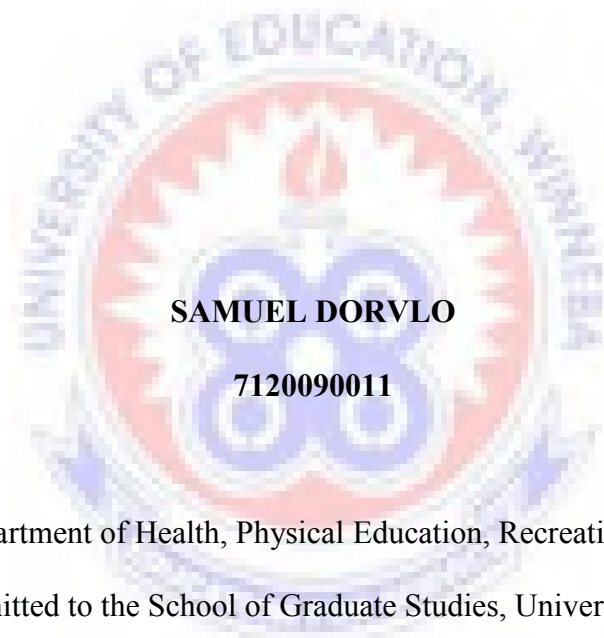


UNIVERSITY OF EDUCATION, WINNEBA

ASSESSMENT OF THE FITNESS LEVEL OF 15-17 YEARS STUDENTS OF THREE-TOWN SENIOR HIGH SCHOOL IN KETU SOUTH MUNICIPALITY OF THE VOLTA REGION



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Dissertation in the Department of Health, Physical Education, Recreation and Sports, Faculty of Science Education, submitted to the School of Graduate Studies, University of Education Winneba in partial fulfilment of the requirement for award of the Master of Education (Physical Education).

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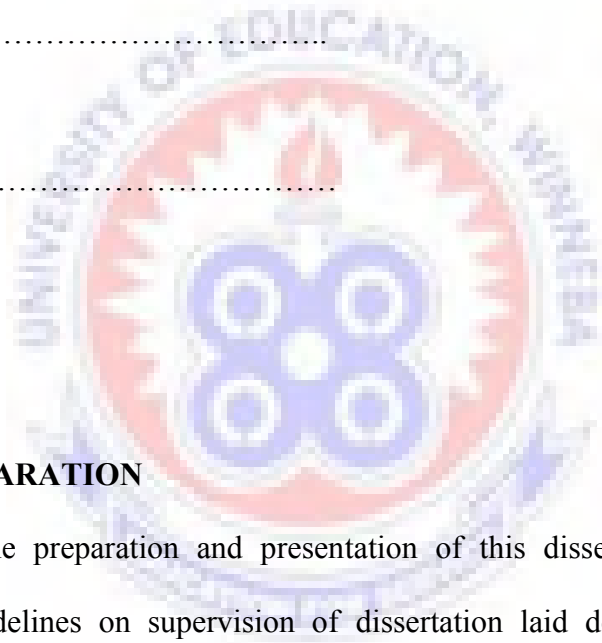
DECLARATION

STUDENT'S DECLARATION

I, Dorvlo Samuel, hereby declare that this dissertation except for quotations and references contained in published works which have all been identified and duly acknowledged, this dissertation is entirely my own original work and that it has neither in whole or in part been presented for another degree in this University or elsewhere.

Signature:

Date:



SUPERVISOR'S DECLARATION

I, hereby declare that the preparation and presentation of this dissertation was supervised in accordance with the guidelines on supervision of dissertation laid down by the University of Education, Winneba.

Name of Supervisor: Dr. W.W. Agbeko

Signature:

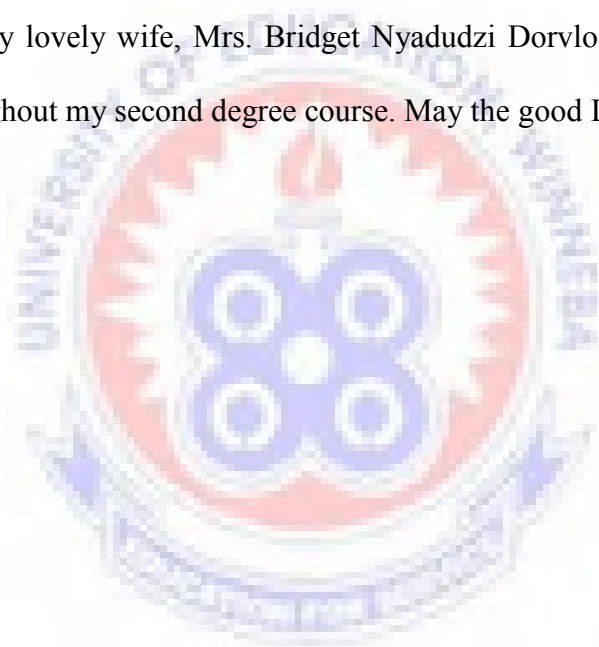
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I am also grateful to the team of lecturers in the Department of Health, Physical Education, Recreation and Sports (HPERS) who organized series of seminars to brief the class on the processes and procedures on project work.

My last thanks goes to my lovely wife, Mrs. Bridget Nyadudzi Dorvlo for her unyielding support and encouragement throughout my second degree course. May the good Lord Bless You.



DEDICATION

I dedicate this project to my brother, Mr. E.K. Dorvlo, to whom I am greatly indebted for my life. It is a blessing to have you as a brother, a man who inspires, corrects advices, instills values and rewards a child. God richly bless you.



TABLE OF CONTENTS

DECLARATION.....	i
ACKNOWLEDGEMENT.....	ii
DEDICATION	iii
TABLE OF CONTENTS.....	iv
ABSTRACT	viii

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study.....	1
1.2 Statement of the Problem.....	3
1.3 Purpose of the Study	4
1.4 Research Objectives.....	4
1.5 Research Questions	4
1.6 Significance of the Study	5
1.7 Delimitation of the Study.....	5
1.8 Limitation of the Study.....	6
1.9 Organization of the Study	6
1.10 Definition of Terms	6

CHAPTER TWO.....

8

REVIEW OF RELATED LITERATURE

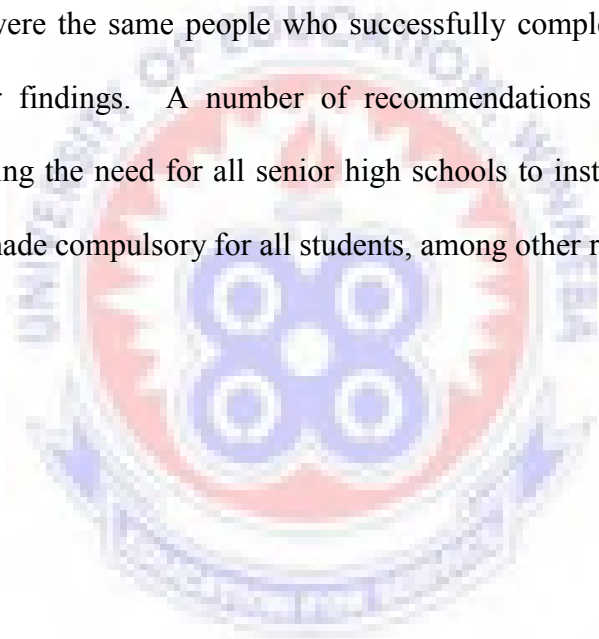
8

2.1 Significance of Physical Fitness Programmes.....	9
2.2 Factors Influencing Physical Inactive Lifestyle.....	14
2.3 Physical Education in School.....	22
2.4 The Need for Physical Education to be Taught for Adolescents in Schools.....	25
2.5 The Origin of Fitness Testing.....	26
2.6 Maintenance and Improvement of Physical Fitness Levels.....	29
2.7 Factors Affecting Children’s Participation in Physical Fitness Activities.....	31
2.8 Empirical Reviews.....	33
2.9 Teachers Assumption.....	36
2.10 Summary of Literature Review.....	36

CHAPTER THREE	37
METHODOLOGY	37
3.2 Research Design.....	38
3.3 Population for the Study	38
3.4 Sample and Sampling Technique.....	38
3.5 Instrumentation.....	39
3.6 Pilot-testing of Research Instruments	40
3.7 Validity and Reliability of Instruments.....	40
3.8 Data Collection Procedure.....	41
3.9 Data Analysis Procedure	42
CHAPTER FOUR	43
DATA ANALYSIS, PRESENTATION AND DISCUSSION OF RESULTS	43
CHAPTER FIVE	51
SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS	51
5.1 Summary	51
5.2 Findings	52
5.3 Conclusions.....	53
5.4 Recommendations.....	54
5.5 Suggested Areas for Further Research.....	55
REFERENCES	56
APPENDIX A	77

ABSTRACT

This study tried to assess the fitness level of 15-17 years students of Three-Town Senior high School in Ketu South Municipality of the Volta Region. Relevant literature relating to the research topic was reviewed. The study used the descriptive survey method to find out the fitness levels of the students. The population for the study was two hundred students, a sample of sixty (60) students were used for the study. The questionnaire format was used to collect the data from the students. A major finding of the study was that most of the students who were able to successfully finish the circuit training (weight) were the same people who successfully completed the stretching exercise (flexibility), among other findings. A number of recommendations were made by the study, dominant among them being the need for all senior high schools to institute fitness clubs and such club activities should be made compulsory for all students, among other recommendations.



CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

The usage of fitness assessment in physical education classes (Baumgartner, Johnson, Maher & Rowe, (2003) has emerged as an important component in efforts to assess and address health concerns related to children's physical inactivity. Currently, several physical fitness assessment approaches are being used to ascertain students' fitness levels. According to the President's Council for Physical Fitness and Sport (PCPFS, 2003) one objective of fitness assessment is to encourage and motivate individuals to adopt and adhere to physical activity behaviours across their lifespan.

Regardless of the intentions or purposes that physical education teachers identify when they implement fitness assessment in their curriculums, research suggests that physical fitness is affected by participation in physical activities, while also playing a significant role in individuals' health in general. (Bouchard, Shepherd and Stephens, 1994).

There is a growing concern about inadequate physical activity levels among adolescents in developed countries. This trend of physical inactivity in the developed world is also reflected in the developing countries. In the Global School-based Student Health Survey (GSSHS) in Kenya among students aged 13-15 years, 12% of these students were found to be physically active for a total 60 minutes per day on all 7 days during the 7 days preceding the survey. (GSSHS 2003). In the same survey, it was found that overall 37.8% of the students spent three or more hours per day sitting and watching television,

playing computer games, talking to friends or doing other sitting activities (GSSH, 2003).

The American Association for Health, Physical Education Recreation and Sports (AAHPERD, 1981) defines fitness as follows “fitness is that which characterizes the degree to which a person is able to function effectively” fitness is an individual matter. It implies the ability of each person to live most effectively is within his potentialities. Ability to function depends upon the physical, mental, emotional, social, moral and spiritual components of fitness, all of which are related to each other and are mutually independent. (Falls, 1980). In the broader sense, fitness is called total fitness, which involves physical, emotional, social well being. The level of fitness varies from one person to another. An athlete may be fit for throwing the hammer but not fit for distance running.

It is important to note that a person’s position on a fitness scale can change depending on prevalent circumstance. If children neglect the needs of the body for physical activities this will probably result in a shift to the left, that is to sub maximal level. On the other hand, if children regularly and persistently follow well-designed programme of physical exercises, such will in all probability result in a shift to the right that is, to higher level of fitness.

Literature shows clearly that children’s regular participation in physical activities and exercises are perhaps the best investment in health, which very often pays off well. This contention is supported by the statements credited to President Carter (former President of America) that everything done to make Americans more physically fit cuts medical bills, helps the people to live longer and adds to the quantity of each days of life lived.

For malformation of body posture, obesity, fatigue, among others to be controlled, physical activity and exercise is very important.

1.2 Statement of the Problem

The World Health Organisation (2003), has identified physical inactivity as a public health concern globally. Therefore to address the growing concerns regarding the burden of chronic diseases of lifestyle, WHO through its global strategy on diet, physical activity and health mandated World Health Assembly (WHA) to put in place strategies to fight the rise of these non-communicable diseases. Among the strategies suggested by W.H.A, the health sector was requested to take the leading role in making policy decisions through the global strategy on physical activity to address the growing burden of diseases (WHO, 2003). Since it is generally important that the onset of many chronic diseases of lifestyle lies in childhood through to adolescence, preventive strategies should start as early in life as possible. To date no study about the fitness level of these young adults have been conducted in Three-Town S. H. S. all in the Ketu South Municipal Assembly to determine how physically active they are. There seems to be a decline in the interest of students to keep fit. Most of the students are looking obsessed and exhibit a lax attitude towards physical education related activities.

It is in this regard that a study of this kind is needed to explore the fitness level of 15-17 years students of Three-Town Senior High School in Ketu South of the Volta Region. It is also being done to encourage the active ones to continue being active by regularly checking their fitness levels.

1.3 Purpose of the Study

The purpose of the study is to assess the fitness level of 15-17 year students of Three-Town Senior High School in the Ketu South District of the Volta Region.

1.4 Research Objectives

1. To examine the fitness level of 15-17 years students of Three-Town Senior High School
2. To establish the factors accounting for the fitness levels of the 15-17 years students of Three-Town Senior High School
3. To make suggestions regarding the fitness level of the 15-17 years students of Three-Town Senior High School.

1.5 Research Questions

1. What are the fitness levels of 15-17 years students of Three-Town Senior High School?
2. What are the factors responsible for the fitness level of 15-17 years students of Three-Town Senior High School?
3. What suggestions can be offered regarding the fitness level of 15-17 years students of Three-Town Senior High School?

1.6 Significance of the Study

The study is significant for the following reasons:

Firstly, findings of this study may create awareness among the youth, parents and teachers about the need for students to remain fit always. This would go a long way to enhance their academics, since it has been proven that people who actively engage in sporting activities are more likely to be smarter in class than those who do not.

Secondly, the Ministry of Education, Science and Sports could rely on the findings of the research to inform policy formulation at the Ministry.

Thirdly, this research will in no small way contribute to the addition of knowledge with respect to the fitness levels of 15-17 year olds.

Finally, Non-Governmental Organizations and other philanthropists who are into physical fitness could rely on the findings of this research to inform services they can render to 15-17 years in the study area when it comes to physical fitness.

1.7 Delimitation of the Study

The research was confined to Three-Town Senior High School in Ketu South of the Volta Region to make for convenience and fair assessment. The emphasis was on students within the age brackets of 15-17 years. Due to the vastness of Ketu South, only one Senior High School (Three-Town Senior High School) was the focus of this research. However, the results might be beneficial to other educational regions with similar characteristics.

1.8 Limitation of the Study

The first challenge that the research was confronted with had to do with finding an appropriate venue for the conduct of the fitness tests. Secondly the weather was not so favourable owing to the rainy season, this made the fitness tests to be conducted only when there were no rains.

1.8 Organization of the Study

The study is organized into five chapters. Chapter One comprises Background to the Study, Statement of the problem, Research objectives, Research questions, Significance of the study, limitation and Delimitation of the study and the Definition of Terms. Chapter Two deals with the review of Related Literature on Physical Fitness and is considered under major headings like significance of physical fitness programs, planning fitness programs, maintenance and improvement of physical fitness levels and children perceptions of physical fitness. Chapter Three focuses on the methodology which includes the research design, population for the study, sample and sampling techniques, instrument for data collection and procedure need. Chapter Four contains the results and discussions while Chapter Five deals with the summary, conclusions and recommendations on the study.

1.9 Definition of Terms

Assessment: The process of gathering and discussing information from multiple and diverse sources in order to develop a deep understanding of what students know, understand and can do with their knowledge as a result of their educational experiences.

Physical fitness: Physical fitness involves ability to perform daily tasks optimally and still have some energy left for recreation and leisure pursuits.



CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter reviewed literature under the following sub-headings:

1. Definition and Meaning of Physical Fitness
2. Significant of physical fitness programmes
3. Factors Influencing Physically Inactive Lifestyle
4. Physical Education in School
5. The Need for Physical Education to be Taught for Adolescents in Schools
6. The Origin of Fitness Testing
7. Maintenance and improvement of Physical Fitness Levels
8. Factors Affecting Children's Participation in Physical Fitness Activities
9. Empirical Review
10. Teachers Assumption
11. Summary of Literature Reviewed

The purpose of this study is to find out the effects of physical fitness on health and work performance of the students of fourteen (14years averages) in S.H.S in Ketu South District. Researchers (Keating, 2003; Keating et.al.2002) suggest the purpose of fitness tests should be to promote lifetime participation rather than teacher assessment of students fitness. How a test is administered can greatly influence students' performance on fitness tests and their attitudes towards them and physical Education (Jackson, 2000).

The choice of what fitness tests to use may greatly influence children's perception of fitness.

2.2 Significant of Being Physically Fit

Biologically, human beings are designed to be active creatures. Although changes in civilization have resulted in decrease in the amount of activities needed to accomplish the basic tasks associated with living the human body has not changed. Therefore it is important to be aware of the requirement of a good health and recognize the importance of vigorous activities in your life. If you do not, your health effectiveness are likely to suffer.

Muscular and Skeletal System: regular vigorous activities increases muscular size, strength, power and develops endurance for sustaining work. The greatest increase in muscular growth is brought about by those activities that make the muscle work to full capacity.

Heart and Circulatory Systems; exercise strengthens the heart muscle. Greater demands place on the heart causes it increase in size and become stronger. The volume pumped per beat of the heart increases bring better nourishment to all part of the body

Lungs and Respiratory Systems; exercises improve the functioning of the lungs by deepening the respiratory process.

Body Composition; exercise helps a person to maintain a healthy weight by losing excess calories. Lose of body weight is best brought about by a reduction in diet, however weight control involves more than merely reducing caloric intake to compensate for sedentary habits and overeating.

Physical activity is an effective way for individuals to help prevent serious diseases and a power and cost effective way for societies to improve public health (WHO, 2003c).

Other Benefits of Physical Activity to Health

Physical activity is an effective way for individuals to help prevent serious diseases and cost effective way for societies to improve public health (WHO, 2003c). Physical inactivity or sedentary lifestyle is one of the leading causes of major non-communicable disease; which contribute substantially to the global burden of disease, deaths and disabilities WHO, 2003a). The WHO (2002a) further stated that regular physical activity provides young people like children and adolescence with consequential mental, physical and social benefits. Physical activity can improve quality of life in many ways for people of all ages. The WHO (2003c) stated that one of the major challenges in the prevention of non communicable disease and the promotion of physical activity is communicating the importance of benefits of physical activity to health. Scientific evidence has shown that participation in regular physical activity or exercise in its widest sense, provides people of all ages with significant physical, social and mental health benefits and well being throughout their lifespan. (Biddle, Fox, Boutcher, 2000; WHO, 2003d). Thus physical activity can improve quality of life in various ways for people of all ages. Studies have shown that people who are physically active can live longer than those who are sedentary. Besides living longer, those who participate in regular physical activity may have advantage in the ability to perform activities of daily living and enjoy many aspects of life (Kaplan, 2000). Benefits of physical activity to health are not limited to adolescents only, however its benefits have been well documented and are numerous. The following section focuses on the benefits of physical activity with specific reference to

high school going children. The WHO (2003c) summarized the benefits to regular physical activity as:

- Reducing the risk of dying prematurely.
- Reducing the risk of dying from heart disease or stroke.
- Reducing the risk of developing heart, colon cancer and type 2 diabetes.
- Prevention/reduction of hypertension.
- Prevention/Reduction of osteoporosis.
- Reducing the risk of developing low back pain.
- Helping to build and maintain healthy bones, muscles and joints.
- Promoting psychological well-being, and reducing stress, anxiety and depression.
- Helping to prevent or control risky behaviours, especially in children and young people.

