክ ለመዘጋጀት ይረዳኛል ብዬ ስለማስብነው::					
14. የሁለተኛ ደረጃ ትምህርቱን ሳጠናቅቅ በምፈልገው የሥራ መስክ የሥራ ድርጅት ጥለመግባት ስለሚያስችልኝነው::					
15. የሁለተኛ ደረጃ ትምህርት የሰራው መስክ ስያደርግ ላይ ስለሚረዳኝነው::					
16. የተወሰነ ተጨማሪ ትምህርት ማግኘት ለወደፊት የሥራ ላይ በቃቴን ያሻሽልልኛል ብዬ ስለማምንነው::					
17. የሁለተኛ ደረጃ ትምህርት ማጠናቀቅ የምችል መሆን ለሌሎች ለማረጋገጥነው::					
18. በትምህርቱ ውጤታማ መሆን እንደሚታወቅ እንደሆኑ ስለሚሰማኝነው::					
19. እንደ አዎቂ እና ሌሎች ያለኝ ሰው እንደሆነኩ ለሌሎች ማሳየት ስለሚያስፈልግነው::					
20. በትምህርቱ ውጤታማ መሆን እንደምችል ለሌሎች ማሳየት ስለሚያስፈልግነው::					
21. ወደ ፊት ከፍተኛ ክፍያ የሚያስገኝ ሥራ ለማግኘት ቢያንስ የሁለተኛ ደረጃ ትምህርት ቤት ሥክር ወረቀት ስለሚያስፈልገኝነው::					
22. ለወደፊት ብዙ ክብር እና ማዕረግ ያለውን ሥራ ማግኘት ስለሚያስፈልግነው::					
23. ለወደፊት ጥሩ ህይወት እንዲኖረኝ ስለሚያስፈልግነው::					
24. ለወደፊት ጥሩ ደመወዝ እንዲኖረኝ ስለሚያስፈልግነው::					
25. በእውነት እንደ አላውቅም፤ ጊዜ ጤን ምንም በትምህርት ቤት እያሳካኩ እንዳለሁ ይሰማኛል::					
26. በአንድ ወቅት ትምህርት ቤት ለመሄድ ሁኔታዎች ከንደት ነበረኝ እሁን ግን በሚገርም መልኩ እቀጥል እሆን የሚለው እያሳሰበኝነው::					

27. ወደትምህርት ቤት ለምን እንደምሄድም አይታዩኝም፤ ደግሞ ምንም ትኩረት የለኝም፡፡					
28. እኔ አላውቅም፤ በትምህርት ቤት ምን እየሰራሁ እንዳለሁ አይገባኝም፡፡					

**Questionnaires of Self-Efficacy (በራስ ችሎታ የመተማመን መለኪያ)**

መመሪያ 2:-

እባክህን/ሽን የሚከተሉትን ጥያቄዎች በጥንቃቄ አንብቦ/ሽ እና ለእያንዳንዱ ጥያቄ በሁለተኛ ደረጃ ትምህርት/ሽ ውጤታማ ለመሆን ያለህን/ሽን የራስ መተማመን እና ችሎታ በሚመለከት ያለህን/ሽን ህሳብ ቀጥሎ የተሰጡትን መለኪያዎች በመጠቀም አንተን/ቺን በትክክል የሚገልጽ አማራጭ የሚወክለውን ቁጥር በዚህ ‘√’ ምልክት መልስ/ሺ፡፡ ለቀረቡት ጥያቄዎች የሚከተሉት (ከ 1-5) ናቸው፡፡ 1. በጣም አልሰማም 2. አልሰማም 3. ምንም አይመስለኝም 4. እሰማለሁ 5. በጣም እሰማለሁ፡፡ በዚህ ‘√’ ምልክት መልስ/ሺ፡፡

