CHAPTER ONE

INTRODUCTION

Background to the Study

Ageing is sure to come as long as one lives because it is natural and inevitable in life. The normal process of ageing is not a disease, and this goes to support the saying that ageing cannot be cured. Population ageing is a global phenomena. Developing nations have great economic development and their population structure is unprecedented as a consequence of both sharp decline in fertility and progress in reducing mortality (United Nations, 2007). Zimmer and Martins (2007) asserted that the proportion of the elderly in developing nations was expected to increase from 10.5 percent in the year 2005 to 30 percent by the year 2050. This scenario applies to teachers in Anambra State who are part of the populace in the developing nation and who are the focus of the present study (Girdano, 2006).

Roush (2009) opined that ageing is an irreversible biological change that occurs in living things with the passage of time and it eventually leads to death. Safra (2005) defined ageing as a progressive physiological change in an organism that leads to senescence (health problems associated with ageing process), or a decline of biological functions and of the organism's ability to adapt to metabolic stress. Ageing as used in this study refers to a life-

long process of progressive change in biological, psychological and social structures of a person and is associated with declining health status.

Health is very important to humans and it remains true that good health is very dearly cherished by all and sundry. Without good health, life becomes meaningless, unproductive, drab, painful and a source of anxiety. Dubo (2008) observed that the real measure of health is the individual's ability to function effectively in his immediate environment. From the foregoing, good health can enable people to participate fully in their customary life-style options while poor health negatively affects life's satisfaction and participation in most social roles. Crowther (2005) noted that health is that state of being well and free from illness in the body or mind. Current trend of the concept of health viewed it as a multifaceted concept consisting of seven dimensions viz: physical, mental, social, emotional, spiritual, environmental and occupational health. Health therefore is regarded as the state of enjoying optimum physical, mental, social, emotional, spiritual and environmental aspects of life and the ability to serve efficiently.

According to Udoh (2000) health means having stamina to work; good body built derived from physical exercises; the capability of spending long period solving a problem; the ability to stay on the job to complete a task, a normal functioning of the cells, organs and systems of the body. From the above definition, a

healthy individual is one who possesses good physical, mental, emotional, spiritual, occupational and social health. WHO (2000) asserted that healthy ageing is the capacity of people as they grow older, to live productive and healthy lives in their families, societies and economies. Akubue (2000) opined that healthy ageing is being able to maintain independent living for as long as possible in old age, that is ageing without debilitating or chronic diseases. Bath (2003:4); stressed that

> Healthy ageing consists of three components: low probability to diseases or disability, high cognitive and physical function capacity and active engagement with life. It also included six dimensions of healthy ageing: no physical disability over the age of 75 as rated by a physician, good subjective assessment, that is good rating of ones health, length of undesirable life, good mental health, objective social support, self rated life satisfaction in eight domains, namely marriage, income related work, children, friendship and social contacts; community service activities, religion and recreational sports.

Healthy ageing is the ability of people of all ages to live a healthy, safe and socially inclusive life-style options. Experience has shown that individuals age according to ages, gender, marital status, educational qualification and religious affiliation. Healthy ageing embraces a life course approach to health that recognizes the impact early life experiences have on the way in which population groups age. One of the approaches for healthy

ageing is the early intervention instrument. Edlin, Golanty and Brown (2000) asserted that one can remain vigorous and healthy until the very end of life, by developing healthy habits while young and by understanding ageing processes.

It is necessary to point out that healthy behaviours should start early in life for healthy ageing to be achieved. Akubuo (2000) observed that if one takes proper care of his health during youth, he will be able to exert great control over the physical and mental aspects of ageing. Morris (1997) suggested that it is our duty to resist old age; to compensate for its defects by a watchful care; to fight against it as we would fight against diseases; to adopt a regimen of health and to practise moderate exercises. Dubo (2008) defined development as freeing people from obstacles that affect their ability to develop their own lives and communities. Development according to the present study is a normative concept and empowering teachers to take control of their own lives, expressing their own demands and finding their own solutions to their health problems.

Norland (2010) opined that validation is to officially prove and state that an instrument is of a suitable standard. Validation according to the present study is to officially prove that Healthy Ageing Intervention Instrument is adequate.

Hornby, Cowis and Lewis (2000) stated that intervention is the act of becoming involved in a situation in order to improve or

help it. Dubo (2000) defined intervention as the process of presenting facts to people who are out of touch with reality. An intervention according to the present study is an act of avoiding unhealthy ageing life-style options of secondary school teachers in Anambra State using an instrument.

Hornby, Cowis and Lewis again stated that an instrument is a reproduction or representation of something designed to be copied. Also, the term instrument has been conceptualized by Knox (1999) as a design, which provides understanding or prediction of events or effects in the real case, a guide or plan of action. Ames, Gelein, Humphrey, Mason-Kaufman and Osborne (1999) opined that an instrument is a design, a scheme, or a guide, or a set of units in purposeful interaction of its fundamental components, namely: structure, process and product. This implies that an instrument has a pattern (structure) adopts certain activities (processes) to bring about desired outcome (product). Such a design or scheme according to Ames , et al. provides direction for action and needs to be flexible for adaptation and should be responsive to exigencies in the environment.

For the present study, an instrument is taken as a design or a plan composed of factors which interact to produce a pre-determined outcome. The pre-determined outcome is healthy ageing while the factors that interact are the components of the instrument namely: Physical exercises/recreational programmes, nutritional guidelines,

healthy behaviours/positive life-style options and stress management strategies. The foundation included the philosophy (maintenance of self direction, accomplishment of healthy ageing among others), objectives (development of a positive attitude toward ageing and enhancing understanding of ageing process among others), as the background of the instrument. These components and foundation of the instruments were derived from the submissions of Robinson (1991) Girdano (1996), Igwe (2000) and Njoku (2005) on guidelines, strategies and conditions for healthy ageing.

Based on the above definitions, putting the four concepts: development, validation, intervention and instrument together, it means that a healthy ageing intervention instrument for secondary school teachers will be a guide, design or plan officially proved to free or interrupt unhealthy ageing of secondary school teachers in Anambra State. It is also an explicit procedure for a plan recognized for treating or solving a problem.

The development of healthy Ageing Intervention instrument is necessary to ensure that people when they use it, will enjoy healthy old age that is maximally free from discomfort, diseases and disability. People's goal should not be solely to extend lives in the physical sense, but to ensure that the added years are worthy of living with diminished handicaps and disability with a greater degree of health security. The above view is one of the objectives that guided the development and use of the instrument by

structuring life-style options that promote healthy ageing in the instrument.

From research findings of Ebelos and Relbi (1997) on longevity and the teaching profession, teachers have some shocking practices that negate the life-style options such as lack of rest, starvation and improper feeding habits among others. Since experience has shown that teachers in Anambra State face a lot of challenges, such as adequate nutrition, positive life-style options among others, the investigator felt that these challenges will be affecting their health adversely and therefore calls for an intervention as a remedial measure. It is then necessary that a valid Healthy Ageing Intervention Instrument (HAII) for the secondary school teachers be developed and validated. It is based on this, that this study was designed to develop and validate a healthy ageing intervention instrument for secondary school teachers in Anambra State.

Statement of the Problem

In an ideal situation, there is supposed to be a wide spread evidence that the majority of the populace live a healthy life, are able to age healthfully by observing the following principles in their life-style options such as healthy eating, moderate/regular exercises, avoidance of smoking, alcoholism and prostitution, effective management of stress and good habit formation.

Presently, the researcher observed that people age fast, experiencing different types of chronic diseases and disabilities. In developed countries of the world generally, people live long and age healthfully. This may be due to the following factors; conducive environments for human habitation, good cultural behaviours and positive life-style options; reduced rate of infant mortality and morbidity, increased health services and protective care, (Moody, 2009; Langton, 1999; Igwe & Onuzulike, 2004; and Cockerham, 2006).

In developing countries, people like to live long and pray for healthy ageing without putting into practise the life-style options that will enable them to age healthily. They are also ignorant of the ageing process at their growth and developmental period, as a result, many of the populace age unhealthily in Nigeria, including Anambra State where the public facilities for looking after the aged are non-existent. Recreational facilities that would enable the aged live productively and enjoyably are equally scarce. There is also non-existence of a well developed and validated healthy ageing and intervention programme for the populace. The teachers that seem to be the most influential factor in moulding the personality and life-style options of the people in the society are no exception to these problems. There is need for these teachers to be exposed to a well developed and validated healthy ageing intervention programme for a healthy population to function effectively and efficiently.

Interestingly, Kumagai, Shibata; Watanaba; Suzuki; Naga, Sada and Teroaka (1999) opined that early intervention prevents or delays the onset of degenerative changes and complications. There are few literature evidence in the Nigerian setting (Njoku, 2005; Njoku, 2006; Njoku and Onuzulike, 2007), showing non-adoption or non-compliance with early intervention as well as the principles of healthy ageing and early or premature features of unhealthy ageing among the populace. There is none showing a comprehensive instrument for healthy ageing intervention in Anambra State in particular especially for secondary school teachers. It is on this premise that this study has been designed to develop and validate Healthy Ageing Intervention Instrument for secondary school teachers in Anambra State with a view to helping teachers in the state prepare for healthy ageing.

Purpose of the Study

The main purpose of this study was to develop and validate a Healthy Ageing Intervention Instrument for secondary school teachers in Anambra State. Specifically, the study aimed to determine the:

1. factor loadings of the items in Healthy Ageing Intervention Instrument (HAII).
2. validity of the different clusters of the Healthy Ageing Intervention Instrument (HAII).

3. reliability of the Healthy Ageing Intervention Instrument (HAII)
4. The norms for various clusters of the instrument in respect of age, gender, marital status, educational qualifications and religious affiliation.

Significance of the Study

Specifically, results generated from this study will help to create awareness (when published) to all that are concerned so that efforts can be made to organise programmes to promote healthy ageing intervention among teachers. The results of the study will be beneficial to teachers, curriculum planners, government, non-governmental organizations (NGOs), researchers as well as health and allied educators. To the teachers, the results of the study will help them to improve their knowledge about ageing and increase their chances of healthy ageing. The results will also enable the teachers to adopt healthy life-style options, be more equipped and better prepared to teach the unit on ageing and death education being advocated for secondary school curriculum by health educators in Nigeria. The results will also help to sensitize teachers to teach and introduce the topic in schools, thereby enlightening the children at all levels about the need to maintain healthy life-style options.

The results of the study especially on the components of the instrument will help curriculum planners by acting as an instrument for future curriculum review especially now that ageing and death education at all levels of education has become imperative. The result will also sensitize them towards including ageing education in primary schools so as to enable the children start early to practise and learn healthy life-style options.

Government will also benefit from the findings of the study because the result will help them (government) sensitize the populace through seminars, workshops and conferences on the healthy life-style options for healthy living. The whole package of the developed instrument will serve to a great extent as a pre-retirement counselling package for teachers in secondary schools. The instrument can also serve as a handy reference material for other civil servants, health and allied educators who will desire to enjoy healthy ageing as a pre-retirement initiative.

The results of the study will also be beneficial to non-governmental and religious organization in that, they will be enabled to organize in-house interactive talks and counselling sessions on the strategies for maintaining healthy ageing. Researchers in the area of ageing processes, dying and death education will also benefit from the results of this study because they will serve as baseline data for future researches in the area.

Scope of the Study

The study was delimited to development and validation of Health Ageing Intervention Instrument (HAII) for secondary school teachers in Anambra State. It was also delimited to the development of appropriate exercise programmes, adequate nutrition guidelines, healthy life-style options and suitable strategies for stress management. It was delimited to independent variables of age, gender, marital status, educational qualification and religious affiliation of the respondents. Only the secondary school teachers from the six Education Zones in Anambra State, namely: Aguata, Awka, Nnewi, Ogidi, Onitsha and Otuocha were involved in the study. The study was delimited to the use of structured questionnaire for data collection.

Research Questions

Specifically, the following research questions guided the study:

1. What are the factor loadings of the items in the Healthy Ageing Intervention Instrument (HAII) for teachers in Anambra State Secondary Schools?
2. What is the validity of the Healthy Ageing Intervention Instrument (HAII) for secondary school teachers in Anambra State?

3. What is the reliability of the Healthy Ageing Intervention Instrument (HAII) for teachers in Anambra State Secondary Schools?
4. What are the norms for various clusters of the Instrument (HAII) in respect of age, gender, marital status, educational qualifications and religious affiliations?

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Related literature was reviewed under the following headings:

Conceptual Framework:

Ageing/Healthy Ageing

Development

Validation

Intervention/Intervention Instrument

Theoretical Framework:

Rowe and Khan's Model of Healthy Ageing

The Functional Capacity and Ageing Process Theory

Theoretical Studies:

Characteristics of Healthy Ageing

Health Problems of the Elderly

Instrument Development

Components of Health Ageing:

Physical Exercises and Healthy Ageing

Nutrition and Healthy Ageing

Life Style Options and Longevity

Stress and Healthy Ageing

Occupation and Healthy Ageing

Empirical Studies on:

Development and Validation of Instrument

Healthy Ageing and Intervention Instrument

Summary of Literature Reviewed:

Conceptual Framework

Ageing/Healthy Ageing

Ageing just like death is one of the inevitabilities in man's life. It is an issue that mankind cannot avoid when once a person is born. Moody (2009) defined ageing as the collection of changes that render human beings progressively more likely to die. It is the accumulation of changes in an organism or object over time. Strawbridge, Wallhagen and Cohen (2009) opined that ageing in humans refers to a multidimensional process of physical, psychological and social change. Some dimensions of ageing grow and expand over time, while others decline.

Patrige and Mangel (2010) opined that ageing can also be defined as a physiological function with age, including a decrease in fecundity. It is also the intrinsic, inevitable and irreversible age – related process of loss of viability and increase in vulnerability. Human ageing is associated with a wide range of physiological changes which do not make people susceptible to death but limits normal functions and render people more susceptible to a number of diseases.

According to Igwe and Onuzulike (2004) ageing is part of life for all creatures. It is the imprint of time on human bodies which does not descend on everybody at the same time and age (Aginah, 2007). Aginah further explained that, it is a progressive departure

from normalcy, a systematic loss of human nature and disintegration of human form. Ageing is a stage, a state, a condition and a process in the life style of human beings differing from one individual to another and characterized by varied physiological and psychological qualities.

Moody, (2009) pointed out that ageing is an important part of all human societies reflecting the biological changes that occur, and also reflecting cultural and societal convention. Ageing from the biological point of view is described as post maturational process that correlates over time with increasing functional process (Philips & Gayloid, 2005). It is also a process of becoming physiologically and mentally developed. It is further described as a multi-dimensional process of spiritual, intellectual, social and mental degradation with many of the dimensions of ones health grooving younger and purer.

Biological ageing according to Aginah (2007) is the process of growing disharmony among interacting cells, each differentiating in a fixed and irreversible dimension, that is, a continual expansion and dissociation and disintegration of the body cells. Social ageing is the process of change in the context and meaning of a persons social behaviour (Aginah, 2007). It deals with attitude and reaction to the environment which is often perceived as being unfavourable because one is old, with an establishment of social obselence. Igwe and Onuzulike (2004) also opined that ageing is a stage of wisdom,

a function of experience from which the youth can draw an asset and is beautiful, the health problems notwithstanding.

Ageing is sure to come as long as one lives because it is natural. Hence ageing is inevitable to life. Ageing is a progressive loss of functional capacity after an organism has attained maturity (Turner & Herms 2009). The normal process of ageing is not a disease, hence ageing cannot be cured. Safra (2008) defined ageing as progressive physiological changes in an organism that leads to senescence or a decline of biological functions and of the organism's ability to metabolic stress. According to Safra, the noticeable effects of ageing result from wears and tears of essential functions in the body over the years; muscles weaken, immune system function decreases, and sex drive reduces. Roush (2009) asserted that ageing is an irreversible biological change that occurs in living things with the passage of time that eventually leads to death. Hendrick (1997) opined that in our society, there are so many people, men and women who are no longer as strong as they were many years ago. Hendrick opined that these people are said to be ageing or are called old people. As a consequence of medical, technological and economic advancement, a decline in mortality occurred and a sizeable number of people are now living into their sixth decades or beyond (Hendrick, 1997).

Loughton and Anderson (2005) described two major types of ageing namely: normal and pathological ageing. They perceived

normal ageing as that which comes naturally and not through extraneous factors. They opined that normal ageing means the changes which occur with the passage of time in anatomical structure and physiological function in the absence of disease, while pathological ageing according to them is that resulting from abnormal cases like diseases.

Okoye (1998) described chronological age as a parameter for determining the ageing level of an individual. However, there are some truth in the old saying that "you are as old as you feel". Regarding "age" as synonymous with "old" an aged can be referred to as one who is experiencing some gradual deteriorating changes in his/her biological, physiological, psychological and social make up.

Ebersole and Hess (2008) opined that some people have defined ageing with negative outlook, focusing only on the biological outcome by observing some oblivious decline. They gave such negative definition as "a post maturation process that decreases over time with increasing functional losses. The researchers were of the opinion that ageing includes the depiction of energy, irreversible limitations and decline due to the passage of time, and the increasing probability of death.

Ageing is defined by Shock (2003) as the development sequence of all living processes as individuals change differently with the passage of time. Flack (2009) asserted that the process of

ageing begins at conception and continues until death. According to Okumgba (2006), old age is often defined as beginning at a certain age, usually at 65 years. However in Nigeria, many people look older than their chronological age before 60 years of age due to stress, social pressure, poverty, chronic diseases and inadequate nutrition (Alausa, 2005).

Stein (2009) defined ageing as a long life process of progressive change in biological, psychological and social structure. Curtis (2000) postulated that ageing was as the result of the deterioration of various body organs and structure necessary for life. He also submitted that at old age, there was physical decline and increased susceptibility to chronic diseases and disabilities, thereby making old persons passive and physically dependent to a reasonable extent.

Udoh (2000) opined that ageing is part of human experiences. It is a process which commences at birth and continues through infancy, childhood, adolescence and adulthood to death. It is the continuous wearing away and repair or replacement activities that can no longer cope with the rate of wears and tears of the body. Chronologically, a person is deemed to be aged when he is 65 years old or more (National Institute on Ageing, 1999). A person at this stage of life may appear very old or younger depending on his life-style options. Joel (1999) opined that apart from being a time of happiness, satisfaction and enjoyment resulting from decreased

pressure of life pursuit, status attainment and social recognition, old age is a time of continued good health and usefulness of one's family and society.

Turner and Helms (2009) defined ageing as a progressive loss of functional capacity after an organism has attained maturity. They described three different types of the ageing process: biological, psychological and social ageing. They opined that as one grows older, the body experiences a skeletal composition, sensory capacities, heart rate and tissue structures. Ageing process in a biological sense which causes the body to slowly degenerate and deteriorate. Turner, and Helms perceived psychological ageing as the individuals own perception of the ageing process. They therefore defined psychological ageing as mental experience of growing old while social ageing according to them would refer to the manner in which individuals relate ageing to their own unique society.

Timiras (2003) defined ageing in the biological sense. He declared that ageing is a decline in physiological competence and it intensifies the effects of accidents, diseases and other forms of environmental stress. Timiras opined that with time there is a greater probability of dying and that an individual's death by natural causes means that enough importance life maintaining process have degenerated so death results.

The process of ageing as a human phenomenon occurs in all humans and other living organisms. As one ages, the body changes in many ways that effect the function of both individual cells, organs and systems (Bath, 2008). These changes according to Bass occur little by little and progress inevitably over time. The rate of progression can vary from person to person. Timira (2003) asserted that people have a life span that varies according to individuals. Some individuals also at sixty (60) years are considered old while others at sixty (60) are still thought of as young. Furthermore, he defined ageing as a process and a moving target which is dynamic and not static. It is the process of growing, adding days, months, years to one's age. A process of growth and maturity spanning from infancy, childhood, adolescence and adult to the aged and eventually death (Bath, 2003).