Reducing the risk of all causes of mortality. According to Sherman, D' Agostino, Silbershatz and Kannel (1999) and Blair, Kohl and Barlow (1995), there is a lower risk of all-cause mortality amongst adults who adopt physical activity even if they do so later in life. Blair et al, (1995) further reported that an increase in physical activity for middle-aged men and women appears to confer a health benefit in terms of subsequent risk of death. Paffenbarger, Hyde, Wing, Lee, Jung and Kampet (1993) reported that even moderate and incidental forms of activity, such as using the stairs, are associated with reduced risk of mortality.

Prevention of Cardiovascular Diseases

Numerous studies have shown that people who are at least moderately active have significantly decreased risk of cardiovascular problems than those who are sedentary (United States Department of Human and Health Service 1996; Bauman and Campbell 2001). In addition to the benefits of life-long physical activity amongst adult, there are benefits from starting physical activity during childhood and adolescence. There is evidence that physical activity among young people can impact favorably on other cardiovascular risk factors (Bar or 1994).

Prevention of Cancer

The best evidence for physical activity in the prevention of cancer related to colon cancer. Colditz, Cannuscio and Frazier (1997) reported a clear and consistent dose-response relationship between different forms of physical activity and cancer. It is though that physical inactivity causes around one-fifth of all colon cancers in the population, thus indicating a strong role for primary prevention.

Prevention of Diabetes

The increasing rate of non insulin dependent diabetes mellitus is a cause for public health concern. Longitudinal studies show that the risks of developing diabetes in a population are lower in people who are physically active than those who are sedentary (Helmrich, Ragland, Loung and Paffenbargar 1991; Folsom, Kushi and Hong 2000). Physical activity is an important dimension in the management of diabetes, as exercise may improve glucose metabolism, increase insulin sensitivity and prevent the increase in heart disease

among people with diabetes. Thus the use of exercise in managing diabetes is well documented (Van Rooijan, Rheeder, Eales and Molatoli 2002; Odebeyi and Ohwovoriole 2002).

Prevention of Fall

Physical activity is a beneficial for the prevention of falls especially amongst the elderly (Myers, Young and Langlois 1996). This is achieved partially through effects on muscle strengthening and balance and possibly through osteoporosis. This is important for young people as it is during the period of adolescence that lifelong bone deposition occurs, thus being active during the adolescent stage is important for the prevention of osteoporosis.

Prevention of Low Back Pain

To help prevent low back pain, the leg, the back and the hip muscles must be flexible and strong. Poor flexibility and weak muscle can lead to poor posture, which ultimately leads to dysfunction of the nerves, muscle and joints in the back (Silveri and Spinasant 2003).

Mental Health Benefits

The mental health benefits of physical activity are well recognised. According to Paluska and Schusent (2000), aerobic exercises or strength training programmes can reduce symptoms of depression. Studies have also indicated that physical activity was positivity associated with feelings of wellness, lowered levels of stress and anxiety and positive mental health (Stephens 1988; Simonski 1991).

2.3 Factors Influencing Physically Inactive Lifestyle

Despite these proven benefits of a physically active lifestyle, many adolescents are still sedentary. Various factors influence the development of physical inactivity in children or attempt to explain the lack of physical activity in the general population. Several theoretical models of human behaviour have guided the research on the determinants of physical inactivity in youth. Bandura's social cognitive theory, asserts that personal (knowledge, self-efficacy, beliefs intentions) environment (physical and social) and behavioural (self-observation, judgment, reaction) factors interact to determine the final action of an individual (Bandura 1996). According to Sallis (1994), understanding the many factors that influence physical activity may help improve the effectiveness of intervention programmes.

The factors influencing physical inactivity include physical environmental factors, psychological factors, social and cultural factors and biological and developmental factors that include health status and cardiovascular and muscle skeletal fitness (Sallis 2000). There is increasing recognition that environmental factors play an important role in promoting and supporting physically active lifestyle. The environmental factors included unsafe neighbourhood, limited access to facilities that promote participation in physical activity (MMWR 1999), inadequate public transport systems, poor safety on roads, few pavements in communities and no cycle paths (Powell and Pratt 1996). These factors systematically excluded physical activity lifestyle. The environment factors included unsafe neighbourhood, limited access to facilities that promote participation in physical activity (MMWR 1999) inadequate public transport systems, poor safety on roads, few pavements in communities and no cycle paths (Powell and Pratt 1996). These

factors systematically excluded physical activity from the lives of children. Access to labour-saving devices at work and home contributes to a similar status of physical inactivity. In addition we also have increase in sedentary activities such as watching television and using computers.

Psychosocial factors include lack of time, work and family demands, the individual's perception of exercise and personal interest in physical activity (Napolitano and Marcus 2000; Sallis, Hovell and Hofstetter 1989). According to Rabinovitz (1997), another factor that affects young people are socioeconomic status, which includes lack of financial resources and lack of family support. In addition, biological and developmental factors such as ill health, for instance asthma and other respiratory disorders, contribute to inactive lifestyle in children.

A study conducted by Gorden-Larson, Mc Murray and Popkin (2000) found that although participating in physical activity was most influenced by environmental factors, physical inactivity was much more influenced by socio-demographic factors. These factors included level of education of parents, family income and gender. Thus it became clear from this study that key modifiable environmental factors that had an effect on physical activity participation did not affect inactivity.

It became clear that higher socio-economic status, measured by maternal education and family income had a large impact on the likelihood of engaging in inactivity. Sallis, Alcaraz, McKenzie, Hovell, Kolody and Nader (1992a) indicated that participation in physical activity is strongly influenced by parent, sibling and peer behaviour. In addition, factors such as attending school also influenced participation in physical activity (Beneface1998).

Biological and Development Factors

Biological factors are strongly associated with level of physical activity. The biological factors include age, genders, ethnicity and musculoskeletal injuries. Age is a potent predictor of physical activity and the level of physical is known to decrease throughout the entire age span. Sallis (1993) indicated that during the school years, the activity level declines by about 50%. In a comprehensive review of the correlates of physical activity in the united states by Sallis, Prochaska and Taylor (2000), it was reported that young children were more active than adolescent, boys were more active than girls and white children were more active than African-American and Hispanic children and youth. According to Treuth, Butte, Pugau and Adolph (2000), physical activity habits have been shown to be heritable, both genetic and ethnicity have been shown to be associated with fitness. According to Klein (1999), genetic evolution has been unable to match the rapidity of cultural change and our genes remain adapted for conditions that existed in the early years. This discordance or mismatch between our contemporary lives and our genetic make-up has important path physiological implications, due to coronary atherosclerosis, age related fractures and obesity, which are promoted by physical inactivity.

Bouchard, Lesage and Lortie (1984) reported that approximately 60% of an individual's fitness level is genetically determined. Research has indicated that obesity and other body composition measures may also be genetically determined and could affect an individual's inclination to be active. (Yanouski 1999, Stunkard, Harris, Pederson and McClean 2000). In addition, various studies have found that black children have lower levels of fitness than do white children (Pivark, Bray, Hergenroeder, Hill and Wong

1995; Gutin, Islam, Manos, Cucuzzo, Smith and Stachura 1994). Perhaps the most evident biological correlate of physical activity behaviour is gender. In addition data suggest that boys are twice as active as girls (Trost, Pate and Dowda 1996; Stephens and Casperson 1994; Sallis 1993). However, it has been stated that perhaps this difference is due to socialization rather than to biological factors.

Physical traits such as the individual's fitness level, body composition, and motor skill development also influence physical activity levels. Cardio respiratory fitness may also be a potent determinant of physical activity behaviour in that, participation in physical activity may increase to meet the physical capacity of the child. According to Kohl and Hobbs (1998), data is lacking as to whether aerobics capacity may be a determinant of physical activity participation.

Physical health status is also a determinant of physical activity behaviour among children and adolescents. Another biological reason why adults drop out of vigorous exercise programmes is musculoskeletal injuries (Sallis and Nader 1990). Although it is important to understand the potential for biological and physical factors as determinants for physical activity behaviour in children and adolescents, we need to realise that many of the determinants (gender and genetic influence) are nonmodifiable or uncontrollable (biological maturation).

