Students in Health Related Fitness flexibility and Strength In Shashemene One Secondary School

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This is to certify that the thesis prepared by Shiferaw Teshome entitled*: Students in Health Related Fitness flexibility and Strength In Shashemene One Secondary School 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.

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ABSTRACT

In the present study, an attempt has been made to compare physical fitness components namely strength and flexibility between male urban and rural female urban and rural students. The study is carried out purposively on 100 students, 50 rural and 50 urban in shashemene. The data was collected by the use of application of testing strength and flexibility test and questioner. The data were analyzed using spss version 20 and compared with the help of statistical procedures in which arithmetic mean, standard deviation (S.D), standard error of mean (SEM), t-test were employed. Results indicated that urban students spend more time on Gymnastic and rural students in the case of life style spend more time regular energetic activity relative to weight Lifting and also, urban students have more possibility to spend long time behind television screen. This is one of the indicators for negative impact on individual quality of life, most of rural students far from the school. Urban students near to the school, rural students relatively benefited engage in body strength. urban students have chance to participated in different exercise at regular time per week, whereas, most of rural students were not participated different exercise at regular time per week, students were not participated in different exercise at regular time per week. Most of sample students did not assess and identify current level of fitness. And also, playing ground in school compound is found. However, there is no access time to use playing ground. Students were not having opportunity to train in training center. They agree on parents' educational status help for improvement of student's quality of life. Physical education practical exercise class contributes student flexibility progress. Both rural male and female students were relatively better in strength. Urban male and female student's superior in tasks like flexibility. Period allotted per week for physical education was not given attention, concerned bodies should be reconsidered in order to get chance to minimize strength and flexibility difference among students, they should facilitate good environment for the transition of skill with in students. Educational bureau, school administration and physical education teachers should create good environment and developed the awareness of parents and school society regarding on strength and flexibility of students quality of health.

Key words- Flexibility, Muscular strength, Fitness, Challenges, Curriculum, Education, Health, Motivation, Physical education, Physiology

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LIST OF ACRONYMS

AAHPERD American Association of Health, Physical Education, Recreation and Dance

BMI Body Mass Index

DF Difference

EUROFIT European Fitness

HRPF Health Related Physical Fitness

LMR Localize Muscular Resistance

M Mean

MD Mean Difference

PROESP -BR Project Esporte Brasil

SD standard deviation

CHAPTER ONE

Introduction

This chapter presents the basic aspects that can give essential information on the general knowledge of the study. It describes the background of the study, justification for taking up this research, gives some highlights pertaining to what the problem is about identifies the basic research questions and objectives of the study, significance of the study, definition of terms, limitation and delimitation of the study.

1.1. Background of the study

The total development of the individual, encompassing development motor skills, fitness, knowledge and attitude conductive to a life time of a participation is a commonly acknowledge goal of the secondary school, health and physical education programs (Wuest and Lombardo, 1994).

School is considered to be one of the most important educational institutions which work towards the achievement of integrated, comprehensiveandbalancedstudent'sdevelopment from every aspect: physical, psychological, mental and social and healthAll these are achi eve through what is provide from various cognitive ,motor and cultural programs, which target all students regardless of their gender, age cultural and social level. Civilized societies have created Schools which achieve family objectives and society's members in general due to the increase in family's obligations, which lead to family inability to perform the tasks of rising and educating their children. In order to become a citizen who has the sense of belonging adjustment, with integrated personality. (Qutami, 2005).

Physical education help students and society improve upon are strength, endurance, flexibility and cardiovascular /respiratory activities. The American health association (AHA, 2010) recommends that if children and adolescents want to increase their life experience they need to eat healthier and become physically active.

Teacher is considered to be the major and the first instrument in education. School realize up on teacher in preparing generations of students and in facing problems that hinder the ability to perform duties represented in practical class. Physical fitness is the ability to perform daily activities willingly and actively not only include components but those of

health as well regular physical activity prevent or limits weight gain in body mass index (Kyle et.al 2001)

Measurement of physical fitness represent a unique contribution to the total data gathering process needed by measuring its components such as cardiovascular endurance, strength, muscular endurance, body composition and flexibility (student text 12th grade)
It is now widely accepted that urbanization is as much a social process where as societal and rural alterations of populations are accrued. Urban and rural environmental differences in growth children have come in to focus of interest in the last few years contradictory evidences in growth have been reported from several studies from various countries and cultures and with various age ranges. Many steady showed significant differences in the growth and maturity status (Lin et.al, 1992, pena Reyes. et. al, 2003) data from other studies also revealed that urban – rural contrasts are evident in the growth and body size status (Pawlaski, 2002, cameron et. al, 1992)

Pilicz and sedowska (1973) indicated that urban children from Poland favoured the better performance in physical fitness test such as dash. Ball throw and vertical jump were as rural Tswana children had superior endurance performance but inferior grip strength compared to urban children (Colett and Mokgwathi, 1987; corlett, 1988) environmental and societal alteration connected with urban dwelling. E.g changing neighbor hoods, crowding, concern for protection, lack of sufficient space for play and physical activity, and others may contribute to reduced levels of physical activity and physical fitness (Pena et.al.2003). In contrast rural residence is commonly associated with more dynamic physical active life style which is beneficial to physical fitness.Physical fitness has been considered an essential of daily life having two components like health related fitness and motor or skill related fitness (Corbin & Lindsey, 1994).

The ancient people were mainly dependent up on their individual strength, vigor and vitality for physical survival. This involved some basic skill like strength, speed, endurance agility for running, jumping. Climbing and other skills employed in hunting for their livings. Study of skill related or motor fitness gathered lots of interest from

earlier. The athletic traits and characteristics of individual can be explored depending up on physical fitness having different compounds (Chatterjee et.al, 1993). various factors like race, ethnicity, habitual physical activity and environment may have reflection on these parameters.

Thus, the above evidences should that there is a difference between urban and rural students in strength and flexibility skill qualities mainly, ways of life style and other reason, wit out maintaining these health related skills could not expected active and strong productive citizens. Therefore taking the above problem in consideration these studies assess and attempts to find out these two skill difference problems for the application of practical gymnastic class in shashemene high school

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1.2 Justification for taking up this research

The physical health related fitness variables such as flexibility and strength body coordination are considered important aspects that perform gymnastic exercise and other field activity at school. Some study has investigated relative their own country whether there are difference or not between urban and rural young boys and girls at school life in physical education practical class. In my long teaching experience this research take up the study in school physical education class urban and rural students are not involve equally in different strength and flexibility exercise. However the attention given by the school community, parent and educational office toward the student health was very low. Furthermore, until these days, in our profession had no available research in this area that is why there is a need of analytical study in order to determine the factors associated with identifying the deference in physical fitness between urban, rural male and female students.

1.3. Statement of the problem

This study is designed to investigate urban and rural students in two physical qualities (strength and flexibility) skills in shashemene high school physical education class. Many factors can be related to level of physical activity among children (Loucaides et.al 2004) stated five factors that would level of physical activity among children in their study

"differences in physical activity level between urban and rural school children in cyprus" They stated that the factors that contribute are seasonal factors space and safety exercise equipment availability transportation to and daily activity. Technologies now a day have make people less active they do less work but achieve more output as this is what we call efficiency, to do something with little input but bring out more input. As the technologies becoming more advanced, people are less making work and this resulting in the determent of fitness.

Level of physical fitness which may change with time place of work, situation and there is also an interaction between the daily activities, and the fitness of and individual, the point if where to put the level of optimum fitness from the physiological point of view physical fitness may say to be ability at the body to adopt different exercise. Evaluating health related fitness components helps student determine their level of fitness and pass appropriate exercise to improve the level of fitness level to be a fit person through tumbling skill exercise. Student can develop several skills, which are important in daily life.

Hence, the research designed based on my long teaching physical education, especially in gymnastic class student those who are from urban and rural differ with two skill qualities/ strength and flexibility/ barrier. This research based my observation the difference in urban and rural, in Shashemene high school during gymnastic activity their differences can be due to.

- Way of students life style.
- Back ground or familiarity of the student with d/t tumbling exercise.
- Physical education Teachers individual skill difference and attitude towards tumbling exercise and
- Availability of field materials in the school compound.

Teachers will find that student exhibit a wide range of difference with respected to motor skill development. Some students have mastered the fundamental manipulation of psychomotor skills that serve as foundation for the more specialized at this level other

lack competency in the fundamental skills. Teacher must assess student abilities at the start of instruction, accept student at their entry level, and provide a sequential progression of activating to allow each individual to attain the stated more skills objectives effort and participation should be encouraged, extra help should be provided if necessary, personal accomplishment should be recognized, learning experiences that provide for success while developing skill proficiency increase the probability that students will incorporate. Susane, (2004)

1.4 Objective of the study

1.4.1General objective

The general objectives of the study is to examine two qualities of flexibility and strength in gymnastic among urban and Rural students on practical field work and test measurement through different exercise in shashemene one Secondary School students.

1.4.2 Specific objectives

1. Assess the two health related physical qualities /strength and flexibility/ among urban and rural Shashemene one Secondary School students.
2. Analyze the effect of life style affect on health related fitness among urban and rural students in shashemene one Secondary School.
3. Assess major problems that teachers face while teaching this flexibility and strength in physical education practical class.

1.5 Research question

1. Are there strength and flexibility difference between students who come from urban and rural area?
    - ❖ **Hypothesis:** There is no significance deference between urban and rural students regard to strength and flexibility fitness.
2. Students on equal bases, does life style can make difference in their body flexibility and strength?
    - ❖ **Hypothesis:** There is no significance difference between urban and rural students health related fitness due to their life style.

3. Are flexibility and strength major problems that teachers face teaching tumbling exercise in physical education practical class?

1.6 Significant of study

The research will give a clear cut picture on how these two qualities of skills flexibility strength can make a gap for the application of tumbling exercise in gymnastic class in shashemene one Secondary school so it will

1. Identify the problem and the root causes give emphasis the skill difference for relevant professionals and other concerned bodies.
2. May reveal the two health related qualities of skills (strength and flexibility existing problems that hindered the students who come from urban and rural aria.
3. May serve as initial reference for further study.