Charles, Rejonolds and Hatz (2001) acknowledged that the chronological age is expressed by our emotional and mental phases Timiras (2003) asserted that anatomical age is the condition of the various body organs regarding the stages of one's life span (growth, maturity among others). The ageing process according to Bath 2003 does not proceed at a uniform rate all over the body. It starts before a person was born by the time the person reaches puberty.

The thymus gland has degenerated before 50 years, the tensils are old. According to Staart-Harmilot (2006), as people age, the various functions and physiological reactions of the body

gradually slow down. These changes are apparent until perhaps 50 years of age as they do not all age at the same time, the ageing process is impossible to escape even though, it may be postponed. Gentleman, Smith and Peterson (1990) pointed out that many conditions that are associated with ageing are in fact due to the impaired efficiency with which symptoms from joint pains to mental deterioration appear.

Igwe and Onuzulike (2004) opined that Healthy ageing is the process that follows normal life pattern. Normal ageing is not externally induced as in pathological ageing brought about by accidents, diseases or other extraneous circumstances, often associated with changes after maturity. The normal process of ageing is not a disease condition but can lead to disease by making one susceptible to diseases and disease conditions. It is also not a process that is applicable to the entire human organ at the same time because different organs physiologically die at different rate and times. It is associated with some health problems.

Akubuo (2008) opined that healthy ageing is being able to maintain independent living for as long as possible in old age, that is ageing without debilitating or chronic diseases. Bath (2003) stressed that healthy ageing is the ability of all ages to live a healthy, safe and socially inclusive life-style options. Furthermore according to Bath, healthy aging consist of three components: low

probability to diseases or disability high cognitive and physical function capacity and active engagement with life.

Healthy ageing according to Moody (2009) considers the ability of people of all ages to live a healthy, safe and socially inclusive life-style. It recognizes the factors beyond health and social care that have a major effect in the health and well being, and the contribution that must be made by all sectors with an influence on the determinants of health. He pointed out that healthy ageing embraces a life course approach to health that recognizes the impact that early life experiences have on the way in which population groups age.

Turner and Helms in their view pointed out that long life is most desirable especially if it is lived in good health. Some people stay healthy as they age, thereby increasing their chances of enjoying retirement and taking full advantage of their senior years. They stated that in countries such as Canada where the proportion of seniors is increasing rapidly, it is crucial to better understand the determinants of healthy ageing. People can be empowered to take charge of their health by informing them of the dangers of particular behaviours, protecting them from avoidable risks, and creating a healthy social environment.

Safra (2008) maintained that healthy ageing shifts strategic thinking away from a need based approach to a right based approach that recognizes the rights of people to equality

opportunity and treatment particularly as they age. It fosters a positive attitude throughout life to growing old and seeks to break down stereotypes and changes attitudes of ageing promoting understanding between the generations.

Development

Dubo 2008 defined development as freeing people from obstacles that affect their ability to develop their own lives and communities. Hornby, Cowie and Lewis (2000) stated that development is the process of growing or developing a new situation that emerges for the growth of something. Girdano (1996) opined that development is the gradual growth of something. Zimmer and Martins (2007), opined that development refers to transformation of people's ways of living/doing things for the better or changing of people's attitude positively.

Validation

Norland (2010) opined that validation is to officially prove and state that on instrument is of a suitable standard. Hornby, Cowie and Lewis (2000) stated that validation is to state officially that an instrument is useful and of an acceptable standard. Dubo (2008) opined that validation is a process of confirming that an existing programme of study or a newly designed one can continue.

Intervention/Intervention Instrument

Hornby, Cowie and Lewis (2000) stated that intervention is the act of becoming involved in a situation in order to improve or help it. Dubo (2008) defined intervention as the process of presenting facts to people who are out of touch with reality in order to implore it. Memohan (1989) explained that intervention is a plan for improving a situation. The term instrument has been concpetualised by Knox (1999) as a design which provides understanding or prediction of events or effects in the real case or a guide or plan or action.

Ames, Gelein, Humphrey, Mason-Kaufmas and Osborne (1998) opined that an instrument is a design, a scheme or a guide or a set of units in purposeful interaction of its fundamental components, namely, structure, process and product. This implies that an instrument has a pattern (structure) and adopts certain activities (process). Such a design or scheme according to Ames, et al. provides direction for action and needs to be flexible for adaptation and responsiveness to exigencies in the environment. Hornby, Cowis and Lewis (2000) again stated that an instrument is a reproduction or representation of something designed to be copied.

Memoham (1989) explained that an intervention instrument is an explicit procedure or a plan recognized for treating or solving a problem. Gay (1981) opined that intervention instrument is a

representative form or pattern for solving a difficult or uncontrollable situation. In this study therefore, an intervention instrument is regarded as a design or a plan composed of factors which interact to produce pre-determined outcome.

Theoretical Framework

Rowe and Khan's Instrument of Healthy Ageing

One of the philosophical foundation upon which the Healthy Ageing Intervention Instrument (HAII) for secondary school teachers in Anambra State was be built is the Rowe and Khan's Instrument of Healthy Ageing developed by Rowe and Khan (2007). The foundation of this Instrument utilized information from the Mac Arthur's interdisciplinary study in which sixteen scientists from various disciplines such as biology neuroscience, epidemiology, sociology, psychology and geriatrics among others took part (Rowe and Khan, 2007).

Rowe and Khan's Instrument has three components including: avoidance of diseases and disabilities, high cognitive and physical function and active engagement with life. From this Instrument, participation in life can affect the avoidance of diseases and disabilities in many ways such as regular exercises, weight management, adequate nutrition, not smoking, adequate rest/sleep, stress management and preventive health screenings. Prevention of the functional loss by using healthy life-style options

is the preferred method of higher cognitive and physical function. Active engagement in life emphasizes interpersonal relationships and productive activities. Interpersonal relations are seen as involving contacts and transactions with others, exchanging of information, emotional support and direct assistance. Productive activities refer to the capacity of an individual to serve in the paid workforce and in volunteer activities (Rowe and Khan, 2007). The proposed intervention instrument in the present study is intended to achieve the above objectives through the three components of the instrument. The secondary school teachers in Anambra State are intended to plan strategies on how to avoid diseases and disabilities, have high cognitive and physical function and engage actively with life.

Functional Capacity and Ageing Process Theory

Interestingly, the functional capacity and ageing process theory developed by WHO (2009) is the foundation upon which the study was also be built. The theory states that for a number of functional capacities such as respiratory capacity, muscular strength, cardiovascular performance, one reaches maximum early in adulthood. From there on, there is a decline. However, this decline can be faster or slower depending on the number of individual characteristics often associated with living conditions and behaviours.

According to the theory, the ventilator capacity reaches maximum at around 25 years of age. A slow decline in this faculty is associated with factors, such as physical activity and living in an environment free of air pollution. A fast decline for example could be associated with cigarette smoking. Healthy Ageing Intervention Instrument for secondary school teachers should take care of those physical activities that would enable the teachers live healthily.

The theory therefore, asserts that the person following the first decline curve would not reach the disability threshold until very late in life, if ever (as death may occur earlier). In contrast, the life long smoker may develop emphysema at the age of 60 and live many years with a poor quality of life. Thus, it is only later in life that the functional capacity and those who experience a slow one will be clearly manifested. Therefore, this instrument will be prepared in such a way that teachers after going through it will enjoy healthier life.

This theory has been endorsed by the WHO (2009:13) in stimulating programmes, instruments and decisions to adopt policies that accomplish the following:

> bringing functional capacity of individuals to the highest level early in life, for example, through physical activity and nutrition programme; placing as many people as possible on the slow curve that is slowing down the decline in functional capacity and prescribing and encouraging intervention for those people who already fall below the threshold disability, due to poor life-style

> options, to intervene in such a way as to ensure the best possible quality of life.

To buttress more on this theory, WHO (1998a) has rightly observed that ageing is a normal, dynamic process not a disease. It noted that ageing is the inevitable alternative to premature death. Still, one can prevent or delay many of the disabling condition that often accompany ageing through intervention programmes and instruments.

The intervention instrument being proposed in the present study is intended to achieve the above three objectives through the components of the instrument. The physical activity and nutritional programmes are intended to place as many teachers as possible on the slow curve, that is, slowing down the decline in functional capacity and improving on the functional capacity of those teachers who already fall below the threshold disability due to poor life-style options.

Theoretical Studies

Characteristics of Healthy Ageing

Ageing is characterized by accumulation of changes in an organization of object over time (Staart-Harmilot, 2006). Timiras, (2003) opined that ageing in human are characterized by multidimensional process of physical, psychological and social changes. Some dimensions of ageing grow and expand over time,

while others decline. Reaction time for example, may slow at old age, while knowledge of world events and wisdom may expand over time, while others decline (Timiras, 2003, Hanaha and Weinberg 2000) opined that later in life potential exist for physical, mental and social growth and development. Age is usually measured in full years and months for young children. A person's birth day is often an important event. Roughly 100,000 people world wide die each day of ageing related causes (Hanahan & Weinberg 2000).

Goldman (2009) identified four characteristics of ageing: it is universal, progressive, decremental, and intrinsic. Explaining these characteristics, Goldman opined that the universality of ageing places it outside the realm of pathology. That normal changes occur in all persons but take place at different rates and depend on accompanying circumstances in an individuals life. He explained that progressive and decremental alteration of the whole body interfere with an aged individual's ability to interact successfully with the environment and increase the risk of death of the aged person. He observed that changes of the body as a whole are a matter of daily observation and have been happening for thousands of years. He contended that most of those changes are intrinsic in nature, that is, unmodifiable while other alterations are the result of extrinsic influences specific to ones way of life. Goldman (2009) submitted that extrinsic factors affect intrinsic factors.

Some authorities observed that the aged are characterised by their biological increase in susceptibility to chronic long-term diseases, disabilities, physical impairments and reduced tolerance for stress (Hendrick & Hendricks, 1997: Monton & Suzamen, 1988; UNO, 2007). This upholds the wear and tear theory of ageing described by Cowdry (2001) which argues that waste products accumulate between and within cells and interfere with their functions. Cowdry explained that the accumulation of highly insoluble particles known as age pigments has been observed in muscles, nerve cells, the heart, blood vessels, tendons among others, which with increasing age, cause loss of elasticity and responsiveness.

Kruwich (2006) suggested six dimensions of healthy ageing as no physical disability over the age of 75 as rated by a physician, good subjective health assessment (i.e good self-ratings on one's health), length of undesirable life, Good mental health, objective social support and self-rated life satisfaction in eight domains, namely marriage, income-related work, children, friendship and social contacts, hobbies, community service activities, religion and recreation sports.

Healthy ageing according to Bass (2006) considers the ability of people of all ages to live a healthy, safe and socially inclusive life-style options. Bass pointed out that healthy ageing embraces a life course approach to health that recognises the impact that early life

experiences have on the way in which population groups age. He also encouraged early intervention instrument as one of the strategies for healthy ageing. Talking about healthy intervention instrument in this study is therefore in line with Bass's vision.

Bass, further maintained that healthy ageing shifts strategic thinking away from a need based approach to a right based approach that recognizes the rights of people to equality of opportunity and treatment particularly as they age. It fosters a positive attitude throughout life to growing old and seeks to break down stereotypes and change attitudes toward ageing and promoting understanding between the generations.

Mosoro and Austad (2006) in their view pointed out that long life is most desirable especially if it is lived in good health. Some people stay healthy as they age, thereby increasing their chances of enjoying retirement and taking full advantage of their senior years. Masoro and Austad also stated that in countries such as Canada where the proportion of senior is increasing rapidly, it is crucial to understand the determinants of healthy ageing. People can be empowered to take charge of their health by informing them of the dangers of particular behaviours, protecting them from avoidable risks and creating a healthy social environment.

World Health Organisation (1998a) submitted that healthy ageing is also related to the interactions of a wide range of social factors, such as maintaining or enhancing physical and cognitive

functions, being fully involved in society, leading world, stimulating and productive life, living in a stable social environment and having meaningful personal relationship.

World Health Organisation (1998b) therefore reiterates its position that for old persons to continue to be a resource for their families, their communities, and the economy, it is essential that they be active physically, socially and mentally. This is what WHO refers to as "active" or healthy ageing. World Health Organization (1997) submitted that healthy ageing is the process of leading a healthful life-style and practising wise consumer habits. WHO observed that the process of preparing for healthy and productive ageing begins in one's youth. World Health Organization (1999) also defined healthy ageing as the capacity of people, as they grow older, to lead productive and healthy lives in their families, societies and economies. WHO noted that healthy ageing is the key for elder people's continuing to contribute in the society; and that all dimensions of being healthy-physically, socially and mentally, should be taken into account.

The above explanation by WHO shows the importance of what we eat and the need to address the three dimensions of health: physical, social and mental aspects. The instrument addressed these dimensions of health making sure that items that appeared in the components of HAII touched on these three dimensions of health. Healthy ageing has been perceived by Sally (2007) as the

capacity of prolonging active independent life by maintaining good health, and reducing illness and disability. The proposed Healthy Ageing Intervention Instrument is intended to enhance independent life by reducing diseases and disability through its various components.

Robinson (1991) proposed the following basic conditions or guidelines for healthy ageing which according to him can be applied at any age. They include:

> Accepting leisure in life: one has to create time in ones life to enjoy relaxation. Being active: exercising, reading, and going to cultural events. Eating properly: achieving a good nutritional programme. Taking interest in life: enjoying nature, meeting others, and maintaining relationship. Controlling stress levels: paying heed to stress management. Learning new skills: learning to write letters, playing non-competitive games, doing crafts, gardening and cooking. Getting adequate sleep, but not too much : determining the amount of sleep (7 – 8 hours in most cases) , that makes one feel better. Communicating freely: openly need to have, freedom of emotional expression, pent up emotions are stressful. Doing things for others: serving others is gratifying, healthy and life prolonging. Selecting a safe living environment – avoiding pollution, dirty areas and other unsafe and unhealthy environments, if possible. Adding freshness in ones life: acting and thinking creatively, knowing oneself -accepting, exploring and liking oneself. Establishing good philosophy of life: whether it is based on person or religion, establishing a sense of purpose that causes one to value life and motivates one into productivity (P.11).

Igwe (2000:41) suggested strategies for achieving healthy ageing in contemporary Nigerian society. They include among others: emphasizing

> nutritional planning and implementation at infancy and adolescent period in order to lay a sound foundation for the ageing process, and establishing comprehensive nutrition education for the aged as an arm of agricultural extension services with emphasis on physical activity, diet counselling and social interaction.

These suggestions are very relevant to the present study because they underscore the need for nutritional planning, physical activity and counselling which eventually become part of the components of the proposed model.

Turner and Helms (2009) noted that healthy ageing is difficult to define and frequently the descriptions merely reflect the values of the person doing the defining. According to them, healthy ageing has two important aspects. One is life satisfaction on the part of the older people themselves. The second aspect has to do with social roles or interpersonal obligations and responsibilities. In other words, healthy ageing has inner or psychological criterion or life satisfaction and an outer or social one.

Baltes (1997) observed that ageing successfully does not imply avoiding the problems, changes or losses that come with age. On the contrary, he defined successful ageing as continually striving, despite setbacks, to maximize gains and minimize losses.

Baltes noted that growing old healthfully or successfully despite losses, is possible when three processes are employed: selection, optimization and compensation. He used the playing of piano at old age to explain these processes. Selection of smaller number of pieces (reduction of repertoire): practising them more often (optimisation) and in style to retain the appearance of playing fast (compensation).

Baltes (1997) opined that selection, optimization and compensation should not be seen only as a matter of intention and rationality. According to him each of the three processes can be active or passive, internal or external, conscious or unconscious. For instance, they may involve moving in a better place to work or to live or changing one's goals to fit the existing conditions. They may involve the active pursuit of new skills or a gradual acceptance of life without certain skills. Baltes submitted that the adaptive task of people at one age is to select and concentrate on these aspects of life and those goals that are of high priority for humans and those that involve a convergence of life and those goals that are of high priority for humans and those that involve a convergence of environmental demands and individual motivation and skill preference.

Baltes however, concluded that there is no "gold standard" by which successful or healthy ageing can be defined since the criteria vary among people. The physical activity programme of the

instrument employed these processes when considering the type of exercise, duration and intensity of activities.

According to Akubuo (2008), healthy ageing is being able to maintain independent living for as long as possible in old age, that is ageing without debilitating or chronic diseases. One can remain vigorous and healthy until the very end of life, by developing healthy habits while young and by understanding ageing processes (Edlin, 2003). It is necessary to point out that healthy behaviours should start early in life for healthy ageing to be achieved. Akubuo asserted that if one takes proper charge of his health during youth; he will be able to exert great control over the physical and mental aspects of ageing.

Literature revealed different guidelines for healthy ageing. According to Robinson (1991), basic conditions or guidelines for healthy ageing touched on the conditions or factors affecting healthy ageing, such as leisure and recreational activity, proper nutritional programme, stress management, sleep, rest and relaxation, environment, creativity and sound philosophy in life. These guidelines will influence the development of the healthy ageing Intervention Instrument of this study.

Health Problems of the Elderly

According to Wurapa (1985) health problems result from deficiency variables or dimensions that make up the elderly, namely; physical,

social, emotional and economic aspects. Wurapa further declared that impairment in any of the health dimensions creates a health need which pre-empts an imbalance thus giving rise to unhealthy ageing.

Health problem according to Akhter (2004) is a state of disequilibrium or imbalance in which disease flourish and health is impaired. Gollady (1980) affirmed that health problem is a state of unsoundness, a source of perplexity, physically or mentally which is difficult to cure.

Meades (1994) posited that health problems represent something emotionally or physically distressing for which relief is sought. Adi (2009) opined that health problems result from unmet health needs. In his view, health need arises when the factor or conditions for health are absent or deficient, because, health is threatened. In the same vein, Werner (1984) observed that the health needs for the aged could be of physical, social, emotional or economic nature. Atlschul (2005) also asserted that health needs of the aged describes the health requirements or necessities an old person needs to stay well which when absent or deficient creates a health need. These deficiencies, according to some investigators, may result mainly from social/environmental and biological factors. (Barer, 2002.Jernigan & Jernigan, 2002).

Zimmer and Martins (2007) opined that the impact of population ageing is bringing with it concerns relating to disease, burden and disabilities. This experience has a significance effect on

the quality of life, not only for the elderly people, but also on their families, society and government as a whole (Lee 2005). Kruwich (2006) suggested six dimensions of unhealthy ageing:

Physical disability over the age of 25 as rated by a physician;

Bad subjective health assessment (ie poor self-ratings of one's health);

Length of disabled life;

Poor mental health;

Poor social support, and

Self-rated life unsatisfaction in eight domains namely marriage, income-related work, child friendship and social contracts, hobbies, community service activities, religion and recreation/sports.

Research evidence by Turner and Helms (2009) noted that many changes in the body structure and functions are life-long alterations that begin to manifest internally and externally in the fourth and fifth decades of life. They explained that the external signs like wrinkles and graying of the hairs, are the clues by which most people judge ageing. According to them, these signs can be deceptive. This is because individuals can become grey or deeply wrinkled only in their adult life, even though these features are recognized as signs of ageing.

Turner and Helms (2009) also admitted that many internal changes mimic disease manifestations and might be interpreted as

pathologic state in need of medical attention. They, therefore concluded that significant changes in tissue elasticity, subcutaneous fat, gastrointestinal function and muscle tone, bone immunity, and the senses are not mutually exclusive, but rather contribute to alterations in each other and the general notion of advanced age.

