Addis Ababa University
College of Natural and Computational Sciences
Department of Science and Mathematics Education

Association Between Participation in Sport and Academic Achievement of Preparatory Students in Adama Town, Oromiya Regional State, Ethiopia

Shewangzaw Tsige

A Thesis Submitted to
Department of Science and Mathematics Education

Presented in Partial Fulfillment of the Requirements for the Degree of Master of Education in Sport Science

Addis Ababa University
Addis Ababa, Ethiopia
September, 2016

Addis Ababa University
College of Natural and Computational Sciences
Department of Sport Science

This is to certify that this draft thesis prepared by Shewangzaw Tsige entitled, *Association Between Participation in Sport and Academic Achievement of Preparatory School Students in Adama Town, Oromiya Regional State, Ethiopia*, which is submitted in partial fulfillment of the requirements for the Degree of Master of Education (Physical Education) complies with the regulations of the University and meets the accepted standards with respect to originality and quality.

Approved by Board of Examiner	Signature	Date
Lemmma Setegn (PhD) (External Examiner)		11/10/2016
Solomon Teka (PhD) (Internal Examiner)		4/10/16
Bezabih Wolde (PhD) (Advisor)		11/10/16
Chair of Department or Graduate program coordinator.		

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to my advisor Dr. Bezabih Wolde, who helped me without reservations throughout this research project. I benefited a lot from his fertile technical and professional guidance and constructive comments.

I'm also indebted to all respondents from the four Preparatory Schools in Adama Town, Oromiya Regional State for their willingness and patience to provide the necessary information.

My special thanks also go to Elias Zewdie, family members, colleagues and friends for their unreserved assistance in the field and helping me in getting the necessary information.

Finally, I would like to forward my sincere thanks to AAU and its community for their significant support.

ACKNOWLEDGMENTS

I would like to express my sincere gratitude to my advisor Dr. Bezabih Wolde, who helped me without reservations throughout this research project. I benefited a lot from his fertile technical and professional guidance and constructive comments.

I'm also indebted to all respondents from the four Preparatory Schools in Adama Town, Oromiya Regional State for their willingness and patience to provide the necessary information.

My special thanks also go to Elias Zewdie, family members, colleagues and friends for their unreserved assistance in the field and helping me in getting the necessary information.

Finally, I would like to forward my sincere thanks to AAU and its community for their significant support.

Table of Contents

Pages

Acknowledgements ---------- i

Table of Contents ---------- ii

List of Tables ---------- iv

Abstract---------- v

CHAPTER ONE: INTRODUCTION

1.1. Background of the Study..... 1

1.2. Statement of the Problem..... 2

1.3. Research Questions..... 3

1.4. Objective of the Study..... 4

1.5. Significance of the Study..... 4

1.6. Scope of the Study..... 4

1.7. Limitations of the Study 5

1.8. Definition of Terms 6

1.9. Organization of the Study..... 6

CHAPTER TWO: REVIEW OF RELATED LITERATURE

2.1.Introduction..... 7

2.2. Sports Participation and High School Students 8

2.3. The Physical Health Benefits of Sport Participation 9

2.3.1. Chronic Diseases..... 9

2.3.2. Obesity..... 10

2.3.3. Diet..... 11

2.3.4. Diabetes..... 13

2.3.5. Bone Health..... 14

2.4. The Psychological Health Benefits of Sports' Participation..... 15

2.4.1. Depression..... 15

2.4.2. Anxiety..... 16

2.5. The Negative Aspects of Sport Participation..... 18

2.6. Sports' Participation and Academic Achievement 18

2.6.1. Test Results and Grades..... 22

2.6.2. School Attendance..... 23
2.6.3. Attitudes and Aspirations of High School..... 24
2.6.4. Behaviour at School..... 24
2.6.5. Learning Abilities..... 25

CHAPTER THREE: REASERCH METHODOLOGY

3.1. Research Design..... 28
3.2. Population and Sampling Technique..... 29
3.3. Data Collection Instrument..... 29
3.4. Procedure of Data Collection..... 30
3.5. Piloting the Questionnaire..... 31
3.6. Data Analysis..... 31

CHAPTER FOUR: DATA PRESENTATION AND ANALYSIS

4.1. Presentation and Analysis of data collected from Questionnaire..... 33
4.2. Presentation and Analysis of Data from Open-ended and Interviews Questions.. 43

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary of Findings..... 48
5.2. Conclusion..... 50
5.3. Recommendation..... 50
Bibliography 51
Appendices
A. Questionnaire to be filled by Students who participate in Sports Activities
B. Interview Questions for District Sport Officials/Sport Teachers/Principals

List of Table

Table 4.1: Respondents Background Characteristics..... 34

Table 4.2: Respondents School Type and Sport Participation..... 35

Table 4.3: Cross tabulation between percentage Class Mark and School Name and Type... 36

Table 4.4: View of Students on the Level of their academic capability..... 38

Table 4.5: Views of Students on their Sport Capability..... 40

Table 4.6: Level of Student's Personal capability for learning and Development..... 42

ABSTRACT

Association Between Participation in Sport and Academic Achievement of Preparatory Students in Adama Town, Oromiya Regional State, Ethiopia

Shewangzaw Tsige

Addis Ababa University, 2016

The purpose of this study was to investigate the association between sport participation and academic performance of preparatory school students. Sports and academic performance of students has been a topic of study for years. On the one hand, supporters of sports program in educational institutions say that participation in sports improves students' grades, academic achievement, raises their educational aspirations, and keep them in schools. On the other hand, others say that participation in sports distract time away from the classroom and divert students' attention from study. It is not possible for students to achieve excellence in sports as well as in education. The study was conducted in two Government and two private preparatory schools of Adama Town, Oromiya Regional State, Ethiopia. An interview question and a structured questionnaire on five point Likert scale were developed and utilized for collection of data. 10 education officials, coaches, sport teachers and 204 students were selected through purposive and random sampling techniques respectively. The data derived from these likert scales were evaluated using Statistical Package for the Social Science (SPSS) 19.0 software through descriptive statistics (Mean), independent samples t-test ($p<0.05$) and Pearson Product Moment Correlation ($p<0.01$). The result of the study revealed that there is association between participation in sports and performance in education and participation in sports improves the Class Marks (Scores), ability of students to succeed academically, and mental or cognitive development. This study also confirmed that Sports activities are very useful and helpful for enhancing students' capability to learning and development. Both teachers and sport coaches should consider ways to best foster sport capacity among students.

Keywords: Preparatory school students, sports' participation, academic achievement

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

The relations between sports participation and academic achievement have various theoretical underpinnings. On an informal level, there are many individuals who claim to have achieved various successes related to academic achievement as a result of formative sports experiences. From a research perspective, there is considerable evidence that sports' participation positively relates to academic achievement among youth (Stephens, L. J., & Schaban, L. A., 2002).

The sports context is an important setting in the lives of students. Since sports are a meaningful context in which many young people participate, youth sports teams may be a viable way in which to promote optimal development. Research exists suggesting the value of consciously designed sports programs for positive youth development (Fraser-Thomas, Cote & Deakin, 2007). Positive Youth Development refers to the acquisition of competencies and skills needed for optimal youth development that continues into adulthood. These assets include cognitive, social, emotional, and intellectual competencies, such as confidence, character, or perseverance. Sport participations provide various advantages for optimal development, including a high level of enjoyment and challenge, ample opportunities to develop positive relationships, and fulfilling a need to belong (Heilman, 2011). The relations between sports participation and academic achievement may be a byproduct of this phenomenon.

In Ethiopia, the association of sport participation and academic achievement is emphasized in policy documents and sport encompasses the various forms of physical activities carried out by an individual or a group in organized or unorganized manner to recreate build physique and cultivate the brain, test the state of fitness, irrespective of age, sex, place and time

(FDRE, 2004). These policy documents clearly stipulate the contribution of sport participation to academic achievement and integrated by working in co-operation with educational institution to include sport including traditional sport in the curricula; by incorporating sport facilities in the master plan of newly built kindergartens and schools; and ensure the availability of sports' wear and equipment; by encouraging the participation of children and youth in sport activities according to their inclination by forming sport clubs in educational institutions; by enabling students to participate in sports competitions at national and international level, by organizing competitive programs; by organizing special training and competition forums for talented youth in various types of sports and recruit the gifted ones by working in conjunction with sports clubs and federations (FDRE, 2004). The question is how are sports' activities associated with academic achievement of students?

1.2. Statement of the Problem

Given the increased emphasis on student achievement within schools, and the wide availability of sports programs for youth, understanding the mechanisms through which sports participation might promote academic achievement is an important area of research. This study would contribute to the literature by examining the association of sports participation and academic achievement among preparatory school students in Adama Town, Oromia Regional State.

Understanding the relations between participation in sports and academic achievement is important for many reasons. These data could play a role in answering questions about the amount of resources that should be devoted to sports programs. For teachers/trainers and school administrators, understanding the potential benefits of sports participation is of great value. If participation is related to academic achievement, then preparatory students should be

encouraged and supported to participate in sports rather than viewed as being distracted from their studies. If there is an association between sports participation and academic achievement, understanding the mechanisms underlying this association can provide further valuable information.

The study is focused on students' sport participation and academic achievement in preparatory schools taking into account the individual capability and school environment in four of the preparatory Schools in Adama Town. Consequently, this study tries to answer the following three questions.

1.3. Research Questions

The current study contributes to the literature by examining sports participation and academic achievement among preparatory school students in Adama Town, Oromia Regional State. The purpose of this study is to examine the link between sports' participation and academic achievement.

This study aims to answer the following research questions:

1. Is there significant association between Class marks (Grade scores) and Sport?
2. Is academic achievement a direct outcome of students' sports participation?
3. How are students affected when participating in sports and performing academically?

1.4. Objectives of the Study

The general objective of this study was to examine the association between sport participation and academic achievement in preparatory schools.

The specific objectives of the study were as follows:

- To assess the association between Class marks (Grade scores) and Sport
- To examine how academic achievement of students' related sports participation
- To see how students are affected when participating in sports and performing academically

1.5. Significance of the Study

The research would contribute to the literature on academic achievement and participation in sport activities by students of Preparatory Schools. It does so by examining the association between sport participation and academic achievement of students.

1.6. Scope of the Study

Delimiting the scope of this study is an essential part regarding the extent of focus, information obtained and method used. Therefore, this research mainly focused on the association between sport participation and academic achievement of preparatory school students of Adama Town, Oromiya Region of Ethiopia. There are only four preparatory Schools (two public and two private) in which 245 students and 10 staff were involved to this study. Individual capability of students to sport and academic activities were the focus of this study.

1.7. Limitation of the Study

There were several methodological limitations present in this study. This section reviews these limitations, which include the difficulties inherent in measuring personal capability, and difficulties encountered when collecting data.

Given the demographic differences between schools, it is difficult to separate the effects of sport and academic capability on academic performance when there was between-school difference. Thus, the between-school difference may have masked the effects of sports' participation on class marks (scores) when other variables such as socio-economic factors and parental education levels were not included in the analysis.

The present study's questions were centered on the measurement of sport and academic capability. As previously mentioned, capability is task-specific activities. Thus, any attempt to standardize and quantify a sense of student capability, even in a task-specific domain such as the classroom or sporting arena; will result in a loss of accurateness with respect to the individual. Hence, it is possible that the capability measures were too general to find a relation between academic and athletic capability. The measurement was self-reported in the present study. This is a limitation because it allowed participants to define themselves whether or not they were in an organized sports program. Hence, there was no way for the researcher to verify whether participants were practicing and competing regularly as part of their sports program.

Another methodological limitation may have occurred during the collection of data. At one school, all data were collected in one day during a morning meeting held in the school's compound with students taking the survey together. Thus, it is possible that participants

may have been influenced by their peers' answers to the survey questions, reducing the number of individual differences in the sample. At another school, teachers in each free period were in charge of distributing survey to students. Although the principal investigator provided teachers with general instructions, he was not able to monitor data collection at this school.

1.8. Definition of Terms

Academic Achievement: refers to excellence across academic disciplines. In the present study, this will be measured using each student's Class Marks (Scores). As Scores increase, so does academic achievement.

Sports Participation: refers to a student participating in at individual or organized sport program either at school or within the community.

1.9. Organization of the Study

This research was organized in to five chapters. Chapter one deals with the background information and statement of the problem. It covers research questions, objectives, significance, scope and limitation of the study. Chapter two discussed the key concepts in a broader perspective of literature on sport participation and academic achievement by students. Chapter three focuses on the research design and methodology, sampling techniques, data source and data collection instrument are discussed. Chapter four presents the finding and analysis of the research. Finally, chapter five summarizes the main findings, conclusions and gives recommendations.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. INTRODUCTION

This is a review of relevant literature, beginning with research examining the relations between sports participation and academic achievement.