1.7 Delimitation of the Study

This study would be more effective if the researcher will be able to conduct in all high school found in Shashemene but because of some restriction this research has been conduct. The scope of the study is one Secondary School in shashemene.

1.8 Limitation of the study

Although all the necessary effort was made to conduct a quality research program, the following were considered as the limitation of the study.

1. Lack of testing equipment determine with specific exercise.
2. Relatively small size of sampling.
3. Less number of days for testing the subject.
4. No specific motivation techniques were encourage the subject attain with full commitment.

1.9 Organization of the study

The study consists of five chapters, chapter one incorporates introductions, statement of the problem, general objective, specific objectives, limitation, delimitation of significant of the study and definition of key terms. Chapter two deals with review literature the methods are comprised with chapter three, chapter four pertains to discussion and analysis of data chapter five embedded with summary conclusion and recommendation of the study. Last of all a list of reference materials, questionnaires, checklist and appendix that will be in the study are attached at the end of the paper.

1.10 Definition of term

- **Flexibility:** - it is a range of motion at joint or a series of jaunts Ability to more arm, legs and trunk freely through a full none restricted, and pain free range of motion.
- **Muscular strength:** - is the ability or capacity of a muscular muscle groups to exert force against resistance. It is also refer to a muscles ability to exert maximal force in a single effort.
- **Fitness:** - the ability to live a happy and well balanced life; it also has intellectual, social and emotional components.
- **Curriculum** is defined as the sum total of planned experience of education level that both offered inside and outside the educational institute and is asset of courses for students.
- **Health** According to (WHO) is refers to such qualities as physical, mental, emotional and social health.
- **Motivation-** can be defined as the direction and intensity of one's effort and the well to perform a given task.
- **Physiology** is the function of the whole body parts

Chapter Two

Review of Related Literature

A study of the relevant literature is an essential step to get full picture of what has been done and said with regard to the problem under study such a review brings about a deep insight and clear perspective of the overall field collection of relevant literature provides a basic understanding of problem and its depth. It is an answer to the question, ''Why is the hypothesis?'' of the present problem.

2.1 Health related physical fitness motor ability between rural and urban school boys & girls.

Health related fitness is the ability for a person to cope with the physical demands of everyday life (also known as general fitness). They are cardiovascular endurance, speed, strength, flexibility and body composition.

Concept of physical fitness is as old as humankind throughout the history of mankind physical fitness has been considered an essential element of everyday life. The ancient people were mainly dependent up on their individual strength, vigor and vitality for physical survival. This involved mastery of some basic skill like strength, speed, endurance, agility for running, jumping, climbing and other skills employed in hunting for their livings. Over the past four decades, there have been in increase in the prevalence of overweight and physical fitness deterioration I adult across all genders, age's racial/ ethnic groups Ichinohe et al. (2004).

In adults, relationship among physical activity, health related fitness, and health are fairly well established (Boucherd and shephered (1994) low levels of physical activity and cardio respiratory fitness are both associated with higher risk of all cause and disease specific mortality.

Thune et. Al (1998) physical fitness is the ability to perform daily activities willingly and actively. Physical fitness includes not only components of sports but those of health as well. Regular physical activity prevents or limits weight gain and gain in body mass index kyle et al (2001)

The school of gymnastics in Athens was called PACES-TR which originally and literally meant a wrestling ground many trained for great national games. Physical activity is vital to all aspects of normal growth and development, students do not automatically develop the requested, knowledge, skills and attitudes that daily to active, healthy life style, and such learning should begin in chilled hood administrators and teacher can help provide physical activity opportunities and develop a desire for lifelong participation in physical activity Alberta, Canada (2006:2)

The ability to move a joint or series of joints smoothly and easily through a full range of motion is certainly essential to healthy living, normal bone structure, fat skin or scar tissue may limit the ability to move through a full range of motion. Muscles and their tendons are most often responsible for limiting range of motion. When performing stretching exercise for the purpose of improving particular joints flexibility attempting to take advantage of the highly elastic properties of a muscles. Flexibility is important not only for successful physical performance but also in the presentation of injuries.

Flexibility is measure of motion available at a group of joints. It is determined by the shape of the bones and cartilage in the joint and by the length and extensibility of muscles, tendons, ligaments, and fascia that cross the joint. The range of movement at a joint may vary. In some cases, a joint has limited ability to bend or straighten and is said to be tight or stiff. The deformed hand of an arthritic is an example of this extreme. At the other end of the spectrum, a high degree of flexibility is referred to as loose jointed, hyper mobility, or erroneously as double-joint. An example of this extreme is the contortionist seen at the circus. Each person, depending upon his or her individual needs, must have a reasonable amount of flexibility to perform efficiently and effectively in daily life. (Zeru, 2008).

The capacity of a muscle or muscle groups to exert force against resistance. It refers to muscles ability to exert maximal force in a single effort. Strength is important to every event for both sex muscle fibers within the muscles respond when subjected weight or

resistance training. This response make the muscle more efficient and able to respond better to the central nervous system, provide better protection of body joints resulting in fewer sprains, strains and muscle difficulties.

2.1.1 Strength

The standard test is one repetition maximal. Or your best effort, with free weights Nautilus type gym. Machine can also be tested. These tests however, must correlate with an athlete's body weight and age. For gross evaluation of the four key muscle group strength use the "Home strength test. Warm up with gentle stretching.

Upper body: essential for throwing and lifting sports and an asset in most other sports.

Quadriceps: speed and power residence in the quadriceps are essential to almost any sport requiring locomotion. Quadriceps strength is easily measured with extension exercises using free weights.

Abdomen: Sit- and -reach beast measure of abdominal muscles strength.

Back: a strong back is essential in some sports, but it is desirable in any case a weak back is prone to injury.

2.1.2 Flexibility

The flexibility joints is usually measured with a device called a device flexor meter, a simple dial and pointer that indicates the joints range of motion without any special equipment. Back hip and hamstring flexibility are most in sport. Back flexibility measured by the hyper extension tests. For more comprehensive evaluation the home flexibility tests Sit- ups in 60 second to measure abdominal endurance and strength.

Hatey (1972) conducted a study to investigate the effect of age on physical Performance of elementary school boys in grades one through six by administering twelve motor performance test to measure sprint, speed, power, agility, reaction time static balance, hip flexibility & elbow flexion, strength.

He found a significant difference between grade one and two between grades five and six within middle grades providing plateau effect. The performance scores formed curve

linear relationships for all variables.

2.1.3 Students with performance

Fisher (1986) tested 400 junior high school boys with the 7 item California physical performance test, which includes pull-ups, bent knee, sit-ups four times, standing broad jump, 50 yards dash, shuttle run, 600 yards run, and soft ball throw for distance. One group trained in a comprehensives weight resistance training program the other group participated in the regular physical education classes, which included vigorous calisthenics involving the major muscle group of the body for the period of 10 weeks each consists of 3 days. The physical education group improved significantly on the tests, sit-ups, 600 yard run, shuttle run, and soft ball throw for distance.

2.1.4 Fitness and school children

Pena Reyes, Tan and Malina (2003) conducted a study on the physical fitness of school children resident in an urban colonia and in a rural indigenous community in Oaxaca, southern mexico, was compared. Two measures of performance-related fitness (standing long jump, 35-yard dash [32]) and 324 urban (163 boys, 161 girls) school children, 6-13 years of age. Urban children were significantly taller and heavier than rural children. Absolute grip strength did not consistently differ between rural and urban children, but when adjusted for age and body size, strength was greater in rural children. Explosive power (standing long jump) and abdominal strength and endurance (timed sit-ups) were better in urban than in rural children without and with adjustment for age and body size. Urban-rural difference in running speed (dash) and flexibility (sit and reach) vary by age group and sex. Younger rural children and older urban boys did not differ in endurance run, whereas older rural and urban boys did not differ in endurance. The size advantage of urban children does not necessarily translate in to better levels of performance- and health- related physical fitness. The observed differences may be related to activity habits associated with school physical education and lifestyle in the respective communities.

2.1.5 Motor performance status

Zhao et al (2005) the objective of the study is to analyze the motor performance status students of Han nationality in fifteen provinces in china. Totally, 161 804 students of Han

nationality aged from 7 to 18 years old were involved in the Chinese surveillance on students' physical Fitness & Health in 2004. Motor abilities were accessed with the aid of gripping power, 50m dash, standing long jump, and 1-min sit ups. Based on general statistical description, principal component analysis linear regression, the development characters of students' motor performance were explored. This results showed some characters similar to those of last ones; motor capability was improved in correlation with age; boys did better than girls, difference between 18 year – old rural boys and girls was 15.3 kg, 2.0 s, 58.6 cm, 8.7/min, the urban students performed better than the rural ones, the difference between 15 year-old urban boys and rural boys was 0.9 kg, -0.2 s, 3.5 cm, 3.5/min. The first principal component might represent the 4 tests greatly. Regression analysis on principal component quantitatively interpreted the influence of factors such as age, sex and area. It may be concluded that the general principles of exercise quality development of students are still in work. Principal component analysis should be adequate and convenient in motor performance analysis.

2.1.6 Safety procedures and skills

Bucher (1975) says that in order to enjoy sports, master the necessary skills and participate safely a person must be physically fit. The popular slogan '' get fit by playing should be get fit to play safely'' physical fitness is the capacity to carry out reasonable and various forms of physical activities without being unduly tried and the well being. Increasing prevalence of overweight in youth has been well chronicled, but less is known about the unique patterns and risks that may exist in the rural and urban environments. A better understanding of possible rural-urban differences in physical activity profiles may facilitate the development of more targeted physical activity interventions. In this study, the participants (1,687 boys; 1,729 girls) were recruited from fourth, fifth and sixth grade classes from urban areas, small cities and rural areas.