Psychological Factors

Psychological influences on children's physical activity have not been widely researched, perhaps due to parents and teachers controlling and selecting the activities in which children participate. Among adult, a wide variety of psychological factors influence participation in physical activity. Much of our current understanding can be summarized by stating that personal beliefs about one's own physical activity, perceptions or personal efficacy and confidence regarding one's ability to be active on a regular basis, will influence physical activity participation (Crocker Eklund and Kowlaski 2000). A number of studies have found self-efficacy to be positively associated with physical activity in young people (Biddle and Armstrong 1992, Craig, Goldbeg and Dietz 1996; Trust et al, 1996). Research on how a young person's beliefs about behaviour, perceived benefits of behaviour and enjoyment of physical activity and physical education classes influence physical activity is not conclusive (Crocker et al, 2000). According to Stucky-Ropp and Dilorenzo (1993), enjoyment appears to influence the activity levels of children one of the main influences on enjoyment is the amount of exertion required by the activity. According to Epstein, Smith, Vara and Rodefer (1991), children prefer activities with lower levels of exertion, and dropout rates are higher from Vigorous activity than from moderate intensity activity (Dishman and Sallis 1994). One of the main factors influencing participation in physical activity among children was lack of time due to school work (Allison, Dwyer and Makin 1999). Milligan, Burke, Beilin, Richard, Dunbard, Spencer and Gracey (1997) identified lack of will power, ignorance about the health benefits of exercise, poor time management, limited social life and lack of social

support as barriers to a physically active lifestyle. For children the lack of suitable role models also contributes to a lack of participation.

Social and Cultural Factors

It is a common assumption that most of the healthy or unhealthy lifestyles originate, at least in part in family socialisation. The family is considered the most important agent of socialization, although as children become adolescents, peers and other adults become increasingly important.

The study by Lau, Quadrel and Hartman (1990) found that modelling of behaviour is the strongest socialisation technique in developing healthy lifestyles and therefore it is the most promising route for public health officials hoping to change those lifestyles. According to Sallis, Simons-Monton, Stone, Corbin, Epstein, Faucette, Iannotti, Klesges, Petray, Rowland and Taylor (1992b), broader family variables such as family structure, socio-economic status, and ethnic heritage also affect habits related to children's physical activity. It is suggested that families with single parents or parents who are frequently absent because of work have children who are socially and / or physically disadvantaged. However, we are finding that for our children today, there is a lack of suitable role models amongst our adults. Sallis et al, (1992b) recommended that interventions to increase children's physical activity should involve increased parental support of physical activity to children. The school offers the earliest opportunity for broad scale intervention in behavioural risk reduction and is a natural setting for epidemiological studies of lifestyle health behaviours in children (Gottlieb and Chen 1995). Social influences on physical activity are strong for people of all ages. For adults,

social support can come from friends, co-workers or family members. The main types of support are encouragement, participating in physical activities and providing assistance such as childcare (Dishman and Sallis 1994). For adolescents however, the influence of family and peers is paramount. Sallis (1994) reported that if a given adolescent identifies with a peer group that values and participates in physical activity, the group creates a supportive environment for its members. If the main peer group devalues physical activity, this is an effective deterrent.

A study by Lindstrom, Hanson and Ostergren (2001) found that the extent to participation in leisure-time physical activity was influenced by socio-economic status. According to Gordon-Larsen et al, (2000) low socio-economic status appears to be associated with physical inactivity in young people. The study by Gottlieb and Chen found that there was a strong relationship between sex-typing, ethnic influence, father's occupation and sports type. The study also found that physical activity participation was influenced by race. Yang, Telama and Leino (1999) reported in their study that social factors such as income, education, occupation and family formation influenced physical activity participation. The study further reported that early socialisation with physical activity was a more important predictor of adult physical activity.

Environmental Factors

It seems self-evident that the physical environmental factors such as climate, weather, facilities and neighbourhood safety would have a major effect on physical activities. Automobiles, television, computers, labour-saving devices and sedentary jobs have created an environment that makes possible a profoundly sedentary lifestyle for a large number of people. The physical environment can strongly promote children and adolescents to be physically active or virtually ensure that they will not be. At present many of our communities have no sidewalks or streetlights thus decreasing walking as an activity. Increasing traffic congestion and aggressive driving also hampers the walkability of neighbourhoods. According to Sallis (1994), a supportive environment for adults must consist of a safe and attractive space for outdoor activities. For adolescents it may be especially important to have organised activities in convenient locations. Research shows that it is difficult for children to be active indoors, and thus time spent outdoor is highly correlated with physical activity levels. Indications are that, many parents are concerned about the safety of their neighbourhoods and prohibit children from going outside to play. Thus the more parental rules that limit children's play, the less physically active the children may be. Television, computer games and videos are a part of the environment of children and adolescents that encourages sedentary behaviour.

According to Robinson, Hammer, Killen, Kraemer, Wilson, Hayward and Taylor (1993), there is reason to limit the hours per week children watch television, because of the association between the amount of television viewing and obesity. A study conducted by Epstein et al, (1991) found that simply moving the television set could increase the levels of physical activity in obese children. When the television set was moved to another

building and exercise equipment was placed in the room with the children, the obese children used the equipment rather than walk several minutes to watch television. Young children often express a continuing interest in being involved in recreational and physical activities, but technology and social evolution have changed their lifestyle.

(Rich 1999). Many children do not walk to and from school any more. Playing outside is not safe in many neighbourhood and children entertainment has changed to television, computer and video games. Anderson (1999) stated that automobiles, public transportation, and other labour-saving devices contribute to sluggish lifestyle. Also an increase in television watching had been directly associated with lower physical activity levels and increase in obesity.

2.4 Physical Education in School: The Focus on Health

Children and youth return to school each year and begin anew with their academic and extra-curricular activities. Teachers, administrators and learners focus on education in preparation for the future. While many parents, learners and administrators turn their focus towards traditional academic issues associated with schooling they must not forget the significant health and physical benefits that can be derived from an excellent physical education programme. In the same way that cognitive information is addressed in schooling, the student's psychomotor development must also be addressed. Physical Education should be an integral part of the total education of the child. Quality physical education programmes are needed to increase the physical competence, health-related fitness, self-esteem and enjoyment of physical activity for all learners so that they can be physically active for a life-time (Seefeldt and Vogel 1986). According to the New Jersey

Department of Education, people who are health literate and physically educated have the knowledge and skills to better achieve and maintain physical, social, and emotional health. Fitness activities in the school setting have important individual, societal, and economic implications. However, the teaching of physical education in schools in South Africa is now greatly diminished or non-existent. According to Travill (1997), in South Africa schools during restructuring, physical educators' posts were the first to go. The Director of sport in the Western Cape indicated that contrary to what was believed earlier when rationalization took place, the physical education teacher is a critical post. Inactive, unhealthy children will become sedentary, sick adults, whose illness will add to the health care crisis and diminish the quality of life of the people. Physical education in schools provides the best opportunity for a child to learn and develop life-long health and fitness skills. Without opportunity for school physical education, many children have no access to safe, supervised physical activity of any kind. According to the National Association of Sport and Physical Education (2001), Physical Education can serve as a vehicle for helping students to develop the knowledge, attitudes, motor skills, behavioural skills and confidence needed to adapt and maintain physically active lifestyle. The outcomes of physical education programmes should include the development of each student's physical competence, health-related fitness, self esteem and overall enjoyment of physical activity. These outcomes enable students to make informed decisions about and choices leading to a physically active life-style. In America most youth experience physical education at some point in their school life (Surgeon General's Report 1996). However, it was found that the higher the level of education, the lower the level of participation in physical education. An analysis of the current status of physical education

in South African schools accentuates the constraints that will have to be overcome in order to ensure that schools are the appropriate avenue through which the public can be educated regarding the health benefits of regular physical activity. In the early 1990s when teaching in South Africa was restructured, the first casualties were physical education and school sport. This was especially true in poorer communities where parents could not afford to subsidize private posts for physical education. Travill (1997) indicated that the physical education curriculum and syllabus in South Africa schools was in the process of undergoing revision and reviewing. The author suggested that part of the process of revision of the curriculum and syllabus should adequately reflect the health objectives of physical education.

In the current curriculum 2005 in South Africa schools, physical education has found its place in the area of life orientation. One of the aims of this learning area is to encourage a healthy lifestyle, characterized by specific and contextualized application of the actions and values expressed in this rationale, celebration of, care for and responsibility towards the self and the social, natural and material environment. As physical education in schools decreases steadily in availability, frequency and quality, health problems related to inactivity are increasing among children and adolescents. On-insulin dependent diabetes, cardiovascular disorders and osteoporosis, once considered to be age-related conditions are now commonly diagnosed in younger people. According to Bailey, Falkner and McKey (1996), the peak gain in bone mineral density occurs at age 13-14 years, and at the end of adolescence 90% of adult bone mineral content is established. Obesity among youth has doubled in the past decade. Although obesity rarely causes medical complications in adolescents, the risk for the overweight youngster lies in the

chance of his or her obesity carrying over into adulthood. Thus the question may be asked: Is there a need for the return of physical education to our schools in order to promote physically active lifestyle?

2.5 The Need for Physical Education to be taught for Adolescents in Schools

Within the field of physical education, both practitioners and researchers have become increasingly concerned with the rise in health related risks associated with decreased levels of participation in physical activity (United States Department of Health and Human Services (USDHHS) 2000). Schools are regarded as a setting that can potentially have a positive effect on health-related issues due to the fact that the majority of children attend school and spend a significant proportion of their time there (Sallis et al. 2002). School administrators are encouraged to provide health-related physical education programs, because physical activity confers physical and mental health benefits to students (Sallis 1994). The USDHHS (2000) has recognised physical education in schools as an essential element in efforts to address children's current low levels of physical activity. Thus, the role of school in children's lives cannot be ignored considering the amount of time that children spend in school. Various government organizations have recognized the physical education context as a significant site to battle current health-related problems (ie. Diabetes. Obesity) that have surfaced in disturbing percentages across the United States (United states Department of health and human services (USDHHS) 2000; Centre for Disease Control and Prevention (CDC) 2000; National Institute for Child Health and Human Development (NICHD) 2003).

Additionally, physical education has been identified as a primary venue for the endorsement of physical activity (USDHHS1996).