Children's engagement in sports competition is known to contribute to the developmental outcomes for a healthy lifestyle, where children learn about physical, social and cognitive skills (Choi et al, 2014). More broadly, engagement in physical activity is also recognised to contribute to a range of positive outcomes, specifically; physical and mental health, social wellbeing, cognitive and academic performance (Bailey et al, 2013). For young people to achieve such outcomes it is recognised that physical education (PE) in schools is an ideal vehicle to promote physical activity due to its availability to all young people. Whilst teachers also have the opportunity to integrate this into the overall education process (Telford et al 2012).

The associations found for participation in competitive sport and physical activity often yield multiple benefits. Bailey et al (2013) recognise that such benefits are not autonomous, independent or disconnected, but instead reinforce to each other. Despite these recognised benefits, it remains a concern that within schools "the increasing pressures to improve academic scores often lead to additional instructional time for subjects such as mathematics and language at the cost of time for being physically active" (Singh et al, 2012). In agreement, Trudeau and Shepard (2008) stated that if we want to improve the academic achievement, physical fitness and health of our young people, we should not be limiting the time allocated to PE and school sport.

Where possible, this review draws upon evidence that explores the impact of competitive school sport on young people. However, due to the limited research available on these competition specific outcomes, the findings presented focus on the role physical activity, PE and school sport play on the holistic development of the child. Particular attention has been paid to the academic, diet and health and wellbeing outcomes for young people.

2.2. Sports Participation and High School Students

The beginning of the youth sports movement dates back to the early 1900s, when it was recognized that physical activity was an important part of education (Smoll& Smith, 2002). Sports programs began as after-school recreation activities, but soon acquired a highly competitive orientation. Over time, a host of local and national agencies took over sponsorship and control of some sports, and a wide array of sport programs grew in scope and popularity. Today, students participate in various types of organized sports programs. These can be divided into two main categories: team sports in which youth compete together, and individual sports in which participants compete as individuals. The most common team sports among youth include Athletics, basketball, and football, and the most common individual sports include running, bicycling and swimming (Sabo &Veliz, 2008).

The belief that participation in sports provides many benefits for youth is long standing. As noted earlier, sports are valued as an important contributing factor to positive youth development. As Larson (2000) explained, sports' teams and other structured voluntary activities may contribute to positive youth development by increasing the capacity for initiative among youth. Initiative is necessary for adolescents to motivate themselves and take action in their daily lives, but is not easy to obtain through school work or by spending time with friends. Larson (2000) interviewed adolescents and found that they described school as challenging, but reported low intrinsic motivation and high rates of boredom during

Where possible, this review draws upon evidence that explores the impact of competitive school sport on young people. However, due to the limited research available on these competition specific outcomes, the findings presented focus on the role physical activity, PE and school sport play on the holistic development of the child. Particular attention has been paid to the academic, diet and health and wellbeing outcomes for young people.

2.2. Sports Participation and High School Students

The beginning of the youth sports movement dates back to the early 1900s, when it was recognized that physical activity was an important part of education (Smoll& Smith, 2002). Sports programs began as after-school recreation activities, but soon acquired a highly competitive orientation. Over time, a host of local and national agencies took over sponsorship and control of some sports, and a wide array of sport programs grew in scope and popularity. Today, students participate in various types of organized sports programs. These can be divided into two main categories: team sports in which youth compete together, and individual sports in which participants compete as individuals. The most common team sports among youth include Athletics, basketball, and football, and the most common individual sports include running, bicycling and swimming (Sabo &Veliz, 2008).

The belief that participation in sports provides many benefits for youth is long standing. As noted earlier, sports are valued as an important contributing factor to positive youth development. As Larson (2000) explained, sports' teams and other structured voluntary activities may contribute to positive youth development by increasing the capacity for initiative among youth. Initiative is necessary for adolescents to motivate themselves and take action in their daily lives, but is not easy to obtain through school work or by spending time with friends. Larson (2000) interviewed adolescents and found that they described school as challenging, but reported low intrinsic motivation and high rates of boredom during

schoolwork. In contrast, adolescents had high intrinsic motivation to participate in leisure activities such as watching television, but did not find such activities challenging.

The increased amount of time dedicated to sports in comparison to other activities suggests there are more chances for adolescents to develop mastery experiences, initiative, and self-efficacy within the sporting context. Additionally, sports offer the advantage of physical activity. As will be discussed further, considerable research exists documenting a relation between physical activity and academic achievement. Additionally, there is some evidence that school-based sports participation may foster identification with schools and school related values, including performing well academically (Marsh &Kleitman, 2003). Hence, sports provide multiple avenues through which adolescents might improve their academic achievement.

2.3. The Physical Health Benefits of Sport Participation

The physical health benefits of sport have been widely documented. In a review of youth sport, Blom et al (2013) identified a range of benefits which include improved bone mineral density, increased strength, stamina, flexibility and endurance, as well as enhanced functioning of cardio-respiratory and muscular systems, reduced risk of chronic illnesses and favourable changes to body composition.

2.3.1. Chronic Diseases

It is proposed that a significant benefit of sports participation is the decreased risk of developing chronic diseases. While young people do not usually suffer from chronic illnesses such as heart disease, diabetes or osteoporosis, risk factors can begin to develop early in life (US Department of Health and Human Services, 2008). A report entitled "Physical Activity Guidelines for Americans" which was published by the US Department of Health and Human Services in 2008 suggests that regular physical activity reduces the likelihood of the risk

factors developing and therefore increases the chances of children remaining healthy as adults (US Department of Health and Human Services, 2008). McMurray and Andersen (2010) corroborate these claims by also implying that sport decreases the risk of developing cardiovascular disease and other chronic illnesses. However, there does not appear to be any tangible evidence surrounding this topic. Future research needs to focus on providing sufficient figures on this relationship. Moreover, longitudinal studies would be highly beneficial in explaining the link and causality further.

2.3.2. Obesity

Sports participation has also been associated with a reduced risk of obesity (Ness et al, 2007). The discussion concerning the relationship between sport and obesity has become more prominent over the last two decades as the worldwide crisis of obesity has emerged and escalated. The 2011 Health Survey for England report indicated that approximately 3 in 10 boys and girls aged 2 to 15 were classified as overweight (31%) or obese (28%) (The Health and Social Care Information Centre, 2012). The Foresight Report, produced by Butland et al (2007) estimated the projected 2050 English obesity rates to be 26% for males and females under the age of 20, 14% by 2025, and 10% by 2015. Thus, it is unsurprising that a variety of methods are being introduced to reduce the likelihood of this obesity epidemic.

Many individuals, organisations and governmental departments suggest that physical activity and sport has the potential to reduce body fat, and therefore decrease the risk of obesity (Burke et al, 2006; US Department of Health and Human Services, 2008). Burke et al (2006) found that greater fitness amongst 602 Australian 11-14 year olds were associated with a reduced risk of obesity. Moreover, a study by Dencker et al (2006) on the effects of physical activity on the percentage of body fat of 248 Swedish 8-11 year olds revealed that there is a strong cross-sectional association between physical activity and obesity. Additionally, this

appears to be stronger for the higher intensity activity (Dencker et al, 2006). Ness et al (2007) found similar findings in a cross sectional analysis on 5,500 12 year old children who were enrolled into the English Avon Longitudinal Study of Parents and Children. The results of this study illustrated that moderate to vigorous physical activity reduced fat mass, and thus, reduced the risk of obesity. A further study by Pallan et al (2013) identified a small but significant association between the inter-school variation in body mass index in English primary school children and school-based physical activity. The results suggest that the time devoted to PE and school in sport may influence weight status (Pallan et al, 2013). Although this study investigates primary school children in year six, the findings have partial significance to the review as it demonstrates that there are already issues with obesity prior to children attending secondary school.

A criticism of these results however, is the presence of weak or modest associations between physical activity participation and reductions in obesity, which may be the result of the multi-causality of obesity; numerous factors contribute to obesity, including diet and family life. Therefore, changes in these areas are also needed to accompany alterations in the time spent exercising to ensure that significant reductions in obesity and the risk of obesity are made (Stouffer & Dorman, 1999; Verduin et al, 2005) Following on from this, the impact of sports participation on the diet of young people will now be discussed.

2.3.3. Diet

Meyer et al (2000) suggested that a healthy diet is essential for the overall health of children during their vital years of growth and development. Following the onset of the obesity epidemic, the significance of a healthy diet has also been connected to a reduced risk of obesity.

Several researchers have begun observing the connection between sports participation and diet in young people. Cavadini et al (2000), Croll et al (2006), Ottevaere et al (2011) and Tomlin et al (2013) have all conducted studies surrounding this association and have concluded that adolescents who participate in sport have a healthier diet than their non-sporting peers. Tomlin et al (2013) observed the dietary patterns of 1421 Canadian 10-11 year olds. Through the use of two questionnaires and a 24-hour dietary recall, the sports participation levels and food intake of the participants were measured. The results indicated that those involved in organised sporting activity consume more calories, fat, fibre, fruit, non-flavoured milk and vegetables than those who do not participate in sport or physical activity. It was concluded that although the sporting group of participants consumed more calories, they have healthier diets and lower BMI's in comparison to their non-athletic counterparts.

Jago et al (2004) conducted a study on the relationship between physical activity and diet and found some association between the variables, but the results varied in accordance with gender. The study utilised activity monitors and dietary recalls to record the food intake and mean time of moderate to vigorous activity completed by 210 8-10 year old African-American girls. Whilst they found that increased physical activity was related to lower fat intake and lower BMI, it was also associated with higher carbohydrate intake.

While the above studies have found associations between the variables, there are research papers available which indicate that there is no relationship between sport and diet. Vissers et al (2013) observed 4 days of food diaries and 7 days of accelerometery for 1317 British children aged 9 and 10. No obvious association was present between diet and physical activity; there were no significant associations for females, and although there were some associations found for males, these were relatively weak. Thus, it was concluded that there was no relationship between the variables. Similarly, McNaughton et al (2008) could not find

a consistent relationship between physical activity and the dietary patterns of 764 Australian 12-18 year olds when analysing the results of the Australian National Nutrition Survey, with only their high sugar and fat consumption patterns related with high levels of physical activity. Although these two studies explored the association for different demographics and used different methods of data collection, the results appear to be the same.

Nonetheless, the results of the research papers on this topic appear to be mixed and articulate different information. Williams (2008) observed that whilst the results of the studies surrounding this topic are mixed, the dietary consumption of young athletes are deemed to be lacking in carbohydrates, energy and numerous micronutrients, particularly calcium, iron, folate and zinc, yet intake of fat is in excess. Beals, (2002); Christensen et al, (2005); Iglesias-Gutierrez et al, (2005); Lopez-Valera et al, (2000); Papadopolou et al, (2002); Ziegler et al, (2002). Similarly, Tomlin et al (2013) noted that less than 50% of the children in the sporting and non-sporting groups of this study met the recommended guidelines in regards to fruit and vegetables, and the sport group ingested more fat than that which is recommended. Thus, Williams (2008) claims that most studies indicate that many young athletes do not have adequate or healthy diets.

A considerable limitation of the research on this topic involved the issue of self-reporting dietary intake, whether this be through food frequency questionnaires or food diaries (Vissers et al, 2013). Due to the nature of the topic, participants may under-report or over-report consumption of certain foods, thus potentially affecting the accuracy, reliability and validity of the findings and conclusions (Vissers et al, 2013).

2.3.4. Diabetes

The rates of diabetes among young people are increasingly becoming a cause for concern in England (Townsend et al, 2013). A survey conducted by the Royal College of Paediatrics and

Child Health determined that in 2009 there were 22,783 young people aged 0-17 living in England with diabetes (approximately 97% of these had type 1 diabetes, and 3% had type 2 diabetes). These are the most recent statistics currently available. Diabetes has been associated with low physical activity levels as well as increased obesity rates (American Diabetes Association, 2007; NICE, 2011; Rocchini, 1999). Whilst the data concerning the impact sport or physical activity has on the prevention of diabetes is prevalent with regards to adults, this information for young people is scarce. However, one study conducted by Thomas et al (2009) explored the relationship between physical activity and intravenous glucose tolerance (*K*g) and resting energy expenditure (REE) in 32 American adolescents aged 12-18. The results illustrated that physical activity is significantly and positively associated with both *K*g and REE; as the levels of physical activity increased, the *K*g and REE simultaneously rose. Thus, it was concluded physical activity can be used to assist with the prevention of diabetes in young people.