According to this method, multi level modeling analysis was used to examine rural-urban differences in physical activity and prevalence overweight. Physical activity was assessed by self-report and body mass index was assessed by self-report and body mass index was calculated from measured height and weight. The findings of the study were prevalence

of overweight was higher among rural children (25, P<.001) than children from urban areas(19) and small cities (17) urban children were the least above overall (cohens' d=-0.4), particularly around lunch time while at school(d=-0.9 to -1.1).children from small cities reported the highest levels of physical activity. The result of this study suggests there are rural-urban differences in children's prevalence of overweight and physical activity even within a fairly homogeneous Midwestern state.

The physical fitness of school children resident in an urban Colonia and rural indigenous community in Oaxaca Southern Mexico Was compared. Two measures of performance-related fitness (standing long jump, 35-yard dash (32m) and four measures of health-related fitness (grip strength, sit and reach, timed sit-ups, distance run) were taken on 355 rural (175 boys, 184 girls) and 324 urban (163 boys, 161 girls) school children, 6-13 years of age. Urban children were significantly taller and heavier than rural children. But when adjusted for age adds body size, strength was greater in rural children. Explosive power (standing long jump) and abdominal strength and endurance (timed sit-ups) were better in urban than in rural children without and with adjustment for age and body size. Urban-rural differences in running speed (dash) and flexibility (sit and reach) varied by age group and sex. Younger rural children and older urban girls performed better in the instance run, whereas older rural and urban boys did not differ in endurance. The observed differences may be related to activity habits associated with school physical education and lifestyle in the respective communities.

2.1.7 Maturity and body size

Katzmark,Malina and Beunen (1997) had done the study on the Interrelationships among Skeletal maturity, body size, strength and motor fitness were examined In american children 7-12 years of chronological age (Ca). a total of 391 black (184 boys, 207 girls) and 349 white (193 boys, 156 girls) children Participated In the Study.

Biological maturity was assessed by the tanner-white house II method, 20 bone skeletal ages (Sa), strength items included right and left grip strength, and pushing and pulling strength of the shoulders. Motor fitness items included a 35-yard dash, the standing long

jump. The standardized residuals of sa on ca (Ag) were used to represent the effects of Ca. Interaction terms were also computed by multiplying standardized residuals of Sa on Ca (Ag) were used to represent. The effect of Sa, independent of Ca. Interaction terms were also computed by multiplying standardized values of stature (St), body mass (Ma), and age together In all combinations. Regression analyses showed that the strongest predictors of performance, explaining between 2% and 9% of the variance In 19 of the 41 significant regression. The results highlight the complexity of the interrelationships among body size, biological maturation, strength and motor fitness. the effects of Sa in children 7-12 years of age are expressed mainly through body size, but Sa apparently influences motor fitness more So than muscular strength.

2.1.8 Environmental factors for physical fitness

Tinazic and Emiroglu, (2009) conducted a study to investigate the effects of environmental factors on physical fitness of rural and urban children. To reveal the differences between physical fitness of children living in urban and rural districts of the Turkish Cypriot population, 3939 nine-to eleven-year-old male primary school children from 90 schools of north Cyprus were tested. Testing procedures were similar to the Eurofit tests. The results showed that body mass index and skin fold thickness were higher in the urban children ($p < .05$). Differences in cardiopulmonary and motor fitness were also found between groups. In addition, flexibility, muscle endurance, and strength of urban children. The significantly lower flexibility, muscle endurance, and strength of urban children might indicate a lower habitual physical activity level.

2.1.9 Exercise test comparison

Shukla (1991) the present study 120 sports women, 60 urban, and 60 rural were included. They hailed from the state of Ulttar Pradesh and Punjab. They participated in hockey, basket ball, cricket, kho-kho, volley ball and athletics. Urban boys participated in mini national, state.

National games while rural boys at the inter-collegiate rural tournament and National games. Their age group varied between 13-22 years. For comparison, they have been

divided in to three groups a) 13-16 years b) 17-19 c) Above 19 years. The height and weight recorded and AAHPERD Test were conducted which consist of following; short ball throw, sit-ups, pull-ups, shuttle run, 50 yard dash, standing broad jump and 600 yard dash, The result revealed that in standing broad jump the sportsman at very poor result indicting very low explosive capacity to the upper limb muscles. The rural sports women were poor in shuttle run indicating the minimum agility in them. The rural girls of A and B groups were observed possesses poor aerobic muscular power. As revealed by 50 yard dash run the overall performance of sportswomen were higher than the rural counterpart and further analysis as observed with C group on urban sports women were comparatively higher than 50 yard dash. Standing broad jump, shuttle run and sit-ups with these lower age groups. Further in Uttar Pradesh, both rural and urban were very efficient. The overall competency of urban sportswomen than the rural counterpart might be attributed by better coaching and other facilities.

2.1.10 Motor skill

Booth et al (1999) examined the fundamental motor skills among children and adolescents is a potentially important contribution to satisfying participation in sports, games and other physical activities and may enhance the development of an active lifestyle. However, few attempts have been made to determine the prevalence of fundamental motor skill mastery among young Australians. The NSW school fitness and physical activity survey, 1977 (N=5518) randomly selected schools Fitness proportionally from all three education sectors and selected students in years 4, 6, 8 and10. Performance on six fundamental motor skills (run, vertical jump, catch, overhand throw, forehand strike and kick) was assessed qualitatively. The prevalence of mastery and near mastery of each skill component is reported for boys and girls in each school year. The findings indicate that the prevalence of mastery and near mastery of each of the fundamental motor skills was generally low.

There were no difference between students from urban or rural schools and the prevalence of skill mastery was directly associated with socioeconomic status more consistently among girls than among boys. Greater curriculum time and training of teachers is required to increase the proportion of students who have mastered the skills

fundamental to common sports, games and other physical activities.

2.1.11 Children with high and low activity

Bayer, Bolte and Morlock(2009) The objective is to distinguish pre-school children with high and low physical activity, and its association with childhood overweight/ obesity. Physical activity is an important determinant of energy balance. However, its impact on overweight/obesity has proved difficult to measure in pre-school children and few studies have found significant association. a set of simple questions was used to distinguish pre-school children with high and low physical activity and the association of this classification with childhood overweight/obesity and performance in an established motor test was investigated. The design used was survey, cross-sectional. Weight and height were measured in 12 556 children taking part in the obligatory school entrance health examination 2004-5 and 2005-6 in three urban and three rural Bavarian regions. Their parents were asked to answer a questionnaire with a set of questions on physical activity. The results showed that the mean age of the children evaluated was 5.78 (sd 0.43) years, 6563(52.1 %) were boys. Physically active children were less likely to be over weight (OR= 0.786, 95 % Cl 0.687, 0.849) or obese OR= 0.655,95 % Cl 5.8, 7.7) % more jumps per 30s than less active children in a motor test, adjusted for a number of potentially confounding variables. Based on the classification of pre-school children as physical active or not it may be conclude that there are significant associations with overweight/obesity and motor test. Once further validated, this classification might provide a valuable tool to assess the impact of physical activity on their risk of childhood overweight and obesity.

2.1.12 Physical fitness and age

Tsimeas et al., (2003) the aim of this study was to investigate physical fitness in relation to fatness in urban and rural Greek children by means of allometric scaling, The sample consisted of 360 (189 urban and 122 rural, age 12.3 +/- 0.42 years) boys and 247 (125 urban and 122 rural, age 12.3 =/- 0.42 years) girls. The sample was highly representative (32- 64 %) of all 12 year old children registered in the prefecture of Trikala, Greece All volunteers were assessed for BMI and o/o body fat, as well as sit and reach, basket ball

throw (BT), vertical jump (VJ), handgrip strength (HG), 40m sprint, agility run, and 20 m shuttle run. To correct for possible associations between fatness and fitness, a single cause allometric scaling was employed using the natural logarithms (In) of fitness parameters that were significantly correlated with the in body fat. Independent – samples/tests revealed that VJ ($p<o.o5$) was significantly higher in boys living in urban setting compared to their rural counterparts. Similarly, BT was found to be significantly better ($p<o.o5$) in urban girls. Whereas, HG was significantly higher ($p<o.o5$) in rural girls. Considering that (a) only three out of the 14 possible cases (seven fitness parameters for boys and seven for girls) were significantly different between urban and rural children and (b) these differences were not uniformly distributed in children living in either urban or rural environment, it is conclude that the place of residence has no clear impact on physical fitness as studied herein.

2.1.13. Life style and leisure time activities

Zdirenc et al (2005) conducted a study to investigate the effects of environmental factors. Lifestyle and leisure time activities on physical fitness in rural and urban children. A cross-sectional observational study of 98 rural and 74 urban healthy children (aged 9-11 years) was conducted in Turkey. A questionnaire was used in collecting information about the children's physical fitness of children was evaluated with EUROFIT test battery. The rural children prefer indoor sports. The percent of urban children not involved in any sports activity was 35 %, while this rate was 30.6 % for rural children.

It was also found that the urban children watched TV more than the rural children (13. 4± 2.7 h/week, 10.9± 2.7 h/week, respectively). The results should that body mass index and skin folds thickness were higher in the urban children ($p<o.o5$).There were no significant differences in the hip-waist ratio or the hip and waist circumference between the two groups. In cardiopulmonary and motor fitness, no difference was found between the two groups. In contrast, flexibility and muscle endurance were significantly higher in the rural children. The children living in the urban areas were more inactive and obese, which resulted in a decrease in their flexibility and muscle endurance fitness.

2.1.14 Exercise and health

Dumith and Rombaldi (2008) although the benefits of physical fitness on health and prevention of diseases are extensively reported in the literature, there are few investigations about this theme, mainly among children and adolescents. Therefore, the aim of this study was to analyze the health-related physical fitness (HRPF) components according to characteristics such as sex, age, type of school (public or private) and geographic area of school (urban or rural), in individuals aged 7-15 years. The data collected belong to the project Esporte Brasil (Brazil sport project) (PROESP-BR), and the HRPF components assessed were; body mass index (BMI), flexibility (''sit-and-reach'' test), localized muscular resistance (LMR)(one-minute sit-up test) and aerobic capacity (nine-minute running test). The sample comprised 665 students, randomly selected from elementary schools of the Rio Grande country, Brazil. To compare the means of the measures and the test according to the independent variables, simple and multivariate linear regression was used. Amongst the main results, it can be emphasized that the HRPF components were more associated with biological characteristics (sex and age), with no expressive differences by type of school, nor by geography area of school (indicators of socioeconomic level). Further studies are needed for the establishment of national reference parameters HRPF of children and adolescents.