Moroney (2006) identified physical impairment, disability and handicapping conditions as the major physical health problems of the aged. He defined impairment as lacking part or all of a limb or having defective limb, a defective organ or mechanism of the body which limits getting about work or self care. In his view, disablement is the loss or reduction of functional ability whereas handicap is the disadvantage or restriction of activity caused by disability. Similarly, Cummings, Kelsey and Nevieth (2007) opined that age dependent diseases such as atherosclerosis and osteopeuatic fractures, hip fractures and lower back pain present a special challenge to geriatrics as the major cause of disability and handicapping conditions in the elderly. Besides, Van-Nenstrand, Furner and Suzamen (2008) affirmed that disability affecting one or more of the basic activities of daily living increases in both sexes with advancing age, although it is greater in women.

Schroll (2003) opined that cardiovascular diseases are the most frequent of the chronic ailments of old age. He added that the conditions arise due to degeneration of body organs. Stamler (2009) reported that arteriosclerosis, a form of arterial disease, is a

leading precursor of other retrogressive coronary changes prevalent in later years. He also warned that with advancing age, mortality diseases dramatically, double every decade for women and tripple for men. WHO (1995) also pointed out that cardiovascular diseases are the leading causes of death in adult population and that the prevalence of the major cardiovascular diseases, hypertension, coronary heart diseases and stroke increases with advancing age. It is confirmed that in developing countries, eighty percent of all deaths from cardiovascular cases occur in people over the age of 65 years.

Wurtman (2004) submitted that cerebrovascular accidents or strokes rank high among the most fatal afflictions in later life. In his view each year stroke claims over 200,000 lives in the United States of America and leaves many times that number impaired for life. He added that epidemiological studies of strokes show that both sexes are equally prone under comparable occupational conditions and activity level. He also declared that various degenerative diseases of the brain such as cerebral atrophy, senile plague, Parkinson's diseases and numerous disorders are generally lumped together under the label "organic brain damage" because of their diffuse character and other forms of pathologies afflicting the elderly population.

Howell (2008) asserted that the elderly are characterized with hypertension (high blood pressure) as another health problem

affecting roughly the same percentage of older people as heart diseases. In his view, while cancer is often referred to as a disease that confines itself to older people, it ranks near to the top of the mortality list throughout life. He however stated that certain types of cancer such as cancers of the stomach, intestinal track, prostate, skin, kidney are more common in the elderly than in other groups.

As was observed by Mickeown (2006) arthritis and rheumatism are seldom identified as causes of death. Nonetheless, they are important conditions interfering with normal life for the elderly, appearing in up to four hundred and fifty people of the impairments of normal activities. These seem to be sexually related, climbing higher for women in extreme old age. Davis (2007) also asserted that many elderly people have some degree of Rheumatism or Osteoarthritis interfering with their daily activities. He warned that the conditions may trigger off other health problems.

Werner (1984) observed that painful joints are common problems of the elderly group. He added that these conditions are exaggerated by inactivity and as another common health condition of the people in old age especially the males. According to him, 65 percent of men over the age of 65 years have symptoms of enlarged prostates. Davis (2007) had earlier suggested that older men who have difficulty in urinating or whose urine drips or dribbles are probably suffering from an enlarged prostate glands. In

addition he stated that foot defects are often very serious problems of old people. In his view, the types of abnormalities include in-growing toe-nails, flat foot and hammer loss. He concluded that these conditions may lead to pains on walking and consequently produce some degree of limitation of movement. Barer (2002) however, contended that some defects of the foot and the legs such as chronic sores of the legs or feet, odema of legs and feet including chronic dry and /or whooping cough, may be debilitating, yet they may constitute only signs and symptoms of other health problems.

Scheidt (2004) reported that about 30 percent of the elderly have some degree of hearing loss. He maintained that in these, (aged eighty and above), the incidence of deafness approaches sixty percent with as many as forty-three (43) percent of males. Furthermore, Nathan (2010) submitted that about twenty seven percent of the elderly population suffer from hearing losses of a magnitude that hinders social interaction. As he posited, the males constitute about three quarters of the affected persons. Bromley (2011) further suggested that while many of these auditory problems are a consequence of retrogressive alteration, environmental assaults and other variables such as sex and intelligence may also be implicit. Freeman (2000) pointed out that diabetes is another common ailment encountered by the elderly that may stem from changes in body's collagen figures resulting in lessened permeability of cellular membranes through which glucose

is transported. According to Freeman in later years, women experience greater incidence than men.

According to Barret (2002), motion sickness, a rare disease known as Menier's syndrome which presents with extreme nausea and locomotion difficulties is experienced in old age. He later warned that this condition is worsened by depreciation of kinesthetic sense and hearing acuity of old age. Butler and Lewis (2003) asserted that vertigo and dizziness as distressing health problems in old age. They contended that they are closely associated with auditory problems, among other factors. Butter and Lewis also added that a sense of isolation and loneliness coupled with emotional distress always accompany impaired hearing.

Gordon (2011) examining ocular problems affecting the eyes of an aged stressed that cataracts is sometimes considered to be merely an acceleration of normal ageing because of its frequency of occurrence. He also stated that the eye's power of accommodation and ability to adapt to darkness diminishes with age. He contended that even in the absence of infections, the lens and cells of the retina undergo gradual wear that creates opaqueness of the lenses with advancing age. Butler and Lewis (2003) also stated that a variety of ocular problems afflict the eyes in old age, the most frequent being cataracts, glaucoma, muscular diseases and even blindness. They confirmed that apart from physical discomfort,

visual impairment provokes emotional upset, hence, the person feels isolated.

Davies (2007) recognized home accidents particularly falls as one of the health problems of the elderly group. He reported that about thirty-five percent of elderly people are liable to fall, and that in older person, a fall is likely to be more serious than a similar accident in a younger person, because the fall is more likely to result in serious injury, especially in the development of fracture and also it may precipitate senile decay. He added that the tendency to fall increases with advanced age and the condition is more frequent in women than men. Apart from the physical health problems of the aged, Warren (2003) also associated the elderly with the emotional turmoils of the ageing process. According to him, the fact that older people constitute a disproportionate high number of both admission to psychiatric facilities and the suicides committed yearly by those over 65 years of age indicates the existence of increased or unexpected tensions in their lives. Botwinck (2007) also stated that the emotional problems of older people resemble those of the rest of the society except that older people have additional vulnerability to organic disorders not usually incurred by young people.

Botwinck and Thompson (2008) contended that rapid fluctuation mood and cognitive capacity, confusion, easy distractibility and occasional hyperactivity of the elderly groups are

associated with circulatory deterioration and depressed cerebral metabolism with the consequent suppressed brain rhythms prevalent in older years. Although period of the life cycle is free from the spectre of emotional distress, yet, Welford (1999) asserted that the later years constitute a time of especially high risk promoted by cumulative stresses exaggerated by physical, biological, social and economic factors.

Ekin, Foscheger and Juruiko (2002) had previously pointed out that depressive reactions including involuntary mechanism, hyper emotional reactions and manic depressive disorder are common emotional problems of the elderly. In their view, these problems seem to afflict women more than men. According to Bromley (2011) three types of neurosis afflict the aged population. These as outlined by him are dissociative neurosis (representing the serious breakdown of cognitive functional conversion neuroses), out coming psychosomatic complaints of considerable magnitude, and hypochlorides (denoting aphobic depressive mood directed towards protection of oneself).

Hendricks and Hendricks (1997) recognized yet another serious category of emotional dysfunction in old age. They explained that the condition reflects a break with normative definitions of reality and a disintegration of logical processes accompanied by hallucination and delusions of grandeur. Hendricks and Hendrick also observed that the disorder is a chronic type with

the onset dating back to late adolescence but pronounced at old age. According to Patterson, Abraham and Baker (2008), self destructive behaviour has been considered a form of emotional disorder among the elderly requiring social intervention especially in Western cultures. In their view, the outstanding examples of destructive behaviour is, of course, suicide and each year a disproportionate number of suicides are committed by people over the age of 65 years. They added that the elderly number over a quarter of all self-inflicted deaths in the United States. In conclusion they declared that other self-destructive acts of older persons include, unabated smoking, drinking, feeding and even neglected medical attention or medication of known illnesses.

Apart from functional disorders, a significant portion of the elderly hospitalized mental patients are victims of organic brain disorders rather than psychogenic responses to the stresses of old age. As pointed out by Wang, (2009), organic brain syndromes afflicting the elderly were divided into two classes namely acute brain syndrome (involving physical damage in the brain), and chronic confusional state. According to Dayan (2003) organic brain disorder prevalent in old age can be labelled as organic dementia – characterized by disorientation and intellectual judgmental declines along with a loss of memory and a lack of effective responsiveness. Garetz (2005) also stressed that acute brain syndrome, a reversible form of organic brain malfunctioning resulting from systemic

diseases, pulmonary or cardiac insufficiency among other factors is common in later years.

Anderson (1999) further identified two sub-types of chronic brain disorder associated with latter years to include senile psychosis which occurs when the aged brain undergoes anatomic involution with an enlarged ventricle associated with the breakdown of brain cells and celebralterioscherosis marked by dizziness, headache and confusion in the elderly persons. Anderson affirmed that the condition is more frequent in men than in women. Franchia, Shepperd and Martis (2003) opined that cognitive decline and lack of emotionality is a common emotional problem of people in the old age.

Werner (1984) also described insomnia (Loss of sleep) as another emotional phenomena confronting the elderly. He explained that this problem is caused by unrealized dreams and fantasies in the person's life and in other occasions, may be a symptom of emotional disorder in the elderly. As was pointed out by some authors (Ekin, Foscheger & Juruiko 2002) fear of personal death constitute other sources of stress and anxiety to old people. The constituents of these fears is not death itself but rather the abandonment, pains and confusion that arise from the situation in which most old people die (Rose, 2001). According to Riley (2000) they also worry about staying involved about unfinished task and about the future of those close to them. He added, that this death,

anxiety and loss of hope in the elderly can facilitate an unhappy ending.

In addition to the emotional problems, the social environment in which people are involved constitute some of the more critical factors in maintaining a sense of well-being through life. Birren (2009) thus noted that some elderly people, especially the spouseless elderly live in extremely poor surroundings and have few of the conveniences and services that many other people take for granted. This he expressed can create an illusion and loss of hope. Hendricks and Hendricks (1997) also emphasized that old people who live in isolation and without family ties are more likely to experience a sense of loneliness and despair than their peers who are part of a family. They contended that the situation seems to affect the males more than the females.

Birren (2009) also asserted that relocation of old people involves more than the mere provision of new physical space as the movement threatens the old person's entire life. In his view, a change of place involves a change of mood, perception and pattern to an old person, this may bring moodiness, nervousness and unwholesome healthy ageing towards life.

Hamevithch and Peterson (1999) evaluating the old people's relocation situation in industrial world reported that the majority of the elders referred to critical distances from medical and shopping facilities as a primary cause of consternation followed by lack of

proximity to relatives, poor climate, lack of privacy among others.

This was also the view of Friedetectera (2002) when he decreed the removal of an old person from his immediate and familiar environment and perceived it as capable of generating confusion, loss of hope, weariness and frustration. He however, concluded that there might be a time when the old person even though not seriously ill, can no longer fend for himself in what may be described as an unaccommodating environment.

Beside relocation, Sharas (1991) declared that institutionalization is another characteristics of the elderly and that part of the problem of institutionalization hinges on both elderly and public perception as a least desirable alternative. A condition he described as a sort of confession of final surrender.

Lopato (2009) stated that loneliness and social isolation caused by bereavement /death of children, relatives, important peers and friends and most importantly a spouse, is an experience that is most distressful to many people in the old age group. According to him, most couples develop a mutual dependency over the years so that suddenly finding oneself alone naturally evokes feeling ranging from grief, loneliness and confusion, to guilt, anger and a sense of abandonment.

Barfield and Morgan (1998) stated that lack of pre-retirement counselling programmes had created part of the economic hardships that confront the elderly population. They declared that several

individuals had never anticipated that they would live so long and had geared their savings to last only through their sixties. Moroney (2006) on the other hand argued that rather than lack of individual planning, government economic policies towards the elderly and others do not affirm a recognition of the necessity to provide for the aged. He added that the older population in the face of severe economic woes is further disadvantaged, hence the old neither have the viguour to provide for their daily living, nor to attract enough recognition for employment by the economic sector.

Literature (Hermevithch & Peterson 1999 and Friedetectera, 2002) indicates that the old age population experience numerous inter woven, interrelated and interdependent problems. The nature of the health problems also suggest that they may stem from physical/biological, emotional, social or economic factors.

Instrument Development

Instrument construction is a skill that should be learned like any other skill. Good evaluation instrument do not just happen, it takes proper planning and careful considerations (Nworgu, 2006). When the need for evaluation has been established the next decision to take is the type of instrument to use for the evaluation. According to Okezie (1997) results from such instruments are used for making decisions, which have far reaching implications for the learners, teachers and the school.

Radius (2007) revealed that teachers' performance instruments are constructed in education so as to assess the teachers' effectiveness and efficiency. Such instrument according to him deals with well-specialized instructional tasks or functions required by a teacher.

For the development of test instrument for the assessment or evaluation of teachers to determine their competencies, Olaitan (2005) suggested that a list of critical behaviour be developed. Norman-Thomas (1998) stated that items are then written to reflect the expected behaviours.

In developing a Healthy Ageing Intervention Instrument, Borg and Gall (1998) and Anene & Ndubuisi (1992) suggested the following eleven steps for guidance: Content analysis, Review of instructional objectives/philosophies, development of test blue print/Table of specification, Item analysis, Face validation of the proposed instrument, trial testing, item selection, test assembly and trial testing. The steps specifically outlined guidelines that should be emphasized when Healthy Ageing Intervention Instrument is developed.

According to the scheme, philosophy and objectives form the background of the instrument, indicating that the instrument is developed based on acceptable philosophy and objectives. The philosophy and objectives therefore guided the selection of the components and items in the instrument.

Physical activity component comprises mainly of activity of daily living which are intended to suit all teachers irrespective of age, sex, level of education, gender and religion affiliation and to develop the teacher's physical fitness components such as endurance, flexibility, balance and strength (Borg & Gall, 2008).

Nutrition guideline component comprises nutrition guidelines intended to reduce health risk associated with improper eating habits and to reduce excess body fat. The physical activity promote appetite and burn excess energy while nutrition provides the energy for the exercise Borg & Gall (2008).

Life-style component emphasises healthy life-style options that can promote health and active life. The items are intended to reduce risk associated with sedentary life, drug abuse and social association. Good physical activity programmes and nutrition guidelines that contribute immensely to good life-style options. Stress management strategies that can promote healthy ageing are also included in the instrument.

Validity is referred to as the extent to which a test actually measures what it purports to measure or more precisely, the extent to which interpretation of its measures fit its purported purpose (Middleton 2003). Validity has to do with whether an instrument is actually measuring what it is meant to measure. According to Middleton (2003), validity is the single most important aspect of an instrument because an instrument that is not reliable can never be

valid. Ezeh (1992), in his own definition stated that validity of a test refers to the extent to which a test measures what it is supposed to measure and that the validity of a test depends on the purpose of the test. A test with high validity will measure what it is supposed to measure. According to Ezeh (1992), validity is an indication of the truthfulness of a test. There are a variety of approaches that can be used to establish the validity of any instrument or test. Cronbach (1999) stated that validity has four facets namely: predictive, concurrent, content and construct. Mchrens and Lehmann (2004) in addition to the four types of validity listed by Cronbach (1999) added another type of validity that is called face validity. To Anastesi (2006) face and factorial validity were identified. Still others like Leyman (1998) agreed that there are four types of validity: face validity, content validity, construct validity and factorial validity. The face and content validity are quite pertinent to this study and are briefly discussed below.

According to Ohuche and Akeju (1997) face validity of a test is referred to as the appropriateness of a test as viewed by the examinee. Also Sax (1999) stated that face validity of a test is the extent to which the test appears relevant, important and interesting to the examinee. To determine face validity, according to Ohuche and Akeju, the general practice is to present the test items to a number of subject experts for both criticisms and correction.

Further, the approved items by experts according to them are thereafter considered as possessing face validity. Content validity according to Davitz and Ball (2005) is referred to as the extent to which the test represents accurately the content of the instructional units or behaviours. Items have content Validity if they ask the testee to demonstrate those skills and competences required by the objective. Content validity is perhaps the type of validity that is most useful to the classroom teacher. It is not only concerned with whether the test items matches the objectives or competencies, it is also interested in whether the level of emphasis and the degree of coverage given by each item in the test match that given as the necessary competencies (Nworgu, 2006).

Equally important is the fact that the teaching behaviour being sampled by the experts must be well defined prior to the development of the test. Consequently, a number of specific procedures have been adopted in evaluating the content validity of teacher's teaching behaviour. The procedures involve building content validity into the instrument from the on-set through the choice of appropriate items. For the teaching effectiveness of the teachers and of the teacher's competency, this is facilitated by examination of all the tasks performed by the teacher's examination of relevant textbooks (Phipps, 2009) and consultations with experts in education. This represents the content areas to be covered and the cognitive objectives or processes to be possessed and assessed

and the relative importance of each content area by each cognitive objective.

Another procedure adopted in establishing the content validity of any instrument is the performance on each item which is checked for relevance to the expected behaviour (Philips 2009). Items that showed the largest gains in the proportion of respondents ticking them are retained.

Onu (2007) recognized reliability as one of the important elements in any testing instrument. According to him, it is the measure of the internal consistency of an instrument. In defining reliability Mehrens and Lehmann (2005) agree that it is the degree of consistency between two measures of the same instrument. Reliability according to Thorndike and Hagen (1997) is the accuracy and precision of a measurement procedure. Kerlinger (2007) referred to reliability as dependability, stability, consistency, predictability and accuracy of measuring devices. Onu (1998) defined reliability as dependability of an instrument and to Kerlinger (2007), it is the consistency of scores obtained by the same individuals on different occasions or with different sets of equivalent items.

To determine this important property of a measuring instrument, various methods are employed. The consistent measures, according to Ugochukwu (2001) can be made using the different types of reliability, viz-equivalent, test-retest, develop

split-half and score reliability. The reliability of a test is usually expressed as a correlation coefficient. The correlation coefficient is obtained by correlating two sets of scores to determine the relationship between them. The coefficient of reliability is usually computed, which according to Kerlinger (2007) is the coefficient of correlation between scores of successive administration of the same test or between scores on one test divided into two sub-tests.

The reliability of test items according to Uzo (2005) can be estimated in different ways such as use of internal consistency and stability of scores. Internal consistency seeks to determine the degree to which the test items are interrelated. Stability of score is a measure of consistency over time and over similar samples. A reliable instrument for a piece of research will yield similar data from similar respondents over time. If the test inter correlates positivity, this according to Nwana (1997) means that a person who performs well on one item should be able to do equally well on other items in the test.

Various methods have been used to estimate the internal consistency of a test. The two methods relevant to this study are: Cronbach alpha and Scorer (Judge) reliability.

Cronbach alpha according to Nworgu (2006) is a modified version of Kuder Richardon (K – R formular 20), it is referred to as Cronbach alpha or coefficient alpha Cronbach alpha is used when stability of score is a measure of consistency over time and over

similar samples. A reliable instrument for a piece of research will yield similar data from similar respondents over time. Ways such as use of internal consistency and stability of scores. If the test inter correlates positively, this according to Nwana (1997) means that a person who performs well on one item should be able to do equally well on other items in the test. Various methods have been used to estimate the internal consistency of a test.

The two methods relevant to this study are Cronbach alpha and Scorer (judge) reliability. Cronbach alpha; according to Nworgu (2006) is a modified version of Kuder-Richardson (K-R formula 20), it is referred to as Cronbach alpha or coefficient alpha. Cronbach alpha is used when the items are not scored dichotomonously. The present study made use of the Cronbach's coefficient alpha because items are involved. If the components of an instrument inter-correlates highly (Guilford 1994), the instrument will have a high consistency estimate (0.20 and above), showing positive correlation, this indicates internal consistency among the instrument components (Allen & Yen, 1999).