2.3.5. Bone Health

Another physical health benefit of youth sport appears to be enhanced skeletal and bone health (Eime et al, 2013). McKay et al (2005) examined the effects of a daily, three minute, physical activity intervention on the changes in bone mass and structure in American school children. The results suggested that this exercise did improve bone mass at the weight bearing proximal femur in early pubertal young people (McKay et al, 2005). As this study investigated the effects of an extremely short amount of time exercising, it would be interesting to observe the results of a longer exercise time.

In general, it is clear that there is a range of physical health benefits of sports participation for children, which not only enhance the physical wellbeing of the individuals involved through

improving the health of their bones, but also potentially contribute to extending or saving their lives, through the decreased risk of chronic diseases and obesity.

2.4. The Psychological Health Benefits of Sports' Participation

There is an increasing amount of published research which focuses on the psychological health benefits of sports' participation. Numerous authors (Connoll et al, 2011; Biddle & Mutrie, 2007; Eime et al, 2013; Sagatun et al, 2007) claim that involvement in sport significantly improves mental wellbeing. This is particularly prevalent when discussing sport in relation to depression, anxiety and issues of self-esteem, which all contribute to life satisfaction.

2.4.1. Depression

Several research reports have focused on the effect sport has on symptoms of depression. Parfitt et al (2009) investigated the relationship between physical activity of varying intensities and the psychological health of 57 English 9-10 year olds. The results of this study indicated that those participating in very light physical activity are less likely to suffer from depression (Parfitt et al, 2009). Further research from England by Wiles et al (2011) concerning 2,951 14 year olds revealed that there is a modest relationship between physical activity and symptoms of depression. The results of this study suggest that those students who are more physically active self-report less depression symptoms, which therefore suggests that participation in physical activity decreases the likelihood of experiencing depression (Wiles et al, 2011). Whilst the results of these research papers are significant as they both originate in England, there are various issues concerning this evidence. The use of questionnaires which enable the individuals to self-report symptoms of depression can be seen as problematic due to the possible low accuracy and reliability attached to these. Therefore, the quality of methodology and thus, the results, are questionable.

2.4.2. Anxiety

The association between sport and anxiety has also been discussed in the available literature. In the same study as discussed above, Parfitt et al (2009) concluded that very light physical activity had positive correlations with anxiety amongst young people, whilst vigorous physical activity was negatively correlated with anxiety. Research has also been conducted on the impact of physical activity on specific subtypes of anxiety. Dimech and Seiler (2011) examined the relationship between sport and social anxiety amongst 208 Swiss 7-8 year olds over a 2 year period. Their results illustrated that participation in sport can act as a buffer against social anxiety symptoms in children. Several differences within the variables were discovered; girls report greater levels of symptoms at both data collection points which corroborate the findings of Essau et al (2004) who also found that boys report less social anxiety symptoms. Furthermore, those participating in team sports were found to report less symptoms than those involved in individual sports. It should be noted that this study focused on primary school children and therefore, the results may not be applicable for other populations and age groups. Nonetheless, it provides a knowledge base to enable future research to create a broader and more holistic representation of the relationship between anxiety and sport. It appears that there are few studies dedicated to the association between anxiety and sport from the last 10 years. Therefore, new research is needed to provide information on the current situation regarding this topic.

The levels of self-esteem within children have also been related to sports participation. Slutzky and Simpkins (2009) compiled data concerning three groups of elementary aged children, their parents and their teachers, and found that students who spent more time in team sports rather than individual sports, reported higher levels of self-concept and therefore higher self-esteem, than their non-sporting peers. The authors concluded that the type of sport

affects the amount of self-esteem the students held (Slutzky & Simpkins, 2009). This difference could be associated with the different dynamics and structure of the two types of sport. Dunton et al (2006) produced cross-sectional research which examined whether physical activity was more closely associated with self-concept within 103 14-17 years old females. The results indicated that participation in physical activity at a level which will increase fitness could assist in enhancing self-esteem or protect against reductions in self-esteem (Dunton et al, 2006). Levels of self-esteem can be seen to be associated with emotional wellbeing. Donaldson and Ronan (2006) investigated the relationship between the sports participation of 203 adolescents and their emotional wellbeing, including self-reported behavioural and emotional problems. The results suggested that increased involvement in sport had a positive association with elements of behavioural wellbeing, especially self-concept (Donaldson & Ronan, 2006).

In summary, many researchers have examined the connection between sports participation and the possible psychological benefits this has on school aged children. Whilst there are numerous types of benefits reported, the quality and significance of the results of the studies are problematic and can also be disputed. Although it is interesting to observe the different populations, interventions and methodologies of each research paper, the heterogeneity makes it difficult to draw conclusions concerning the association between sport and health. Moreover, the lack of follow up data has resulted in a gap in the literature concerning the degree to which the effects of sport and the programmes are maintained overtime, in addition to unknown causality.

2.5. The Negative Aspects of Sport Participation

In their review, Choi et al (2014) recognise that sports competition can be either positive or negative in terms of child development, depending on how experiences are perceived by children and how competitions are designed. Amongst these negative aspects, Choi et al (2014), amongst other researches, acknowledge that competition can reinforce unacceptable and impractical behaviors such as poor social skills, unrealistic expectations, and poorly developed self-concepts. Linked to this, competition can diminish the enjoyment of the sports activities that have become competitive and can bring down self-esteem and self-confidence, as someone always has to be the loser.

They recognised that in youth sports many children are playing to win and with this, the pressure to compete can cause children to experience psychological stress disorders with distinct symptomatic behaviors and feelings of mental exhaustion. It was also recognised that competition can produce anxiety, pressure, and stress, but they go on to say that competitive sports are no more anxiety-evoking than other experiences such as test taking in the classroom. Another consideration is injury. Abernethy and MacAuley (2003) recognise that school sport is not risk free and that most injuries (predominantly minor injuries) in school occur during sport.

2.6. Sports' Participation and Academic Achievement

All organized sports allow youth the opportunity for physical activity. Considerable research exists documenting a positive relation between levels of physical activity and academic achievement. This research varies from correlation studies documenting positive relations between self-reported levels of physical activity and academic performance (Stevenson, and Lochbaum, 2008), to longitudinal studies demonstrating improved grades after physical activity interventions among student populations over several years (Shephard, 1997). Evidence from

longitudinal studies suggests that children will not suffer academically even if they spend over an hour of in-school time doing physical activity (Ahamed et al, 2007; Sallis et al, 1999).

Several researchers have sought to explain the mechanisms by which physical activity may increase academic achievement. A recent review of the effects of physical activity on children's intelligence, cognition, and academic achievement revealed beneficial effects of physical activity on the brain. Results of several cross-sectional studies indicated that children who are physically fit perform cognitive tasks more rapidly and display patterns of neurophysiological activity indicative of greater mobilization of brain resources than do less fit children. Additionally, there is evidence that exercise training improves children's performance on tests of executive functioning, which are the processes required to initiate goal-directed action (Tomporowski, et al, 2007). Taken together, these studies suggest that fitness gleaned from physical activity may help children perform academically.

The above findings are important in light of the substantial pressure on students, teachers, and administrators maximize academic performance, which has made it difficult for school administrators to devote time to school-based physical activity. Additionally, the findings address the perception that time spent on nonacademic pursuits negatively impacts children's performance in school (Ahamed et al., 2007). Finally, the findings suggest that the physical activity provided by organized sports participation may contribute to an increase in academic achievement.

In addition to the opportunity for physical activity, organized sports may offer additional benefits that help students succeed academically. Several studies have specifically examined the relationship between sports participation and academic achievement. There is evidence from these studies that athletes who have higher levels of sports participation outperform lower participation athletes and non-athletes in measures such as overall GPA, math GPA,

and class rank. Findings span both the middle and high school levels (Stegman& Stephens, 2000; Stevens &Schaban, 2002).

In addition to improved grades, research has shown that sports participation is related to positive feelings about school, such as looking forward to core curriculum classes. Additionally, sports participation is related to a decrease in school-related social conduct problems such as fighting and misbehaving (Braddock, Royster, Winfield, &Hawkins, 1991). Examining sports participation in relation to GPA and behavioral characteristics includes a risk of various confounding variables, such as socioeconomic status (SES), race, and parents' educational attainment. Studies have controlled for these variables, finding that sports participation still predicted GPAs and standardized test scores among high school students (Cooper, Valentine, Nye, & Lindsay, 1999). In addition to demographic factors, the opportunity for physical activity may be a confounding variable between sports participation and academic achievement. However, there is evidence that even after controlling for physical activity, sports participation uniquely contributes to GPA among high school students (Fox, Barr-Anderson, Neumark-Sztainer, & Wall, 2010).

Although correlation studies such as the ones described above demonstrate a relation between sports participation and academic achievement, the possibility exists that athletes had higher levels of achievement prior to beginning sports programs. Longitudinal studies provide and interesting lens through which to view the effects of sports participation on academic achievement. A study that followed students through several years showed similar effects of sports participation on academic achievement (athletes had higher GPAs than non-athletes) and attitudes towards school (sports participants liked school more than non-participants), even after controlling for parental education and prior achievement (Eccles, Barber, Stone, & Hunt, 2003). Further longitudinal research found more positive characteristics associated with sports participation: A multiple regression analysis revealed that elite athletes were more

likely to have completed postgraduate education, to be employed, and to have high income, even after controlling for sex, ethnicity, SES, and academic grades (Carlson, Scott, Planty, & Thompson, 2005). Taken together, these studies suggest that participation in sports contributes to higher levels of academic achievement at various grade levels.

There is a growing body of research, both in the UK and internationally, which has found a positive association between participation in physical activity, and higher academic performance in young people (Chaddock et al, 2012; Singh et al, 2012; Lleras, 2008; Trudeau and Shepard, 2008; Strong et al, 2005; Taras, 2005). Amongst this research there are some key reviews which have studied the influence of physical activity on academic performance (Trudeau and Shepard, 2008; Singh et al, 2012 and Taras, 2005). In detail:

Trudeau and Shepard (2008) reviewed the literature on the relationship between PE, school physical activity and school sports on academic performance. They concluded that physical activity can be added to the school curriculum by taking time from other subjects without the risk of hindering student's academic achievement. Further conclusions were made stating the literature strongly suggests that academic achievement, physical fitness and health of children will not be improved by limiting the time allocated to PE instruction, school physical activity and sports programmes. It was also reported that cross-sectional studies generally indicate a positive association between physical activity and academic achievement.

A review by Singh et al (2012) aimed to describe the prospective relationship between physical activity and academic performance, focusing only on longitudinal studies. It was concluded that participation in physical activity is positively related to academic performance in children, however only 2 high quality studies were found and the need for future high-quality studies was highlighted. These future studies should also examine the dose-response

relationship between the two variables as well as explanatory mechanisms for this relationship.

Taras (2005) reviewed literature investigating the association between physical activity and academic outcomes among school-aged children. It was recognised that physical activity is well associated with improved overall health and that among school-aged children it can help develop social skills, improve mental health, and reduce risk-taking behaviours. It was concluded that there may be some short-term benefits of physical activity, such as concentration. The long-term improvement on academic performance is a result of more vigorous physical activity but further research is needed in this area.

2.6.1. Test Results and Grades

A key indicator of this educational success is improved test results and overall grades. Recent research in the UK, undertaken by Booth et al (2013), investigated associations between physical activity and academic attainment in UK adolescents. Accelerometer data on 4,755 11 year olds were used from the Avon Longitudinal Study of Parents and Children and linked with nationally administered school assessments in English, Mathematics and Science at ages 11, 13 and 16. It was concluded that regular moderate to vigorous physical activity improves adolescents' academic performance, and particularly seems to help girls do better in science. A dose-response relationship was identified, whereby the more intensive exercise undertaken, the greater the impact on test results. This further emphasises the need for young people to undertake regular physical activity of moderate to vigorous levels. This research is of key significance, due to positive associations and its research design (longitudinal and an objective measurement of physical activity).

An American study by Nelson and Gordon-Larsen (2006) found that from a cohort of 11,957 American seventh to twelfth graders, those who were active were more likely to achieve higher grades in Mathematics and English. In agreement with these findings, Lipscomb (2007) found that participation in sport amongst 16,449 American eighth graders was associated with a 2% increase in Mathematics and Science tests scores and a 5% increase in Bachelor degree attainment expectations. Both of these studies used self-reported levels of physical activity.

In a similar manner, Sigfúsdóttir, Kristjánsson & Allegrante (2007) explored the relationship between self-reported physical activity and academic achievement in 5,810 Icelandic 14 and 15 year olds. They concluded that the correlation between the two variables was positive, although only of modest strength. Despite the similar age ranges of these studies, the strength of the impact of physical activity appears to vary in accordance with the country in which the study took place. These varying degrees of impact may be the result of the intensity, quality or type of activity participated in and possibly linked to cultural differences. The above studies using self-reported physical activity data rely upon subjective data which is liable to inaccuracies, whereas studies that use objective measures such as accelerometer data are of higher quality as in the study undertaken by Booth et al (2013).