2.6 The Origin of Fitness Testing

The first youth fitness test in the United States commenced in 1957 (Freedson, Cureton, and Health 2000) as a result of a publication by Kraus and Hirschland (1954). They reported that children in the United States scored lower than European children on the Kraus Weber minimum fitness test. Almost 58% of children from the United States failed the minimum fitness test, compared to only 8.7% of children from Europe. Thus, fitness testing programs were initiated with the intention to improve fitness levels for youth (Freedson et al, 2000). During this thorough review of the literature, an elephant in the room became apparent. That is, there was little to no discussion of the role of President Dwight D. Eisenhower's reaction to the findings in the Kraus and Hirschland study (see Azzarito 2007). As a former officer in the military, Eisenhower was particularly responsive to the report. Military officers and recruiters complained about the poor fitness levels of Americans being drafted during World War II and the Korean War (PCPFS 2006a). Fifty percent of the men who reported to the draft boards were deemed physically unfit. Additionally, the Kraus and Hirschland (1954) study was published as the height of the Cold War. While combating these political issues may not have been the sole reason for the creation of the President's council on Youth fitness 2 on 16th July 1956 by President Eisenhower, there is an obvious connection that cannot be ignored. This perspective of fitness testing underscores testing not only as a form of scientific evaluation, but as a method to produce and reproduce the dominant group's political and

social agenda, that is, to have access to physically fit men prepared for the war. The most recently identified objectives of fitness tests are to motivate individuals to create personalized fitness plans, while maintaining physical activity across the lifespan. (PCPFS 2003). Furthermore, youth physical fitness tests in the United States are employed as a response to the alarming trends in physical inactive, obesity and degenerative diseases (Baumgartner, Jackson, Mahar, and Rowe 2003). Physical fitness is a factor that is influenced by physical activity and ultimately affects individuals' overall health and wellness. Currently using a variety of physical fitness tests to measure students' fitness levels (e.g the President's challenge, FITNESS GRAMR) if a person attended a school in the United States, chances are there to participate in some types of fitness testing (Cooper Institute for Aerobic Research (CIAR 2007; PCPFS 207). Since the inception in 1966 of the President's challenge, a norm-referenced test, approximately 55 million people have received awards as a result of their participation in the fitness program (PCPFS 2006b).

Students who perform at or above the 85th percentile in five events receive the highest award (ie, Presidential Physical Fitness Award). Students who perform at or above the 50th percentile receive the National Physical Fitness award. Students who attempt at least five events receive the Participant Physical Fitness Award. Physical educators have the option to choose which tests they will ask their students to perform. In a study by Keating and Silverman (2004), physical education teachers were asked to recall information about fitness testing from 1997 to 1998. In their sample, 40.3% used the Brockport Physical Fitness Test. 19.4% used the fitnessgram®, and 6.6% used the America Alliance of Health, Physical education, Recreation and Dance (AAHPERD) Physical Best Test. The

researchers were unsure about why more teachers elected to implement norm-referenced tests. They suggested that teachers may use the tests they are most familiar with and may not want to change. Numerous scholars have identified advantages and disadvantages associated with fitness tests in physical education (see Fox and Biddle; Pangazi 2000; Physical Education Association (PEA 1988). Emphasis on these limitations reinforces the need for a clearer understanding of the implications of fitness testing on students. Thus, Harris and Cole (2006) suggested that these limitations provide justification for questioning how rigorously the findings, both from experimental and field based fitness test, can be interpreted and generalized. With fitness testing programs providing dissimilar expectations or norms for girls and boys, a fitness tests conundrum transpires.

Planning Fitness Programmes: The American College of Sports Medicine (1980) in a comprehensive guideline on graded exercise testing and exercise prescription, emphasized that medical examination should be thorough and should consist of;

- 1) Review of medical history-personal and family history, current health habits like smoking, exercise and dietary patterns.
- 2) Physical examination to identify symptoms that will not allow the individual to involve himself in exercises. For example, a person with cardiopulmonary problems should not be involved in vigorous exercises. The resilience of bones and joints are also to be tested.
- 3) Resting systolic and diastolic blood pressure.
- 4) Complete blood analysis
- 5) Resting electrocardiogram (ECG) using the twelve lead process.

Stress test should also be performed for the obvious reason. According to the American Heart Association (1992 and 1975) and the American College of Sports Medicine (ACSM 1980) such test is;

- 1) To evaluate cardiovascular functional capacity. This is to clear the participants in exercise programs for strenuous work.
- 2) To diagnose latent heart disease.
- 3) To determine the physical work capacity (PWC) of individuals.
- 4) To evaluate responses to conditioning program.
- 5) To serve as the basis for exercise prescription to assist in exercise selection and evaluation.
- 6) To increase motivation of individuals for joining and adhering to exercise programs.

Stress test can also be done with the use of bicycle ergometer or motor-driven treadmill or step test. After stress testing the participants can be ground into exercise units according to their ages, sex and fitness levels. This will allow exercise to be graded and prescribed in accordance with individual's needs. Participants are to be selected on a careful analysis of fitness levels in order not to over-exercise or under-exercise them during the same exercise regimen.

2.7 Maintenance and Improvement of Physical Fitness Levels

A physical fitness programme must be simple and must not involve the use of sophisticated and expensive equipments. Adapted circuit training could be designed.

In order to maintain and improve physical fitness levels of participants, some principles of training should be followed. According to Rasch and Burke (1981), the overload principles for strength are provided by an amount of resistance that tests the ability of contracting muscles. If the resistance is greater than that to which the muscle is accustomed, even a single daily contracting ordinarily stimulated a significant strength increase. Any exercise that can be repeated consecutively more than about twelve times involves a resistance that is too light to be efficient for strength development (Rasch, 1975). With weight training equipment, the amount of resistance, the number of repetition and the number of sets of exercise can be regulated precisely to bring efficient strength adaptation.

Principles of intensity-the main factor influencing the outcome of physical training are intensity (Shepherd, 1968). In developing keep fit programme schedule for strength or circulatory respiratory endurance, a progressively more is performed in progressively shorter time duration.

Technology has revolutionized the world; it is a powerful tool which has transformed the world for good. On the other hand, technology is a menacing device which mankind should be careful of its use and application in order to be mindful of his survival.

With the ease and comfort of technology, man is not mindful of his physical well-being. Man has been physically fit because health is wealth. A physically fit person need to maintain it. Men in the society had realized that they need to be physically fit while the need for the physical fitness of women is considered undeniable. This is misleading; women need total fitness to cope with duties of motherhood, wife craft, home management and other responsibilities in the society.

The individual in the society and the nation at large need to maintain his or her fitness in order to meet the needs of the daily activities, challenges and improve the wealth of the nation.

2.8 Factors affecting children's participation in physical fitness activities

Motivation:

Making exercise a positive, fun activity is important for any child, especially an obese one, because forcing a child to exercise may have negative consequences for later adult activity (Taylor, Blair, Cummings, Wun, and Malina, 1999). Rather than sports performance, efforts should be redirected toward improving fundamental physical activity skills such as running, jumping, twisting kicking, and balancing in noncompetitive and non-threatening setting.

According to the social cognitive theory, children are motivated to exercise if they believe that the targeted behavior will benefit them (outcome expectancy) and if they believe that the intended behaviour is attainable (self efficacy).

However, obese children cannot be motivated in the same way as children of normal weight. Not only are obese children physiologically different from children of normal weight, but they also have demonstrated significant emotional differences (Sothorn et al, 1999). For these children, lack of motivation to exercise has also been attributed, in part; to the idea of "learned helplessness" these learned helplessness deficiencies are summarized in Box 1. With all children, obtaining an accurate assessment can be extremely challenging because of factors such as lack of an adequate attention span, low pain threshold, and lack of motivation. As a result of poor strength and cardiovascular

endurance, any form of exercise or activity can be viewed by obese children as “hard work” Subsequently; most children will shy away from participation (Vilhjalmsson Thorlindsson, 1998). Research in sports psychology suggest that verbal encouragement can be effective if the performance are not exerting maximum effort. Some authors believe that urging children to exert more effort will have a more beneficial effect when the task being performed is simple and involves strength, speed, or endurance (Sage, 1984). Preliminary data from a study conducted by one of the current authors suggest that motivation for maximal is kinetic muscle contraction can have a positive or negative effect depending on whether the child is introverted or extroverted (figure 1) the extroverted child relies more on what his peers and adults think. The introverted child relies more on self-reflection. Children who were classified as extroverts performed better when compared with the introverted children. It appeared that the introverted children in this study felt intimidated by the extra verbal encouragement. The extroverted children appeared to be more motivated and consistently performed at higher levels. Motivation to exercise becomes particularly important after an injury has been sustained. Although many children eventually overcome the injury, returning to pre-injury fitness levels may be difficult if proper motivation is not provided. Whether children are motivated to exercise after an injury could ultimately affect their ability to return to sports and hence their status within their peer group.

2.9 Other Researchers Views

Other researchers shares similar philosophy; fitness testing should have a self-testing approach focusing on participation in physical activity and self-improvement (McKenzie and Sallis, 1996, Pangrazi, 2001, Pangrazi and Corbin, 1993).

Fitness and fitness testing experiences should be focused on helping students understand the relationship between activity and good health (Pangrazi to Corbin, 1993), Keating (2003) found that participation in fitness testing was one of the biggest reasons why children's attitudes towards physical education were negative.

Students especially the least fit, do not like fitness testing because of the administration of the tests, particularly that of administering the test to the class as a whole and not in private. Teachers may resolve this concern by giving the students the choice of self-testing or testing with a partner (Keating, 2003).