In order to increase the reliability and usability of any instrument, the scoring procedures must be adequate and properly articulated. Mehrens and Lehmann (2005) observed that the most carefully planned, constructed and administered test could be ruined by improper scoring procedures and standards. A source of error in reliability of instrument can also be the scorer. Scorer

reliability is considered very important especially in evaluating instrument that involves ratings.

Components of Healthy Ageing.

Physical Exercises and Healthy Ageing

Appel (1997) opined that regular exercises are recommended as the initial management of illness. A modest increase in physical activity may significantly lower the risk of coronary heart diseases and favourably modify cardiac risk factors (Liuch, Hubert & kings, 2000 and Goldbery& Elliot, 1994).

Igwe and Onwuzulike (2004) asserted that exercises have direct effect on the body organs and systems. Exercises activate body organs to function effectively, while body wastes are eliminated much better. The muscles of the body contract and relax better. Anything that gets one mildly out breathe and a little sweat is fine, examples walking, gardening, swimming, cycling among others. Healthy life-style options include regular physical activity. However, it is thought that the more vigorous the exercise, the better.

Moderate exercises is recommended for all persons. Physical activity may not affect the course of infections, but regular exercise can help relieve symptoms of tiredness, stress, depression and improve appetite (Barger & Owen, 1998, and Liuch, Hubert & King, 2000). In all, body organs and systems to function more effectively,

hence the tendency for the body to be less prone to disorders and diseases and subsequently increases man's life on earth (Igwe & Onuzulike, 2004). Exercise also build up the immune system and improve sense of well-being. According to the Canadian Society for Exercise Physiology (1998), 30 to 60 minutes of physical activity is recommended everyday to stay healthy.

Researchers suggested that moderate exercises might enhance immune functions, whereas exhaustive exercise may result in immune suppression (Nehelsen, Cannarella, Fagoaga & Fotz, 2007). Moderate physical activity can improve circulation, help nutrients and fluid to reach body cells and improve lean body mass. Nestle (1995) explained that one third of both coronary disease and cancer could be prevented with physical exercises. Regular exercise also produces a relaxation response in the body. Exercise equally reduces the effects of stress. It increases energy and overcome fatigue. It relieves depression and lifts mood as well as boosts immune responses. Above all, exercise regimen helps one in coping effectively with the ups and downs of life.

Adults are more likely to remain active if they engage in activities that they feel competent doing, find enjoyable, can easily asses and fit into their daily schedules and that they feel can yield a net benefit (Canadian fitness & Life-Style Research Institute, 1998). Edlin (2003) stated that one's overall risk of heart attack is less if he exercises regularly. According to Edlin, if one is active with

regular exercises, one can reach a level of physical fitness comparable to an inactive person 10 to 20 years younger. Regular exercise increases the output of the neurotransmitters and endophine-like substances that produce feeling of euphoria, increased alertness, inner peace, concentration and creativity.

Oguntola (2007) stressed that walking is a simple exercise that people overlook. However, an individual that walks for 30 minutes, five days a week reduces the possibility of having a heart attack and stroke. The current situation in which people don't walk due to the proliferation of cars and labour saving devices make the average person now have less physical activity in his or her life than in times past. Igwe and Onuzulike (2004) noted that although exercises are very necessary, they should be followed up with enough rest in order to give the body systems time to recuperate. Enough evidence from researches (Svanborn & Selker, 1993 and Amusum & Reddy, 1997) have shown that, physical exercises among other factors are strong predictors of longevity. For instance, Svanborg and Selker (1993) stated that the ageing process is influenced by life-style options, environmental factors, health care, diseases and genetic constitution.

Hendrick (1997) submitted that moderate physical activity, as that operated in exercise regimes or manual occupation appears to enhance longevity through a reduction of the risk factors contributing to heart diseases. Hendrick is of the view that physical

conditioning among older people usually results in improvement in the cardio vascular system, the respiratory system, muscular and body composition all of which help a person relax as well as work. They noted that exercise is also an indirect aid in consumption of lipids and in preserving those mentioned above. Exercise regimes emphasizing rhythmic activity appear to be the most appropriate and beneficial for older participants (Hendrick 1997).

Dangotte and Kalish (1999:19) asserted that physical activity programme have the following benefits to participants:

> Improved physical fitness; efficient respiratory system; reduced risks of cardio vascular diseases; improved flexibility and mobility of joints; reduced blood pressure; reduction in weight and avoidance of obesity; better metabolism and use of glucose; improved reaction time; reduced heart beat and pulse rate. improved emotional and mental health and shielding against the occurrence of bone fracture, caused by bone brittleness, de-mineralization and porousness.

Supporting the above submissions Dangote and Kalish (1999), WHO (2009) submitted that physical activity can help improve not only muscle strength but also stamina; balance, joint mobility, flexibility, agility, walking, speed and overall physical co-ordinantion. According to WHO, it also has favourable effects on metabolism, the regulation of blood pressure, the prevention and/or control of weight gain, as well as on the prevention and treatment of cardiovascular diseases.

Furthermore, WHO (2009) noted that education can help to reduce the frequency of falls which are very common in the elderly people. It is estimated that every person aged over 65 suffers at least one fall each year. The same report by who noted that people who are physically active are less likely to develop adult onset diabetes. If they do, they have better control of the disease since exercise increases the body's ability to control the blood glucose level. In the same report, light exercises was reported to be good for one's mental health. Studies conducted with healthy older adults have shown that they felt less anxious after exercising for one year (Grandll, 1980; Karl, and WHO 2009) also observed that rhythmic activity of large muscles improve arterial flexibility, strength and endurance of large muscles. The finding on physical activity programme provide justification for the assertion of WHO (1998b) that many ageing people enjoy different forms of so called utility exercise such as gardening or other outdoor around the house.

Vega (1997) reported that studies have shown that simple exercises in and around the home help the elderly regain strength and vitality. For instance, one group of older people ranging from 72 – 98 years of age found that they could walk faster and climb stairs more easily after doing some weight – lifting exercise for just ten weeks. Another group made up of mostly sedentary women up to 70 years of age, exercised twice a week. After a year, they had gains in muscle mass as well as in strength.

Vega (1997) also reported the experience of older persons who joined a neighbourhood club called "Cuba's circulose De Abuelos" just to feel the benefit of physical activity. Before they joined, 85 per cent were suffering from some chronic diseases, such as arthritis, hypertension, diabetes, asthma or emphysema. At that time, 72.6 per cent of men and 85.2 percent of women had never participated in an exercise programme, before, and 82 percent were taking at least one form of medication or the other on a daily basis. A year later, the study showed that the members of this group were managing their chronic illness better and were taking less medication than a year earlier. The study also showed that 35 percent of the members no longer needed medication and 22 percent were using a lower dose. In addition, 89 percent of those who at the beginning of the year had seen loneliness and depression as an important problem in their lives now saw this as less of a problem. This report underscores the need for neighbourhood network in order to provide the best means of promoting healthy ageing among the elderly. Teachers who live in staff quarters can form such neighbourhood network so as to reap the benefits.

The adage "use it or lose it" applies not merely to the muscles but also to the mind. After studying more than 1000 people between 70 and 80 years of age, Albert (1999) found that mental exercise is one of the factors that determine the intellectual powers

of the elderly. He submitted that mental exercise keeps the brains "telephone lines" alive. He opined that mental decline starts when people retire, decide to take things easy and say that they don't have to keep up with the world any more. Rowe (1999) is of the view that it is never too late to start forming good mental habits. He argued that if one has had bad health habits most of one's life, but decides to change in the later years, one will still reap at least some of the rewards of healthy life-style options.

He reported that scientific studies involving husbands of older people found several factors that keep an older mind flexible. They included active engagements in reading, travelling, cultural events, education, clubs and professional associations. Keeping one's job and not retiring, turn off TV, take a course in something. It is believed that such activities not only lift the spirit but also revive the brain. Some of these activities were incorporated in the Healthy Ageing Intervention Instrument (HAII) of this study.

Nutrition and Healthy Ageing

Enough evidence from research (Check, 2004; Bass, 2006; Onuzulike, 2007; Bersole, 2009) has shown that nutrition, physical activities, genetics, life-style options, stress, environment, healthcare, level of education, age and religious affiliation are strong predictors of longevity. For instance, Igwe and Onuzulike (2004) opined that intake of adequate food nutrients is a basis for

good health. Individuals should always make sure they have appropriate meal which consists of adequate proportions of carbohydrates, proteins, fats and oil, vitamins, minerals, roughages and water intake. Nworgu (2006) explained that good eating habits can help one feel and look his best. Healthy eating is a significant factor in reducing the risk of developing a variety of chronic conditions.

Adequate nutrition improves physical capacity and functioning, fissile repair, wound healing; helps to maintain normal fluid and electrolyte balance. Poor nutrition status is related to compromise immunity and deficiencies. Sometimes excesses of nutrients adversely affect immunity and other normal body processes (Fields & Ayoobim, 2007). Igwe and Onuzulike (2004) maintained that myriads of food deficiencies should be avoided especially malnutrition which is a scourge in developing nations. Health and Welfare Canada (1990) opined that eating well can become more of a challenge as liver diseases progress. The association summarized the principles of healthy eating in five general statements. Enjoy a variety of foods, emphasize cereals and other grain products, vegetables and fruits. Choose lower fat dairy products and foods prepared with little or no fat, physical activity and healthy eating, limit salt intake, alcohol and caffeine.

Farid (2005) opined that given optimal nutrition, the upper limit of the life span is now estimated as 130 years. With increasing

interest in the ageing process, numerous studies Selker, 2004, Field & Ayoobm 2007 and Sonnategе 2009) investigated the effects of nutrition and physical activity on longevity. These research findings suggest that changes in one's life-style options may slow the ageing process within the limits set by profile.

Benet (2003) submitted that since chronic diseases are the major causes of death, one may live a healthier and longer life by limiting foods that increase disease risks (such as foods high in saturated fat, cholesterol and sodium). Nutrient – rich foods that reduce disease risk should be increased. Benet also suggested that changes in eating habits can benefit health, even when these changes are made in older adulthood.

Farid and Barid (2006) reported that adequate diet include a variety of nutrient – dense foods and adequate fluids, with plenty of brightly coloured vegetables and fruits, lean proteins and healthy fats. According to the reporters, healthful diets can be planned with inexpensive foods such as canned and frozen fruits and vegetables, legumes, whole grain and cereals, and low-fat diary products. Specific foods that have received recent attention for health – promoting properties include:

> Fish – The American Health Association recommends two serving per week of oily fish such as salmon, as a source of omega-3 fatty acids.
> Berries – The antioxidants in blueberries raspberries, and strawberries may promote

> cardiovascular and brain health by reducing oxidative damage and inflammation.
> Nuts – unsalted nuts such as almonds and walnuts contain healthy monounsaturated faster Omega – 3 fatty acids which may improve blood lipids and cardiovascular health.
> Whole Grains – These fibre –rich foods protect against cancer and stabilize blood glucose and insulin levels.
> Garlic – The antioxidant properties of crushed garlic may protect against chronic diseases and ageing.
> Tomatoes – Tomatoes and especially canned tomato products contain lycopene, another antioxidant that reduces cancer risk. (p. 111)

Sonnatage, (2006) asserted that animals live longer and have fewer chronic diseases when their diets are restricted in calories. He also believe that a calorie – restricted diet helps to prevent oxidative damage that may lead to chronic diseases. In humans, moderate calorie restriction is beneficial for weight loss, which is associated with favourable changes in body fat, blood pressure, blood lipids and glucose tolerance. A recent study by Check, (2004) showed that almost all centenarians (those persons at least 100 years old) are lean. As a result, a healthy diet may be one of the best medicines for a longer and healthier life.

Anderson and Smith (2005) equally discovered nutrition as one of the greatest weapons against disease. Keeping fats below 30 percent of total calories consumed and cholesterol intake below 200 mg markedly cut ones risk of heart disease. According to them,

eating five servings a day of fruits and vegetables lowers ones chances of getting cancer, eating nine to ten daily serving of fruits and vegetables along with three serving of low – fat dairy products is as effective as medication in lowering high blood pressure and can help eliminate or reduce chances of stroke. They also discovered that the risk of several other prominent age related disorders including cardiovascular diseases, cancer and diabetes is influenced by the nutrient value of the food one eats. Based on the above information, calorie restriction can expand the life span of teachers including the teachers in Anambra State that are the focus of this present study, so dietary guidelines should form part of this intervention Instrument for the teachers in Anambra State.

Sonnatage (2009) noted that numerous studies indicate that growth hormone can decrease with age and that administration of these hormones ameliorates the deterioration of tissue function evident in animals left to eat as desired. He proposes that endocrine compensatory mechanisms induced by moderate calorie restriction reduces the stimulus for cellular replication, resulting in a decline in pathologies and increased life span.

Eating more vegetables and salads create a stronger immune system that helps one fight fatigue and maintain a healthy weight (Check, 2004). Fresh vegetables and salads contain essential minerals and vitamins, they also supply powerful photochemicals that protect against diseases. Numerous population studies have

reputedly demonstrated that a high intake of caroten rich and rich fruits and vegetables reduce the risk of heart diseases, cancer and strokes (Health and Welfare Canada, 1990). Anderson and Smith, (2005) and Onuzulike (2007) acknowledged that one out of every two American women consumes inadequate amounts of every vitamin and mineral salts. On any few consecutive days, only 14 percent of women eat dark green vegetables. Almost 50 percent of all women avoid fruits. Four out of five Americans believed that it is all right to eat whatever they want whenever they want to eat.

Field, Gadner and Ayoobim (2007) asserted that although no one knows exactly what the health hazards of obesity are, excess weight seems to be implicated in some 300,000 deaths a year. Heart diseases aside, there is overwhelming evidence that a high fat diet increases the risk of cancer of the colon, breast and prostate. More significantly, excess weight prevents a person from extending his or her life, and contribute to many of the diseases of ageing: high blood pressure; heart disease, stroke, diabetes, cancer, digestive disorders and gall bladder complications. High weight is correlated with high cholesterol, which in turn is a predictor of cardiovascular problems. The researchers also submitted that fat in men tends to settle in the stomach, creating the so called “apple” shape whereas fat in women most often settle around the hips and buttocks at their widest point.

Mather and Carstensern (2005) suggested strategies for achieving healthy ageing to include among others, avoidance of diets high in refined sugars, such as low fat diet, which encourages diabetes, tiredness and cognitive impairment; consumption of food high in lean protein like fish – salmon, diary products, berries among others.

The types of food one eat actually controls ones health and how one ages. Staying healthy means eating healthy, eating nutritiously. It is imperative for one to eat foods that are nutrient rich, food that are high in vitamins and minerals. Adequate and moderation are the keys to successful eating. It is essential to eat a variety of fruits, vegetables, grains and lean protein with every meal. Life span is somehow related to the amount of energy giving food consumed. A simplistic pursuit of this principle of caloric restriction followed, involving research into longevity of those who simply reduced their food intake.

Life-Style Options and Longevity

Life-style option is a serious predictor of healthy ageing and longevity. Svanbory and Selker (1993) noted that smoking causes diminished respiratory capacity, limitation on physical performance, increased osteoporous and exacerbated tooth loss in older people. They also associated smoking with heavy disease, stroke, hypertension, lung cancer and certain other cancers, emphysema

and chronic bronchitis among the old and young. It is possible that teachers of Anambra State who smoke may also face these risks associated with cigarette smoking. Hendricks and Hendricks (1997) reported that cigarette smokers die ten years sooner than otherwise comparable with non-smokers.

Hayflick (1994) asserted that a given life-style option may increase life expectancy simply by reducing the chances of contracting a particular life threatening disease in line with this view Nakamura (2007) noted that studies made on the health and life style of Japanese Americans living in Hawaii and California and American Caucasians have suggested that an individual's health is determined not only by heredity and physical environment but also by cultural factors that influence life-style options and social network.

Nakamura also reported that Japan has the lowest rate of mortality from coronary heart disease of all the industrialized countries because of their life-style options. This report also noted among Japanese Americans, the risk of developing coronary heart disease and dying from it as the lowest among those living according to traditional Japanese ways. This shows that traditional and non-traditional Japanese culture or way of life affects life-style options differently. The traditional Japanese culture involves the intake of fewer fats particularly saturated fats and the formulation of social networks with friends and neighbours.

Social isolation or the absence of social interaction, contacts and relationships are recognized by Nakamura (2007), as risk factors for diseases and disability. Nakamura is of the view that there is also a note-worthy connection between stress levels and susceptibility to diseases. He added that social isolation in older persons is evidently associated with increase in tiredness. Furthermore, just as the absence of social support tends to increase disease and disability, its presence may hasten recovery and help to maintain healthy ageing. In conclusion, people whose life-style options are characterised by smoking, alcohol consumption, drug abuse, sedentary life, prostitution or unhealthy sexual behaviours, isolation and stressful conditions are most likely not to enjoy healthy ageing. In this study, adequate life-style options that will help the teachers enjoy healthful ageing were included.

Stress and Healthy Ageing

Stress is one of the health threatening factors that emanates from life-style options. Colman (1999) defined stress as the biological response to events that threaten to overwhelm the individual's capacity to cope satisfactorily with the environment. Igwe and Onuzulike (2004) asserted that every human being is always faced with stress. The inability to manage one's stress is the basis for the development of inadequate adjustment to the environment. Stress is as old as existence and, life itself is full of

stressful situations. This is because as man makes effort to modify his physical environment in the course of living, his environment equally makes demand and puts pressure on him. Stress is a person's physical responses to an emotional disturbance (Mullen, Gold, Balcastro & McDermott, 2003).

Igwe and Onuzulike (2004) opined that stress, well managed means also nature and social adjustment to life. They pointed out that people interact better when they manage stress effectively hence, no more unnecessary tension, worries, fear, lack of interest and restlessness all of which have a negative cumulative effect on the extension of one's life.

Stress has been discovered to affect people's health tremendously. Nakamura (2007) submitted that it affects everyone and that excessive stress can lead to physical and mental illness. He defined stress as a force which when applied to a system, modifies its form. According to him, "psychological and social force and pressure, in the form of event or situations can be referred to as stresses, when they exert a distorting effect upon a person's equilibrium" (Nakamura, 2007).

Dunham (1996) has drawn attention to the prevalence of stress among school teachers, he concluded that more teachers are experiencing stress, and that severe stress is being experienced by more teachers. Kyriacou and Suteliff (2008a) have defined "teachers' stress as a response syndrome of negative effects (such

as anger or depression resulting from the teachers' job. In a review of teachers' stress, Kyriacou and Suteliff (2008) found that little research conducted in the United Kingdom had attempted to measure the extent to which teachers feel, and some aspects of teachers' job which teachers regard as the major sources of stress.

Inability to cope with stress, leads to both physical and mental illness, such as demoralization and lack of motivation. These contribute to reduce people's quality of life and their ability to function optimally (Herbert, 1994). Diseases like colds, influenza, herpes and allergies seem worse when one is severely stressed at work or in the home. Others are never sick until they go on vocation (that is, after the stress is over) and then they spend the whole time fighting the diseases (Herbert, 1994).

Olga and Terry (2004) identified two basic ways: reactive and active ways of dealing with stress. The reactive ways are based on the belief that stress is inevitable and that there are only two ways to handle it, fight or flight. Behaving in a reactive way, people simply take what comes along and blames themselves for all that go wrong. When self-blame and over – conscientiousness fail, the reactive person may lash out at others. The alternative manner is to gain control and assume an active role in fighting stressors. The active role is based on an assertive posture toward oneself.