2.6.2. School Attendance

Another of the reported outcomes related to academic performance was school attendance rates and school engagement of young people. Large cross-sectional studies have shown a positive relationship between participation in sports programmes and school attendance and between physical fitness and school attendance (Stead and Neville, 2010). Welk et al (2010) also suggested that health-related fitness is positively associated with school attendance. However, this increased attendance is insignificant if the students do not focus, think and

behave appropriately, and work productively whilst they are at school. The other performance indicators relate to these broad topics, which it could be argued, are more difficult to measure.

2.6.3. Attitudes and Aspirations of High School

The attitude of students has the potential to greatly affect their grades as this directly influences their behaviour and the effort they put into their work. Darling, Caldwell and Smith (2005) measured the attitudes which 3,761 American high school students held towards school. Through the use of a questionnaire, the participants reported their value and commitment to school on a 4-point scale from 1 (strongly agree) to 4 (strongly disagree). The results of this suggested that participants in extra-curricular sport had more positive attitudes to school than those pupils who did not participate in this activity. Moreover, Stead and Neville (2010) recognised that PE, physical activity and sport have been shown to positively impact the extent to which young people feel connected to their school, the aspirations of young people and the positive social behaviours which exist within their school.

Similarly, Darling, Caldwell and Smith (2005) also discovered that young adolescent athletes also hold higher academic aspirations than non-athletes, when asked what was the highest level they expect to reach in school is. This was ranked using a 1-6 rating scale of likeliness of staying at school by each research participant. Additionally, this study revealed that the more time spent participating in sport, the higher the individual's aspirations were. Thus, it is unsurprising that academics have claimed that sport increases the effort which young people exert academically.

2.6.4. Behaviour at School

Jonker et al (2010) found that elite Dutch football players aged 12-16 self-reported higher levels of effort; willingness to achieve a task goal, in school than the control group who did

not participate in sport. In a similar way, it is unsurprising that Mahar (2011), reported increased and improved on-task behaviour amongst American elementary school students following short bouts of physical activity in a classroom setting. Stead and Neville (2010) also contribute to this topic of researching by noting that as little as 10 minutes of additional organised physical activity in or outside the classroom implemented into the school day improves classroom behaviour, and consequently may enhance academic performance.

2.6.5. Learning Abilities

These outcomes of sporting participation on academic performance can be seen as the result of non-sporting skills and habits which sport can teach individuals. The enhanced learning abilities of students are often noted as an example of this. Schilling et al (2006) report that being active and moving during play facilitates verbal, visual, and kinaesthetic learning, whilst Jonker et al (2010) mention an increased use of self-regulatory skills amongst athletes, particularly effort, monitoring and evaluation. These findings are also reflected in the work of Pfeifer and Cornelißen (2010) who concluded that sport encourages the development of behavioural habits such as discipline; increases young people's motivation and confidence, and assists in the teaching of skills such as following instructions. Thus, this not only leads to an increased willingness to reach their potential, but also provides them with the basic skills needed to do this.

Another positive outcome of sporting participation is increased productivity as a result of enhanced attention. Castelli et al (2007) and Kamijo et al (2011) both reported that young people who are more physically active appear to have greater allocations of attention resources for the working memory, which will undoubtedly help them when learning in school. These improved attention abilities can be attributed to a variety of cognitive changes which alter the structure and function of the brain (Hillman et al 2012). There is evidence that

physical activity improves circulation, increases blood flow to the brain and raises levels of norepinephrine and endorphins – all of which may reduce stress, improve an individual's mood and have a calming effect on the individual, which as a result may improve academic performance (Taras, 2005; Fleshner, 2000; and Morgan, 1994). Many studies have also implied that participation in sport improves and quickens cognitive processing (Buck, Hillman, and Castelli 2008; Castelli et al, 2007; Hillman et al, 2009; Tomporowski et al, 2007; Van Dusen et al, 2011), thus enhancing mental alertness, concentration and focus (Bailey, 2006; Basch, 2010; Beets et al, 2009; Brisswalter et al, 2002; Cotman and Berchtold, 2002, Trudeau and Shepard, 2008).

These cognitive changes coupled with improvements in attitude, aspirations, attendance, effort and on-task behaviour facilitate increased productivity in lessons, therefore improving the likelihood of achieving better academic grades (Pfeifer & Cornelißen, 2010). In this way, the evidence from the journal articles reviewed suggests that the impact of sporting participation upon academic performance is significantly positive due to the extensive range of outcomes.

Overall Conclusion

Based upon the literature reviewed here, there are clear, academically backed findings that indicate the positive role of sport-related forms of physical activity. It is a challenge to relate the direct role of competitive school sport to these known associations. It can be presumed that as these exist from participation in physical activity, that participation in competitive sport will reflect these. The question that remains is whether it further strengthens this association. A review by Choi et al (2014) addresses this gap in the literature, recognising the wide range of positive outcomes that exposure to sports competition can have on children early in life (behavioural, physical and psychosocial). Most notably, through competition

children are provided with excellent opportunities to build their skills, develop their social adjustment; integration and emotional growth. Competition is also thought to contribute to children's ability to work with others in the achievement of shared goals. When it comes to long-term success, competition helps children be better prepared for the challenges they will face in the future, whilst helping them to learn effective emotional and psychological skills and strategies to deal with winning and losing, as well as success and failure (Choi et al, 2014).

In conclusion, the research says there is a positive association between participation in sport-related forms of physical activity and students' academic performance and wellbeing. There is a place for sport in schools but further research is needed to explore the benefits of competitive school sport on the progress we expect young people to make. This is especially needed in the areas of young people with physical and mental disabilities. Teachers in schools need to be mindful when providing competitive school sport, that they provide a positive experience for all their young people and not just the best.

CHAPTER THREE
RESEARCH DESIGN AND METHODOLOGY

In this study the association between sports' participation and academic achievement of preparatory school students of Adama Town, Oromia Regional State, Ethiopia, is researched. Theoretical knowledge was obtained from literature and the study was done with the help and information provided by Adama Town Education Office and the Four Preparatory schools' administrations.

3.1. Research Design

The research made use of both qualitative and quantitative research approaches in order to capitalize on the strength of both approaches and compensate for the weakness of each approach. Qualitative and quantitative approach should not be viewed as popular opposite or dichotomies; instead, they represent different ends on a continuum (Newman & Benz, 1998). Qualitative approach particularly is selected as it represents a comprehensive and in-depth observation, description, explanation, analysis of many components of a given social situations or analysis of individual case through exploring attitudes, behavior and experiences by using such research techniques like interview, focus group discussions, and unstructured and semi-structured questionnaires. It is also preferred due to the fact that the research involves empirical inquiries and assists to collect as many data as possible about the subject under study. On the other hand, quantitative research approaches such as descriptive survey design is employed as it produces quantitative information about the social world and describe feature of the characteristics of large population, and analyze several variables simultaneously.

Descriptive research includes surveys and fact-finding enquiries of different kinds. The major purpose of descriptive research is description of the state of affairs as it exists at present. For

this research, a descriptive survey design was applied. The data were collected at one point in time from a predetermined population. The variables are measured once through a survey to reach valid conclusion. This design is sought to ascertain respondents' opinion on a specified subject in a structured manner. This design is appropriate for this study because all the elements would be investigated at the same point in time. The reason for selecting descriptive survey is that this research involves assessing the participants' opinion.

3.2. Population and Sampling Technique

The population of study area consisted of 345 grade 11 and 12 students who participated in sports activities during 2008 E.C. academic year. They attended in four preparatory schools in Adama Town, East Shoa Zone of Oromiya Regional State, Ethiopia. Students were eligible for inclusion in the study if they participated and were attending one of the four preparatory schools in the study area. A sample size of 245 participants were drawn from the four preparatory schools purposively selected to constitute the sample for the study which is 71% of the population and this is within the benchmark of a representative sample size (i.e. 30% and above of the population). A total of Ten (10) interview respondents were purposively approached from among sport teachers, school directors, Education Officials and Club trainers. The sampling technique used was the purposive sampling technique.

3.3. Data Collection Instrument

The study used both primary and secondary data collection methods. Primary data were collected through self-administered questionnaires and interview guide questions. The researcher personally delivered the questionnaires to the respondents to be collected later through the drop and pick later method. The questionnaire was divided into two parts: The first part aimed at collecting demographic information of the respondents while part two

sought to collect information based on the research questions posited for the study. In this part, there are dominant behaviors that include the academic achievement and the discipline condition of the student. The instrument was structured to elicit the degree of agreement with the item statements based on a 5 points Likert scale of Very Well (5), Pretty Well (4), medium (3), Not Too Well (2), and Not Well at all (1). The instrument for this study was validated by experts in measurement and evaluation. Secondary data were collected from books, journals (articles) and internet sources to enrich the literature. The data were used to establish the theoretical framework and to design questionnaire. The main advantage of using secondary data for this research was to validate and compare the data obtained through questionnaire.

3.4. Procedures of Data Collection

After securing permission from the Adama Town Education Office and the four Preparatory schools to perform the study, the researcher began collecting data. Participants were approached from four preparatory schools in Adama Town, East Shoa Zone of Oromiya Regional State to obtain their consent. The instrument was personally administered by the researcher to the respondents and they were given some time to respond carefully and objectively to the instrument, after which it was collected from them. Data collection took place and surveys were completed during 2008 E.C school year. There were minimal risks associated with participation in this study because the questions in the self-report questionnaire were filled at the convenience of participants. Results of the study would also be provided to those who ask after the conclusion of the principal researcher's thesis defense.

3.5. Piloting of the Quetionnaire

In order to determine the reliability of the instrument, the instrument was pilot tested on students randomly selected other than study participants. They were given the questionnaire to answer and after a period of one week the same instrument was given to the same students again to answer, after scoring the instrument the reliability index was determined using Pearson Correlation Coefficient. A 0.76 correlation coefficient was obtained which is within the reliable benchmark of 0.60 to 1.00 (Ness, A.R. et al., 2007).

3.6. Data Analysis Technique

The 19.0 version of SPSS program is used to analyze the collected data. Data collected were analyzed using descriptive statistics. First of all descriptive statistics were used to define demographic variables of this study. Second, a t-test (Pearson correlation) was used to assess the relationship between demographic variables and sports participation on academic achievement and behavioral development of students. Third correlation coefficients were applied to indicate the relation between independent variables and dependent variable. Finally regression analysis was conducted to understand how well the independent variables predict the academic achievement and behavioral development levels.

Dependent Variables are Academic Achievement and behavioral development while independent Variable is Sport Participation. Accordingly, the first set of scales measures academic self-capability was adapted from Bandura's (1989) Multidimensional Self-capability Scales. Perceived capability for academic achievement measures participants' belief in their capabilities to master different areas of coursework, including mathematics, science, biology, reading and writing language skills, computer skills, and social studies (see Appendix A).

A second set of scales measures perceived capability for self-regulated learning. Specifically, these scales assess student's ability to structure environments conducive to learning, to plan and organize their academic activities, to use cognitive strategies to enhance understanding, to obtain information and get help when needed, and to motivate themselves to do their schoolwork (see Appendix A).

The third set of scales measures athletic self-Capability using Vealey's (1986) Trait Sport Confidence Inventory. The Trait Sport Confidence Inventory measures how confident athletes generally feel when they compete in their sport. It consists of 13 items that are summed together to form an indicator of self-confidence. The respondents were instructed to compare their self-confidence with the most successful sports person they know and then rate themselves on a 5-point scale (see Appendix A).

CHAPTER FOUR
DATA PRESENTATION, ANALYSIS AND INTERPRETATION

This section presents the findings of the results obtained from the survey questionnaires, interviews and document analysis. The results of each data collection method used are presented below. Although participants from the four preparatory schools were aggregated together to have enough power to address the research questions, they differed in regard to the following variables: percentage of sport participants from their samples, academic achievement levels (Grade Scores), and personal development.

4.1. Presentation and Analysis of data collected from Questionnaire

4.1.1. Demographic Data

Demographic information of the respondents was considered necessary because it allowed the researcher to determine whether the target audience was being reached and if the information sought was being gathered. Furthermore, if a researcher aims for a representative sample of a population, knowing the distribution of the demographic characteristics of respondents will help in determining how close the sample replicates the population. The information sought was age and gender of the respondents, grade level of education, and preparatory school name.

A total of 245 questionnaires were sent to participants selected from four preparatory schools of Adama Town in Oromia Regional State. There are only two government and two private preparatory schools in Adama Town. Due to realistic difficulties, purposive samples were used for the study. Of all the participants, 204 questionnaires were returned, yielding a response rate of 83% of the respondents.