Fox and Biddle (1988) and Welk et al (2002) suggest that students' fitness test result should not be used in physical education classes to grade student performance, but rather evaluate students' ability to self-administer fitness tests and interpret their personal result. Corbin (2002) and Corbin et al. (1995) give the following reasons why result should not be used for grading, students might lose interest in physical education class and physical activity, teachers might teach to the test, and students might lose confidence when they fail to achieve the fitness goals needed to get a good grade.

Teachers often ask students how fast they were, how many did they do, or how far did they go. Asking such questions teaches students that performance is what matters and not regular physical activity (Pangrazi Corbin, 1993). By focusing more on the result of fitness testing, physical educators are saying that the physical component of fitness is the

only thing that matters (Keating, 2003) children's attitudes might change if they understood the reason why fitness tests are done.

Welch (2007) questioned the reasons why physical educators continue with fitness test when student's attitudes are so negative about it. Should physical educators administer fitness tests based on students perceptions and feelings of fitness testing (Welch, 2007)?

Pate (1991) suggests:

It would be desirable to know how children respond to participation in there (physical fitness) tests. Do fitness tests enhance or decrease youngster's motivation to exercise?

Are tests viewed as fun? Do test have differential effects on different types of children?

Though relevant from a strict measurement perspective, these issues may determine appropriateness of fitness testing in the school setting (p233)

Contrasting the benefits of fitness testing, Rowland (1995) feels that fitness test do not promote physical activity in children, but rather provide experiences that can be uncomfortable, embarrassing and demeaning for children, especially at-risk children.

Rowland (1995) also feels that fitness tests only reinforce that exercise is unpleasant and competitive. However, to those children who do well in fitness tests may be reinforcing (Rowland, 1995) Cale and Harris (2005) agree with his notion that fitness tests may be sending a false message to children that excellence and competition are necessary for fitness and health, which may further thwart the goal of encouraging physical activity.

On the other hand, others advocate physical fitness testing because they feel it motivates students to maintain or improve their physical fitness and act as a vehicle through which they increase their knowledge of physical fitness (Fox and Biddle; 1986, Harris and Cale,(2006) If fitness testing is not taught in the schools, students may leave thinking is

not important (Pangrazi Corbin, 1993). In many schools, the only means by which students “develop their perceptions of what fitness is” is through fitness testing (Fox and Biddle, 1988, p.49). Fox and Biddle (1988) believe that if the focus for fitness testing is on effort and making goals to increase exercise levels, and not on comparing scores to other children through percentiles and norm, students are more likely to be successful.

Flohr and Williams (1997) supports the idea of not comparing children to other children by saying that teachers should focus on recognizing, encouraging, and rewarding efforts that demonstrate improvement, nothing is gained by comparing children to one another (Flohr and Williams, 1997). The Presidential Physical Fitness Test, measures students performance on both skill-related and health related fitness component, where FITNESSGRAM focuses on students’ health – related fitness (Welch, 2007)

as mentioned earlier on. If fitness testing is focused too much on skill-related fitness, students might mistake high levels of athletic aptitude for fitness for health (Fox and Biddle, 1988). Fitness tests for youth originated in a focus on both skill-related and health-related fitness components, (Keating, 2003). In fact, according to Corbin and Pangrazi, (1992), more research has been done on skill-related fitness than on health-related fitness, skill related fitness components are balanced, agility, coordination, speed and power, which may be important for excellent sport performance, but did nothing to promote health. However, such fitness components like muscular strength ad endurance, cardiovascular fitness, body composition and flexibility are closely related to aspect of health (AAHPERD, 1980, McKenzie and Sallis, 1996).

Many factors affect fitness test scores namely heredity, maturation, lifestyle, and environment (Pangrazi and Corbin, 1990; Pangrazi and Corbin, 1993). Despite these

many factors, all children still benefits from regular participation in fitness activity. It might just take longer for some children to show fitness improvements which will call for extra encouragement and positive feedback.

2.10 Teachers Assumption

Teachers who assume that a student's low fitness score is a reflection of low physical activity, and make that assumption known to the student will find that the respect between them and the students may be lost. Also the students' self-esteem can be negatively affected. Such assumptions may result in a student's strong dislike of fitness and anything related to it (Pangrazi and corbin, 1993). Children's fitness testing experiences should be positive. It is not essential and in some cases may be detrimental, that students be frequently compared to others as with norms and percentiles, it seems better practice to pursue personal exercise goals that are based upon the maintenance of adequate levels of fitness for the enhancement of health (Fox and Biddle 1988,p.51).

2.11 Summary of Literature Reviewed

This section of the research reviewed what authorities had to say about physical fitness, the significance of physical fitness programmes, factors influencing physical inactivity lifestyle, physical education in school, the need for physical education for adolescents in schools, origin of physical fitness, maintenance and improvement of fitness levels, factors affecting children's participation in physical fitness activities, teaches assumptions and empirical review.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter focuses on the method and procedures used for the research. It therefore entails the description of the research design, the population and how they are represented, the sampling techniques and instruments used in collecting data, validity and reliability of instruments as well analysis of data. The sub-heading are as follows:

- Research Design
- Population
- Sample and Sampling Technique
- Instrumentation
- Pilot Test
- Validity and Reliability of the Instrument
- Data Collection Procedure
- Data Analysis Procedure



3.1 Research Design

The descriptive survey method was used to find out from the respondents their fitness levels. Most researchers use the descriptive survey method because as opined by Osuala, (1993) it specifies the nature of a given phenomena and basically forms the basis of all types of research in assessing the situation as a prerequisite to inferences and generalization.

3.2 Population

The population for the study was made up of all the two hundred (200) 15-17 year old students of Three-Town Senior High School in Ketu South Municipality in the Volta Region.

3.3 Sample and Sampling Technique

The target ages for the study were 15 to 17 years old students of Three-Town Senior High School. The sample size for the study was made up of sixty (60) 15-17 year old students of the Three-Town Senior High School. Two types of sampling techniques were employed in the research, namely purposive and simple random sampling. Agyadu et-al (2011) explains purposive sampling as “certain elements of the population who are deliberately selected on the judgment of the researcher. Thus the researcher identifies characteristics of the population of interest and selects the elements or subjects with those characteristics. The researcher therefore used age ranges of 15-17 as the basis for selection the population for the study. Therefore, all the students (two hundred in

number) of Three-Town Senior High School who fell within the age bracket of 15-17 constituted the population for the study.

Owing to the fact that the researcher could not use all the two hundred students who fell within the required age brackets, the researcher used simple random sampling technique to select 30% of the population, this led to the researcher selecting sixty (60) students who fell within the age bracket of 15-17 years to participate in the research. Before selecting the sample of sixty students, the researcher wrote „include“ on sixty pieces of paper and „exclude“ on the remaining one hundred and forty (140) pieces of paper. All the pieces of paper were folded and thoroughly mixed up. The study population was made to each pick a piece of the folder papers. All those who picked „include“ were selected for the study. This approach gave all members of the population equal chances of being selected for the study.

3.4 Instrumentation

A questionnaire/Checklist was used by the researcher to collect information for the research. The questionnaire/checklist was designed using information from the Ministry of Education, Science and Sports Teaching Syllabus for Physical Education (Senior High School 1-4, pages 16-18). Koul (2001) defines a questionnaire as a device consisting of a series of questions dealing with some psychological, social, educational topics given to an individual or a group of individuals with the objective of obtaining data under investigation. The questionnaire facilitates the search for answers to a series of questions, it is the most widely used research instrument used to obtain specific information in educational research.

The Questionnaire/checklist is divided into three sections, Section A collects biographical information about the respondents, Section B is made up of a list of statements that relates to physical fitness activities as spelt out in the syllabus namely endurance, strength and flexibility. Section C outsources other additional information relating to physical fitness of the respondents.

3.5 Pilot-Test

The designed questionnaire/checklist was pre-tested with ten (10) students from “Some” Senior High School in the Ketu South Municipality who will not be part of the study, and to ascertain how the content of the instrument would perform during the main research. The instrument served the purpose for which it was designed, the researcher did not do any amendments to the items on it.

3.6 Validity and Reliability of Instruments

Validity according to Davidson (1995) is based on the view that a particular instrument actually measures what it is made to measure. The questionnaire/checklist was pre-tested in a senior high school for reliability and validity. The reliability is the extent to which a research instrument produces consistent results when administered under similar conditions. Validity on the other hand is the extent to which the research instrument measures what it is expected to measure and for which purpose it was designed. The self-designed questionnaire was given to colleagues for face validation purposes. Two lecturers in the Department of Health, Physical Education, Recreation and Sports of the University of Education were later given the revised questionnaire after colleagues

comments, to provide both content and construct validation of test items. Proof of further validation and reliability of the instrument was provided through a pilot test on students of Some” Senior High School in the Ketu South Municipality. Items that did not scale the ambiguity barrier were restructured to remove further traces of ambiguity or miscommunication.

3.7 Data Collection Procedure

Using the introduction letter from the Head of HPERS for my identification and mission, the first points of call was the District Director of Education for Ketu South Municipality. I sought permission in order to reach out to the Three-Town Senior High School. I also interacted with the District Sports Organizer whom I informed of my mission in the district. My next point of call was the head teacher of Three-Town Senior High School, whom I gave the letter of introduction to, I was warmly received.

Having been given approval by the head of the school to conduct the research, I quickly assembled the two hundred students who fell within the age bracket of 15-17 years. On the first day, they were made to each pick from the two hundred pieces of folded paper. At the close of the day, I had settled on my sample size.

The next day, the sample size of sixty students were walked through the various activities that they were to participate in based on which the fitness level was being tested. The researcher had a stop watch which was used to time the duration of the activities that the sampled students participated in, their completion times were recorded on the questionnaire/checklist and used for the analysis.