Self- Efficacy Items /በራስ ችሎታ የመተማመን መለኪያ ጥያቄዎች/	(1) በጣም አልሰማም	(2) አልሰማም	(3) ምንም አይመልከታኝም	(4) እሰማለሁ	(5) በጣም እሰማለሁ
<b>Perceived Control Items/ለራስ ያለን ግምት</b>					
1. እኔ ነበዝተማሪ ስለሆንኩ የሁለተኛ ደረጃ ትምህርት ግጥም ተቅዋሚ ነኝ ላለሁ፡፡					
2. ለትምህርት ትኩረት ስለመሰጥለም ጠየቀው ጥያቄት ክክለኛውን መልስ እሰጣለሁ፡፡					
3. በየትምህርት ዓይነቱ ለምሳሌ በማስመዘገብ ውጤት ላይ የተመሰረተ ነው፡፡					
4. የወደ ፊት አሁን በምሰራው ነው እሚወሰነው፡፡					
5. መምህራኖቼ የሚሰጡኝ ክፍተኛ ውጤት ስለሚገባኝ ነው፡፡					
6. ብዙ እማራለሁ፤ ምክንያቱም መልካም የሆነ የመማር ልምድ ነበረኝ ለሰጠኝ ነው፡፡					
7. መምህራኖቼ እንደ መልካም ተማሪ ነው የሚመለከቱኝ፡፡					
8. በእንግሊዝኛ ትምህርት አልፋለሁ፤ ምክንያቱም የመስራት አቅሙ ስላለኝ ነው፡፡					
9. በሒሳብ ትምህርት አልፋለሁ፤ ምክንያቱም የመስራት አቅሙ ስላለኝ ነው፡፡					
<b>Competence items/ብቁነት/</b>					
10. ማንኛውንም ነገር ስሰራ የላቀ ውጤት ለማምጣት ነው እምተጋው፡፡					
11. ነገሮችን በፈጠራ ስለሰራ የተሻለ ውጤት ለማምጣት ይረዳኛል፡፡					
12. በማንኛውም ዘርፍ ብባባ በጣም ጥሩ አድርጌ እወጣለሁ፡፡					
13. በክፍል ወስጥ ወዲያው እንዲመለሱ ለሚጠየቁ ጥያቄዎች አልሸግቀቅም፤ ምክንያቱም በትክክል እመልሳለሁ፡፡					
14. መምህራኖቼ ከክፍሉ ውስጥ እንደ ነበዝተማሪ ነው የሚመለከቱኝ፡፡					
15. በክፍሌ ውስጥ ስማርቅና የትምህርት ጭብጦችን መረዳት እንደምችል አምናለሁ፡፡					



16.	ከክፍል 3 ደኞቹ ጋር ራሴን ሳስተያይ ከነሱ የተሸለው ጤት እንደማመጣ አስባለሁ።					
17.	በሁሉም የጽሁፍ ፈተናዎች ጥሩ ጤት አመጣለሁ።					
18.	በቡድን፣ በቃል እና በመልዕክት ላይ የሚቀርቡት ምህርታዊ ተግባራትን ሁሉ መከወን እችላለሁ።					
<b>Persistence Items / ያለማቋረጥ/ጽናት</b>						
19.	ጓደኞቼ ተስፋቢ ቆይቶ ለክፍሉ ስራዎች ለማጠናቀቅ ማራገፍ ማረጋገጥ ይቻላል።					
20.	በትምህርት ቤት ጫናዎች ላይ ለማጠናቀቅ ማረጋገጥ ይቻላል።					
21.	ሌሎች በትምህርት ዓይነት ለማለፍ እንኳን ተስፋቢ ቆይቶ ለማጠናቀቅ ማረጋገጥ ይቻላል።					
22.	ትምህርቱን ለመረዳት በምቸገር በትወቅት እንኳን በፍጹም መሞከሪያ ላይ ማቆም ይቻላል።					
23.	መሰናክሎች ላይ ለማጠናቀቅ ማረጋገጥ ይቻላል።					
24.	በትምህርቱ የሚገኙ ክፍሎች ላይ ለማጠናቀቅ ማረጋገጥ ይቻላል።					
25.	ትምህርቱን በተመለከተ የሚገኙ ጥያቄዎችን እንዲያስፈልግ ማቋረጥ አልቻልኩም።					
26.	በጣም ከባድ የሆኑ የክፍል ስራዎችን በፊት ነው የምሰራው።					
<b>Self-Regulated Learning Items/ በራስ የመማር ችሎታ/</b>						
27.	መቼም ቢሆን በክፍል ውስጥ ከሰድያ ሌትም ህርታዊ ስራዎች ላይ ለማጠናቀቅ ማረጋገጥ ይቻላል።					
28.	እኔ ራሴን ለማጠናቀቅ ማረጋገጥ ይቻላል።					
29.	ምንጭ ስለ እኔ የአጠናን ጉድለት አስተያየቶች ሲሰጡኝ ተቀብሎ ለማስተካከል ዝግጁ ነኝ።					
30.	በትምህርት ቤት ከኔ ለሚጠበቀው ሁሉ በወቅቱ አጠናቅቃለሁ።					
31.	በክፍል ውስጥ የሰድያ ሌትም ህርታዊ ስራዎችን አስታውሳለሁ።					
32.	ከተማሪ መጽሐፍቶቼ ያገኘኝ ጥያቄዎችን በትምህርቱ ላይ እንዲተገብራለሁ።					
33.	የማጠናቀቅ ስራዎቼን እንዲረብረብ እንዲሆን አደርጋለሁ።					
34.	ስህተት በምሰራበት ወቅት ከስህተቴ መማር እንዲቻል ማረጋገጥ ይቻላል።					

**Test Anxiety Inventory (TAI) ፈተናን በትኩረት ከመስራት እሚረብሹ/እሚያስጨንቁ/ጥያቄዎች መለኪያ**

መመሪያ 3:-

እባክህን/ሽን የሚከተለትን ጥያቄዎች በጥንቃቄ አንብቦ/ሽ እና ለእያንዳንዱ ጥያቄ እሚያስጨንቅህ /ሽ/እሚረብሹ/ሽ/ሽን የከፈተናብራት።