2.1.15 public health out comes

Mehtap et al., (2005) in a crowded modern world it is vital that the promotion of sports environmental and public health outcomes. This study aims to investigate the effects of activities on physical fitness in rural and urban children. A cross-sectional observational study of 98 rural and 74 urban healthy children questionnaire was used in collecting information about the children's physical activity children was evaluated with EUROFIT test battery. The rural children preferred to play foot ball and volley ball while the urban children percentage of urban children not involved in any sports activity was 35% while this rate was urban children watched TV more than the rural children ($p<0.05$). There was the hip waist circumference between the two groups in cardio pulmonary and motor groups. In contrast, flexibility and muscle endurance were significantly higher in the rural areas. The children living in urban areas were more inactive and obese while endurance

fitness.

Joens et al., (2003) the increasing prevalence of overweight in youth has been well chronicled, but less is known about the unique patterns and risks that may exist in rural and urban environments, A better understanding of possible rural –urban differences in physical activity profiles may facilitate the development of more targeted physical activity interventions. Participants (1,637 boys, 1,729 girls) were recruited from fourth, fifth and sixth grade classes in schools from urban areas, small cities and rural areas. Multi level modeling was used to examine rural –urban differences in physical activity and prevalence of overweight. Physical activity was assessed by self –report and body mass index was calculated from measured height and weight. Prevalence of overweight was higher among rural children (25%$p<0.01$) than children from urban areas (19%) and small cities (17%). Urban children were the least active overall (cohens' d= - 0.4). Particularity around lunch time while at school (d= -0.9 to -1.1). Children from small cities reported the highest levels of physical activity. The results of this study suggest there are rural-urban differences in children's prevalence of overweight and physical activity even within a fairly homogenous Midwestern State.

2.2 Influence of socio economic status, life style on physical, physiological and psychological variables.

2.2.1 Life style relative to fitness

Life style no assessment of fitness is complete without an honest evaluation of the way you live. Five of the seven major causes of death and disease in the u.s are related to life style. Obesity and its handmaiden, sloth, reflect a life style incompatible with fitness. Sit all day around a semi-vegetative state. You will grow old before your time. Activity does help slow the toll the years take on reflexes strength; speed and aerobic capacity psychological stress is key factor in the overall fitness.

2.2.2 Socio economic status and physical education

A child with good or high socio-economic status will have assessed to better education, food and nutrition health care environment physical education, facilities and opportunities which will affect their physical fitness, motor ability, health status and

academic achievement. Education and socio-economic status are closely related, secondary educational is very important stage of education in the education system of any country. Majority of people will have either lower secondary stages or higher secondary stages their final educational career. Hence it is a stage, which is concerned with the majority of population. Murthy (1982).

Cauley et al (1991) conducted a study on physical activity by socio-economic status in two population based cohorts, his findings show that in both high and low socio-economic status individuals activity was inversely associated with age and was higher in males than females. The relationship of physical activity to socio-economic status differed depending on the dimension of activity assessed participation in sports was reported more frequently in high status in females and males. Socio-economic status was a significant predicator of walking. The number at hours spent in moderate activity was lower, in low status makes. There was little difference by socio-economic status in the complete activity score average annual kilocalories per week.

Rarik (1973) says socio-economic status or background is frequently implicated as the significant factor affecting the activity pursuit and performance level of children. This was pointed at earlier where date were presented which suggested that lower socio-economic and for disadvantaged children of more attend families such an atmosphere might be conducive to greater freedom of activity and opportunity for practices in movement experience.

Stone (1978) conducted research with Negro and white boys (N=11.2) aged 10 through 12 years, who were arranged in to 4 matched groups, on the basis and physique. And an upper middle and lower middle Socio Economic status-Negro boys were significantly superior in sit-ups, broad-jump, 50 yard dash, shuttle run, and soft ball throw, the soft ball throw was the only item showing the Fellable difference between the two social groups, with the lower middle being superior. There were no significant differences found on the other seven items.

Chapter Three

Materials and Method

This section present, study design, study area, study population, sampling and sampling size, source of data, collection of data, selected physical fitness, reliability of instrument, orientation of the subject, administration of test, ethical condition and statistical procedure.

3.1 Research design

Among quantitative research type particularly comparative research design was used in this study. This study is designed to the two skill qualities /strength and flexibility/ between urban and rural boys and girls. Mainly on describing, analyzing and interpreting, the conditions that exist.

3.2 Study population

2008 E.C One secondary school were hold at shashemene. Among components of health related fitness body flexibility and strength were selected. Because the researcher is one of this high school physical education teacher. For current study, the information was gained from school field test results.100 urban and rural students from six sections, purposive method. These six selected class has a total 360 students. From these total 360 females are 195 from urban the rest 165 are rural students. From this, 195 students, 105 male and 90 female, from 165 rural students, 95 males, the rest of them are 70 females.

3.3 Sample size

One-hundred students participated in this study from shashemene one secondary school. The participants were divided in gender and residence in to two groups. Thirty urban and thirty rural male students in one group. Twenty urban and twenty rural female in other groups.

3.4 Sampling techniques

In the process of conducting such research work, sampling is necessary because in a study of this nature, it is neither desirable nor possible to cover all the entire population.

The sample size hence took in to desirability and feasibility consideration issues of Time relative to student learning schedule financial resources, load of work willingness of the students to involve with full commitment. Probability sampling method in which simple random sampling procedure were used in order to capture better result. For example, give a simple random method, researcher can use statics methods to define a confidence interval around a sample mean (Harvey, 2000). The study was intended to compare the physical fitness levels of urban and rural students relative to life style wise and hence simple random sampling technique was used to collect data.

3.5 Source of data

In order to obtain the necessary data, the researcher primary sources of data were collected from students through field test by investigator for selected physical variables, questionnaire for sample students and interview for physical education Teacher. Secondary source of data were collected from the written material such as books, journals and websites.

3.6 Tools to be used

Ground school field measuring tape, stop watch, sit-and-reach box, gymnastic mate were used. Therefore those instruments were used for the purpose of the study.

3.7 Test

For testing the hypothesis of physical fitness variables, tests are the following. Strength measured by Trunk- lift, pushup and modified push up. Flexibility was measured by Sit-and-reach and Shoulder flexions (Zipper).

3.8 Pilot study

Prior to the formal study series, a pilot study was conducted on school volleyball players who were not the part of the sample groups. (See appendix 4).

The purpose of the pilot study was to assess the relevance of the test designed to collect data for the study. The objective was to check the clarity of the test procedure, material,

scoring and purpose. On the basis of the feedback of the pilot study and experts' comments some modification was made on the test.

3.9 Reliability and validity

The reliability of the datum was censured by establishing the instrument reliability, subject reliability and testers' reliability. Specific reliability as concerned with the consistency or stability of the score obtained from measure or assessments teaching over time conditions. One of the interested and best methods for this study will be T. test reliability refers to the stability of test scores over time and involves repeating the same test on at one other occasion. Each test was used twice by the same person under similar conditions According to Gweet k.L. (2014) intra-class co-efficient of correlation is the proportion of variance of an observation due to between-subject variability in the true score.

1. Instrument reliability

Measuring taps, stopwatch, sit-and-reach box, was used. Abdominal strength was assessed using the 60s" sit-up test. The participants also performed sit-and-reach test to measure flexibility.

2. Reliability of the subjects

The subject reliability was made by establishing and re-tests coefficient of correlation for the scores in each of the criterion measures. Re-testing was done with in a period of other appropriate days of initial in test in each of the criterion measures, to get data for calculating test and re-test coefficient for reliability of the subject.

3. Testers' reliability

All the measurements were taking by the investigator with the assistance of a person those who were well versed in the techniques of conducting the test and their procedures in order to check and accept tester competency and reliability of test, test and re-test method were by same tester.

3.10 Test procedure

After specific stretching and warm-up, the players are made one or two attempts to become familiar with the equipment. Next, two maximal attempts were performed, and the best result was used for analysis. There were four parts of tests and measurements, (1) Sit-and-reach test. (2) Shoulder flexion (Zipper) (3). Push-up (90 degree), for female modified push-up, sit-ups (60''). All are field tests and tests were held in school ground field. The tests were administered in the following manner.

1 Sit-and-reach test

According to Paige, (2008) Sit-and-reach test were administered as follows

Purpose: - To measure flexibility of lower bake and hamstrings by reaching as far as possible with the fingertips.

Equipment:- This assessment requires a sturdy box approximately 12 inches high (fourfold mat may be staked to 12 inches in lieu of the box) A measuring scale (meter stick) is placed on top of the box with 23 centimeters at the level of the level of the feet.

Procedures:- The players removes His/her shoes and sits on the floor with knees fully extended, feet shoulder-width apart and soles of feet held flat against the end of the box (or mats) with hands on top of each other, palms down, and legs held flat, the student reaches along the measuring line as far as possible. After three practice reaches, the fourth reach is held while the distance is recorded. The legs must remain straight, soles of the feet against the box, and fingertips of both hands should reach evenly along the measuring line.

2. Shoulder flexors (Zipper)

According to Lab resource material, Fitness and wellness (p.158) shoulder flexibility were administered as follows

Purpose: to measure flexibility of

Equipment: 30 centimeter rural the only instrument

Procedure: Raise arm, bend elbow, and reach down across your back as far as possible, at the same time, extend left arm down and behind your back, and try to cross fingers over those of your right hand. Measure the distance to the nearest half-inch. If your finger overlap, score as plus. If they fail to meet, score as minus. Use zero if your fingertips just

touch. Repeat with your arms crossed in the opposite direction (left arm up)

3. 6o" Sit-ups

According to (Heyward, 1998) 60s'' Sit-ups test were administered as follows

Purpose: this test measures the muscular strength of the abdominal muscles. This is important for performing tasks that involve the use of force, and it helps maintain good posture and minimizes lower back problems.