Olga and Terry (1994) listed these other ways of managing stress to include: assertiveness, changing thought and all tides,

creating and using supportive networks relaxation, meditation, creative imagery or visualization and biofeed. Nnamani (2007) noted that the capacity with which an individual adjusts to accommodate a prevailing stressful situation is known as stress management. Udoh and Ajala (2001) asserted that people learn to reduce stress by changing something about their environment or changing something about themselves. Ebersole and Hess (2008) submitted that factors that influence coping pattern include social supports, gender, locus of control, expressions, feelings or acceptance and satisfaction. Henry and Stephen (1997) opined that the more social supports the less the stress.

Cobb (2006) identified three social supports that reduces stress as: the individual believes he is loved and cared for; feels esteemed by the group; and shares information, mutual obligation and certain services. Wilecooper, Mallinger and Kaln (1998) found particular factors that deterred the development of illness in response to overwhelming or prolonged stress to include: supportive networks that strengthen resistance by providing validation of selfworth; continuation of daily activities as quickly as possible; and permit visit of places can reduce economic tension.

Occupation and Longevity

Occupation has been linked with longevity. The adverse effects work may have on health have been recognized since the

age of antiquity. For instance, early writers (Scheidt, 2004 & Mchrens and Lehrman, 2005) referred to the ravages of occupational diseases among metal runners in Egypt and Ancient Greece. Studies (Kloodneff 1999 and Logan & Lambert 2005) have been carried out to determine occupational mortality. In one of such studies, Logan and Lambert (2005) determined the occupational mortality of coal mine face workers, publicans, fishermen, telephone operators, bakers, butchers, postmen and mail sorters, medical practitioners, draughtmen, clergy and teachers. The result showed that teachers recorded the lowest rate of occupational mortality while coal mine face workers, recorded the highest. The finding reveals that teachers are among the longest lived by having the lowest mortality rate.

This result corresponds with the deduction made by Woodruff (1999) that the longest-lived workers are teachers, clergy, doctors and farmers, while the shortest lived are non-skilled workers like miners and quarrymen. Since teachers live long, there is the need to develop a programme or instrument that will promote healthy ageing among them to prevent diseases and disabilities during the added years.

According to Fedolov (2008), it shall be recognized that workplace health promotion for any group of workers includes the prevention of both occupational and non-occupational diseases in the working environment. He contented that it is difficult to make a

clear distinction between the causes of occupational diseases and those of other work related illnesses. Factors that either promote or hinder healthy ageing may arise from work environment or may be of non-occupational origin.

Fedolov therefore is of the view that diseases in the working population, whether of occupational or non-occupational origin, shall be regarded as arising from the interaction of multiple causes. These may be factors inherent in the worker, factors in the working environment, factors of individual behaviour such as alcohol or drug abuse.

Empirical Studies:

Development and Validation of Instrument

Documentary evidences indicating studies carried out by erudite scholars over the years show that instruments have been developed and validated by some Africans as well as Americans and Europeans. Among them are Ogonna (2004), Radius (2007), Chanvian (2009), Ugwueji (2010), Ogonna (2010), Uzo (2010), Maduka (2011), Onu (2011), Collins (2011) and Synder (2012).

Ogonna (2004) developed and validated an 82 – item students evaluation of teachers effectiveness scale and validated the scale with a sample of 800 senior secondary one (SSI) students from the former Imo State. The face and content validity of the scale were established by measurement and evaluation experts.

The reliability coefficient of the instrument was .99 indicating a high reliability coefficient.

Radius (2007) worked on the development of an instrument to measure value clarification in the area of ecology. Curriculum validity for this instrument was established by a panel of experts. Radius seven criteria for determining a value were used in the instrument development. The reliability for the instrument was correlated and the coefficient value was .75 indicating also a high and positive reliability coefficient.

Chanvian (2009) concerned her studies with the development and validation of a comprehensive Assessment system for teaching and learning. It was based on the development and validating effective teaching in a wide variety of classroom instructions. She constructed a 23-item instrument for teaching and learning assessment and review for development and validating effective teaching in a wide variety of classroom superior from "typical teachers and assess newer and important areas such as teaching students higher-order thinking skills and structuring content and pedagogical knowledge. All the validators used for validating both face and content validity were experts having understanding of the system for learning assessment and review assessment indicator (classroom teachers, school administrators, instructional supervisors and college faculty). The reliability coefficient of the instrument was .98 indicating a high reliability coefficient.

Ugwueji (2010) in his study developed and standardized an Achievement Test in practical Agriculture for Junior Secondary School; 120-items test was developed based on the national syllabus of practical agriculture for use in the evaluation of J.S.S. III students' performance. The study was conducted in Enugu State. A sample of 84 Junior SS out of 276 as well as 2500 JSS class three students was used for the study. Data obtained from the test were analyzed using items analysis, variance, correlational analysis, means and standard deviation. A 2-way ANOVA and t-test were used to test the hypotheses formulated. Among the principal findings of the study were; average Test Facility was 0.84 while the total variance was 87.6; the reliability of the Practical Agriculture Achievement Test (PAAT) was 0.92 while the sub-test ranged from 0.48 to 0.78

Instrument was also developed and validated by Uzo (2010) to provide an Introductory Technology Achievement Test (ITAT) that would not only provide valid testing instrument and save teachers time but would enable introductory technology teachers evaluate students adequately especially in the teachers deficient content areas of introduction technology. 130 ITAT items was validated with 3280 JSS II students randomly stratified along sex, location and educational zones and randomly drawn from 82 secondary schools in the state. The inter-correlations among the sub tests of ITAT were both positive and negative in direction as

well as high and low in magnitude. The reliability was high with a coefficient of 0.87. The validation of the ITAT took the form of content and face validations. He computed the items facility, items discrimination index and distractor index for the item analysis. The six research questions and five hypotheses were posed for the study. Mean deviation, critical ratio, students' t-test, cronbach alpha and analysis of variance were used for the data analysis. The hypothesis were at 0.05 level of probability.

In a similar study, Maduka (2011) on the development and validation of a Competency-Based Rating Instrument for assessing the planning effectiveness of secondary school principals using ANOVA and Pearson Product Moment Correlation to determine the Internal Consistency of the instrument; the reliability of Competency-Based Instrument in terms of internal consistency was 0.88; the correlation was high from 0.78 to 0.83; the total test variance was high from 20.3 to 106.8 and the overall performance of principals on the competency-based instrument was moderate. The correlation was matrix from 0.13 to 0.87.

In a more recent study, Onu (2011) developed and validated a Competency-Based Rating Instrument for evaluating the teaching effectiveness of secondary school teachers of agriculture. He developed a 51-item rating instrument titled "The Competency-Based Rating Instrument" (CBRI). The content and face validity indices were obtained from data analysis of the study. A sample of

324 teachers of agriculture teaching in 167 secondary schools in the two education zones of Enugu State was used for the study. The hypotheses were tested using a 2-way ANOVA at 0.05 level of significance. The findings according to Onu (2011) were: the competency-based Rating Instrument possess sufficient content and face validity, the reliability coefficient of CBRI (coefficient alpha) was 0.94, and those of the subscales ranged from 0.06 to 0.94; the rater reliability was 0.88 which shows a high rater agreement in their ratings, item total correlation of CBRI ranged between 0.75 and 0.95 while the inter-correlations among the six sub-scales was positive and moderately high ranging from 0.63 to 0.78; the norm (mean scores) obtained for the CBRI on the agriculture teachers' performance in the State was 155.30 with standard deviation of 39.6; sex, educational qualification and teaching experience were found to be significant factors in influencing the teaching effectiveness of agriculture teachers as measured by the CBRI.

In yet another study, Collins (2011) developed and validated an instrument to evaluate health instruction programmes in secondary schools. Six programmes areas were established and standards for writing the 100 items were obtained from professional literature. A jury of experts determined content validity and also weighted content areas. Items were of Likert type. Internal consistency reliability estimates (Pearson) were obtained for each item with its area subscale and with the total score in the rating

scale for health instruction programmes. In addition, Kendall Rank correlation coefficients were obtained for the three combinations of raters in each school for each area and for the total instrument. These procedures indicated that the rating scale was an objective and reliable instrument for self-evaluation and evaluation by an outside rater.

Synder (2012) developed and validated an instrument to appraise students knowledge, attitudes and practice relating to environmental health. A valid and reliable instrument was constructed to appraise the knowledge, attitude and practices (KAP) of high school and college students relating to certain environmental health issues. Test items were submitted to a panel of experts for appraisal and were given a trial administration prior to the development of the final instrument. Reliability (Spearman Brown) was determined to be .94 for practices, .96 for attitudes and .78 for knowledge. The study was not competency-based on health education teachers evaluated. It was different from the present study because Snyder (2012) development and validated an instrument to appraise students not secondary teachers precisely.

Healthy Ageing and Intervention Instrument

Ikorok (2000) developed a health care cost reduction model or consumer access to health service in Akwa-Ibom. The research and development (R & D) research design was used for the study.

The population was made of two hundred and forty (240) secondary school teachers in Akwa-Ibom state. The result revealed that the fifteen items under the three strategies namely supportive network strategy, life-style options and relaxation strategies were found to be acceptable and appropriate for health care cost reduction model. The result equally revealed that there was no significant relationship between males and females teachers in their responses to the appropriateness of health care reduction model. It was concluded by the researcher that teachers in Akwa-Ibom should adopt the three strategies as coping strategies for health care to promote their healthy ageing.

Elkin and Fee (2003) investigated on the attitudes of different age cohorts towards ageing. The cross sectional research design was used for the study. The sample for the study consisted nine hundred and thirty-one (931) different age cohorts selected from New York. Cross sectional research design was used for the study. The major findings revealed that five strategies for attitudes were accepted as suitable or appropriate for development of positive attitude toward ageing in New York. There is no significant difference in mean scores of the different age cohorts regarding their attitudes according to their levels of education, ages marital status and religious affiliation.

Njoku (2005) developed physical activity and nutritional guide lines for healthy ageing of secondary school teachers in Imo

State. The research and development (R & D) cycle was used for the study. The population was made up of 193 health and physical education teachers in Imo State. The major findings were that five physical activities and eight nutrition guidelines were accepted as suitable or appropriate for promoting healthy ageing of secondary school teachers in Imo State. There were no significance difference in mean scores of the teachers regarding the physical activities and nutrition guideline according to their location and gender.

Njoku (2006) carried out a study to develop a healthy ageing intervention guidelines for secondary school teachers in Imo State. The research and development (R&D) cycle was used for the study. The subjects consisted of 25 health education lecturers in tertiary institutions and 196 health education teachers in secondary schools in Imo State. Questionnaire was used for data collection. There was no sampling since all the health educators responded to the instrument. The mean score was used to answer the research questions and t-test was used to test the hypothesis.

MCcrae and Costa (2006) carried out a research on the relationship between religiousity and healthy ageing. The Research and Development (R & D) research design was used for the study. The population of the study was made up of three hundred and thirty three (333) adults in New-Zealand. The result showed that the five items under the religious coping strategies: frequent prayer, exercise of the soul, supportive net work among others

were found acceptable and appropriate by adults for religious practices for healthy ageing.

Njoku (2007) carried out a study on life-style options and environmental intervention guideline for healthy ageing of secondary school teachers in Imo State. The Research and Development (R&D) cycle was used for the study. The subjects consisted of 25 health education lecturers in tertiary institutions and 196 health education teachers in secondary schools in Imo State. The Major findings were that:

1. The seven items on life-style options were identified as suitable life-style guide for promoting healthy ageing of teachers in Imo State
2. The five environmental situation items were also found to be suitable for promoting healthy ageing of teachers in Imo State.
3. There was no significant difference in the mean responses of teachers in urban and rural schools on their life-style items and environmental situations.
4. There was no significant difference in the responses of teachers according to their gender on their life-style options and environment.

It was concluded that the seven items under life – style and five items under environment should form part of an intervention instrument for healthy ageing of teachers in Imo State.

Njoku and Onuzulike (2007) developed an acceptable and appropriate stress management strategies for teachers in Imo State. The Research and Development (R & D) research design was used for the study. The population was made up of 223 practicing health and physical Education teachers in Imo State. The result revealed that all the 13 items under the three strategies namely life-style options, relaxation strategy and supportive Network strategy were found to be acceptable and appropriate by the teachers for stress management. The study equally revealed that there was no significant relationship between male and female teachers in their responses to the appropriateness of the stress management strategies. It was concluded by the researchers that teachers in Imo State should adopt the three strategies as coping strategies for stress to promote their healthy ageing.

Nakamura (2007) carried out a study on life-style options in relation to healthy ageing and intervention instrumently. The cross sectional research design was used for the study. The population of the study was made up of three hundred and ninety-five (395) elderly from Japanese Americans in Hawaii and California. The major findings were that the nine life-style options namely: avoiding drugs and alcohol abuse; avoiding cigarette/tobacco abuse; avoiding prostitution; regular medical check up/blood pressure, maintaining high personal environmental hygiene among others

were accepted as suitable for promoting healthy ageing for the respondents.

Girdano (2009) carried out a study to Develop Healthy Ageing Intervention Instrument for Nurses in New York. The Research and Development (R&D) research design was used for the study. The subjects consisted of one thousand one hundred and ninety (1190) nurses in the city. The findings revealed that the five items under Stress Management strategies namely. Talking things out with friends, regular performance of exercises, finding time to stay with friends, doing things you enjoy most, and habitual listening to music of choice were accepted as suitable for the development of Healthy Ageing Intervention Instrument for Nurses in New York. There was no significant difference in the mean scores of the different Nurses based on their gender, level of education, religious affiliation and marital status.

Hendrick and Hendrick (2009) studied the relationship of various age intervals to healthy ageing. The Research and Development (R & D) research design was used for the study. The population of the study consisted of four hundred and eleven (411) students from North America. The major findings revealed that seven guide lines under healthy ageing were acceptable or appropriate for healthy ageing of the students in North America. There was no significant difference in mean scores of the students

regarding various age intervals and healthy ageing based on gender and marital status.

A large scale study by Warren and Chopra (2009) investigated on why people do not deny the realities in healthy ageing. The research and development (R &D) design was used for the study. The population was made up of seven hundred and forty-nine (749) Australian teachers. The result of the study showed that a total of seven strategies under non- denial of healthy ageing were acceptable as being appropriate for the respondents acceptability of health ageing. There was no significant difference in the mean scores of the teachers regarding ageing denial according to level of education, marital status and gender.

Seldon (2009) investigated the various aspects of religiousity to healthy ageing and intervention Instrument. Research and Development (R & D) research design was used for the study. The population was made up of (312) students from two rural high schools in Alabama. The result showed that all the five items under the adequate coping strategies namely: supportive net work, prayer therapy, involvement in spirituality, visiting religious music arena and deliberating on religious issues with friends were found appropriate and acceptable by the respondents. Each of the variables made a statistically significant contribution toward explaining the variance of healthy ageing. It was concluded by the

researcher that the students of Alabama should adopt the five strategies for religiousity to promote healthy ageing.

Boyd and Grumpet (2010) developed appropriate stress management strategies for the elderly in North America. The cross sectional research design was used for the study. The population was made up of two hundred and eighty eight (288) elderly, one hundred and forty four (144) men and one hundred and forty four (144) women. The result revealed that all the seven (7) items under the stress management strategies namely: regular performance of exercises, taking time out during the day to relax, finding time to stay with friends, habitual listening to music of choice and interest, finding time to stay with ones family among others were found to be acceptable and appropriate by the respondents for stress management strategies. It was concluded by the researchers that the elderly in North America should adopt the seven (7) strategies as coping strategies for stress management strategies to promote healthy ageing.

Appel (2012) developed physical exercises and nutritional guide lines for healthy ageing and intervention Instrument. The cross sectional research design was used for the study. The population was made up of 547 elderly from North America. The major findings were that seven physical activities: Jogging, Stretching and flexibility exercises, moving round the classes while teaching; taking long/brisk walks; gardening/house hold chores;

cycling and dancing; visiting friends and relatives; visiting amusement parks/museums and listening to right music and also five nutrition guidelines namely: consumption of adequate diets; avoiding fatty foods/High cholesterol diet; reducing salt/sodium intake; reducing sugar intake and eating lots of fruits and vegetables were acceptable as suitable for promoting healthy ageing for the elderly in North America. There was no significant difference in the mean scores of the respondents regarding the physical activities and nutrition guidelines according to gender, religious affiliation and marital status.

The major findings were that:

The seven items on life-style options were identified as suitable life-style options guide for promoting healthy ageing of teachers in Imo state;

The five environmental situation items were also found to be suitable for promoting healthy ageing of teachers in Imo state;

A null hypothesis of no statistically significant difference in the mean responses of teachers according to gender on the items on life-style and environment was also accepted. It was concluded that the seven items under life-style and five items under environment should form part of an intervention model for healthy ageing of teachers in Imo State;

A null hypothesis of no statistically significant difference in the mean responses of teachers in urban and rural schools on the items on life-style and environmental situations was accepted.

Summary of Literature Review

The concept of ageing as discussed in the literature (Hurmer & Herm 1983) was seen as a progressive loss of functional capacity which is inevitable in man. According to some authors from literature (Shock, 2003 and Flack, 2009) the issue of when old age really starts might not be defined because people age differently. So it was regarded as a subjective matter. However elderly is defined in literature (Udo 2000 and Okumagba 2006) as beginning with the age of 65.

Healthy ageing was perceived as the capacity of an individual to prolong active independent life by maintaining good health, reduced illness and disability (Sally, 2007). Three different types of ageing were identified. They include biological, psychological and social ageing. (Turner & Helms 2009).

The concept of intervention instrument was reviewed. It was perceived as a procedure, plan or strategy for solving a given problem. An instrument on the other hand was found to have a pattern (structure) adopts certain activities (process) to bring about desired outcome (product).

Review on the development of testing instrument according to Ogonna (2010), Uzo (2010), Onu (2011) and Maduka (2011) showed that test had always been developed by many scholars in different subjects such as mathematics, agricultural science, introductory technology, students evaluation of teachers' effectiveness scale, instrument for assessing the planning effectiveness of secondary school principals in Anambra State. They did not develop and validate instrument specifically for Healthy Ageing and Intervention Instrument for secondary school teachers. The cited review appear to have some common features. Their features indicated that to obtain a reliable instrument, the test items need to be validated for face and content validity (Chanvian 2009 & Ogonna 2010). The correlation analyses were carried out in order to determine the correlation of certain pertinent factors. Further, it may be interesting to note that available measuring instrument for Healthy Ageing Intervention Instrument for teachers is not available to the researcher's knowledge. It is therefore necessary to develop and validate Healthy Ageing Intervention Instrument for Secondary School Teachers in Anambra State to enable the teachers age healthfully.

The literature (Henry and Stephen 1997; Colmon 1999, Liuche, Hubert & King 2000 Check 2004 and Hendrick & Hendrick 2009) also took a look at factors affecting healthy ageing. The factors identified from literature are physical activity, nutrition,

heredity/genetics, education, health care/diseases, poverty, body types, religion, gender, marital status, lifestyle – options and occupation. Life-style options was identified as the most influential factor than the rest.

Instruments and intervention programmes and studies developed by different authors were examined. This exercise revealed the procedures, steps, philosophical foundations and components involved or adopted in developing the examined intervention programmes and Instruments. This exercise was particularly important because it laid the foundation upon which the present intervention instrument was developed.

From the review of literature, it appears that few studies (Njoku, 2005; Njoku, 2006; and Njoku, & Onuzulike, 2007) have been conducted in Nigerian setting on development of healthy Ageing Intervention Instrument with particular reference to Imo State. None has been conducted in Anambra State particularly using secondary school teachers. It is against this background that this study has been designed to develop and validate a Healthy Ageing Intervention Instrument using secondary school teachers in Anambra State.

CHAPTER THREE

METHOD

This chapter describes the method employed by this study which include: research design, area of the study, population of the study, sample and sampling techniques, instrument for data collection. The critical pathway of Research and Development (R&D) design.