Table 4.1 below shows the demographic data that 106 (52%) were male and 98 (48%) were female. Regarding the age of the respondents, more than 41 % of respondents belong to the age category of 16-17 years and 47% belong to the age category of 18-19 years. The remaining 12% were found between the ages of above 20 years. Also regarding to educational levels 46% of the participants were grade 11 students and the remaining 54% of the respondents were grade 12 level students as indicated in table 4.1 below. The implication is greatly positive in that respondents would have a moderate level of understanding for the relationship between their sport participation and academic achievement; to that effect this empirical study would benefit from the data collected from these participants.

Table 4.1: Respondents Background Characteristics

S.N.	Item	Frequency	Percentage
1.1	Age:		
	a) 16-17 years	85	41
	b) 18-19 years	98	49
	c) Above 20 years	21	10
	Total	204	100
1.2	Sex: a) Male	108	52
	b) Female	96	48
	Total	204	100
1.3	Educational level:		
	a) Grade 11	94	46
	b) Grade 12	110	54
		204	100

Source: own Survey 2016

Preparatory school students were selected for this study because sport is a frequently participated activity among voluntary activities for students allowing the researcher to compare between sports in public and private preparatory schools. Additionally, preparatory school students have had more time to develop personal capability beliefs based on

reciprocal experiences with their environment, making them better suited to explore the relations between their capability and other variables.

According to table 4.2 below, participants identified that they belonged to public and private Preparatory Schools with a percentage of 66% and 34, respectively. All of the respondents participated in personal or organized sport activities which include Bicycle, Volleyball, Football, Athletics and Other sporting types. Of these sporting activities, Athletics and Football were the major activities respondents participated by taking the 80% share. This implies that the study has a high degree of probability to describe the relationship between participating in sport and academic achievement among preparatory school students.

Table 4.2: Respondents School Type and Sport Participation

S.N.	Items	Frequency	Percentage
2.1	Preparatory School Name and Type		
	a) Nafiad Preparatory School (Private)	22	11
	b) Saint Joseph Prep. School (Private)	47	23
	c) Hawas Prep. School (Public)	82	40
	d) Goro Prep. School (Public)	53	26
	Total	204	100
2.2	Do you currently participate in sports program?		
	a) Yes	204	100
	b) No	-	-
	Total	204	100
2.3	If your answer for question no. 2.1 is yes, which one?		
	a. Bicycle	10	5
	b. Volleyball	15	7
	a. Football	60	30
	b. Athletics	102	50
	e. Others_____	17	8
	Total	204	100

Source: own Survey 2016

In Table 4.3 below, it is indicated that majority of respondents (90%) scored above 61% out of 100% in their class mark; we can conclude that there is strong association between the involvement in sport activities and the academic performance of the respondents. Our results are supported by these data in which the researcher has found positive association between the sport activities and the academic performance. This also supported the study that co-curricular activities have proved very productive in enhancing the academics of the students, although these activities are not directly related to the subjects of the students.

Table 4.3: Cross tabulation between percentage Class Mark and School Name and Type

No.	Question Item	School Type	
		Public	Private
2.4	What percentage of marks you got in last Semester grade report card? a) < 60 %	11(6%)	7(3%)
	b) 61%-70%	22(11%)	10(5%)
	c) 71%-80%	59(29%)	21(10%)
	d) above 80%	43(21%)	31(15%)
		204 (100%)	

Source: own Survey 2016

A t-test was used to test for mean differences in Class Mark between Public and Private Preparatory Schools. A significant difference was found, t (204) = 2.75, p = .01, d = .70), indicating that private school respondents had higher class marks than public school respondents.

Although the four Preparatory schools from which the participants were pooled together to answer the primary research questions, they were different types of educational settings (Two Public preparatory versus Two Private Preparatory schools) and demographic differences existed. Thus, a t-test was then used to test for mean differences in Class Marks between

public and private schools. A significant difference, t (204) = 7.25, p <.001, existed with there being over a one-point difference in average Class Mark between public and private schools. Given the large difference in sport participants; public schools having a higher percentage of average class scores.

4.1.2. Results on the Sport Participation and Academic Achievement

The respondents were asked to indicate their level of agreement or disagreement on a 5 point Likert scale response with values ranging from 1- Not Well at all to 5 – Very Well on various survey questionnaire items that are closely related to each level of academic performance and sport participation on respondents' opinion. In order to facilitate the interpretation of the results, the researcher combined all responses that are well performed (pretty and very well) to represent their agrement, and all that are not well performed (Not Too well and Not Well at all) to represent their disagreement and all the responses that indicate medium to represent respondents neutral position to the items.

Since student's personal capability for learning and development is most effectively measured when tailored to its functional tasks, this study examined both academic and sport capabilities in relation to academic achievement and sports' participation, respectively. Specifically, this study asked whether student's personal capability for learning and development was related to sports' participation and academic achievement. Additionally, given evidence that personal capability can be transferred across domains, this study examined whether athletic ability was related to academic ability.

As shown in table 4.4 below, 73% of the respondents with a mean value of 3.86 agreed that they learn general mathematics would have favorable effects on level of their academic personal capability, whereas 74% (mean of 3.91) of the respondents agreed that they learn Science to improve their academic capability, Biology with 57% (mean of 3.59) of the respondents, whereas 59% (mean value of 3.28) of the respondents learn reading and writing skills, 70% (mean of 3.83) of respondents claimed they learn to use computers to develop their academic personal capability. Moreover, majority of participants expressed that they learn local languages, social studies and English grammar in connection to improving their personal academic capability.

Table 4.4: View of Students on the Level of their Academic Capability

III	**How well can you**	**1**	**2**	**3**	**4**	**5**	**Mean**
3.1	Learn general mathematics?	3% (8)	7% (15)	14% (30)	46%(95)	27% (56)	3.86
3.2	Learn Science	3% (7)	4% (10)	17% (35)	46% (94)	28% (58)	3.91
3.3	Learn biology?	3%(8)	9%(19)	28%(59)	39%(80)	18%(38)	3.59
3.4	Learn reading and writing skills?	16%(33)	18%(37)	5%(11)	41%(85)	18%(38)	3.28
3.5	Learn to use computers?	5%(11)	5%(12)	18%(37)	41%(84)	29%(60)	3.83
3.6	Learn Local languages?	7%(15)	19%(39)	5%(11)	28%(58)	39%(81)	3.05
3.7	Learn social studies?	16%(33)	18%(37)	5%(11)	18%(38)	41%(85)	2.79
3.8	Learn English grammar?	3%(8)	10%(21)	10%(22)	35%(72)	39%(81)	3.39
						Aggregate Mean	3.46

Source: Own Survey 2016 (Key: 1=Not well at all, 2=Not too Well, 3=Medium, 4=Pretty Well and 5=Very Well)

A t-test was conducted to test for differences in academic personal capability between respondents (M= 3.46). Results indicated that respondents had significantly higher levels of academic personal capability. Then, a Pearson correlation was used to examine whether a relation existed between academic personal capability scores and Class marks. A significant

positive correlation was found ($r = .45$, $p < .01$) between scores on the academic capability measure and students' current Class Marks. The present study also supported that respondents had higher academic capability scores which examined the relation between academic personal capability scores (Table 4.4) and Class Mark (Table 4.3).

A significant positive relation was found between these two measures. By finding a positive relation between academic capability scores and Class Marks, this study extended the existing body of research suggesting that academic capabilities are positive predictors of students' academic success. The positive relation between academic capabilities scores in this study suggest that participants had an accurate awareness of their abilities to perform in the school setting. Additionally, the fact that data were collected at the end of the participants' school year that the majority of students were at least in their second year of preparatory school, is evidence for the reciprocal nature of academic capability and the individual's environment. Having already had at least a year of preparatory school may have enabled students to receive enough feedback from their academic environment to develop accurate capabilities.

Table 4.5. below shows the levels of agreement and disagreement to the questionnaire items that were used to assess students' ability in sports. The results show that the majority of the respondents have a high degree of sport ability as indicated with 72% (scale mean value of 3.77) of the respondents believe to execute the skills necessary to be successful in sport capability, 81% (mean of 4.08) believe that they make critical decisions during competition and be capable of successfully performing their duties, 72% (mean of 3.80) believe that they perform under pressure and, 68% and 87%(mean of 3.77 and 4.21, respectively) of the respondents expressed their believe that to execute successful strategy and to concentrate well enough to be successful, respectively.

Table 4.5: Views of Students on their Sport Capability

IV	Students Ability in Sports to:	1	2	3	4	5	Mean
4.1	execute the skills necessary to be successful	3%(8)	8%(18)	14%(29)	51%(106)	21%(43)	3.77
4.2	make critical decisions during competition	2%(5)	4%(9)	11%(23)	46%(94)	35%(73)	4.08
4.3	perform under pressure	2%(6)	8%(18)	16%(33)	49%(100)	23%(47)	3.80
4.4	execute successful strategy	4%(10)	6%(14)	19%(40)	43%(89)	25%(51)	3.77
4.5	concentrate well enough to be successful	0%(2)	4%(9)	7%(15)	47%(96)	40%(82)	4.21
4.6	adapt to different game situations	3%(8)	4%(10)	26%(55)	36%(74)	27%(57)	3.79
4.7	achieve competitive goals	2%(6)	7%(16)	23%(47)	40%(82)	25%(53)	3.78
4.8	be consistently successful	3%(7)	6%(14)	31%(64)	29%(60)	28%(59)	3.73
4.9	think and respond successfully during competition	2%(5)	8%(18)	20%(41)	40%(83)	27%(57)	3.83
4.10	meet the challenge of competition	3%(7)	6%(14)	31%(64)	28%(59)	29%(60)	3.74
4.11	be successful even when the odds are against you	3%(8)	10%(21)	10%(22)	35%(72)	39%(81)	3.39
4.12	bounce back from performing poorly and be successful	4%(9)	6%(13)	13%(25)	37%(75)	40%(82)	4.02
						Aggregate Mean	3.84

Source: Own Survey 2016 (Key: 1=Not well at all, 2=Not too Well, 3=Medium, 4=Pretty Well and 5=Very Well)

Likewise, majority of participants stated that their sport ability to adapt to different game situations with 63%(mean of 3.79), to achieve competitive goals with 65%(3.78), to be consistently successful with 57%(3.73), to think and respond successfully during competition with 67%(3.83), to meet the challenge of competition with 57%(mean of 3.74), to be successful even when the odds are against them with 74%(mean of 3.39) and finally to bounce back from performing poorly and be successful with 77%(mean of 4.02) to the level of

agreement by the respondents to all students' ability in sports questionnaire items are significantly high. The study examined whether sport capability was related to academic capability for participants. A Pearson correlation was used to examine whether a relation existed between scores on the academic capability measure and scores on the sport capability measure.

The results in table 4.6 below indicate a high level of student's personal capability for learning and development questionnaire items. About 88% of the respondents with a likert scale mean of 4.30 agreed that they finish homework assignments by deadlines, while 92 % (mean of 4.34) of the respondents agreed that they study when there are other interesting things to do. About 87% (mean=4.21) of the respondents agreed that they concentrate on school subjects, whereas 75% (mean=4.03) of the respondents agreed that they take class notes of class instruction. About 47% (mean=3.39) of the respondents agreed that they use the library to get information for class assignments if 40% of these respondents remain neutral to this same item. A majority 60% (3.74) of them Plan their schoolwork, 74% (mean=3.85) of these informants were of the opinion that they organize their schoolwork, and 67% (mean=3.70) claimed that they remember the information presented in class and textbooks. Likewise, majority of participants had the opinion they did well in arranging a place to study without distractions, motivating themselves to do schoolwork and participating in class discussions.

Table 4.6: Level of Student's Personal capability for learning and Development

V	How well can you:	1	2	3	4	5	Mean
5.1	Finish homework assignments by deadlines?	2% (5)	2% (5)	8% (15)	37% (77)	51% (102)	4.30
5.2	Study when there are other interesting things to do?	1% (2)	1% (2)	6% (11)	48% (99)	44% (90)	4.34
5.3	Concentrate on school subjects?	1% (2)	4% (9)	8% (15)	47% (96)	40% (82)	4.21
5.4	Take class notes of class instruction?	3% (7)	5% (11)	15% (31)	36% (74)	39% (81)	4.03
5.5	Use the library to get information for class assignments?	3%(8)	10%(21)	40%(81)	37%(72)	10%(22)	3.39
5.6	Plan your schoolwork?	7%(14)	3%(7)	30%(60)	29%(59)	31%(64)	3.74
5.7	Organize your schoolwork?	7%(16)	5%(11)	11%(23)	44%(91)	30%(63)	3.85
5.8	Remember information presented in class and textbooks?	3%(8)	18%(38)	9%(19)	39%(80)	28%(59)	3.70
5.9	Arrange a place to study without distractions?	5%(11)	11%(23)	7%(16)	30%(63)	44%(91)	3.25
5.10	Motivate yourself to do schoolwork?	4%(10)	17%(36)	3%(8)	32%(67)	40%(83)	3.13
5.11	Participate in class discussions?	5%(12)	10%(21)	13%(28)	38%(78)	31%(65)	3.44
						Aggregate Mean	3.76

Source: Own Survey 2016 (Key: 1=Not well at all, 2=Not too Well, 3=Medium, 4=Pretty Well and 5=Very Well)

The study measured the direct and indirect relations among variables simultaneously. Results did not indicate a significant direct effect of sports' participation on Class Marks; however, results indicated that an indirect relationship existed between sports participation and academic achievement through the influence of personal capability for learning and development. Thus, personal capability for learning and development partially mediates the relationship between sports participation and academic achievement.