ከፈተና በኋላ የፈተና ጊዜን የሚመለከቱ ጥያቄዎች በሚመለከት ያለህን/ሽን ሰላም ተሰጥቶ ለሁሉም ጥያቄዎች በመጠቀም አንተን/ቺን በትኩረት ከክፍል የሚገልጽ አማራጭ የሚወክለውን ቁጥር በዚህ

‘ሆ’ ምልክት መልስ/ሺ መልስ/ሺ። ለቀረቡት ጥያቄዎች የሚከተለት (ከ 1-5) አማራጮች ተመልክተዋል። በፈጽሞ ለማለት እችላለሁ (1)፣ አልፎ አልፎ (2)፣ በብዛት ይከሰትብኛል (3) ሁሉም ይከሰትብኛል ለማለት እችላለሁ (4)፣ ያለጥርጥር ሁሉም ይከሰትብኛል (5)። የምትሰጠው/ጩው መልስ ያለህን/ሽን ስሜት በቻልን እንዲገልጽ እንጂ ትኩረት ከክፍል የሆነ ወይም ያልሆነ መልስ የለም።

S.N	<p style="text-align: center;"><b>አሚያስጨንቅህ/ሽ/አሚረበሽህ/ሽሽንየክፈተናበፈት፤ ክፈተናበኋላናየፈተናጊዜንየሚመለከቱጥያቂዎች</b></p>	(1) በፈጽሞ ለማለት እችላለሁ	(2) አልፎ አልፎ	(3) በብዛት ይከሰትብኛል	(4) ሁሉም ይከሰትብኛል ለማለት እችላለሁ	(5) ያለጥርጥር ሁሉም ይከሰትብኛል
1	ፈተናበምፈተንበጊዜበጥሩሰሜትፈታዘናብዬነው፡፡					
2	ፈተናበምፈተንበጊዜእሚከብድናእሚረብሽሰሜትይሰማኛል፡፡					
3	በትምህርቱስለማመጣውውጤትማሰብየፈተናስራዬንምያስተንጉልብኛል፡፡					
4	አስፈላጊበሆነፈተናወቅትእሸማቀቃለሁ፡፡					
5	በፈተናወቅትትምህርቱንእንኳንእቀጥላለሁብዬእስከማሰብእደርሳለሁ፡፡					
6	ፈተናስፈተንበብርቱእስራለሁስልየዚያኑያክልይምታታብኛል፡፡					
7	ዝቅተኛውጤትአመጣለሁብዬማሰቤበፈተናዬትኩረትእንዳጣያደርገኛል፡፡					
8	አስፈላጊየሆነፈተናስፈተንበጣምእሚረብሽሰሜትይሰማኛል፡፡					
9	ለፈተናበደንብስዘጋጅእንኳንስለፈተናውየሚረብሽሰሜትነውየሚሰማኛል፡፡					
10	ልክየፈተናውጤትሊመለስሲልበጣምአስቸጋሪሰሜትይሰማኛል፡፡					
11	ፈተናበምፈተንበወቅትከፍተኛየጭንቀትሰሜትይሰማኛል፡፡					
12	ፈተናዎችበጣምአሳሳቢባይሆኑብኛለሁ፡፡					
13	አስፈላጊበሆነፈተናወቅትበጣምስለምጨነቅጨንራዬንምያመኛል፡፡					
14	አስፈላጊየሆነፈተናስፈተንፈተናውንየወደቅሁመስሎይሰማኛል፡፡					
15	አስፈላጊየሆነፈተናስፈተንከፍተኛየፍርሃትሰሜትይሰማኛል፡፡					
16	አስፈላጊየሆነፈተናከመፈተኔበፈተንበጣምያሳስበኛል፡፡					
17	ፈተናበምፈተንበትወቅትብወደቅብዬሳስብነውአራሴንእማገኘው፡፡					
18	አስፈላጊበሆነፈተናወቅትልቤበጣምሲመታይሰማኛል፡፡					
19	ፈተናተፈትኝከጨረስኩበኋላእንኳንመጨነቅንላቆምብሞክርምአልኛልም፡፡					
20	ፈተናበምፈተንበወቅትበጣምከመጨነቅየተነሳየማውቀውንነገርእንኳንእረሳለሁ፡፡					

**APPENDIX E: APPROVAL SHEET**  
**JIMMA UNIVERSITY**  
**College of Education and Behavioral Sciences**  
**Department of Educational Psychology**

The Relationship between Motivation, Self-Efficacy, Test Anxiety and Academic Achievement of Selected Secondary School Students in Gambella Town

Submitted by:

Name of Student	Signature	Date

Approved by:

1. _____		
Name of Major Advisor	Signature	Date

2. _____		
Name of Co- Advisor	Signature	Date

3. _____		
Name of Chairman, DGC	Signature	Date

4. _____		
Name of Dean, SGS	Signature	Date

5. _____		
Name of Dean, CGS	Signature	Date

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## **Declaration**

I, the undersigned, declare that this is my original work and has not been submitted to any other College, Institution or University other than Jimma University. All the materials used in this thesis have been duly acknowledged.

Name: Seid kelilo Adem

Signature: \_\_\_\_\_

Date: \_\_\_\_\_

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

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