Equipment: flat, clean, cushioned surface, stopwatch, recording sheets and pen

Procedures: The player starts by lying on his or her back, knees bent, heels flat on the floor, with the fingers laced and held behind the head. Avoid pulling on the head with the hands. The buttocks must remain on the floor with no thrusting of the hips.

Players should keep loose while waiting for start. A proctor holds the feet firmly. The player performs as many correct sit-ups as possible in one minute. In the up position, the individual must touch the elbows to the knees and then return to the lying position (shoulder blades touch the floor) before starting the next sit-up. The score is the number of correct sit-ups. Any resting must be done in the up position (up position only). Breathing should be as normal as possible.

4. Push up Test:

This 90 degree push up has been adopted from assessments reported by Massicote (1990)

Purpose: upper body strength.

Equipment: Mat and stop watch

Procedure: A prone position on the mat with hands placed under or slightly wider than the shoulders. Fingers stretched out legs. Straight and slightly apart, and toes tucked under. Pushes up off the mat with arms are straight, keeping the legs and back straight. The back should be kept in a straight line from head to toes throughout the test. Elbows bend at a 90 angle and the upper arms are parallel to the floor. Movement is repeated as many times as possible. The rhythm should be approximately 20 -90 pushups per minute or 1-90 pushups every 3 seconds.

5. Trunk lift

This Trunk lift test adopted from Muscular strength Endurance, Flexibility (The cooper institute youth Fitness program).

Purpose: To measure the lower back health, Minimum assessment of trunk strength.

Equipment: This test requires yardstick or 15 inch rural and gymnastic mats. For safe measurement rubbers should be made of some pliable material

Procedure: Lies on the mat in a prone position. Lift the upper body of the floor using the muscles of the back and hold the position to allow for the measurement. Movement should be performed in slow and controlled manner. Extra hyper extension is not advisable or safe.

3.11 statistical procedures

The researcher were used both descriptive statistics for demographic value of the subject and inferential statics to analysis and interpreter test result of the variable. Data were expressed as mean and standard deviations of the mean (SD).to test differences in health related physical fitness /Flexibility and Strength/ among urban and rural students. To test flexibility shoulder flexion (Zipper), Sit- and- reach and for strength test Push-up 90 degree, Modified push up for female, Sit-up for male and Trunk lift for female. The level of significance was set at 0.01.

Chapter Four

Result and Discussion

In this section, the results obtained from student questionnaire were analyzed percentage as a statistical method was employed to present and analyzed items of questionnaire quantitatively. To supplement and enriched the information that was drown using a questionnaire.

4.1 Background characteristics of the study groups

Based on the responses obtained from students, characteristics of the study group were examined in terms of living area, sex and grade.

Table: 1 characteristic of respondents.

No	Respondents							
	Urban student				Rural student			
	M	F	T	%	M	F	T	%
1	30	20	50	50	30	20	50	50
Teacher		M	1					33.3%
		F	2					66.67%

Among the respondents of 100% students,50% male and 50% females. From 50% urban respondents (60% males and 40% females) and from50% rural respondents (60% males and 40% females).Three physical education teacher.

4.2 Analysis of questionnaires

Questions were based on health related fitness and major problems in physical education practical class data gathered through questioner was subjected to frequency counts. To th e responses to the questions, which are quantified in percentage forms and presented with inferential statics chi-squire (Measure of difference or association).presented in tabular form.

4.2.1 Health related fitness and life style

Table 2, Types of exercise relative to time

Q6	Weight lifting	Gymnastic	Total test	X^2	Standard residual(R)	
					Weight lifting	Gymnastic
Urban	20.(25.5)	30(24.5)	50	4.811	1.089	1.111
Rural	31.(25.5)	19(24.5)	50		1.089	1.111
Total	51	49	100			

From the above table 2, Urban respondents response 20(25.5%) and 30(25.5%) spend more time on weight Lifting and gymnastic respectively. Whereas, Rural students response that 31(24.5%) and 19(24.5%) spend more time on weight lifting and gymnastic respectively. Results, indicated that most of urban students spend more time on Gymnastic and rural students spend time on weight Lifting

Table 3, In active ways of life.

Q7	Yes	No	Total	X^2 test	Standard residual(R)	
					Yes	No
Urban	43.(45.5)	7(5)	50	1.776	0.298	0.89
Rural	47.(45.5)	3(5)	50		0.298	0.89
Total	90	10	100			

The above table 3 revealed that, 43(86%) of urban students replied yes and 7(14%) response no. And also, 47(94%) of rural students response yes and 3(6%) were no. Therefore, most of urban and rural students replied spends time always behind television screen negative impact for quality of life.

Table 4, Distance between homes to School

Q9	1-2km	Above-5km	Total	X^2 test	Standard Residual(R)	
					1-2Km	Above-5km
Urban	36(20.5)	14(29.5)	50	39.726	3.423	2.853
Rural	5.(25.5)	45(29.5)	50		3.423	2.853
Total	41	59	100			

The above table 4 distance of school from students home, most of 36(20.5%) and 14(20.5%) urban respondent responses 1-2km and above 5km respectively. Whereas, 45(29.5%) of rural students replied above 5km and the rest of them 5(29.5%) responses 1-2km. Results show that, most of rural students far from the school while urban students home near to the school.

Table 5, Traveling distance on feet?

Q10	Sometimes	Always	Total test	X^2	Standard residual(R)	
					Sometimes	Always
Urban	18.(11)	32(39)	50	460	2.11	1.12
Rural	4.(11)	46(39)	50		2.11	1.12
Total	22	78	100			

Regarding on above 5km students home far from their school based on travel table 5 indicated that, 18(11%) of urban students response travel sometimes on foot and 32(11%) of respondents replied always on foot. And also, 4(39%) of rural students response travel sometimes on foot and 46(39%) of rural students replied travel always on foot. Results indicated that, most of rural and urban students travel always on foot.

Table 6, Walking for strength

Q11	Yes	No	Total	X^2 test	Standard Residual(R)	
					Yes	No
Urban	29.(33)	21(17)	50	2.85	0.696	0.970
Rural	37.(33)	21(17)	50		0.696	0.970
Total	66	34	100			

From the above table 6, 29(33%) and 21(33%) of urban students replied yes and no respectively. Whereas, 37(17%) and 13(17%) of rural students response traveling on foot increase strength and others were no respectively. Therefore results indicated that, most of rural and urban students traveling on foot benefitted while engaging in strengthening exercise.

Table 7, Exercises per week

Q12	Yes	No	Total	X^2 test	Standard Residual(R)	
					Yes	No
Urban	39.(27)	11(23)	50	28.05	2.309	2.502
Rural	15.(27)	35(23)	50		2.309	2.502
Total	54	46	100			

Regarding on participate in different exercises at a regular time per week the above table 7 indicates that, 39(27%) and 11(27%) of urban students response yes and no respectively. On the other hand, 15(23%) of rural students participated and 35(23%) of them were not participated in different exercise. Result shows that, most of urban students participated in different exercise at regular time per week, whereas, most of rural students were not participated different exercise at regular time per week.

Table 8, Assessment of fitness

Q13	Yes	No	Total	X^2 test	Standard residual (R)	
					Yes	No
Urban	22.(21)	28(29)	50	0.162	0.218	0.185
Rural	20.(21)	30(29)	50		0.218	0.185
Total	42	58	100			

According to the above table 8, 22 (44.0%) of the urban respondents replied that yes and 28(56%) of respondents response no, whereas, 20(40%) of rural students replied that assess current level of fitness and 30(60%) of respondents replied no assessment. Results indicated that, most of urban and rural students do not assess current level of fitness.

Table 9, Current level of body fitness

Q14	Yes	No	Total	X^2 test	Standard Residual(R)	
					Yes	No
Urban	6(5.5)	44(44.5)	50	0.311	0.213	0.074
Rural	5(5.5)	19(44.5)	50		0.213	0.074
Total	11	89	100			

As indicated in the above table 9 out of 50(100%) of urban respondents 6(12%) replied that strongly satisfied and 44(88%) of respondents replied not satisfied. Out of 50(100%) of rural respondents 5(10%) replied that strongly satisfied, whereas, 45(90%) responded that, not satisfied to their current level of body fitness. Therefore, most of rural and urban student responses were not satisfied to their current level of body fitness.

4.2.2 Major problem in physical education practical class

Table 10, Ground /field in school compound

Q1	Yes	No	Total	X^2 test	Standard Residual(R)	
					Yes	No
Urban	45(45)	5(5)	50	0	0	0
Rural	45.(45)	5(5)	50		0	0
Total	90	10	100			

The above table 10 gives detail information on playing ground /field in school compound. Out of 50 respondents 45 (90%) of urban and rural replied that playing ground /field in school compound were present and the rest of them were not found playing ground /field in school compound.

Table 11; Opportunity to use School field

Q2	Always	Sometime	Total	X^2 test	Standard Residual(R)	
					Always	Sometime
Urban	11.(10)	39(40)	50	0.25	0.316	0.158
Rural	9.(10)	41(40)	50		0.316	0.158
Total	20	80	100			

According to the above table11, 11 (22%) of urban respondents replied always use field and 39(78%) of respondents replied sometimes use the field. Whereas 9(18%) of rural student replied always use field and 41(82%) of respondents replied sometimes use the field. From this notion results indicated that, most of rural and urban students sometimes use playing ground /field in school compound.

Table 12, Interest to participate practical class

Q3	Yes	No	Total	X^2 test	Standard Residual(R)	
					Yes	No
Urban	46.(45.5)	4(4.5)	50	0.12	0.074	0.235
Rural	45.(45.5)	5(4.5)	50		0.074	0.235
Total	91	9	100			

Table 12 shows, interest of students participation in physical education practical class. Out of 50(100 %) of urban and rural respondents 46(92%) and 45(90%) of respondents replied that, yes. Whereas, 4(8%) and 5(10%) of urban and rural student replied were no. Results indicated that, both urban and rural students were interested in physical education practical class.