4.2. Presentation and Analysis of Data from Open-ended and Interviews Questions

From the open-ended questionnaire items, majority of the respondents replied that the following are some of the major challenges that respondents' perceived to be faced by preparatory schools: Lack of attention of sport participants in the schools: the school administrations is facing budget constraint to support students who participate in sports so that their academic performance would not be affected.

These respondents also suggested the following major solutions to overcome those challenges. For student sport participants to be successful in their academic performance, the school administrations, coaches and parents should try to support them both during sport events and activities and school activities. The support should be by way of resources (financial, facilities).

To complement data obtained from the survey questionnaire, key informant interviews were conducted with education officials, school administrators, sport teachers and coaches to obtain data relating to their opinion about students who participate in sports. The responses of a total of Ten (10) key informant interviews were analyzed. The researcher used the questions contained in the interview related to the academic performance of students who were involved in sport activities.

All of the interview respondents had educational level of 1st Degree and above. The implication is greatly positive in that educated staff would have a good understanding of and empirical experiences in relation to sport participation and students' academic performance to the benefit of this study. According to the data collected form the interviewees, most of them assumed their current position as school administration, coaches and sport teachers from the beginning so that they had the depth and breadth of sport participation and academic

performance by students. Educational administrators of the schools under study also expressed their awareness about students who participate in sport activities and helped them achieve their academic performances by scheduling some tutorials and exam periods. Likewise, respondents' background data evidenced that more than 6(60%) of the respondents have been working for more than 6 years which gave them the opportunity to have a good understanding about sport participation and academic achievement of students. The remaining 4(40%) of respondents also had 3 to 5 years of experience in the field and have a good understanding of the issue at hand which provides feedback for this research.

The first response by the majority of interviewees was that there were students in the schools who participated in sports. As regards to comparing and contrasting the academic performance of students who participated in sport activities, respondents of the interview perceived sporting students as having lower grade scores and performing bad in class. A majority of the participants said that these students were better achievers in the sport events not in their education. One participant said, "When students are involved, I think they are weak academically." This view was shared by several of the participants and summed up as weak by who stated, "I definitely see a correlation with the involvement in sport and bad scores…you definitely can see those students who are your weak students getting involved and putting forth a lot on whatever the playing field."

Contrary to this, another perception that was discovered was the importance of sport participation and its effect on student during their season. Most participants noted that sporting students try harder and were better performers in the classroom when they were during sport season. Majorities were quoted as saying, "During their sport, the students are typically better students." There was not a difference in how these respondents perceived the

effects of sport participation and classroom outcomes. All stressed that sporting students tend to be weak students and low achievers, but they work well in groups.

Respondent indicated that some differences brought about by participating in sports in three main ideas that came to the forefront in the perceptions of the participants. Time management, teamwork, and leadership were the most common traits the participants mentioned that sporting students obtained through their participation in school sports. Respondents talked about what students can learn, "I think students can learn about balancing time, going to practice and still doing their homework." They went on to say, "I think sporting students are more conscious of their grades improving due to planning their time and how they're going to get their homework done." This was a common perception held by the interviewees. The other two traits learned through participation in sport go together in a lot of ways as respondents discussed when asked about what student learn through participation. Teachers and coaches who were interviewed had similar perceptions of sporting student when it came to their personal traits learned through sport participation. Teachers were quick to use words like, motivation, dedication, and leadership when describing sporting students. The other area where sport teachers noticed a difference on sporting students was in time management. Many sport teachers and coaches discussed how sport participants are good at handling busy schedules. The teacher/coaches perceived female student who participate in sport events as the least achieving group academically.

Respondents also dealt with perceived feelings about preparatory school sport participation. This was unanimous, as 100% of the participants, all education Officials, sport teachers and coaches saw participation as a positive. There were multiple reasons for why it is positive, and all who were interviewed said that participation and involvement was a good thing. One of them said, "I think it's great for them, to keep them involved." Some other went on to say,

"I think they need sport because for some that's the only thing keeping them in school." Still the other said, "I think it's good because of the school spirit, the teamwork, and the skills it teaches." Another common perception was verbalized by respondents. "I think it's good for all of them, to be involved in some way. I wish we had more kids that were involved." Others agreed, "We wish we had every student in something." But many of these respondents gave a good response as to why sport participations are good things. "It develops those essential skills. I think that's valuable, I think it's worth the investment."

The next code dealt with negatives of participation or challenges of participation. The major themes that came up were that sporting students missed a lot of class time, especially in the spring when events are outdoors and have earlier start times which forces them to play and catch up with their school work. The issue of time was the number one challenge in the view of the participants. Almost all of the interviewee participants thought balancing time and keeping full schedules was the biggest challenge to preparatory school sporting students. One of them gave a good summary of the issue. "I would think just keeping everything practical, homework, and many of them have part time jobs, family commitments… making sure you have enough time for each…I think that's what stresses many of them out, just having enough time to do everything." This was an almost unanimous sentiment for the challenge that sporting students are faced with. Others said "The balancing of all the work related with the schoolwork is a real challenge. Still others added "They thought that they struggled with trying to participate, hang out with friends, keep their grades up in school, like managing all their time between all the different activities." Even though the participants felt that sport participation teaches students how to manage their time it is still difficult to put that skill into practice. Time management and doing many activities is the number one challenge for students.

The findings from this study demonstrate that sport participation is an important aspect of the preparatory school experience. Sporting students tend to be better students in the classroom and perform at a lower level. However, sport participants have a support system in place to help them academically. They learn values and characteristics such as teamwork that will serve them well in life. Participation can be a motivator to maintain grades and to achieve up to their ability. There are some drawbacks to participation like missing class time and the time requirements. Balancing time is a major obstacle for everyone, especially a preparatory school student who is involved in sports, school, work, and other commitments.

A brief document analysis on the students' records was conducted after all the preparatory school principals provided permission to avail students' grade score records to the researcher. Data collection at the four Preparatory Schools took place during 2008E.C. school year. The researcher was able to access participating students' Grade Scores through Students Record database. The analysis was found to have correlation with the data collected from the questionnaire. It can be drawn from this that majority of the respondents who participated in sport activities did well in their academic performances too.

CHAPTER FIVE
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1. Summary

The result showed that there was significant association between academic achievement and sport participation, with respondents performing better on this measure of personal capability. These results are consistent with previous research findings indicating higher GPAs among high school students who participated in sports (Stegman & Stephens, 2000).

There are several possible explanations for higher grade scores among respondents in this study. First, the opportunity for physical activity presented in organized sports' programs may have academic benefits. The present study found out a significant difference in physical activity levels between public and private schools. Several studies have documented a link between exercise and academic achievement in youth (Dwyer et al., 2001; Lindner, 1999; Morales et al., 2011; Stevenson & Lochbaum, 2008). However, given that physical activity on its own was not related to academic achievement, it is also possible that the physical activity combined with the structure presented in organized sports programs helps student-athletes achieve academically. By having less "free time," these students may be more focused while studying, or have developed superior time management skills in comparison to students with less structured hours in their schedule. Research disputing the "overscheduling hypothesis" is evidence for the positive benefits of a structured schedule for youth (Fredricks, 2012). Additionally, the structure provided by organized sports programs may contribute to self-efficacy development through the opportunities for mastery experiences, social persuasion, and somatic states. The present study found evidence for an indirect effect of sports participation on academic achievement through academic capability

It is also possible; however, that participation in sports reflects students already having higher academic abilities. Students who are struggling in school may not be allowed or want to spend time away from their studies in order to participate in sports. Future research may want to examine characteristics of students as they begin participating in organized sports to determine whether previous academic achievement is a factor.

Intuitively, the idea that individual capability to learning and development could transfer from the sport to academic domain is a sound concept. The skills required for success in the sport realm, such as persistence, are arguably also required for success in the academic setting. However, it is useful to revisit the four main sources of individual capability when examining transfer of this concept between domains. These sources include mastery experiences, social persuasion, and learning. The first and largest source of capability, mastery experiences, is particularly interesting. As noted before, sports are the most frequently participated in activity among adolescents. Thus, it is possible that the lack of individual capacity transfer between the sport and academic realm is a reflection of the varying performances of sport activity in the present study. Perhaps only sporting students who are performing above average in their sport are those who transfer sport capability to the academic realm. Future studies may want to examine differences in individual capability between students who are performing at high levels versus those at average or sub-average levels within their sport.

Additionally, several studies have found evidence for a relation between social supports and individual capability in youth who participate in sports (Gano-Overway et al., 2009; Heilman, 2011). Thus, it is possible that not all of the respondents in the present study were having a positive social experience in their organized sports program. Thus, limiting any capability they might have gained from participation. Future studies in this realm may want to add a measure of social support when examining the relations between sports participation, academic achievement, and individual capability to learning and development.

5.2. Conclusions

The present study was consistent with previous researches documenting a positive relation between sports participation and academic achievement, as well as with other studies demonstrating a link between individual capacity and academic success. Additionally, the present study found evidence for an indirect relationship between sports participation and grade scores through the mediating variable of individual capacity. This link was limited to the task-specific measure of academic capability in relation to grade score/marks. However, no link was found between sport capability and academic capability for the study.

5.3. Recommendations

The present study has many implications. If the link between sports' participation and academic achievement is partially due to the opportunity for exercise present in organized sports programs, schools should consider the value of having physical activity as part of their daily schedule. With an increased focus on test preparation and budget constraints in schools, school based physical activity programs are frequently being ignored. Additionally, students who do participate in sports should be encouraged in these pursuits, and school faculty might consider encouraging interested students to try organized sports programs. Finally, schools should consider using their budgets not only for school-based physical activity during the day, but for school-based organized sports programs available to all interested students.

Additionally, the value of organized sports programs may extend beyond the opportunity for exercise. The present study provides evidence for a link between sports participation, individual capability, and academic achievement. Both teachers and sport coaches should consider ways to best foster sport capacity among students, whether that be providing opportunity for mastery experiences (e.g. helping students set goals), or being a source of positive social support.

References

Abernethy, L., & MacAuley, D. (2003). Impact of school sports injury. British Journal of Sports Medicine, 37, 354-355.

Ahamed, Y., Macdonald, H., Reed, K., Naylor, P. J. Liu-Ambrose, T., & McKay, H. (2007). School-based physical activity does not compromise children's academic Performance. *Medicine and Science in Sports and Exercise, 39,* 371-376.

Bailey, R. (2006). Physical Education and Sport in Schools: A Review of Benefits and Outcomes. *Journal of School Health, 76*(8), 397- 402.

Bailey, R., Hillman, C., Arent, S., & Petitpas, A. (2013) Physical Activity: An Underestimated Investment in Human Capital? *Journal of Physical Activity & Health,* 10, pp.289-308.

Baker, A. (2012). Despite obesity concerns, gym classes are cut. The New York Times. Retrieved from http://www.nytimes.com.

Bandura, A. (1989). Multidimensional scales ofperceived self-efficacy. Unpublished test, Stanford University, Stanford, CA.

Bandura, A. (1997). Self-efficacy: The exercise of control. New York: Freeman. Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Englewood Cliffs, NJ: Prentice Hall.

Bandura, A., Barbaranelli, C., Vittorio Caprara, G., & Pastorelli, C. (2001). Self-efficacy beliefs as shapers of children's aspirations and career trajectories. Child Development.

Bengoechea, E. G., Sabiston, C. M., Ahmed, R., & Farnoush, M. (2010). Exploring links to

Basch, C.E. (2011). Healthier students are better learners: A missing link in efforts to close the achievement gap. *Journal of School Health, 81*(10), 593-598.

Beets, M.W., Beighle, A., Erwin, H.E., & Huberty, J.L. (2009). After-School Program Impact on Physical Activity and Fitness: A Meta-Analysis. *American Journal of Preventive Medicine, 36*(6), 527-537.

Bailey, R.P. (2004). Evaluating the Relationship between Physical Education, Sport and Social Inclusion. *Educational Review, 56*(3), 71-90.