Research Design

The Research and Development (R&D) design was utilized in this study. Borg and Gall (1998) stated that the R&D is a research design that consists of a cycle in which a product is first developed, field tested and subsequently revised on the basis of field – test data. According to Ali (1990), Research and Development design involves the preparation of new education materials, the introduction and use of procedures or programmes and systematic try-out, in which feedback gathered can lead to a perceptible improvement in education of students.

The design was used for this study because this study is a development based research in which the materials are tested and revised until the required standard is met. The design also has been used in similar studies (Ikorok, 2000; Njoku, 2005; Njoku, 2006; Njoku & Onuzulike 2007).

Area of the Study

The area of this study was Anambra State. Anambra State, is one of the thirty six states of Nigeria and bounded in the East by Enugu State, in the West by Delta State, in the North by Kogi State and in the South by Imo State. According to 2006 population census, Anambra State has figure of four million, one hundred and seventy seven thousand, eight hundred and seventy eight(4, 177, 878) (National Population Commission, NPC 2008).

Anambra State has six (6) education zones with the corresponding 21 Local Government Areas (Appendix D). There are 254 public secondary schools in Anambra State with 5294 teachers (Post Primary Service Commission, Awka 2011). Private approved secondary schools are 331 with 4326 teachers (Ministry of Education Awka, 2011).

Teachers differ by age, gender, educational qualifications, religious affiliation and marital status. The teachers in Anambra State are not relatively well paid as a result, they engage themselves in so many activities in order to meet up with life expectations thereby, putting themselves into stress and other unhealthy life-style options.

The investigator observed that many teachers in Anambra State have abandoned the principles of healthy ageing and embraced unhealthy life-style options. The implication of this is that

these teachers need a wellness programme they will follow to enjoy healthy living.

Population of the Study

The target population of the study comprised nine thousand, six hundred and twenty (9,620) secondary school teachers from both public and approved private secondary schools in the twenty one (21) existing Local Government Areas. The choice of secondary school teachers was based on the assumption that they were in a better position to give accurate, meaningful and reliable information regarding the study.

Sample and Sampling Techniques

The sample for the study comprised six hundred and ninety (690) teachers from eighty two (82) sampled secondary schools in Anambra State. Multi-staged random sampling procedure was used in selecting the sample. In stage one, all the teachers in Anambra State were clustered into six (6) education zones of Aguata, Awka, Nnewi, Ogidi, Otuocha and Onitsha. Simple random sampling technique was used in drawing two LGAs from each education zone. At the end, twelve (12) Local Government Areas were drawn for the study (Appendix E). This represents 47.6 percent of the total LGAs which was accepted for generalization.

In stage two, from each of the twelve (12) selected LGAs, proportionate random sampling was used in selecting eighty two (82) secondary schools as follows: one school was randomly drawn from LGAs with 1-5 schools; Two were randomly drawn from LGAs with 6-10 schools. Three were randomly drawn from LGAs with 11-15 schools among others. (Appendix F). From each of the selected schools with less than 20 teachers, simple random selection was done to select five teachers. A school with 21-40 teachers, 10 teachers were selected and so on as in (Appendices G-M). This gave a total of 690 teachers that were used for the study.

Instrument for Data Collection

The main instrument for data collection was the Healthy Ageing Intervention Questionnaire (HAIQ) designed by the researcher through review of literature and experience. Items reflecting components of the proposed instrument were generated for inclusion in the questionnaire (Appendix A B & C).

The initial instrument had section A which contained five items on the personal data of the respondents; and sections B, C D and E which contained respective items for promoting healthy ageing as follows: Section B contained 11 items on physical exercises and recreation guidelines; section C contained 14 items on nutrition guidelines; section D consisted 15 items on Healthy behaviours/positive life-style options; and section E contained nine

items on stress management strategies. All the sections had the following response options: very important (VI) important (I) undecided (UD) less important (LI) and unimportant (UI) (Appendix A)

The final draft of the instrument had section A which contained five items on the personal data of the respondents; and sections B, C, D and E which contained respective items for promoting healthy ageing as follows: section B contained seven items on physical exercise programmes; section C contained 14 items on nutrition guidelines, section D contained 15 items on healthy behaviours/positive life-style options while section E contained eight items on stress management strategies for promoting healthy ageing. All the sections had the following response options: Very Frequent (VF) Frequent (F), Rarely (R) and Never (N) (Appendix B). At this point, the steps of R&D research design used for the study was applied.

Critical Pathway of Research and Development (R&D) Design

In line with the view of Borg and Gall (1988) and Anene and Ndubisi (1992) the researcher adopted modified nine (9) steps for the conduct of the study as shown in the figure 1.

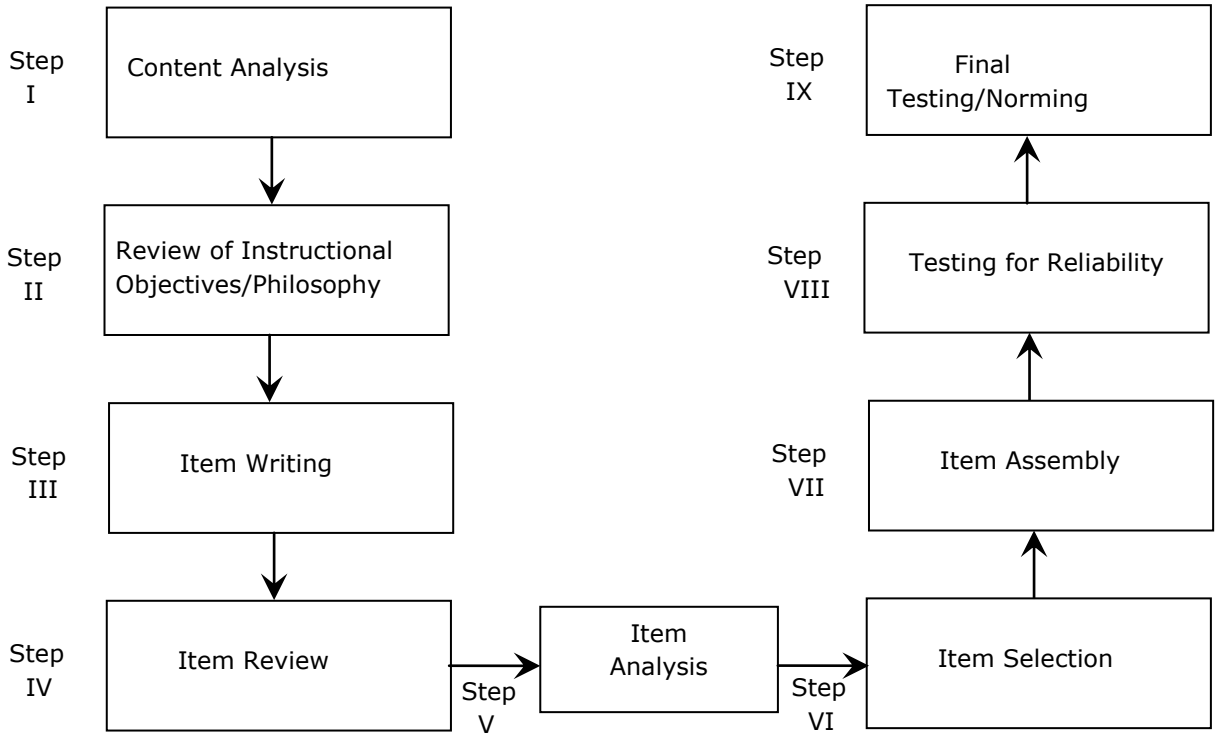

Fig 1: Critical Pathway of Research and Development (R&D) Design adopted for the conduct of the study.

Step I: Content Analysis

Based on the information gathered from literature review especially on factors affecting healthy ageing as suggested by Robinson (1991), the contents of the proposed instrument were delineated. The four components/parts of the proposed instrument were identified each with many contents. The components are:

1. Physical exercise programmes/recreation guidelines
2. Nutrition guidelines
3. Healthy behaviours/positive life-style options
4. Stress management strategies

Step II: Review of instructional Objectives/Philosophy

This step involves the formulation of the objectives that guided the development and use of the instrument. Onyemere (2003) opined that objectives in teaching is an intent communicated by a statement describing a proposed change in behaviour of the learners before and after teaching.

In order to consider the needs of the participants, certain philosophy were used for the study, and these included:

1. to maintain self direction,
2. to accomplish healthy ageing,
3. to be active during old age,
4. to prevent disability in old age and
5. to be a productive member of society in old age.

Through extensive literature review, six statements reflecting objectives of the instrument were stated. The following objectives were used:

1. to develop a positive attitude toward ageing.
2. to enhance understanding of the ageing process.
3. to develop physical activities and recreational guidelines that promote healthy ageing.
4. to develop nutritional guide that promote healthy ageing.
5. to aid in the adoption of healthy life-style options that promote healthy ageing.

6. to enhance good coping strategies for stress management as one ages.

Step III: Item Writing

In writing the items, the following guidelines were adhered to:

1. More items that were actually required were constructed and enclosed.
2. The items were written in such a way that they were absolutely clear to the respondents.
3. The use of ambiguous and flamboyant and difficult words were avoided.
4. Items that were neither too difficult nor too easy were constructed

Step IV: Item Review

The face and content validity of the instrument was achieved in two stages, namely, before the pre-validation and post-validation. At the pre-validation exercise, three experts in Nnamdi Azikiwe University, Awka and Alvan Ikoku Federal College of Education Owerri validated the instrument. At the post validation exercises, two validators from the area of Health Education and one from measurement and evaluation validated the instrument. The aim of the post validation was to determine the consistency of the validators based on the two validation exercises.

Copies of the instrument with different response options at each phase (Appendices A and B) were given to experts with a copy of introduction letter from the Head of Department (Appendix N) at both pre and Post validation exercises. The validators were requested to examine the specific sections and items on the instrument to justify the relevance of the contents in terms of their clarity, appropriateness of language and their ability to elicit accurate information that enabled the researcher in modifying the instrument. The validators made necessary modifications and suggestions that helped in improving the quality of the instrument (Appendices O & P). Accordingly, items that were rejected by two or more validators were by the researcher; items that were pointed out as ambiguous and likely to yield unusable data were modified.

They also suggested, the removal of objectives and philosophies of the study from the instrument. This is because the objectives and philosophy were the background of the instrument that guided the researcher in developing the content and the respondents were not supposed to intervene on them. After their removal, the items in the instrument were reduced to fourty nine in number and were used for item analysis.

Step V: Item Analysis

Item analysis was done by administering a draft of the thirty Healthy Ageing Intervention Questionnaire to secondary school teachers in Nnewi South and another thirty to secondary school teachers in Onitsha South that were not part of the study. Their responses were analysed. The item total correlation section by section was performed using Principal Component Analysis (PCA) and Parallel Analysis (PA) (Appendices Q & R).

The forty nine items of the Healthy Ageing Intervention Instrument (HAII) were subjected to Principal Component Analysis (PCA) using Statistical Package for Social Sciences (SPSS) version 20. Prior to performing Principal Component Analysis, the suitability of data for factor analysis was assessed. Inspection of the correlation matrix showed the presence of many coefficients of .3 and above. The Kaiser-Meyer-Olkin values was .77, exceeding the recommended value of .6 (Kaiser 2000; 2004) while the Bartlett's Test of Shericity (Bartlett, 2004) reached statistical significance ($P<.05$) supporting the factorability of correlation matrix and interpretability.

The Principal Components Analysis showed the presence of four components with eigen values exceeding 37.54 percent, 22.03percent, 9.54percent and 6.29percent. A visual inspection of the scree plot showed a clear break after the 16^{th} component. Using Catells (2006) scree test, it was decided to retain four components

for further investigation. This was further supported by the results of parallel analysis (Watkins, 2000). This indicated that only four components with eigen values exceeding the corresponding criterion values for a randomly generated data matrix of the same size (49 variables/items x 60 respondents). (Appendix Q.)

The next procedure was the factor rotation and interpretation. There are two main approaches to rotation, resulting in either orthogonal (uncorrelated) or oblique (correlated) factor solution. Tabachruch and Fidell (2007) pointed that orthogonal rotation results in solutions that are easier to interpret and to report; however, they do require the researcher to assume (usually in correctly) that the underlying constructs are independent (not correlated). Conversely, oblique approaches allow for factors to be correlated but they are more difficult to interpret, describe and report. In practice, these two approaches often results in very similar solutions, particularly when the pattern of correlations among the items is clear (Tabachnick & Fidell, 2007).

The oblique (correlated) factor solution was adopted for the factor rotation and interpretation since each of the variables loaded strongly on only one component and each component being represented by a number of strongly loading variables. This implies that the factors are dependent.

The four component solution explained a total of 75.2% of the variance, with component one (1) contributing 37.5%, component

two (2) contributing 22.0%, component three (3) contributing 9.5% and component four (4) contributing 6.2%. To aid in the interpretation of these four components, oblimin rotation was performed. The rotated solution indicated the presence of simple structure (Thurstone, 2004), with the four components showing a number of strong loadings and all variables substantially in only two components. Factor loading in the component/factor matrix showing remarkable departure from 0.5 was disregarded for candidacy in the Healthy Ageing Intervention Instrument (HAII). There was a weak negative correlation between the four factors (r=-.28). The results of the analysis support the use of Healthy Ageing Intervention Instrument (HAII).

In selecting items for final instrument based on the result of the factor analysis, 0.5 was considered as significant loading. This is because according to Meredith (1998) and Leak (2000), 0.5 was used as the minimum factor loading, indicating that any factor which failed to have a minimum of 0.5 was rejected, while those from 0.5 and above were accepted (Appendix R)

Step VI: Item Selection

Having done the analysis, the items that had satisfactory statistical qualities of 0.5 minimum factor loading were selected for inclusion on the final forms of the instrument, those that failed the

scrutiny were discarded. See (Appendix R) for proper understanding of the criteria guiding item selection.

Step VII: Item Assembly

The items were assembled in systematic form according to the different sections of physical exercise programmes, nutrition guidelines, healthy life-style options and stress management strategies with new response options as Very frequent (VF), Frequent (F) Rarely (R) and Never (N). (Appendix B). the different response options were used to ascertain the extent of practice of the recommended healthy ageing practices among the 690 respondents.

Step VIII: Reliability of the Instrument

Reliability of the instrument was determined through split-half method. The instrument was administered once to 30 secondary school teachers, 15 from Onitsha North Local Government Area (LGA) of Anambra State and 15 from Oshimili South Local Government Area (LGA) of Delta State with response options of very frequent (VF), Frequent (F), Rarely (R) and Never (N).

The scores of each respondent were computed. The data were used to compute the Cronbach's alpha coefficient using Statistical Package for Social Science (SPSS). The results of the analysis showed are liability co-efficient of 0.72 for Physical Exercises/Recreation Guidelines, 0.82 for Nutrition Guidelines, 0.82

for Healthy Behaviours/Positive life-style options and 0.91 for Stress Management Strategies (Appendix S). The coefficient indicated good internal consistency for the section. The implication of this is that the instrument was reliable in gathering information towards achieving the purpose of the study.

Step IX: Final Testing/Norming

At this stage, the instrument was finally administered to 690 teachers from the twelve selected Local Government Areas in Anambra State. In order to gain access to the respondents, a letter of introduction (Appendix N) from the Head of Department of Human Kinetics and Head Education Nnamdi Azikiwe University Awka was presented to the respective principals of the secondary schools in the area of the study.

The Principals/Vice principals (as the case may be introduced the researcher to the respondents on the appointed dates. The researcher with five trained research assistants from Monitoring and Evaluation Department of Anambra State Universal Basic Education Board (ASUBEB) Headquarter Awka administered the instrument to the respondents in the staffroom or classroom of each of the schools on a face to face basis with the help of guidance counsellor of the schools and returned them the same day.

The research assistants and the guidance counsellors were earlier instructed on how to administer the instrument and what is expected of each section, A–E. They were also advised to collect

back the copies of the instrument immediately the respondents have filled them. Those who could not complete theirs were allowed one week after which the researcher and the research assistants went back to collect them. At the end, 687 copies of the instrument out of 690 distributed were returned.

The final instrument gave an indication of the general performance of the respondents as regards the Healthy Ageing Intervention Instrument. The responses were tallied and Statistical Package for Social Sciences (SPSS) for Ms Windows was used to determine the means and standard deviation of the items indicating their norms (Appendix T).

CHAPTER FOUR

PRESENTATION AND ANALYSIS OF DATA

This chapter presents the analysis of the data of this study on the development and validation of Healthy Ageing Intervention Instrument (HAII) for secondary school teachers in Anambra State. The presentation is arranged according to the research questions.

Research Question 1.

What are the factor loadings of the items in the Healthy Ageing Intervention Instrument (HAII) for teachers in Anambra State Secondary Schools?

Data answering this question are contained in Tables 1 - 4

Table 1: Factor Loadings of Variables on Physical Exercises/ Recreation Guidelines (PERG) (N=60)

Variable Numbers	Variable Description	Factor Loading	Decision
PERG 3	Taking long/brisk walks	0.85	AP
PERG 9	Visiting friends and relatives	0.84	AP
PERG 1	Jogging, stretching and flexibility exercises	0.83	AP
PERG 10	Visiting amusement parks and museums	0.81	AP
PERG 11	Listening to light music	0.69	AP
PERG 4	Gardening/house hold chores	0.51	AP
PERG 8	Reading novels/magazines, newspapers or journals	0.51	AP
PERG 7	Swimming/fishing	-0.31	NA
PERG 5	Sports e.g. Tennis, basketball, engaging in passive leisure, recreational activities like watching television/movies	-0.27	NA
PERG 2	Moving round the classes while teaching	-0.26	NA
PERG 6	Cycling and dancing	-0.19	NA

Key:
AP = Appropriate
NA = Not Appropriate

Data in Table 1 shows that taking long brisk walks, visiting friends and relations, jogging, stretching and flexibility exercises, visiting amusement parks and museums and listening to light music are all important activities and reflected in the substantial positive loadings, they wield (PERG 3=0.85, PERG 9=0.84, PERG 1=0.83, PERG 10=0.81, PERG 11=0.69), thereby highlighting their relative importance to attainment of Healthy Ageing. Gardening/house hold chores and reading novels/magazines, newspapers and journals (PERG 4=0.51 and PERG 8=0.51) respectively are considered as middlings. The significance of these factor loadings lie in the fact that their values are in deciding their roles in the Healthy Ageing Intervention Instrument (HAII).

Furthermore, variables PERG 7, PERG 5, PERG 2 and PERG 6 reflected negative loadings of -0.31, -0.27, -0.26 and -0.19. This denotes that the items were not consistent and also not measuring the construct (PERG) the other variables were trying to measure. In other words, it signifies inverse relationship with the cluster frame. Hence these variables were discarded and not retained for integration in the Healthy Ageing Intervention Instrument (HAII).

Table 2: Factor Loadings of the items on Nutrition guidelines (NG) for Promoting Healthy Ageing (N=60)

Variable Numbers	Variable Description	Factor Loading	Decision
NG 21	Drinking lots of water (6-8) glasses a day	0.84	AP
NG 17	Eating lots of fresh fruits and vegetables	0.83	AP
NG 15	Reducing salt intake	0.80	AP
NG 19	Consuming Adequate protein	0.79	AP
NG 13	Avoiding fatty foods	0.71	AP
NG 24	Strict adherence to doctor's recommendation for diet	0.69	AP
NG 25	Alteration for any health problems	0.68	AP
NG 18	Eating more cereal based carbohydrates	0.63	AP
MG 20	Eating modestly to maintain ideal body weight	0.62	AP
NG 23	Eating natural and fresh foods in preference to refined food	0.61	AP
NG 16	Reducing sugar intake	0.58	AP
NG 22	Avoiding fried food	0.55	AP
NG 12	Consumption of adequate diet	0.52	AP
NG 14	Avoiding high cholestrol diet	0.51	AP

Key:

AP = Appropriate

Data in table 2 shows that drinking lots of water (NG 21) with factor loading of 0.84, eating lots of fresh fruits and vegetables (NG 17) with factor loading of 0.83, reducing salt intake (NG 15) with factor loading of 0.80, consuming adequate protein, (NG 19) with factor loading of 0.79 and avoiding fatty foods (NG 13) with factor

loading of 0.71 loaded significantly in this cluster. This highlights the relative importance of nutrition to the maintenance and promotion of healthy ageing. Coming after these are variables NG 24, NG 25, NG 18, NG 20 and NG 23 with factor loadings of 0.69, 0.68, 0.63, 0.62 and 0.61 respectively.