Table 13, Do you have opportunity in your living area to train in training center

Q4	Yes	Rural	Total	X^2 test	Standard Residual(R)	
					Yes	No
Urban	23.(19)	27(31)	50	2.71	0.917	0.718
Rural	15.(19)	35(31)	50		0.917	0.718
Total	38	62	100			

As the above table 13 indicates, out of 50(100%) of urban respondents 23(46%) and 27(54%) replied that, they have opportunity to train in training center and no opportunity respectively. Whereas, out of 50(100%) of rural respondents 15(30%) and 35(70%) of respondents stated that, they have opportunity to train in training center and no opportunity respectively. Therefore result shows that, most of rural and urban students were not got opportunity to train in training center.

Table 14, How do you do gets the result from Q.4

Q5	Good	Fair	Total	X^2 test	Standard residual(R)	
					Good	Fair
Urban	32.(25.5)	18(24.5)	50	72.84	1.287	1.329
Rural	19.(25.5)	31(24.5)	50		1.287	1.329
Total	51	49	100			

According to the above table 14 shows, 32(64%) of urban respondents replied that, good result, whereas 18(36%) of urban respondents response fair result. And also, 19(38%) and 31(62%) of rural respondents replied good and fair result respectively. This indicates that, most of urban students replied good result while rural students were fair results recorded.

Table 15, parent know how for exercise.

Q8	Yes	No	Total	X^2 test	Standard Residual(R)	
					Yes	No
Urban	46.(41)	4(9)	50	6.76	5.466	1.66
Rural	36.(41)	14(9)	50		5.466	1.66
Total	82	18	100			

According to the above table 15 shows out of 50(100%) of urban respondents 46(92%) and 4(8%) of them said that, they agree on parents know how to help students quality of life and disagree respectively. And also 36(72%) and 14(28%) of rural respondents replied that, they agree and disagree on parents know how to help students quality of life.

Table 16, physical education for body strength

Q15	Yes	No	Total	X^2 test	Standard Residual(R)	
					Yes	No
Urban	44(39.5)	6(10.5)	50	4.37	0.716	1.388
Rural	35(39.5)	15(10.5)	50		-0.716	1.388
Total	79	21	100			

As indicated in the above table 16, gymnastic exercises contribute to flexibility progress. Out of 50(100%) urban students, 44(88%) and 6(12%) of respondents replied agree and disagree respectively. Whereas, 35(70%) and 15(30%) of rural respondents replied agree and disagree respectively. Results show that, both urban and rural replied were gymnastic exercises contributed to flexibility progress.

Table 17, physical education for body flexibility

Q16	Yes	No	Total	X^2 test	Standard Residual(R)	
					Yes	No
Urban	48(43)	2(7)	50	8.3	0.762	1.89
Rural	38.(43)	12(7)	50		0.762	1.89
Total	86	14	100			

As indicated in the above table 17, Physical education practical class helps opportunity to develop strength and flexibility. Out of 50(100%) urban students, 48(96%) and 2(4%) of respondents replied agree on physical education practical class helps opportunity to develop strength and flexibility and disagree respectively. Whereas, 38(76%) and 12(24%) of rural respondents also agree on physical education practical class helps opportunity to develop strength and flexibility and disagree respectively. Results indicates that, most of respondents (rural and urban students) were agree on physical education practical class helps opportunity to develop strength and flexibility.

Generally, it is likely to say that urban and rural students are not involved equally what they are expected to perform skill flexibility and strength in physical education practical class particularly in gymnastics tumbling exercise. The data indicate from the respondent way of life style, familiarity of tumbling exercise, availability of materials opportunity for improving the skill as indicate. Make students restriction from practical activity.

4.3 Performance field practical skill test

The aim of the present study was to investigate the differences in selected physical fitness variables between urban, rural school boys and girls. The evaluation of general and specific physical training relative to health related physical fitness was performed by using flexibility and strength test imposed by the researcher. Flexibility were measured by sit-and reach, shoulder flexibility (Zipper), body strength were measured by set-up test, push- ups, modified push-up and Trunk lift for female. The tasting period was February 15- March 30, 2016. Made on the school field opposite to students learning schedule and physical education practical class time For the present study the result and analyses of descriptive and inferential statics with mean, standard deviation,

Table: 18 selected variables and their criterion measures

Variable	Measured	Variable	Measured
Strength	Repetition	Flexibility	Cm
Push-up Mod. push-up	Repetition	Shoulder flexion (zipper)	Cm
Sit-up	Repetition	Si-and-reach	Cm
Trunk lift	cm		

The above tables 18 indicates that, to test both urban and rural students regarding on flexibility and strength for both sex

Table 19, comparative analyses of Shoulder flexibility (Zipper) between urban and rural female student

Urban and Rural (Female) paired Statistics	Number	Mean	S. D	SEM	t. value	P. value
P1.Shoulder Right Flexibility(Zipper) Test	20	7.35	2.033	.45465	15.119	. 000
	20	3.80	1.966	.26754		
P2 Shoulder Left Flexibility(Zipper) Test	20	2.60	2.210	.49418	3.966	. 000
	20	1.35	.988	.22094		

Significant At 0.01 Level (2-Tailed)

Table: 19 shows that the result of Shoulder (Zipper) flexibility among urban and rural female students the mean and standard deviation value Right 7.35±2.033, 3.80±1.196 and Left 2.6±2.210, 1.35±.988. However, the right hand t-value 15.119 this indicates there is significant at 0.01. But, in the contrary left hand t-value 3.966 is significant at .001. Hence urban students are flexible than rural with right and left hand test.

Table: 20 comparative analyses of flexibility shoulder (Zipper) between urban and rural Male students

Urban and Rural (Male) Paired Statics	Number	M	S.D	SEM	t-value	P. value
P1 Shoulder Right Flexibility(Zipper) Test	30	4.70	2.103	.38402	.927	.000
	30	2.13	1.382	.25250		
P2 Shoulder Left Flexibility(Zipper) Test	30	2.40	1.714	.31294	.930	.000
	30	1.26	1.142	.20863		

Significant At 0.01 Level (2-Tailed)

Table 20 shows that the result of shoulder (Zipper) flexion between urban and rural Male students .The mean and standard deviation value of right hand 4.7±2.103, 2.13±1.382, left hand 2.4±1.714, 1.26± 1.142 . The t-value right 14.472, Left 7.999. This indicates there is significance different at 0.01. Hence with two alternate hands test urban students are more flexible than rural.

Table: 21 comparative analysis of flexibility (sit-and-reach) between urban and rural male students

Urban Rural Paired Statics	N	Mean	S.D	SEM	t- value	P-value
P1 (Male) Flexibility Sit-and-Reach / test.	30	8.23	3.962	.72347	14.297	.000
	30	5.40	3.379	.61700		

Significant At 0.01 Level (2-Tailed)

Table: 21 Shows that the result of flexibility (sit-and-reach) between urban and rural male students. The mean and standard deviation value 8.23±3.962, 5.4±3.379, the t-value 14.297.This indicates there is significance difference. This shows that urban students are flexible than the rural on sit-and-reach test.

Table: 22 comparative analysis of flexibility (sit-and-reach) between urban and rural female students

Urban Rural Paired Statics	N	Mean	S.D	SEM	t- value	P-value
P2.(Female) Flexibility / Sit-and-Reach / test.	20	8.90	3.416	.76399	5.393	.000
	20	6.35	1.460	.32667		

Significant At 0.01 Level (2-Tailed)

Table: 22 Shows that the result of Sit-and-Reach flexibility between Urban and Rural female Students the mean and standard deviation value 8.90±3.416, 6.35±1.460.Then, this result shows urban students was flexible than rural, t-value 5.393. Hence there is significant difference among urban and rural female students on variable of sit-and-reach.

Table 23, comparative analysis of sit up between urban and rural male

Urban and Rural (Male) paired Statistics.	Number	Mean	S.D	SEM	t-value	P-value
P1 Strength / Sit-up /	30	14.56	3.013	.55020	-6.998	.000
	30	16.63	1.496	.27327		

Significant At 0.01 Level (2-Tailed)

Table: 23 shows that the result of strength in sit-ups test b/n urban and rural Male students. The mean and standard deviation value 14.56±3.013, 16.3±1.496, the t-value -6.998 this indicate there is significance deference. These show that rural students are stronger on sit-ups.

Table 24, comparative analysis of 90^0 push up between urban and rural male

Urban and Rural (Male) paired Statistics.	Number	Mean	S.D	SEM	t-value	P-value
P2 Strength / 90 degree push up /	30	15.43	2.712	.49523	4.966	.000
	30	16 63	1.496	.27327		

Significant At 0.01 Level (2-Tailed)

Table: 24 shows that the result of strength (push up) 90^0 between urban and rural Male students the mean and standard deviation value 15.43±2.712, 16.63±1.496, the t-value -4.966. Therefore the rural students are slightly better than their urban students.

Table 25, comparative analysis of trunk lift between urban and rural female students

Urban and Rural (Female) paired Statistics.	Number	Mean	S.D	SEM	t-value	P-value
P1 Strength /Trunk-Lift/	20	16.35	6.028	1.34805	-11.419	.000
	20	21.10	5.379	1.20285		

Significant At 0.01 Level (2-Tailed)

Table: 25 shows that the result of Strength (Trunk lift) between urban and rural female students. The mean and standard deviation value 16.35±6.028, 21.1±5.379, the t-value -11.419. This indicates there is significant difference between urban and rural students on variable of Trunk lift. Hence this result shows rural female Students was better on Trunk lift test.

Table 26, comparative analysis of modified push up between urban and rural female students

Urban and Rural (Female) paired Statistics.	Number	Mean	S.D	SEM	t-value	P-value
P2 Strength /Modified push up/	20	15.45	3.347	.74860	-10.162	.000
	20	19.20	4.274	.95587		

Significant At 0.01 Level (2-Tailed)

Table: 26 Show that the result of Strength (Modified push up) between urban and rural female students the mean and standard deviation value 15.45±3.34782, 19.2±4.27477, the t-value -10.162. This indicates there is a significance difference between female urban and rural students. This shows that rural female student was better stronger than urban on Modified push-up.