Beals, K.A. (2002). Eating behaviours, nutritional status, and menstrual function in elite female adolescent volleyball players. *Journal of the American Dietetic Association, 102,* 1293- 1296.

Biddle, S.J., & Mutrie, N. (2007). *Psychology of Physical Activity: Determinant, well-being and interventions*. London: Routledge.

Blom, L., Bronk, K., Coakley, J., Lauer, L., & Sawyer, T. (2013). Maximizing the Benefits of Youth Sport. *Journal of Physical Education, Recreation & Dance, 84*(7), 8-13.

Braddock, J. H., II, Royster, D. A., Winfield, L. F., & Hawkins, R. (1991). Bouncing Back: Sports and academic resilience among African American males. *Education and Urban Society, 24,* 113-131.

Brown, S. D., Lent, R. W., & Larkin, K. C. (1989). Self-efficacy as a moderator of scholastic aptitude: Academic performance relationships. *Journal of Vocational Behavior, 35,* 64-75.

Burke, V., Beilin, L.J., Durkin, K., Stritzke, W.G., Houghton, S., & Cameron, C.A. (2006). Television, computer use, physical activity, diet and fatness in Australian adolescents. *International Journal of Pediatric Obesity, 1,* 248-255.

Butland B., Jebb, S.A., Kopelman, P., McPherson, K., Thomas, S., Mardell, J., & Parry, V. (2007). *Foresight. Tackling obesities: future choices project report.* London, UK: Government Office for Science.

Booth, J., Leary, S., Joinson, C., Ness, A., Tomporowski, P., Boyle, J., & Reilly, J. (2013) 'Associations between objectively measured physical activity and academic attainment in adolescents from a UK cohort', *British Journal of Sports Medicine.* doi: 10.1136/bjsports-2013-092334

Brisswalter, J., Collardeau, M., Rene, A. (2002). Effects of acute physical exercise characteristics on cognitive performance. *Sports Medicine.* 32(9). 555-566

Buck, S. M., Hillman, C. H., & Castelli, D. M. (2008). The relation of aerobic fitness to Stroop task performance in preadolescent children. *Medicine and Science in Sports and Exercise*, 40. 166–172.

Castelli, D.M., Hillman, C.H., Buck, S.M., & Erwin, H.E. (2007). Physical Fitness and Academic Achievement in Third- and Fifth-Grade Students. *Journal of Sport & Exercise Psychology, 29,* 239-252.

Carlson, D., Scott, L., Planty, M., & Thompson, J. (2005). *What is the Status of High School Athletes 8 Years After Their Senior Year?* NCES 303. Washington, DC: National Center of Education Statistics, US Department of Education, Institution of Education Sciences.

Cervone, D . (2000). Thinking about self-efficacy. *Behavior Modification.*

Chaddock, L., Hillman, C., Pontifex, M., Johnson, C., Raine, L., & Kramer, A. (2012). Childhood aerobic fitness predicts cognitive performance one year later. *Journal of Sports Sciences*. 1-10.

Choi, H.S., Johnson, B., & Kim, Y.K. (2014). Children's Development through Sports Competition: Derivative, Adjustive, Generative, and Maladaptive Approaches. *Quest*, 66 (2), 191-202.

Cavadini, C., Decarli, B., Grin, J., Narring, F., & Michaud, P.A. (2000). Food habits and sport activity during adolescence: differences between athletic and non-athletic teenagers in Switzerland. *European Journal of Clinical Nutrition, 54* (1), 16-20.

Chomitz, V. R., Slining, M. M., McGowan, R. J., Mitchell, S. E., Dawson, G. F., & Hacker, K. A. (2009). Is there a relationship between physical fitness and academic achievement? Positive results from public school children in the United States. *The Journal of School Health, 79,* 30-37. Retrieved from: http://universityofarizona.worldcat.org

Cooper, H., Valentine, J. C., Nye, B., & Lindsay, J. J. (1999). Relationships between five after-school activities and academic achievement. *Journal ofEducational Psychology, 91,* 369-378. doi:10.1037/0022-0663.91.2.369

Collins, M. (2003). *Constraints on and Benefits of Playing Sport.* In M. Collins & T.Kay (Eds), Sport and Social Exclusion (pp. 24-33). London: Routledge.

Connolly, M.K., Quin, E., & Redding, E. (2011). Dance 4 your life: exploring the health and well-being implications of a contemporary dance intervention for female adolescents. *Research in Dance Education, 12*(1), 53-66.

Croll, J.K., Neumark-Sztainer, D., Story, M., Wall, M., Perry, C., & Harnack, L. (2006). Adolescents Involved in Weight-Related and Power Team Sports Have Better Eating Patterns and Nutrient Intakes than Non-Sport-Involved Adolescents. *Journal of the American Dietetic Association, 106*(5), 709-717.

Cotman, C.W., & Berchtold, N.C. (2002). Exercise: a behavioural intervention to enhance brain health and plasticity. *Trends in Neuroscience*. 25(6). 295-301

Darling, N., Caldwell, L.L., & Smith, R. (2005). Participation in School-Based Extracurricular Activities and Adolescent Adjustment. *Journal of Leisure Research, 37*(1), 51-76.

Dencker, M., Thorsson, O., Karlsson, M.K., Lindén., Svensson, J., Wollmer, P., & Andersen, L.B. (2006). Daily Physical Activity in Swedish Children Aged 8-11 Years. *Scandinavian Journal of Medicine & Science in Sports, 16*(4). 252-257.

Dimech, A.S., & Seiler, R. (2011). Extra-curricular sport participation: A potential buffer against social anxiety symptoms in primary school children. *Psychology of Sport and Exercise, 12*(4), 347-354.

Donaldson, S.J., & Ronan, K.R. (2006). The effects of sports participation on young adolescents' emotional well-being. *Adolescence, 41*(162), 369-389.

Dunton, G.F., Schneider, M., Graham, D.J., & Cooper, D.M. (2006). Physical Activity, Fitness, and Physical Self-Concept in Adolescent Females. *Pediatric Exercise Science, 18*, 240-251.

Eime, R.M., Young, J.A., Harvey, J.T., Charity, M.J., & Payne, W.R. (2013). A systematic review of the psychological and social benefits of participation in sport for children and adolescents: informing development of a conceptual model of health through sport. International *Journal of Behavioral Nutrition and Physical Activity, 10* (98).

Eccles, J. S., Barber, B. L., Stone, M., & Hunt, J. (2003). Extracurricular Activities and Adolescent Development. *Journal Of Social Issues,* 59, 865-889.

FDRE, Ministry of Youth, Sport and Culture, National Sport Policy

FDRE, Ministry of Youth, Sport and Culture, National Youth Policy,2004

Etinkalp, Z., & Turksoy, A. (2011). Goal orientation and self-efficacy as predictors of male adolescent soccer players' motivation to participate. *Social Behavior and Personality, 39,* 925-934. doi:10.2224/sbp.201 1.39.7.925

Essau, C. A., Sakano, Y., Ishikawa, S., & Sasagawa, S. (2004). Anxiety symptoms in Japanese and in German children. *Behaviour Research and Therapy, 42*, 601-612.

Ewles, L., & Simnett, I. (1999). *Promoting Health: A Practical Guide*. Edinburgh: Bailliére Tindall.

Fox, C. K., Barr-Anderson, D., Neumark-Sztainer, D., & Wall, M. (2010). Physical activity and sports team participation: associations with academic outcomes in middle school and high school students. *The Journal of School Health, 80,* 1, 31- 7.

Fredricks, J. A. (2012). Extracurricular participation and academic outcomes: Testing the over-scheduling hypothesis. *Journal of Youth andAdolescence, 41,* 295-306.

Fraser-Thomas, J. L., Côté, J., & Deakin, J. (2005). Youth sport programs: An avenue to foster positive youth development. *Physical Education and Sport Pedagogy.*

Heilman, C. (2011). A mixed methods approach examining alpine ski racing as a context for positive youth development. *Dissertation Abstracts International, 72,* Retrieved August 9, 2012 from: PsycINFO, Ipswich, MA.

Hillman, C.H., Buck, S.M., Themanson, J.R., Pontifex, M.B., & Castelli, D.M. (2009). Aerobic Fitness and Cognitive Development: Event-Related Brain Potential and Task Performance Indices of Executive Control in Preadolescent Children. *Developmental Psychology, 45*(1), 114-129.

Hillman, C.H., Pontifex, M.B., Motl, R.W., O'Leary, K.C., Johnson, C.R., Scudder, M.R., Raine, L.B., & Castelli, D.M. (2012). From ERPs to academics. *Developmental Cognitive Neuroscience, 25,* 90-98.

Iglesias-Gutierrez, E., Garcia-Roves, P.M., Rodriguez, C., Braga, S., Garcia-Zapico, P., & Patterson, A.M. (2005). Food habits and nutritional status assessment of adolescent soccer players. A necessary and accurate approach. *Canadian Journal of Applied Physiology, 30*, 18-32.

Johnston, L. D., Delva, J., & O'Malley, P. M., (2007). Sports participation and physical education in American secondary schools. *American Journal ofPreventive Medicine.*

Jonker, L., Elferink-Gemser, M.T., Toering, T.T., Lyons, J & Visscher, C. (2010). Academic performance and self-regulatory skills in elite youth soccer players. *Journal of Sports Sciences, 28*(14), 1605-1614.

Jago, R., Ness, A.R., Emmett, P., Mattocks, C., Jones, L., & Riddoch, C.J. Obesogenic diet and physical activity: independent or associated behaviours in adolescents? *Public Health Nutrition, 13*(5), 673-681.

Lopez-Valera, S., Montero, A., Chandra, R.K., & Marcos, A. (2013). Nutritional Status of Young Female Elite Gymnasts. *International Journal of Vitamin and Nutrition Research, 70*(4), 185-190.

Kamijo, K., Pontifex, M.B., O'Leary, K.C., Scudder, M.R., Wu, C-T., Castelli, D.M., & Hillman, C.H. (2011). The effects of an afterschool physical activity program on working memory in preadolescent children. *Developmental Science, 14*(5), 1046-1058.

Kwak, L., Bergman, P., Ruiz, J. R., Rizzo, N. S., Sjostrom, M., & Kremers, S. P. J. (2009). Associations between physical activity, fitness, and academic achievement. *Journal ofPediatrics, 155,* 914-918.

Larson, R. W. (2000). Toward a psychology of positive youth development. *American Psychologist, 55,* 170-1 83. doi: 10. 1037/0003-066X.55. 1.170

Lindner, K. (1999). Sport participation and perceived academic performance of school children and youth. *Pediatric Exercise Science, 11,* 129-143.

Lucio, R., Hunt, E., & Bornovalova, M. (2012). Identifying the necessary and sufficient number of risk factors for predicting academic failure. *Developmental Psychology, 48,* 422-428.

Lipscomb, S. (2007). Secondary school extracurricular involvement and academic achievement: a fixed effects approach. *Economics of Education Review, 26*(4), 463-472.

Lleras, C. (2008). Do skills and behaviours in high school matter? The contribution of non cognitive factors in explaining differences in educational attainment and earnings. Social Science Research. 37. 888-902

Mahar, M.T. (2011). Impact of short bouts of physical activity on attention-to-task in elementary school children. *Preventive Medicine, 52*(11), 60-64.

Marsh, H. W., & Kleitman, S. (2003). School Athletic Participation: Mostly Gain With Little Pain. *Journal of Sport and Exercise Psychology, 25,* 205-228.

McKay, H., MacLean, L., MacKelvie-O'Brien, K., Janssen, P., Beck, T., & Khan, K. (2005). "Bounce at the Bell": a novel program of short bouts of exercise improved proximal femur bone mass in early pubertal children. *British Journal of Sports Medicine, 39*(8), 521-526.

McMurray, R.G., & Andersen, L.B. (2010). The Influence of Exercise on Metabolic Syndrome in Youth: A Review. *American Journal of Lifestyle Medicine, 4*(2), 176-186.

McNaughton, S.A., Ball, K., Mishra, G.D., & Crawford, D.A. (2008). Dietary patterns of adolescents and risk of obesity and hypertension. *Journal of Nutrition, 138*(2). 364-370.

Meyer, F., O'Connor, H., Shirreffs, S.M., & International Association of Athletics Federations. (2007). Nutrition of the young athlete. *Journal of Sports Sciences, 25*(1), 73-82.

MStegman, & Stephens, L. J., (2000). Athletics and academics: Are they compatible? *The High School Magazine, 7,* 36-39

National Institute for Health and Care Excellence. (2011). *Preventing type 2 diabetes: population and community-level interventions.* London: National Institute for Health and Care Excellence.