Variables NG 16, NG 22, NG 12 and NG 14 under this subscale in descending order of importance are: reducing sugar intake, avoiding fried food, consumption of adequate diet and avoiding fatty foods with factor loadings of 0.58, 0.55, 0.52 and 0.51 respectively, were considered as middlings. The significance of these factor loadings lie in the fact that their values are in deciding their roles in the Healthy Ageing Intervention Instrument (HAII) formulation. They were integrated in the HAII because their values were above 0.5.

Table 3: Factor Loadings of Variables on Healthy Behaviours/Positive Life-Style Options (PLS) for Promoting Healthy Ageing (N=60)

Variable Numbers	Variable Description	Factor Loading	Decision
PLS 33	Avoiding injuries/accidents	0.89	AP
PLS 32	Maintaining good working relationship	0.89	AP
PLS 38	Engaging in regular exercises	0.86	AP
PLS 29	Regular medical checkup/blood pressure	0.84	AP
PLS 30	Maintaining high personal environmental hygiene	0.84	AP
PLS 26	Avoiding drug and alcohol abuse	0.81	AP
PLS 31	Good parenting	0.80	AP
PLS 36	Visiting music performing arenas/ concerts	0.79	AP
PLS 40	Maintaining high environmental hygiene	0.79	AP
PLS 39	Good social support	0.79	AP
PLS 28	Avoiding prostitution	0.75	AP
PLS 37	Eating adequate diet	0.75	AP
PLS 35	Sleeping for seven to eight hours	0.52	AP
PLS 27	Avoiding cigarette/tobacco abuse	0.51	AP
PLS 34	Involvement in spirituality	0.51	AP

Key:

AP = Appropriate

Data in Table 3 shows that all the variables of Healthy Behaviours/Positive Life-Style Options (PLS) for promoting healthy ageing used in the study had positive significant loading. Thus emphasising their relative importance for healthy behaviours / positive life style options.

Table 4: Factor Loadings of Variables on Stress Management Strategies (SMS) for Promoting Healthy Ageing (N=60)

Variable Numbers	Variable Description	Factor loading	Decision
SMS 47	Talking things out with friends	0.92	AP
SMS 48	Finding time to stay with one's family	0.91	AP
SMS 49	Having the consciousness that every problem has a solution	0.89	AP
SMS 42	Taking time out during the day to relax	0.82	AP
SMS 41	Regular performance of exercises	0.79	AP
SMS 46	Using ecclesiastical means (Prayer Therapy)	0.73	AP
SMS 43	Finding time to stay with friends	0.63	AP
SMS 44	Doing things you enjoy most	0.59	AP
SMS 45	Habitual listening to music of choice	0.52	AP

Key:

AP = Appropriate

Data in Table 4 shows that all the variables of stress management strategies for promoting healthy ageing used in the study had positive significant loading. Thus emphasizing their relative importance for stress management strategies.

Research Question 2:

What is the validity of the Healthy Ageing Intervention Instrument (HAII) for secondary school teachers in Anambra State?

The validity of the instrument was determined in two sections:

a. Report of pre - validation and

b. Report of post - validation.

A. Report of Prevalidation:

Two experts out of the three experts suggested detaching the philosophy and objectives of the instrument from the instrument. This is because the respondents were not supposed to respond to them due to the fact that the philosophy and objectives were the background of the instrument. The functions of the philosophy and objectives were to guide the researcher in the construction of the instrument. This suggestion was carried out before the trial testing exercise. The response options for the prevalidation exercises were: Very Important (VI) Important (I) Undecided (UD) Less Important (LI) and Unimportant (UI).

The validators also examined the specific sections and items on the instrument and justified the relevance of the contents in terms of their clarity, appropriateness of language and its ability to elicit accurate information. The three validators certified the instrument valid. The validation exercise was done before the trial testing to generate data for item analysis (Appendix O).

B. Report of Post-validation exercise:

Another three experts also examined the specific sections and items on the instrument and justified the relevance of the contents

in terms of their clarity, appropriateness of language and its ability to elicit accurate information. The response options for the post validation exercises were; Very Frequent (VF), Frequent (F), Rarely (R) and Never (N). There were 45 items in the instrument. At this phase, item with the serial number "37"engaging in regular exercises was dropped. Forty four items on the instrument were certified valid after the post-validation exercise by the validators and these were used for reliability test. (Appendix P)

Research Question 3:

What is the reliability of the Healthy Ageing Intervention Instrument (HAII) for Teachers in Anambra State Secondary Schools? Data in Tables 5 – 8 are used to answer this research question.

Table 5: Reliability Coefficient of Physical Exercises/ Recreational Guidelines (N=30)

Items S/No	Physical Exercises/ Recreation Guidelines	Ranked $\bar{X}$	SD	Cronbach Alpha α
3.	Gardening/house hold chores	3.33	0.95	
4.	Reading novels/magazines, newspapers/ journals	3.23	1.09	
2.	Visiting amusement parks and museums	3.20	1.09	
1.	Jogging, stretching and flexibility exercises	3.16	1.05	0.72
5.	Visiting friends and relatives	3.13	1.03	
6.	Taking long/brisk walks	3.10	1.08	
7.	Listening to light music	3.06	1.11	

Table 5 shows the ranked mean scores of the seven items for Physical Exercises/Recreational Guidelines and their respective standard deviations. All the items had mean scores above the bench mark of 2.50 on the four point rating scale and the standard deviation were all very close to the bench mark of 1.12. The cronbach alpha (α) was 0.72, showing that coefficient of reliability calculated was greater than 0.50, indicating that the instrument was reliable.

Table 6: Reliability Coefficient of Nutrition Guidelines For Promoting Healthy Ageing (N=30)

Items S/No	Nutrition Guidelines	Ranked $\bar{X}$	SD	Cronbach Alpha α
8.	Consumption of adequate diet	3.30	0.98	
11.	Reducing salt/sodium intake	3.26	0.95	
14.	Eating more cereal based carbohydrates	3.26	1.05	
15.	Consuming adequate protein	3.23	1.03	
19.	Eating natural and fresh food in preference to refined food	3.20	1.08	
13.	Eating lots of fresh fruits and vegetables	3.13	1.09	
20.	Strict adherence to doctor's recommendation for diet	3.10	1.11	0.82
10.	Reducing high cholesterol diet	3.06	1.11	
16.	Eating modestly to maintain ideal body weight	3.06	1.11	
17.	Drinking plenty of water (6-8 glasses daily)	3.06	1.08	
18.	Avoiding fried food	3.06	1.11	
21.	Alterations for any problems	3.06	1.29	
9.	Avoiding fatty foods	3.03	1.09	
12.	Reducing sugar intake	3.00	0.95	

Table 6 shows the ranked mean scores of fourteen items for Nutrition Guidelines and their respective standard deviations. All the items had mean scores above the bench mark of 2.50 on the four point rating scale and the standard deviation were all very close to the bench mark of 1.12. The cronbach alpha (α) was 0.82 showing that the coefficient of reliability calculated was greater than 0.50, indicating that the instrument was reliable.

Table 7: Reliability Coefficient of Healthy Behaviours/ Positive Life-Style Options for Promoting Healthy Ageing (N=30)

Items S/No	Healthy Behaviour/Positive Life-Style Options for Promoting Healthy Ageing	Ranked $\bar{X}$	SD	Cronbach Alpha α
24.	Avoiding prostitution	3.30	1.89	
30.	Involvement in spirituality	3.30	0.93	
26.	Maintaining good working relationship	3.26	1.01	
33.	Eating adequate diet	3.23	1.03	
36.	Maintaining high environmental hygiene	3.23	1.03	
28.	Maintaining good working relationship	3.20	1.01	
31.	Sleeping for seven to eight hours daily	3.16	1.06	
23.	Avoiding cigarette/tobacco use	3.13	0.89	0.82
22.	Avoiding drug and alcohol abuse	3.10	1.08	
29.	Avoiding injures/accidents	3.10	1.08	
35.	Good social support	3.10	1.08	
25.	Regular, medical checkup	3.06	1.05	
34.	Adequate stress management	3.06	1.11	
32.	Visiting music performing arenas/concerts	3.03	1.06	
27.	Good parenting	3.00	1.06	

Table 7 indicates the ranked mean scores of fifteen items for Healthy Behaviours/Positive Life-Style Options and their respective standard deviations. All the items had mean scores above the bench mark of 2.50 on the four point rating scale and the standard deviation were all very close to the bench mark of 1.12. The Cronbach alpha (α) was 0.82 showing that the coefficient of reliability calculated was greater than 0.50 indicating that the instrument was reliable.

Table 8: Reliability Coefficient of Stress Management Strategies to Promote Healthy Ageing (N=30)

Items S/No	Stress Management Strategies to Promote Healthy Ageing	Ranked $\bar{X}$	SD	Cronbach Alpha α
43.	Finding time to stay with one's family	3.26	1.02	
44.	Having the consciousness that every problem has a solution	3.23	0.91	
42.	Talking things out with friends	3.10	1.04	
41.	Habitual listening to music of choice and interest	3.10	1.11	0.91
37.	Using ecclesiastical means	3.07	0.99	
38.	Taking timeout during the day to relax	3.06	1.05	
39.	Finding time to stay with friends	3.06	1.09	
40.	Doing things you enjoy doing most	3.03	1.09	

Table 8 shows the ranked mean scores of eight items for stress management strategies and their respective standard deviation. All the items had mean scores above the bench mark of 2.50 on the four point rating scale and the standard deviation were all very

close to the bench mark of 1.12. The cronbach alpha (α) was 0.91 showing that the coefficient of reliability calculated was greater than 0.50 indicating that the instrument was reliable.

Research Question 4

What are the norms of various clusters of the instrument in respect of age, gender, marital status, educational qualifications and religious affiliation?

Data in Tables 9 – 13 are used to answer this research question.

Table 9: The $\bar{X}$s and SDs for the Norms of the Various Components of Healthy Ageing Intervention Instrument (HAII) Based on the Ages of the Respondents (N=687)

Components of Healthy Ageing Intervention Instrument (HAII)	Age Interval	N	$\bar{X}$	SD
Physical Exercises/ Recreation programmes	32 – 41	261	3.63	1.02
	22 – 31	262	3.46	1.02
	12 – 21	70	3.34	1.10
	52 – 61	94	3.22	1.11
Nutrition Guidelines	22 – 31	262	3.78	1.02
	12 – 21	70	3.65	1.08
	32 – 41	261	3.36	1.04
	52 – 61	94	3.21	1.11
Healthy Behaviours/Positive Life-Style Options	32 – 41	261	3.63	1.01
	22 – 31	262	3.46	1.02
	12 – 21	70	3.34	1.09
	52 – 61	94	3.22	1.11
Stress Management Strategies	22 – 31	262	3.78	1.08
	12 – 21	70	3.65	1.08
	32 – 41	261	3.36	1.03
	52 – 61	94	3.21	1.11
Grand			**3.46**	

Table 9 shows the means scores and standard deviations for the norms of the various components of Healthy Ageing Intervention Instrument (HAII) based on the ages of the respondents.

Subjects within the ages of 32 – 41 years had the highest $\overline{X}$ score of 3.63 (SD=1.02) in the Physical Exercises/Recreation Programmes of components of healthy ageing intervention instrument. Those within the ages of 32 – 41 scored highest $\overline{X}$ of 3.78 (SD=1.02) in the Nutrition Guidelines. Those within the ages of 32 – 41 scored 3.63(SD=1.01) in Healthy Behaviour/Positive Life-style options while those within the ages of 22 – 31 scored the highest $\overline{X}$ of 3.78 (SD=1.08) in relation to Stress Management Strategies. The overall mean of the subjects for the four components of healthy ageing with respect to their age groups was 3.46. The standard deviations of each group of the respondents were all closer to the standard deviation bench mark of 1.12 which is the reference mark for acceptance.

Table 10: The $\bar{X}$s and SDs for the norms of the various components of Healthy Ageing Intervention Instrument (HAII) based on the Gender of the Respondents (N=687)

Components of Healthy Ageing Intervention Instrument (HAII)	Gender	N	$\bar{X}$	SD
Physical Exercises/ Recreation	Male	385	3.49	0.10
Programmes	Female	302	3.41	0.11
Nutrition Guidelines	Male	385	3.49	0.10
	Female	302	3.41	0.11
Healthy Behaviours/ Positive life-	Male	385	3.38	0.98
Style options	Female	302	3.30	0.99
Stress Management Strategies	Male	385	3.72	0.91
	Female	302	3.08	0.10
Grand			3.41	

Table 10 indicates the mean scores and standard deviation of the items on the various components of Healthy Ageing Intervention Instruction (HAII) based on the gender of the respondents.

The male respondents had the highest $\bar{X}$ score of 3.49 in the Physical Exercises/Recreational guidelines of Healthy Ageing Intervention Instrument with SD of 0.10. Male respondents scored higher $\bar{X}$ of 3.49 in the Nutrition Guidelines (SD=0.10). Furthermore, male respondents had a $\bar{X}$ of 3.38 (SD=0.98) in Healthy Behaviours and Positive Life-Style options while the same male respondents scored the higher $\bar{X}$ of 3.72 (SD=0.91), in relation to Stress Management Strategies. The overall mean of the

subjects with the four components of healthy ageing with respect to their Gender was 3.41. The standard deviations of each group of the respondents were all closer to the standard deviation of the bench mark of 1.12 which is the reference mark for acceptance.

Table 11: The $\bar{X}_S$ and SDs for the norms of the various components of Healthy Ageing Intervention Instrument (HAII) based on the Marital Status of the Respondents (N=687)

Components of Healthy Ageing Intervention Instrument (HAII)	Marital Status	N	$\bar{X}$	SD
Physical Exercises/ Recreation Programmes	Married	351	3.35	1.04
	Single	246	3.34	1.05
	Widowed	62	3.32	1.08
	Divorced	28	3.15	1.11
Nutrition Guidelines	Married	351	3.52	1.04
	Divorced	28	3.50	1.07
	Single	246	3.43	1.06
	Widowed	62	3.22	1.07
Healthy Behaviours/Positive Life-Style Options	Married	351	3.35	1.04
	Single	246	3.34	1.05
	Widowed	62	3.32	1.08
	Divorced	28	3.15	1.11
Stress Management Strategies	Married	351	3.52	1.04
	Divorced	28	3.50	1.07
	Single	246	3.43	1.03
	Widowed	62	3.22	1.10
Grand			**3.35**	

Table 11 shows the mean scores and the standard deviations for the norms of the various components of Healthy Ageing Intervention Instrument (HAII) based on the marital status of the respondents.

Married respondents had the highest $\bar{X}$ score of 3.35 in the Physical Exercises/Recreational Guidelines of components of Healthy Ageing Intervention Instrument with SD of 1.04. The same married respondents scores highest $\bar{X}$ of 3.52 (SD=1.04) in the Nutrition Guidelines. Married respondents had a mean of 3.35 (SD=1.04) in Healthy Behaviours/Positive Life-Style Options while the same married respondents scored the highest $\bar{X}$ of 3.52 (SD=1.04) in relation to Stress Management Strategies. The overall mean of the subjects with the four components of Healthy Ageing Intervention Instrument with respect to their marital status was 3.46. The standard deviations of each group of the respondents were all closer to the standard deviation of the bench mark of 1.12 which is the reference mark for acceptance.

Table 12: The $\bar{X}s$ and SDs for the norms of the various components of Healthy Ageing Intervention Instrument (HAII) based on the Educational Qualifications of the Respondents (N=687)

Components of Healthy Ageing Intervention Instrument (HAII)	Educational Qualifications	N	$\bar{X}$	SD
Physical Exercises/ Recreation Guidelines	Msc/Med	121	3.50	1.06
	NCE	150	3.45	1.03
	Bsc/Bed	382	3.42	1.10
	Others	0.5	3.02	1.10
Nutrition Guidelines	NCE	150	3.74	1.04
	Bsc/Bed	382	3.28	1.07
	Msc/Med	121	3.25	1.09
	Others	0.5	3.20	1.05
	Ph.D	29	3.10	1.05
Healthy Behaviours/Positive Life-Style Options	NCE	150	3.74	1.11
	Bsc/Bed	382	3.28	1.07
	Msc/Med	121	3.25	1.09
	Others	05	3.20	1.05
	Ph.D	29	3.10	1.11
Stress Management Strategies	Msc/Med	121	3.50	1.06
	NCE	150	3.47	1.03
	Bsc/Bed	382	3.15	1.08
	Ph.D	29	3.02	1.10
	Others	05	3.00	1.10
Grand			**3.27**	

Table 12 shows the mean scores and standard deviations for the norms of the various components of Healthy Ageing Intervention Instrument (HAII) based on Educational Qualifications of the respondents.

The respondents with Msc/Med qualifications had the $\overline{X}$ score of 3.50 in the Physical Exercises/Recreational Programmmes of components of Healthy Ageing Intervention Instrument with SD of 1.06. Those with NCE qualifications scored highest $\overline{X}$ of 3.74 (SD=1.04) in Nutrition Guidelines. The respondents with the same NCE qualification scored 3.74 (SD= 1.11) in Healthy Behaviours and Positive Life-Style options while those with Msc/Med scored the highest $\overline{X}$ of 3.50 (SD=1.06) in relation to stress management strategies. The overall mean of the subjects with the four components of healthy ageing with respect to Educational Qualifications of the respondents was 3.27. The standard deviation of each group of the respondents were all closer to the standard deviation of the bench mark of 1.12 which is the reference mark for acceptance.

Table 13: The $\bar{X}$s and SDs for the norms of the various components of Healthy Ageing Intervention Instrument (HAII) based on the Religious Affiliation (N=687)

Components of Healthy Ageing Intervention Instrument (HAII)	Religious Affiliation	N	$\bar{X}$	SD
Physical Exercises/ Recreation Programmes	Catholic	310	3.55	0.86
	Anglican	246	3.27	0.86
	Pentecostal	83	3.13	1.09
	Traditional	48	3.11	0.94
Nutrition Guidelines	Pentecostal	83	3.54	0.87
	Traditional	48	3.54	0.87
	Catholic	310	3.42	0.87
	Anglican	246	3.07	0.97
Healthy Behaviours/Positive Life-Style Options	Catholic	310	3.45	0.61
	Anglican	246	3.26	0.85
	Pentecostal	83	3.02	1.11
	Traditional	48	3.00	0.86
Stress Management Strategies	Catholic	310	3.56	0.84
	Anglican	246	3.37	0.89
	Pentecostal	83	3.13	1.10
	Traditional	48	3.10	0.82
Grand			**3.25**	

Table 13 indicates the mean scores and standard deviations for the norms of the various components of Healthy Ageing Intervention Instrument (HAII) based on Religious Affiliation.

Catholic respondents had the highest $\overline{X}$ score of 3.55 and S.D of 0.86 in the Physical Exercises/Recreational Guidelines of components of Healthy Ageing Intervention Instrument (HAII).