4.4 Interviews for physical education teachers

What are the major problems teacher face in teaching flexibility and strength exercises in practical class?

- Level of individual performance difference.
- Shortage of number of period per week.
- Shortage and availability of field material.
- Back ground of students is unfamiliar for tumbling exercise.
- Fear and lack of interest for exercise.

As physical education teacher how it look like your student practical performance ability relative to the text content?

- Most of the students are not familiar for Tambling exercise in gymnastic.
- I observe declined of students participation in gymnastic class.
- Lack of interest developed with the case of back ground.
- Easily face problem because of lack of hand strength, flexibility and body condition.

What make good life style for student quality of life?

- Make happy and equally competing with their friends
- Freely move and enjoy with friend.
- Prevent from common illness.

What make life style for individual student's performance

- Way of individual life determines capacity to overcome life.
- Active life helps to involve freely in exercise without restriction.
- Free body movement indicates level of individual health.
- Is there a strength and flexibility difference between urban and rural students?
- Yes performance difference in strength and flexibility. Urban students are more fl exible, rural students are stronger.

Chapter Five

Summary, Conclusion and Recommendation

5.1 Summary

The central purpose of this study was to investigate the differences of urban and rural students skill difference particularly strength and flexibility in physical education practical class in one shashemane secondary School.

The study designed the following basic questions.

1. Are there strength and flexibility skill difference between urban and rural students?
2. Students on equal basis, is life style can make difference in their body flexibility and Results, indicated that most of urban students spend more time on Gymnastic and rural students spend time on weight Lifting strength?
3. Does life style make difference for the overall students health related fitness?
4. What are the major problems that teachers face with student skill difference in physical education practical time?

Based on student response from questioner and analyzed of data, the following major finds were obtained from the study.

- Results, indicated that 60% and 38% of urban students spend more time on Gymnastic and 62% and 40% rural students spend time on weight Lifting
- Results show that, 86% and 94% of urban and rural students replied spends time always behind television screen negative impact for quality of life
- Results show that, 90% of rural students far from the school while 28% of urban students home near to the school.
- Results indicated that, 74% of rural and 58% urban students travel always on foot and got benefitted while engaging in strengthening exercise.
- Result shows that, 78% of urban students participated in different exercise at regular time per week, whereas, only 30% of rural students participated different exercise at regular time per week.

- Results indicated that, 44% of urban and 60% of rural students do not assess current level of fitness. And also, rural and urban student responses were not satisfied to their current level of body fitness.
- Results indicate that 90% of both urban and rural respondent response playing ground in school compound was founded.
- Result shows that, only30% of rural and 46% urban students were not got opportunity to train in training center.
- Result indicates that, they agree on parents know how to help students quality of life.
- Results show that, 88% of urban and70% of rural replied were gymnastic exercises contributed to flexibility progress.
- Results indicate that, 76% of rural and 96% urban students were agree on physical education practical class interested and helps opportunity to develop strength and flexibility.

Based on practical field physical test result

Female students

- In conclusion the results of the present study confirm that female urban students are comparatively better on Right and Left hand flexibility (Shoulder "Zipper") test.
- In conclusion the results of the present study confirm that female urban students are more flexibly on sit- and-reach.
- From the result of the present study confirm that female rural students are comparatively better on strength (Trunk lift).
- From the result of the present study confirm that female rural students are comparatively better on strength (modified push up).

Male students

- In conclusion the results of the present study confirm that male urban students are comparatively better on flexibility (shoulder "Zipper) test with both alternate hand tests.
- In conclusion the results of the present study confirm that male urban students are more flexible than the rural students on sit-and-reach test.
- From the result of the present study confirm that male rural students are comparatively better on strength (sit-ups) test.
- From the result of the present study confirm that male rural students are comparatively better strength on (push-ups) test.

Based on physical education teacher interview

Urban and Rural Students performance period distribution availability of field exercise m aterial and background of students for tumbling exercise. All this factors lead students to fear and lack of interest for physical education class. Life style change student performance. Active life helps to involve freely in exercise without restriction and free body movement.

5.2 Conclusion:

- There is a strength difference between urban and rural male and female students
- Student on equal basis life style determines body strength and flexibility.
- Lifestyle, habitual activities had great impact on student health and fitness.
- Physical education teacher determine with particular exercise for strength and flexibility, not involve in all exercise that is found in the text book.

5.3 Recommendation

In the light of the study, it appears reasonable to suggest the following recommendations.

- Relative age effect should be given more attention consistency of health related fitness from the grass roots.
- Period allotted per week for physical education should be reconsidered in order to create good environment. Sufficient time and available environment helps for strength and flexibility of students' transition of skill.
- Physical education text writers should be observing the fact. To curb the content of the text and the level of the student for the application of tumbling exercise particularly in gymnastic exercise in shashemen secondary school students.
- Ministry of education should be take the fact that the reality what is going on the school about strength and flexibility of students on the application of the text content.
- Physical education teachers and concerned bodies should develop the awareness of administration bodies, parents, students and school society regarding on strength and flexibility of students.

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APPENDIX-1

Addis Ababa University

Post Graduate Program Studies

Department of Science and Mathematics Education

A questionnaire designed on "Urban Vs Rural students in flexibility and strength in shashemene one Secondary School students." The purpose of these questionnaires is to collect information on the Urban Vs Rural students in flexibility and strength in health related components of fitness. Thus, the study is purely an academic and in no way affects the respondent's personality or the organization

It will be kept confidential so that your genuine view, frank opinion and timely responses are very valuable in determining the success of the study. Therefore, you are kindly requested to extend your cooperation honestly by providing relevant information and filling out the following questionnaire that are prepared for this intention.

Thank you in advance for your cooperation!!

Instruction1. Write your own Background Information on the Space Provided

1. Name of the school _____
2. Grade &section _____
3. Age _____
4. Sex_____

No	Questionnaire	Choice
1	Is there playing ground /field in school compound	Yes
		No
2	If your answer is yes for question No. 1 how often youth this field	Always
		Sometimes
3	Do you have interest to participate in your physical education practical class?	Yes
		No
4	Do you have opportunity in your living area to train in training center	Yes
		No
5	If we have opportunity to train in training center how do you do get the result	Good
		Fair
6	Which type of exercise you spend more time	Weight lifting
		Gymnastic
7	Do you believe there is a negative impact for your quality of life, if you are spends always behind television screen?	Yes
		No
8	Do you agree your parent know haw help for your quality of life	Yes
		No
9	How far your school from your home?	1-2km
		Above 5km
10	For question no 9 if your answer is above '' 5'' km. '' how do you travel?	Yes
		No
11	If your answer is "on foot" for question No.9 Are you benefitted in your Strengthening exercise?	Yes
		No
12	Do you participate in different exercises at a regular time per week?	Yes
		No
13	Do you assess your current level of fitness?	Yes
		No
14	Are you satisfied with your current level of body fitness?	Yes
		No
15	Do you agree gymnastic exercise contribute for your flexibility progress?	Yes
		No
16	Do you believe your physical education practical class helps opportunity to develop strength and flexibility?	Yes
		No

APPENDIX-2

T-Test: M.D, S.D, T, D.F and P-Value of Each Parameter

Paired Samples Test		Paired Differences					T	Df	Sig. (2-Tailed)
		Mean	Std. Deviation	Std. Error Mean	99.9% confidence				
					Lower	Upper			
Pair 1	Urban Shoulder Right Female - Rural Shoulder Right Female	3.55000	1.05006	.000	3.05856	4.04144	15.119	19	.000
Pair 2	Urban Shoulder Left Female - Rural Shoulder Left Female	1.25000	1.40955	.001	.59031	1.90969	3.966	19	.001
Pair 3	Urban Shoulder Right Male - Rural Shoulder Right Male	2.56667	.97143	.000	2.20393	2.92940	14.472	29	.000
Pair 4	Urban Shoulder Left Male - Rural Shoulder Left Male	1.13333	.77608	.000	.84354	1.42313	7.999	29	.000
Pair 5	Urban Sit And Reach Male - Rural Sit And Reach Male	2.83333	1.08543	.000	2.42803	3.23864	14.297	29	.000
Pair 6	Urban Sit Up Male - Rural Sit Up Male	-2.06667	1.61743	.000	-2.67063	-1.46271	-6.998	29	.000
Pair 7	Urban Push Up Male - Rural Push Up Male	-1.20000	1.32353	.000	-1.69421	-.70579	-4.966	29	.000

Pair 8	Urban Sit And Reach Female - Rural Sit And Reach Female	2.55000	2.11449	.000	1.56039	3.53961	5.393	19	.000
Pair 9	Urban Trunk Lift Female - Rural Trunk Lift Female	-4.75000	1.86025	.000	-5.62062	-3.87938	-11.419	19	.000
Pair 10	Urban Modified Push Up Female - Rural Modified Push Up Female	-3.750	1.650	.369	-4.522	-2.977	-10.162	19	.000

APPENDIX-3

Raw data: Right and left hand shoulder flexibility (Zipper) between urban and rural female student (cm)

ID	Urban female Right hand	Urban female left hand	Rural female right hand	Rural female left hand
1	10.00	10.00	6.00	3.00
2	10.00	10.00	6.00	3.00
3	10.00	10.00	5.00	2.00
4	9.00	9.00	5.00	2.00
5	9.00	9.00	5.00	2.00
6	9.00	9.00	4.00	2.00
7	9.00	9.00	4.00	2.00
8	8.00	8.00	4.00	2.00
9	8.00	8.00	4.00	2.00
10	8.00	8.00	4.00	2.00
11	7.00	7.00	4.00	1.00
12	7.00	7.00	4.00	1.00
13	7.00	7.00	3.00	1.00
14	7.00	7.00	3.00	1.00
15	6.00	6.00	3.00	1.00
16	6.00	6.00	3.00	.00
17	5.00	5.00	3.00	.00
18	5.00	5.00	2.00	.00
19	4.00	4.00	2.00	.00
20	3.00	3.00	2.00	.00