3.8 Data Analysis Procedure

Data from the field was firstly cleaned, coded and entered into the Statistical Package for Social Sciences (SPSS) Version 16. The entry of data into SPSS was done by the researcher himself, owing to his semi-literate ICT level, it took him two days to enter all the data into SPSS. Frequencies, percentages and graphs were generated from the data using SPSS. The output was then exported into Microsoft Word for conversion into Chapter Four of this research work.



CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION

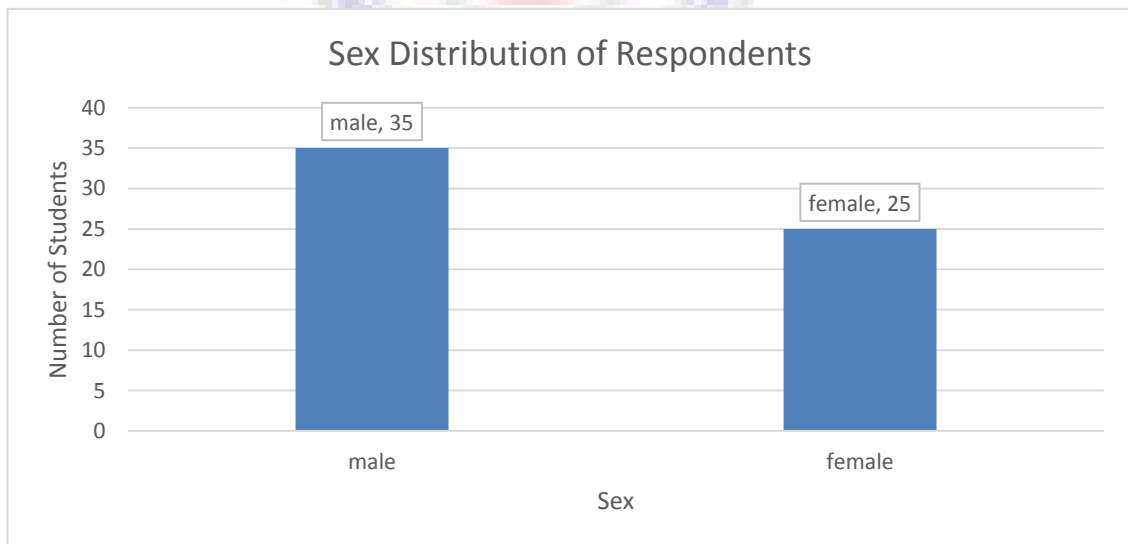
4.1 Introduction

Chapter Four entails the analysis and discussion of data in relation to the formulated research questions.

Demographic Characteristics of Respondents

Gender Distribution of Respondents

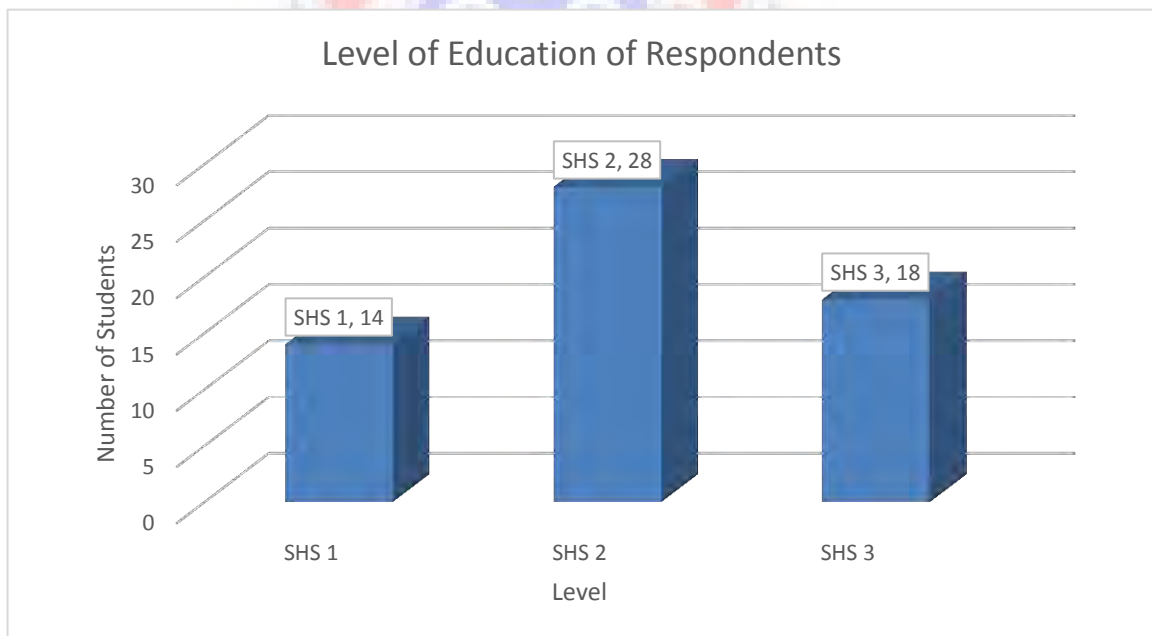
Gender	Frequency	Percent
male	35	58.3
female	25	41.7
Total	60	100.0



From the study, there were more males than females who were selected for the study. Out of the sixty respondents, thirty-five of them (58.3%) were males whilst the remaining twenty-five (41.7%) were females. A possible reason for this distribution could be the fact that physical education related activities are seen as a male rather than a female event.

Educational level of Respondents

Level	Frequency	Percent
SHS 1	14	23.3
SHS 2	28	46.7
SHS 3	18	30.0
Total	60	100.0



Most of the students who participated in the study were in SHS 2. This reflects the student population in the study community. It came out that SHS 2 has the highest student population in the school, this explains why their number is highest among.

4.2 Research Question One: What is the fitness level of 15-17 years students of Three-Town Senior High School?

The first research question was designed to find out the fitness level of the 15-17 year old students of Three-Town Senior High School. Their fitness level was tested with respect to endurance, strength and flexibility. They were tasked to individually participate in two physical training activities (circuit training and fartlek) and were timed. The duration that it took the individual students to complete a given physical training task determined as to whether the student was fit or not. The findings are presented in Tables 1-4.

Table 1: Endurance (Circuit Training meant to last for 20mins)

Status	Frequency	Percent
fit	38	63.3
unfit	22	36.7
Total	60	100.0

All the sixty students were tasked to participate in a circuit training which entailed they going through the entire circuit in 20 minutes (e.g. scoring runs, step ups, astride jumping, running on the spot and short spring). Those who were able to go through this training within the stipulated 20 minutes were branded as being fit with respect to

endurance, specifically through the circuit training. From the above table, Table 1, it can be seen that more than half of the students who participated in the study (63.3%) were able to complete the circuit training within the stipulated 20 minutes. They were therefore branded as being fit. The remaining twenty-two respondents did not meet the set target of going through the circuit training within the stipulated 20 minutes.

Table 2: Fartlek (Run continuously over varied terrain in 25 minutes)

Status	Frequency	Percent
fit	28	46.7
unfit	32	53.3
Total	60	100.0

This entailed respondents having to run continuously over varied terrain in 25 minutes. This was the second activity under endurance. It came to light that from the endurance point of view, most of the students (53.3%) were not fit. The remaining 46.7% were however able to run continuously over varied terrain in 25 minutes.

It can however be concluded that from the endurance point of view, students who participated in the study are fit.

Table 3: Strength (Circuit Training: Weight)

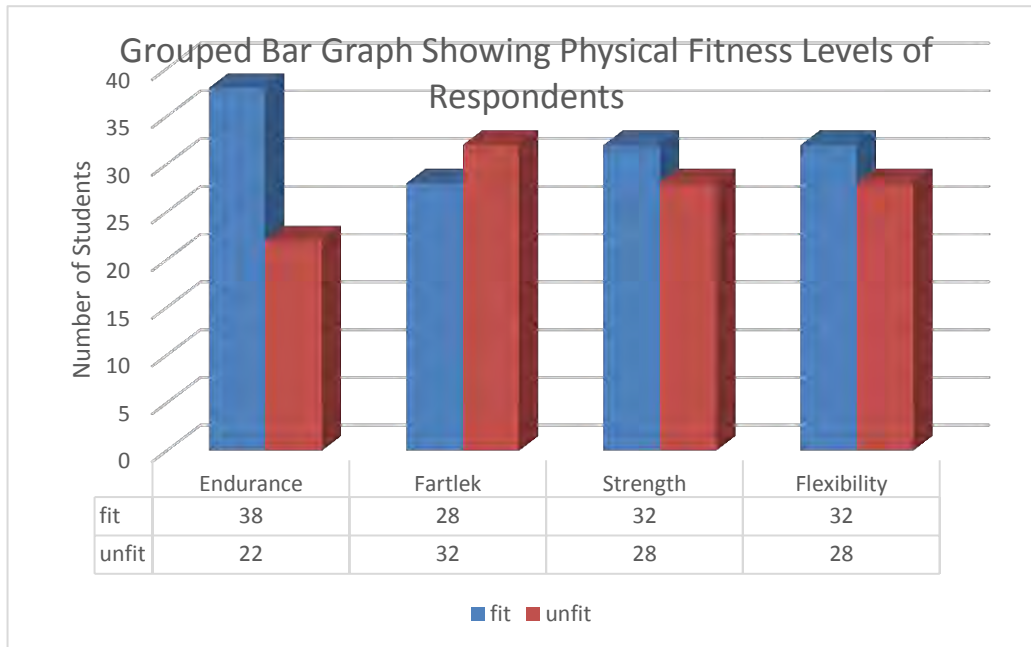
Status	Frequency	Percent
fit	32	53.3
unfit	28	46.7
Total	60	100.0

Most of the students were able to successfully complete the circuit training within the stipulated time. Out of the sixty students, thirty-two of them, representing 53.3% were able to complete the circuit training within the stipulated time of 25 minutes.