Ness, A.R., Leary, S.D., Mattocks, C., Blair, S.N., Reilly, J.J., Wells, J., Ingle, S., Tilling, K., Smith, G.D., & Riddoch, C. (2007). Objectively measured physical activity and fat mass in a large cohort of children. *PLOS Medicine, 4*(3), 97.

Nelson, M.C., & Gordon-Larsen, P. (2006). Physical Activity and Sedentary Behavior Patterns Are Associated With Selected Adolescent Health Risk Behaviors. *Pediatrics, 117*(4), 1281-1290.

Newman, I., & Benz, C. R. (1998). *Qualitative-quantitative research methodology: Exploring the interactive continuum.* Carbondale, IL: Southern Illinois University Press.

Pallan, M.J., Adab, P., Sitch, A.J., & Aveyard, P. (2013). Are school physical activity characteristics associated with weight status in primary school children? A multilevel cross-sectional analysis of routine surveillance data. *Archives of Disease in Childhood, 99*(2), 135-141.

Papadopoulou, S.K., Papadopoulou, S.D., & Gallos, G.K. (2002). Macro- and micro-nutrient intake of adolescent Greek female volleyball players. *International Journal of Sport Nutrition and Exercise Metabolism, 12,* 73-80.

Parfitt, G., Pavey, T., & Rowlands, A.V. (2009). Children's physical activity and psychological health: the relevance of intensity. *Acta Paediatrica, 98*(6), 1037-1043.

Pfeifer, C., & Cornelißen, T. (2010). The impact of participation in sports on educational attainment - New evidence from Germany. *Economics of Education Review, 29,* 94-103.

Rocchini, A.P. (1999). Raising heart-healthy children. *Pediatrics International, 41*(6), 597-602.

Sabo, D., & Veliz, P. (2008). Go out and play: Youth sports in America. Retrieved from: http://www.ncys.org/pdfs/2008/2008-go-out-and-play-report.pdf

Sallis, J. F., McKenzie, T. L., Kolody, B., Lemis, M., Marshall, S., & Rosengard, P. (1999). Effects of health-related physical education on academic achievement: Project SPARK. *Research Quarterly for Exercise and Sport, 70,* 127-134.

Sagatun, A. (2007). The association between weekly hours of physical activity and mental health: A three-year follow-up study of 15–16-year-old students in the city of Oslo, Norway. *BMC Public Health, 7*(155)

Schilling, T., McOmber, K., Mabe, K., Beasley, G. Funkhouser, S., & Martinez, L. (2006). Language development through movement teaching. *Elementary Physical Education.* 17(6). 39-42

Shephard, R. J. (1997). Curricular physical activity and academic performance. *Pediatric Exercise Science, 9,* 113-126.

Smoll, F. L.; & Smith, R. E. (2002). Children and Youth in Sport: A Biopsychosocial Perspective (Second Edition); Dubuque, IA: Kendall/Hunt Publishing Co.

Sigfúsdóttir, I.D., Kristjánsson, A.L., & Allegrante, J.P. (2007). Health behaviour and academic achievement in Icelandic school children. *Health Education Research, 22*(1), 70-80.

Singh, A., Uijtdewilligen, L., Twisk, J.W., Van Mechelen, W., & Chinapaw, M.J. (2012) 'Physical activity and performance at school: a systematic review of the literature including a methodological quality assessment', *Arch Pediatr Adolesc Med,* 166 (1). 49-55.

Slutzky, C. B., & Simpkins, S. D. (2009). The link between sports participation and self-esteem: Exploring the mediating role of sport self-concept. Psychology of Sport and Exercise, 10, 381-389.

Stephens, L. J., & Schaban, L. A. (2002). The effect of interscholastic sports participation on academic achievement of middle school students, *NASSP Bulletin, 86,* 34-31.

Stevens, T. Stevenson, S. J., & Lochbaum, M. R. (2008). The importance of physical activity in the prediction of academic achievement. *Journal Of Sport Behavior, 31,* 368-388.

Stouffer, K., & Dorman, S.M. (1999). Childhood Obesity: A multifaceted Etiology. The International Electronic Journal of Health Education, 2, 66-72.

Stead, R., & Neville, M. (2010). The impact of physical education and sport on education outcomes: a review of literature. Loughborough: Institute of Youth Sport.

Strong, W., Malina, R., Blimkie, C., Daniels, S., Dishman, R., Gutin, B., Hergenroeder, A., Must, A., Nixon, A., Pivarnik, J., Rowland, T., Trost, S., & Trudeau, F. (2005). Evidence based physical activity for school-age youth. *J Pediatric,* 146. 732-737

Taras, H. (2005). Physical Activity and Student Performance at School. *Journal of School Health,* 75 (6). 214-218.

Telford, R.D., Cunningham, R.B., Fitzgerald, R., Olive, L.S., Prosser, L., Jiang, X., & Telford, R.M. (2012). Physical education, obesity and academic achievement: A 2 year longitudinal investigation of Australian elementary school children. *Journal Information.* 102(2).

Tomlin et al (2013) – Tomlin, D.L., Clarke, S.K., Day, M., McKay, H.A., & Naylor, P-J. (2013). Sports drink consumption and diet of children involved in organized sport. *Journal of the International*
Society of Sports Nutrition, 10(1), 38.

Tomporowski, P.D., Davis, C.L., Miller, P.H., & Naglieri, J.A. (2008). Exercise and Children's Intelligence, Cognition, and Academic Achievement. *Educational Psychology Review, 20*(2), 111-131.

Townsend, N., Bhatnagar, P., Wickramsinghe, K., Williams, J., Vujcich, D., & Raner, M. (2013). *Children and Young People Statistics 2013.* London: British Heart Foundation.

Trudeau, F. and Shepard, R. (2008). Physical education, school physical activity, school sports and academic performance. *International Journal of Behavioral Nutrition and Physical Activity.* 5(10).

Trudeau, F., & Shephard, R. J. (2010). Relationships of physical activity to brain health and the academic performance of schoolchildren. *American Journal of Lifestyle Medicine,*

US Department of Health and Human Services. (2008). *2008 Physical Activity Guidelines for Americans.* Maryland: Office of Disease Prevention and Health Promotion.

Verduin, P., Agarwal, S., & Waltman, S. (2005). Solutions to obesity: perspectives from the food industry. *American Society of Clinical Nutrition, 82*(1), 2595-2615.

Vissers. P.A., Jones, A.P., van Slujis, E.M., Jennings, Welch, A., Cassidy, A., & Griffin, S.J. Association between diet and physical activity and sedentary behaviours in 9-10-year-old British White children. *Public Health, 127*(3), 231-240.

Van Dusen, D.P., Kelder, S.H., Kohl, H.W., Ranjit, N., & Perry, C.L. (2011). Associations of Physical Fitness and Academic Performance Among Schoolchildren. *Journal of School Health, 81*(12), 733-740.

Wiles, N.J., Haase, A.M., Lawlor, D.A., Ness, A., & Lewis, G. (2012). Physical activity and depression in adolescents: cross-sectional findings from the ALSPAC cohort. Social Psychiatry and Psychiatric Epidemiology, 47(7), 1023-33.

Williams, M. (2008). *Nutrition for the School Aged Child Athlete.* In H. Hebestreit & O.Bar-Or (Eds), The Young Athlete (pp. 203-217). Oxford: Blackwell Publishing Ltd.

World Health Organization. (2006). Constitution of the World Health Organization. Retrieved from http://www.who.int/governance/eb/who_constitution_en.pdf

Welk, G.J., Jackson, A.W., Morrow, J.R., Haskell, W.H, Meredith, M.D., & Cooper, K.H. (2010). The Association of Health-Related Fitness With Indicators of Academic Performance in Texas Schools. *Research Quarterly for Exercise and Sport, 81*(3), 16-23.

Ziegler, P.J., Jonnalagadda, S.S., Nelson, J.A., Lawrence, C., & Baciak, B. (2002). Contribution of meals and snacks to nutrient intake of male and female elite figure skaters during peak competitive season. *Journal of the American College of Nutrition, 21*, 114-119.

Appendix-I

Addis Ababa University
College of Natural and Computational Studies
Department of Science and Mathematics Education

Questionnaire to be filled by Students who participate in Sports Activities

Dear Respondent,

The aim of this questionnaire is to collect data on 'Association between Participation in Sport and Academic Achievement of Preparatory Students in Adama Town, Oromiya Regional State, Ethiopia' Therefore, your honest and genuine response to the items in this questionnaire helps to meet the objective of this study. The information you provide will be used for academic purpose only and it will be kept confidential.

Thank you in advance for your support!

Section 1: General Information of the Respondents

1.1 .Age: _____

1.2 .Sex: Male_____ Female_____

1.3 .Grade completed: 11_____ 12 _____

Section 2: Participate in Organized Sports Program

2.1. Preparatory School Name and Type (Public or Private): _____

2.2. Do you currently participate in at least one organized sports program? This can include programs both in and out of the school setting. A. Yes B. No

2.3. If yes, which sport(s)? _____

2.4. What percentage of marks did you score in last Semester grade report card?

A. < 60 % B. 61%-70% C. 71%-80% D. above 80%

Directions: The following survey is for students participating in sports. Think about how self-confident you are when you compete in sport. Please answer the following questions by putting a thick mark " ✔ " on a number from 1 to 5 using the scale given below:

Section 3: Level of Academic Performance by the Student

1=Not well at all 2=Not too Well 3=Medium 4=Pretty Well 5=Very Well

IV	How well can you:	1	2	3	4	5
3.1	Learn general mathematics?					
3.2	Learn science?					
3.3	Learn biology?					
3.4	Learn reading and writing skills?					
3.5	Learn to use computers?					
3.6	Learn foreign languages?					
3.7	Learn social studies?					
3.8	Learn English grammar?					

Section 4: Level of personal skills to school performance by the Student

1=Not well at all 2=Not too Well 3=Medium 4=Pretty Well 5=Very Well

S.N.	How well can you:	1	2	3	4	5
4.1	Finish homework assignments by deadlines?					
4.2	Study when there are other interesting things to do?					
4.3	Concentrate on school subjects?					
4.4	Take class notes of class instruction?					
4.5	Use the library to get information for class assignments?					
4.6	Plan your schoolwork?					
4.7	Organize your schoolwork?					
4.8	Remember information presented in class and textbooks?					
4.9	Arrange a place to study without distractions?					
4.10	Motivate yourself to do schoolwork?					
4.11	Participate in class discussions?					

Section 5: Level of Sports capability by the Student

1=Very Low 2=Low 3=Medium 4=High 5=Very High

V	Students Ability in Sports to:	1	2	3	4	5
5.1	execute the skills necessary to be successful					
5.2	make critical decisions during competition					
5.3	perform under pressure					
5.4	execute successful strategy					
5.5	concentrate well enough to be successful					
5.6	adapt to different game situations					
5.7	achieve competitive goals					
5.8	be consistently successful					
5.9	think and respond successfully during competition					
5.10	meet the challenge of competition					
5.11	be successful even when the odds are against you					
5.12	bounce back from performing poorly and be successful					

Section 6: Challenges faced by Students and Possible Solutions

6.1. What challenges do you face while attending school classes and participating in sports?

_____

_____

_____

_____

6.2. What solution can you suggest to resolve those challenges you faced?

_____

_____

_____

_____

Thank You!

Appendix-II

Addis Ababa University
College of Natural and Computational Sciences
Department of Sciences and Mathematics Education

Interview Questions for District Sport Officials/Sport Teachers/Principals

Educational level _____

Position _____

Work Experiences _____

1) Are there students who participate in sports activities at your school?

2) If yes, do you compare and contrast the academic performance of students who participate in sport activities?

3) What differences, if any, by participating in sport in relation to their academic performance at your school?

4) What differences, if any, do you see between public and private school student sport participants in relation to their academic performance?

5) In your view, what is the most difficult aspect of being student sport participant?

6) What general effects in the classroom, both positive and negative, do you feel resulting from students' sport participation?

7) What are your final thoughts on the topic? Do you have anything to add?

Thank you.

DECLARATION

I, **Shewangzaw Tsige,** have been a student of Degree of Master of Education in Sport Science, Department of Science and Mathematics Education, Addis Ababa University, since September, 2013.

I do hereby declare that the thesis entitled, "*Association Between Participation in Sport and Academic Achievement of Preparatory Students in Adama Town, Oromiya Regional State, Ethiopia*" for the Degree of Master of Education (Physical Education) of Addis Ababa University, is my own piece of original research work.

This thesis is submitted for the Degree of Master of Education in Sport Science, under the direct supervision and guidance of my advisor Dr. Bezabih Wolde. I also assert that this thesis has not been submitted earlier for the award of any other degree or diploma anywhere else.

Candidate's Name: Shewangzaw Tsige

Signature: _____

Date: September, 2016