Right and left hand shoulder flexibility (Zipper) between urban and rural male student (cm)

ID	Urban male Right hand	Urban male left hand	Rural male right hand	Rural male left hand
1	8.00	6.00	5.00	3.00
2	7.00	6.00	5.00	3.00
3	7.00	5.00	4.00	3.00
4	7.00	5.00	4.00	3.00
5	7.00	4.00	3.00	3.00
6	6.00	4.00	3.00	3.00
7	6.00	3.00	3.00	2.00
8	6.00	3.00	3.00	2.00
9	6.00	3.00	3.00	2.00
10	6.00	3.00	3.00	2.00
11	6.00	3.00	3.00	2.00
12	6.00	3.00	3.00	2.00
13	5.00	3.00	2.00	1.00
14	5.00	3.00	2.00	1.00
15	5.00	2.00	2.00	1.00
16	5.00	2.00	2.00	1.00
17	5.00	2.00	2.00	1.00
18	5.00	2.00	2.00	1.00
19	5.00	2.00	2.00	1.00
20	5.00	2.00	2.00	1.00
21	4.00	2.00	1.00	.00
22	4.00	1.00	1.00	.00
23	4.00	1.00	1.00	.00
24	4.00	1.00	1.00	.00
25	3.00	1.00	1.00	.00
26	2.00	.00	1.00	.00
27	1.00	.00	.00	.00
28	1.00	.00	.00	.00
29	.00	.00	.00	.00
30	.00	.00	.00	.00

Flexibility (sit-and-reach) between urban and rural male and female students (cm)

ID	Urban female sit-and-reach	Urban male sit-and-reach	Rural female sit-and-reach	Rural male sit-and-reach
1	16.00	15.00	10.00	11.00
2	13.00	13.00	9.00	11.00
3	13.00	13.00	8.00	10.00
4	13.00	12.00	7.00	10.00
5	12.00	12.00	7.00	9.00
6	11.00	12.00	7.00	8.00
7	10.00	11.00	7.00	8.00
8	9.00	11.00	7.00	8.00
9	9.00	11.00	6.00	8.00
10	9.00	11.00	6.00	7.00
11	9.00	10.00	6.00	7.00
12	8.00	10.00	6.00	7.00
13	8.00	10.00	6.00	7.00
14	7.00	10.00	6.00	6.00
15	7.00	10.00	5.00	6.00
16	7.00	8.00	5.00	5.00
17	5.00	8.00	5.00	5.00
18	5.00	8.00	5.00	5.00
19	5.00	8.00	5.00	5.00
20	2.00	7.00	4.00	4.00
21		7.00		4.00
22		7.00		4.00
23		6.00		2.00
24		6.00		2.00
25		5.00		1.00
26		2.00		1.00
27		2.00		1.00
28		1.00		.00
29		1.00		.00
30		.00		.00

Sit up and 90^0 push up between urban and rural male

ID	Urban male sit up	Rural male sit up	Urban male 90^0 push up	Rural male 90^0 push up
1	21.00	20.00	22.00	20.00
2	20.00	19.00	21.00	19.00
3	19.00	19.00	20.00	19.00
4	18.00	19.00	20.00	19.00
5	17.00	18.00	18.00	18.00
6	17.00	18.00	18.00	18.00
7	17.00	18.00	17.00	18.00
8	17.00	18.00	17.00	18.00
9	16.00	17.00	17.00	17.00
10	16.00	17.00	16.00	17.00
11	16.00	17.00	16.00	17.00
12	16.00	17.00	16.00	17.00
13	16.00	17.00	16.00	17.00
14	15.00	17.00	15.00	17.00
15	15.00	17.00	15.00	17.00
16	15.00	16.00	14.00	16.00
17	15.00	16.00	14.00	16.00
18	14.00	16.00	14.00	16.00
19	13.00	16.00	14.00	16.00
20	12.00	16.00	14.00	16.00
21	12.00	16.00	13.00	16.00
22	12.00	16.00	13.00	16.00
23	12.00	15.00	13.00	15.00
24	11.00	15.00	13.00	15.00
25	11.00	15.00	13.00	15.00
26	11.00	15.00	13.00	15.00
27	11.00	15.00	13.00	15.00
28	11.00	15.00	13.00	15.00
29	11.00	15.00	13.00	15.00
30	10.00	14.00	12.00	14.00

Trunk lift and modified push up between urban and rural female students

ID	Urban female trunk lift	Rural female trunk lift	Urban female modified push up	Rural female modified push up
1	30.00	30.00	25.00	27.00
2	27.00	30.00	20.00	25.00
3	26.00	29.00	19.00	25.00
4	22.00	28.00	18.00	24.00
5	21.00	27.00	17.00	22.00
6	20.00	27.00	16.00	22.00
7	17.00	25.00	16.00	22.00
8	16.00	19.00	16.00	21.00
9	15.00	18.00	16.00	19.00
10	15.00	18.00	16.00	19.00
11	14.00	18.00	15.00	19.00
12	14.00	18.00	15.00	19.00
13	12.00	18.00	14.00	18.00
14	12.00	18.00	13.00	17.00
15	12.00	17.00	13.00	16.00
16	12.00	17.00	13.00	16.00
17	11.00	17.00	13.00	14.00
18	11.00	17.00	12.00	13.00
19	11.00	17.00	11.00	13.00
20	9.00	14.00	11.00	13.00

APPENDIX-4

Raw data sit-up and sit-and-reach pilot test

No	Sit-up test		Sit-and-reach	
	Volleyball player	Basketball player	Volleyball player	Basketball player
1	23	24	15	16
2	21	24	15	16
3	19	23	14	15
4	19	23	14	15
5	18	22	14	15
6	18	22	14	15
7	18	17	14	15
8	18	17	13	13
9	17	17	13	13
10	17	17	12	12
11	17	16	12	12
12	16	16	12	12

Pilot study was conducted on 30 school V. ball and basket players on set up test

Group	Number	Mean	SD^2	t
V.ball player	12	21.75	3.97	3.2
Basket ball player	12	19.83	3.42	

t = 0.05 (10)= 2.228 significance difference

Pilot study was conducted on 31 school V.ball and basket players on sit and reach.

Group	Number	Mean	SD^2	t
V.ball player	12	13.5	1.086	0.25
Basket ball player	12	13.583	1.1	

t = 0.05 (10)= 2.228 No significance difference

Schedule of flexibility and strength exercise

First month for first week schedule (Dec,2015)

Week/day /time	Types of exercise	Duration min, sec	Frequency Rept./set	Rest	Interval	Intensity	Remark
- Day One 5:00 – 6.00 Pm	General and specific warming up will be implemented - Upper body - Trunk, hip back - Lower body	5-10	Repeat for less resistance		50-60%		
	Main exercise - Set and reach - shoulder flexibility - Bench jump - Push up (m) (modified push up) F	2 second	3 times 2-6/3 2-6/3 5-12/2	1m 1m	80-90%		
	Cooling down walking jogging	5-10m					

- Day Two 5:00 – 6:00 Pm	Warming up general and specific - Upper body - Trunk and hip and back - Lower body	5-10 min 1-30 second	Repeat for less resistance		50-60%		
	❖ Main exercise ❖ Pull-up ❖ Wall-sit ❖ Sit side strudel ❖ Seat screech		5-12/3 2-6/2 5-10/6sec	1m	50-60%		
	❖ Culling down walking, jogging.	5-10min		1m			

- Day Three 5:00 – 6:00 Pm	General and specific Warming up will be implemented ❖ Jogging ❖ Upper body ❖ Trunk, hip and back ❖ Lower body	5-10m	Repeat for less resistance		50-60%		
	Main exercise ❖ Squats ❖ Side to side lungs ❖ Trunk rotation ❖ Static stretch	15-30 second for each repetition	3 set 10 rep 2 set 3-4 time		80-90%		
	Culling down - Walking - Slow jogging	5-10			50-60%		

Flexibility and strength test score sheet /cheek list/

Name cold _____ **Light** _____ **section** _____

Age _____ **weight** _____ **Date** _____

No	Types of test parameters	Aim of the test	Equipment	Unit	Recording Rating						
					Sex	M	F	High	Good	Marginal poor	Remark
1	Set and rich/Trunk flexion test	- Flexion of trunk and the ability to stretch the lower back and thigh muscles /Hamstring	Ruler and box 20cm high	Milli meter	Left Right	O O	O O	O O	O O	O O	
2	Shoulder flexibility test	Flexibility of the shoulder flexors	Ruler	Cm	Left Right	O O	O O	O O	O O	O O	
3.	Hamstring /hip flexor										
4	Trunk rotation										
5	Knee extension flexion										

Flexibility and strength test score sheet /cheek list

Name/code _____ **Light** _____ **section** _____

Age _____ **weight** _____ **Date** _____

No	Types of test parameters	Aim of the test	Equipment	Day 1	Day 2	Day 3	How many rept.	How many sets	Remark
1	Pull – up test	Strength of the arm, shoulder, upper back muscles	- Bar - Chair for beginner						Test life styles goals for muscle fitness exercise
2	Trunk lift lest	Upper back and neck muscles	- Mat						
3	Wall-sit test	Strength of thighs and legs	- Wall						
4	Bench press	Strength of the elbow extensors and the pectoral muscles	- Bench - Weight lifting material						
5	Squats	Gluteus, quadriceps							
6	Abdominal curls	Abdominals							
7	Spin extension	Low – and mid back spin extensors							

Declaration

I hereby declare that study is my original work done under the guidance of thesis advisor Dr. Bezabhe Wolde, and has not been presented for any degree to any college that all relevant sources used are duly acknowledge.

Name: Shifraw Teshome

Signature _____

Date of submission 25/01/2009

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

Name of advisor: Dr. Bezabhe Wolde.

Signature _____

Date 5 Oct 16