Table 4: Flexibility (stretching exercises)

Status	Frequency	Percent
fit	32	53.3
unfit	28	46.7
Total	60	100.0

The number of students who were able to successfully finish the circuit training (weight) were the same people who successfully completed the stretching exercise (flexibility). This goes to indicate to a large extent that strength and flexibility as revealed by this research have a direct relationship, meaning the ability to pass a fitness test in strength is a panacea for passing a fitness test in flexibility. Out of the sixty students who were taken through the physical training session to ascertain their fitness level, thirty-two of them as can be seen from table 4 were about to undergo the flexibility test within the stipulated time.



From the above chart, it is very clear that when talking about the physical fitness level of 15-17 year olds of Three-Town Senior High School with respect to Endurance, Fartlek, Strength and Flexibility, it can be concluded that they are physically fit. With the exception of fartlek, they displayed high level of fitness in endurance, strength and flexibility.

4.3 Research Question Two: What are the factors responsible for the fitness level of 15-17 years students of Three- Town Senior High School?

The second research question was designed by the researcher to outsource information from the sixty students on the possible factors responsible for their fitness level. A number of reasons were advanced by the students as being responsible for their fitness level.

Firstly, on the part of those who were adjudged to be fit, mentioned was made about the fact that they loved to do lots of exercise, I train at the beach three times in a week, am part of a keep fit training club, I walk about 5kms to school every day.

Apart from normal physical education lessons, I don't do any other exercise on my own, I normally don't have enough playing time, I don't want to be wounded, I don't like physical education, I don't train on my own, my parents do not allow me to take part in sports and what we do in school is not enough, I prefer to watch movies and listen to music to going for physical education lessons, friends make fun of me during P.E. lessons, teachers force us to participate in sports and no playing field in the school.

From the above, the factors accounting for the fitness levels of the students who participated in the study can be categorized into three broad factors, namely, School related factors, home related factors and individual perceptions about physical education lessons/activities.

4.4 Research Question Three: What suggestions can be offered regarding the fitness level of 15-17 years students of Three- Town Senior High School?

The student participants were given the opportunity to offer suggestions regarding their fitness levels. For those who were declared physically fit, they were of the view that physical education lessons should be made compulsory for all students. Additionally, they were of the view that there was the need to improve upon physical education teaching and learning materials in the school.

Those declared unfit were of the view that physical education should not be made compulsory and that it was a waste of time, others were of the view that keep fit clubs should be formed in the school and participation in such, students should be introduced to physical activities as early as possible so as to be fit.



CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

This chapter presents the summary of the study, conclusions drawn and recommendations suggested with respect to the physical fitness level of 15-17 years students of Three-Town Senior High School in Ketu South.

5.1. Summary

The study which was a description survey was undertaken to find out the physical fitness level of 15-17 years students of Three-Town Senior High School.

Relevant Literature that relates to the topic was reviewed to assertion the different opinions of other authors on the subject matter. Literature was reviewed under the following sub-headings: significant of physical fitness programs, planning fitness programs, maintenance and improvement of physical fitness levels and children perceptions of physical fitness.

This research was conducted in Three-Town Senior High School in Ketu South Municipality in the Volta Region. The schools' 15-17 years students are two hundred (200) in number. The two hundred (200) 15-17 year old students formed the population for the study. The target ages for the study were 15 to 17 years students of Three Town Senior High School. Thirty percent (30%) of the population (sixty students) were used for the study. The sample size for the study was therefore made up of sixty (60) 15-17 years students of the Three-Town Senior High School.

Questionnaire and a structured interview guide were the instruments used in the collection of data for the study. The data collected was analysed using frequencies and percentages of the ranges of responses. The data was statistically analysed using the statistical package for social science (SPSS) computer software.

A major finding of the study was that more than half of the student population were physically fit. There was also however traces of unfit among a number of them. The factors that account for the physical fitness of the students were either home, school or individual related factors.

5.2. Findings

The study brought to the limelight the following findings;

1. From the study, there are more males than females who participate in physical activities in the study school. Out of the sixty respondents, thirty-five of them (58.3%) were males whilst the remaining twenty-five (41.7%) were females.
2. Most of the students who participated in the study were in SHS 2. This reflects the population distribution pattern in Senior High Schools in the study area.
3. The students were adjudged to be fit when they undertook the circuit training task under endurance, they were however judged unfit when it got to the Fartlek activity.
4. The finding regarding the physical fitness level of the students who participated in the study with regard to strength revealed that most of them were fit. Most of

the students were able to successfully complete the circuit training within the stipulated time. Out of the sixty students, thirty-two of them, representing 53.3% were able to complete the circuit training within the stipulated time of 25 minutes.

5. Another finding of the study was that most of the students who were able to successfully finish the circuit training (weight) were the same people who successfully completed the stretching exercise (flexibility).

5.3 Conclusion

The following conclusions were drawn out of the findings of the study:

Firstly, the study revealed that there are more males than females who participate in physical activities in the study school. Out of the sixty respondents, thirty-five of them (58.3%) were males whilst the remaining twenty-five (41.7%) were females.

Secondly, the school (Three-Town Senior High School) has a dominating student population made up SHS 2 students.

The study further revealed that regarding the physical fitness level of the students who participated in the study with regard to strength, most of them were fit. Most of the students were able to successfully complete the circuit training within the stipulated time. Out of the sixty students, thirty-two of them, representing 53.3% were able to complete the circuit training within the stipulated time of 25 minutes

Finally, most of the students who were able to successfully finish the circuit training (weight) were the same people who successfully completed the stretching exercise (flexibility).

5.4 Recommendations

1. Physical Education lessons should be held in the early parts of the morning and not during hot afternoons. A number of the respondents further indicated that they are reluctant at attending physical education lessons owing to the fact that the time for such practical lessons are usually in the hot afternoons which are not health friendly.
2. It is also being recommended that all senior high schools are compelled to institute fitness clubs in the schools and such club's activities should be made compulsory for all students. In this way, students will be actively involved in physical activities and thence improve upon their physical fitness level.
3. There is also the need for the District Directorate of Education in the study area to as a matter of urgency furnish Three-Town School with a well-resourced recreational ground to serve as a boost to those who are discouraged to participate in physical education activities owing to the absence of a well-resourced recreational grounds.

4. Parents and guardians should be encourage to allow their wards to actively participate in physical education related activities, this would go a long way to improve their academic performance in school. In the same vain, parents should give ample time to their wards to engage in exercises which would eventually be beneficial to their health and academic life.

5. There is the need to educate students about the need to exercise regularly. They ought to be informed about the benefits of exercising continuously. This would go a long way to inform their attitude about physical education activities.

5.5 Suggestion for Future Research

The study focused on assessing the physical fitness level of 15-17 years students of Three-Town Senior High School.

The researcher suggests that for future research, other researchers could research into a similar area but with concentration on the age brackets of 10-12 years since this age bracket appears to be the most active age range of children.

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UNIVERSITY OF EDUCATION, WINNEBA
FACULTY OF SCIENCE EDUCATION
DEPARTMENT HEALTH, PHYSICAL EDUCATION, RECREATION & SPORTS
RESEARCH QUESTIONNAIRE/CHECKLIST ON ASSESSMENT OF THE PHYSICAL
FITNESS LEVEL OF 15-17 YEAR OLD STUDENTS OF THREE-TOWN SENIOR HIGH
SCHOOL IN KETU SOUTH

This questionnaire is designed purposely to assess the physical fitness level of 15-17 years students of Three-Town Senior High School in Ketu South Municipality of the Volta Region. It is purely an academic exercise and the information you provide, on this would be kept strictly confidential. Thank you for your time and co-operation.

SECTION A

Personal Information

Instruction: Please tick [] the appropriate box

(1) Gender: a. Male [] b. Female []

(3) Your highest Level of Education:

(a) SHS 1 [] (b) SHS 2 [] (c) SHS 3 []

(4) Highest level of education of your father:

(a) Diploma/Cert. „A“ [] (b) First degree []

(c) Post-graduate [] (d) Other Professional Institutions []

(e) WASSCE / „0“Levels/SSCE []

others.....

(5) Highest level of education of your mother

(a) Diploma/Cert. „A“ []

(b) First degree []

(c) Post-graduate []

(d) Other Professional Institutions []

(e) WASSCE / „0“Levels/SSCE []

SECTION B

ASSESSMENT OF FITNESS LEVEL OF STUDENTS USING P.E. TEACHING SYLLABUS STANDARDS

Activity	Sub-activity	Task	Time	Fit	Unfit
Endurance	Circuit training	Go through the entire circuit in 20minutes (e.g. scoring runs, step ups, astride jumping, running on the spot, short sprints)			
	Fartlek	Run continuously over varied terrain in 25 minutes e.g.			
Strength	Circuit training (weight)	Perform entire circuit in 25 minutes, e.g.(lifting of dumbbells, situps, back curls, squat jumps, heel raise, arm curls, push ups, pull ups etc)			
Flexibility	Stretching exercises	Perform a given number of selected stretching exercises for the arms, trunk and legs, e.g.			

SECTION C: SUGGESTIONS

What are some of the factors that you think are responsible for your fitness level?

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What suggestions can you offer regarding the fitness level of 15-17 year old students of Three-Town Senior High School?.....

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