Those that were Pentecostal scored highest $\overline{X}$ of 3.54 (SD=0.87) in the Nutrition Guidelines. Those that were Catholics had the mean of 3.55(SD=0.86) in Healthy Behaviours/Positive Life-Style Options while Catholic respondents scored the highest $\overline{X}$ of 3.56 (SD=0.84) in relation to stress management strategies. The overall mean of the subjects with the four components of healthy ageing with respect to their Religious Affliction was 3.25. The standard deviations of each group of the respondents were all closer to the standard deviation of the bench mark of 1.12 which is the reference mark for acceptance.

Summary of Major Findings

Based on the analysis of data, the major findings of this study are summarized below.

1. A total of seven items under Physical Exercises and Recreational Guidelines had positive correlation values which were above the bench mark of 0.5 set for the study. These were found appropriate for inclusion in the Healthy Ageing Intervention Instrument (HAII) (table 1)
2. A total of fourteen items were appropriate for inclusion in the Nutrition Guidelines for Healthy Ageing Intervention Instrument (HAII). (Table 2)

3. Fifteen items on Healthy Behaviours/Positive Life-Style Options were found appropriate for inclusion in the Healthy Ageing Intervention Instrument (Table 3)
4. A total of nine items were found appropriate on Stress Management Strategies for inclusion in the Healthy Ageing Intervention Instrument (HAII). (Table 4).
5. The instrument was valid. Out of the forty five items in the instrument after the post-validation exercise, Forty four items survived the scrutiny showing high validity. (Appendix B)
6. Seven Physical Exercises/Recreation Guidelines were found to be reliable ($\alpha = 0.72 > 0.50$), (Table 5)
7. Fourteen items on Nutrition Guidelines were identified as being reliable, ($\alpha = 0.82 > 0.50$) (Table 6)
8. Fifteen items on Healthy Behaviours/Positive Life-Style options were identified as being reliable, ($\alpha = 0.82 > 0.50$) (Table 7)
9. Eight items on Stress Management strategies were found to be reliable ($\alpha = 0.91 > 0.50$). (Table 8)
10. The norms of various clusters of the instrument in respect of the ages of the respondents ($\bar{X} > 2.50$), (Grand $\bar{X} = 3.46 > 2.50$) were appropriate. (Table 9)

11. The norms of the different components of the instrument as regards the gender of the respondents ($\overline{X}$ >2.50, Grand $\overline{X}$ =3.41>2.50 were suitable. (Table 10)
12. The norms of various clusters of the different components of the instrument as regards the marital status of the subjects ($\overline{X}$ >2.50, Grand $\overline{X}$ = 3.35>2.50 were suitable (Table 11).
13. The norms of various clusters of the instrument in respect of the respondent's educational qualifications ($\overline{X}$ >2.50 Grand $\overline{X}$ = 3.27>2.50) were appropriate (Table 12).
14. The norms of the different components of the instrument as regards their religious affiliation ($\overline{X}$ >2.50, (Grand $\overline{X}$ = 3.25>2.50) were appropriate (Table 13).

CHAPTER FIVE

DISCUSSION OF RESULTS, CONCLUSION AND RECOMMENDATIONS

In this chapter the results of the study are discussed, recommendations made and suggestions for further research are also made. The discussion was done under the following headings:

- Factor loadings of items in the Healthy Ageing Intervention Instrument (HAII)
- Validity of the different clusters of the Healthy Ageing Intervention Instrument.
- Reliability of the Healthy Ageing Intervention Instrument (HAII).
- The norms for various clusters of the instrument in respect of age, gender, marital status, educational qualifications and religious affiliation.

Factor Loadings of Items in the Healthy Ageing Intervention Instrument (HAII).

The factor loadings of items in the Physical Exercises/Recreational Guidelines for promoting Healthy Ageing revealed that seven out of eleven items were identified by teachers as being appropriate for inclusion in the Healthy Ageing Intervention Instrument (HAII). Result in table 1 indicated that seven items under Physical Exercises/Recreational Guidelines had positive

correlation values which were above the bench mark of 0.5 set for the study. The acceptance of seven out of eleven items in the Physical Exercises/Recreational Guidelines is not surprising because experts endorsed the items during pre and post-validation exercises. The rejection of the four items is also not surprising because the teachers no longer live together in school compounds and may find it difficult to move round the classes while teaching after walking long distances to the school compound. The same non availability of accommodation in the school compound made the teachers not to engage in certain sports like tennis, basketball among others. Many teachers were not knowledgeable on the value of cycling or dancing and never engage in them. Due to environmental problems, majority of the teachers cannot fish and swim (Appeal, 2012). Also during their formative stage, fishing and swimming was not in their curriculum. Furthermore, the teachers may find it most difficult to organize neighbours who may not be teachers and who may not know the benefits of such physical exercises. However, Luich, Hubert and King (2000) and Barger & Owen (2008) opined that moderate physical exercises is recommended for all persons. Physical activity may not affect the course, but regular exercises can help relieve symptoms of tiredness, stress, depression and improve appetite.

Table 2 shows that the fourteen items on Nutrition Guidelines were identified as being appropriate as regard the factor loading of the items in the Healthy Ageing Intervention Instrument (HAII), having exceeded the items bench mark of 0.5.This indicates that the items are consistent. A total of fourteen items were appropriate for inclusion in the nutrition guidelines for Healthy Ageing Intervention Instrument (HAII). This is because the inclusion of nutrition in Healthy Ageing Intervention Instrument (HAII) is not surprising, due to the realization of the effects of nutrition by the respondents for healthy ageing. Furthermore, the practice of these variables among teachers is essential for prevention of ageing related diseases such as arthritis, arteriosclerosis and other diseases induced by excessive accumulation of cholesterol in the body. The finding showed the benefit of eating adequate diet, drinking lots of water, eating fresh food in preference to refined food among others. People are becoming aware of health risks associated with certain types of foods especially refined ones. The finding is in congruence with the view of Check (2004), Ayoobim (2007), Sonnatage (2007), Okoye, 2008. The researchers opined that if nutritional replacement process is well provided for in terms of quantity and quality of the individual's body texture and the overall body system, it will effectively resist the degenerative effect of ageing. Furthermore, this resistant ability will make the ageing person maintain his or her youthful appearance for a long time, and this will also make the

individual concerned to live longer. The submission of Njoku (2005), Onuzulike (2007) and Okoye (2008) is in line with the wear-and-Tear theory of ageing. It logically follows that as long as consistently there are replacement of whatever wear-and-tear people have undergone, they should maintain overall exuberance and longevity.

Factor loadings of the items on Healthy Behaviours/Positive Life-style Options for Promoting Healthy Ageing are presented in table 3. This revealed that all the fifteen items were identified as being appropriate for inclusion in the Healthy Ageing Intervention Instrument (HAII). The factor loading of the items has scores exceeding the item bench mark of 0.5, indicating that the items were consistent. Fifteen items on Healthy Behaviours/Positive Life-Styles Options were found appropriate for inclusion in the Healthy Ageing Intervention Instrument (HAII). The inclusion of Healthy Behaviours/Positive Life-Style Options for Healthy Ageing Intervention Instrument (HAII) is in realization of the importance of Healthy Behaviours/Positive Life-Style Options. Hayflick, (2008) asserted that a given life-style may increase life expectancy simply by reducing the chances of contracting life threatening diseases. The use of tobacco does increase the likelihood of fatal lung cancers thus lowering life expectancy, eating adequately, avoiding cigarette among others that are essential for healthy life-style options (Njoku 2005; Njoku, 2006; Nakamura, 2007).

The factor loading of the items in Stress Management Strategies to promote healthy ageing as shown in Table 4 revealed that the nine items were identified as being appropriate for Healthy Ageing Intervention Instrument (HAII) having exceeded the item bench mark of 0.5. This indicated that the items were consistent. The identification of these strategies by teachers show that the teaching profession is a stressful one. (Girdano, 2009; Boyd & Crumpet, 2010; Igwe & Onuzulike 2004) opined that stress well managed means also nurture and social adjustment to life. Dunham (1996) has drawn attention to the prevalence of stress among teachers. In Dunham's view, teachers should manage stress effectively to avoid unnecessary tension, worries, fear, lack of interest and restlessness all of which have a negative cumulative effect on extension of one's life. Stress has been discovered to affect people's health tremendously (Njoku, 2007; Njoku & Onuzulike, 2007; Girdano 2009).

Validity of the Different Clusters of the Healthy Ageing Intervention Instrument(HAII).

The six validators, three at the pre-validation and three at the post-validation exercises certified the instrument as being valid after examining the specific sections and items on the instrument and justified the relevance of the contents in terms of their clarity, appropriateness of language and its ability to elicit accurate

information. The four components of the Healthy Ageing Intervention Instrument were certified valid namely: Physical Exercises/Recreational Guidelines, Nutrition Guidelines; Healthy Behaviours/Positive Life Style Options and Stress Management Strategies.

Since the Healthy Ageing Intervention Instrument (HAII) was subjected to pre and post-validation exercises through its administration on panel of experts in Health Education and Measurement and Evaluation, and subsequently adjudged the HAII valid and appropriate for the study, it becomes necessary that researchers in the field of health education and related discipline may adopt the same pre and post-validation exercises in similar studies. This may help in refining an instrument before the final production. The researcher observed that the previous researchers in gerontology never engaged in rigorous research exercises for instrument reduction using Principal Component Analysis (PCA) for data reduction (Njoku, 2005; Njoku, 2006; Njoku, 2007; Njoku & Onuzulike 2007).

Reliability of the Healthy Ageing Intervention Instrument

The reliability coefficient of Physical Exercise/Recreational Guidelines (PE/RE) among others, a sub-scale of Healthy Ageing Intervention Instrument (HAII) was established using Cronbach Alpha. This procedure produced a reliability coefficient value of

0.72, 0.82, 0.82 and 0.91 respectively which were greater than the cutoff point of 0.5.These were taken to be reliable because Devellis (2003) affirmed that when Cronbach Alpha coefficient is greater than 0.5, that the instrument is reliable.

The findings were in agreement with that of Collins (2011) who developed, validated and established reliability of an instrument designed to evaluate health instruction programmes in secondary schools. The instrument had six content areas with hundred items and a likert type response format. The result was reliable because the consistency of the items were identified during the pre and post-validation exercises. The agreement between the findings could be attributed to the conventional statistical procedures adopted in both studies and strict adherence to the underlying principles guiding computation of reliability coefficient of an instrument (Devellis, 2003; Radius, 2007; Ogonna, 2010; Collins, 2011; Onu, 2011).

The norms of various clusters of the instrument in respect of age, gender, marital status, educational qualifications and religious affiliations.

It is gratifying that the $\overline{X}$ scores and SDs values for the norms of the various clusters of Healthy Ageing Intervention Instrument, namely: Physical Exercises/Recreational Guidelines (3.2-41 years, $\overline{X}$ = 3.63; SD=1.02, Nutrition Guidelines (32-31

years, $\overline{X}$ =3.78; SD=1.02), Positive Life-Style Options (32-41 years, $\overline{X}$ =3.63; SD=1.01) and Stress Management Strategies (22-31 years, $\overline{X}$ =3.78; SD=1.08) were all above the criterion $\overline{X}$ of 2.50 set as the benchmark for establishing norms in relation to the Healthy Ageing Intervention Instrument (HAII).

In addition, a grand $\overline{X}$ of 3.41 was obtained as regards the ages of the respondents. The result shows that age was considered as a factor while constructing the Healthy Ageing Intervention Instrument (HAII). The result also was in line with Hendricks and Hendricks (2009) where there was no significant difference in the mean scores of students regarding various age intervals and Healthy Ageing Intervention Instrument based on ages of the respondents.

The $\overline{Xs}$ and SDs obtained as the norms of the various components of Healthy Ageing Intervention Instrument in relation to the gender of the respondents were all above the criterion mean of 2.50. The grand $\overline{X}$ of 3.41 obtained after analysis was higher than the criteria $\overline{X}$ of 2.50 set as the benchmark for establishing norms in relation to the Healthy Ageing Intervention Instrument (HAII). This result implies that respondents gender should be considered as a factor while constructing the Healthy Ageing Intervention Instrument (HAII).

The norms of the various components of Healthy Ageing Intervention Instrument (HAII) as regards marital status of the

respondents were established in Table 11 of the various components. The result shows that the respondents' mean scores of the various components of the Healthy Ageing Intervention Instrument were all above, the criterion $\overline{X}$ of 2.50 set as the cutoff point for establishing norms of these various aspects of the Instrument. Also, the grand $\overline{X}$ of 3.35 which was obtained for the norms of the entire instrument as regards the marital status of the respondents was above the criterion $\overline{X}$ of 2.50. Thus, marital status was be considered as a factor in constructing Healthy Ageing Intervention Instrument (HAII).The result was in line with Ikorok's result (2000) that there was no significance relationship in the marital status of the respondents of her study and therefore marital status was be considered while developing health care reduction instrument.

The Means ($\overline{Xs}$) and Standard Deviations (SDs) were also adopted to establish the norms of the various components of Healthy Ageing Intervention Instrument (HAII) in relation to educational qualifications of the respondents Table 12. The results indicated that the respondents' mean scores with their corresponding SD values on each of the Healthy Ageing Intervention Instrument (HAII) components were all above criterion $\overline{X}$ of 2.50 set as the benchmark for establishing norms.

In addition, a grand $\overline{X}$ of 3.27 was obtained as a norm for all the components of the Healthy Ageing Intervention Instrument

(HAII) (Table 12). This implies that educational qualifications should be considered as a factor while constructing the Healthy Ageing Intervention Instrument (HAII). This result was not in line with Warren and Chopra (2009) reported lack of significance difference in the mean scores of teachers they used in their study regarding their level of education.

In the same vein, the means ($\overline{Xs}$) and Standard Deviation (SDs) were employed to establish the norms of various components of the Healthy Ageing Intervention Instrument (HAII) in relation to religious affiliations of the respondents. The results showed that the respondents mean scores of each of the various components of the Healthy Ageing Intervention Instrument (HAII) components were above the criterion $\overline{X}$ of 2.50 set as the benchmark for establishing the norms Table 13. Furthermore, a grand $\overline{X}$ of 3.25 obtained showed that religious affiliation is a necessary factor to be considered in Healthy Ageing Intervention Instrument development.

Conclusions

Ageing is a natural process that involves gradual deterioration or degeneration of physical/biological tissues in the body. Ageing as a biological process can be accelerated or effectively managed based on life-style options of individuals. Healthy Ageing has been an issue of Public Health concern with substantial literature

available to explain vividly part of the concerted efforts made in the sub-field of gerontology in the development of Healthy Ageing Intervention Instrument (HAII), which include the design of valid instrument. This study aimed at the development and validation of Healthy Ageing Intervention Instrument (HAII) for secondary school teachers in Anambra State and to the best knowledge of the researcher, it is the first of its kind in Anambra State inspite of its relevance in healthy ageing promotion. However, it is obvious that there exists dearth of literature on healthy ageing promotion strategies in Nigeria, this study has contributed immensely in filling the gap.

Findings of this study have established Healthy Ageing Intervention Instrument that could be adopted to study healthy ageing among other populations apart from teachers. This is because the items under cluster of Physical Exercises/Recreational Programme were considered reliable and integrated in the Healthy Ageing Intervention Instrument (HAII). In addition, all the fourteen items under Nutrition Guidelines for promoting healthy ageing were all reliable and integrated in the Healthy Ageing Intervention Instrument (HAII) because they had values greater than 0.5 level of significance. The same thing is applicable to the fifteen items and eight items under Healthy Behaviours/Positive Life-Style Options and Stress Management Strategies for Promoting Healthy Ageing respectively.

Age, gender, marital status, educational qualifications and religious affliation of the respondents all as components in relation to the norms of various clusters of Healthy Ageing Intervention Instrument (HAII) were all established using Means ($\overline{Xs}$) and Standard Deviation (SDs). All their grand Mean ($\overline{X}$) were above the criterion $\overline{X}$ of 2.50. These independent variables should be adopted while carrying out any investigation on Healthy Ageing and also in establishing validity and reliability of instruments on ageing and in related concepts among diversed population.

Implications of the Study

This section presents the implications of this study based on the findings:

1. Although there was a significant parsimony in variable reduction from eleven to seven items in the Physical Exercises/Recreational Guidelines (items 2,5,6 and 7 were discarded), the seven items/variables retained in Healthy Ageing Intervention Instrument (HAII) should be recommended for teachers for adoption and practice to promote healthy ageing.

2. One of the findings of this study was that the components of Healthy Ageing Intervention Instrument (HAII) should include Physical Exercises and Recreational Guidelines, Nutrition Guidelines, Healthy Behaviours/Positive Life-Style Options for promoting Healthy Ageing and Stress Management Strategies for promoting Healthy Ageing. The implication of this is that any health programme should include these components that constitute factors that promote or determine Physical Exercises/Recreational Guidelines for Healthy Ageing Intervention Instrument for active life of teachers, exercises will reduce the risk associated with inactivity and sedentary life-style options. Exercises imply that recreational facilities should be provided in work environments to assist in encouraging teachers to exercise and relax.

3. The research findings on Nutrition Guidelines, emphasized the need to eat healthfully, to reduce excessive eating and indulgence in alcoholic beverage.

4. The findings on Healthy Behaviours/Positive Life-Style options for promoting Healthy Ageing can contribute enormously to health promotion.

Recommendations

Based on the results of the study, the following recommendations are made:

1. Government and employers of teachers should provide recreational facilities for teachers to encourage them participate in healthy physical activities during their leisure. This will help them avoid inactive and sedentary life-style options. This will also help them improve granulation and reduce obesity as well as reduce diseases associated with inactivity and non-recreational programmes.

2. Attitudes of teachers toward health promotion strategies should be positive. Teachers should apply to themselves what they preach by living and enjoying healthy life-style options and desist from unhealthy life-style options: drug abuse, alcoholism, cigarette smoking, prostitution and other vices that work against health promotion.

Suggestions for Further Research

Certain areas not covered by this research provide some basis for future study. Some of these are:

1. Development and validation of Healthy Ageing Intervention Instrument (HAII) for primary school teachers in Anambra State.

2. Development and validation of Healthy Ageing Intervention Instrument (HAII) for retirees in Anambra State.

3. Development and validation of Healthy Ageing Intervention Instrument (HAII) for lecturers in Nigerian Universities.

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APPENDIX A

Department of Human Kinetics and Health Education
Nnamdi Azikiwe University
Faculty of Education
20/08/12

Dear Respondent,

About the Questionnaire

I am a Post Graduate student of the above named department conducting a research on Development of validation of Healthy Ageing Intervention Instrument (HAII) for secondary school teachers in Anambra State.

The study is purely academic. You have been specially selected to respond to this questionnaire due to your professional qualification and wealth of experience. The proposed components of the Instrument are presented here and you are kindly requested to respond to the items. Any opinion you express on the questionnaire will be treated confidentially. Tick your choice for each item.

Thanks for your anticipated co-operation.

Yours sincerely,

Maduekwe T.C.

QUESTIONNAIRE

INTRODUCTION

The questionnaire has 5 sections labeled A – E. A contains information on the personal data of the respondents. Please indicate the items you deemed adequate. You are therefore expected to tell how appropriate each of the item is ensuring that a person attains healthy ageing.

SECTION A: PERSONAL DATA

In this section, you should please tick (√) in the appropriate space.

1. Gender: (a) Male ☐ (b) Female ☐
2. Age: (a) Less than 21 years ☐ (b) 22 – 31 years ☐
   (c) 32 – 41 years ☐ (d) 42 – 51 years ☐ (e) 52 and 61 years ☐
3. Marital Status: (a) Single ☐ (b) Married ☐ (c) widowed ☐
   (d) Divorced/Separated ☐
4. Educational Qualification
   (a) NCE ☐
   (b) B. Sc./B.Ed ☐
   (c) M.Sc/Med. ☐
   (d) Ph.D ☐
   (e) Others ☐
5. Religion Affliction
   (a) Catholic ☐
   (b) Anglican ☐
   (c) Pentecostal ☐
   (d) Traditional ☐

GUIDELINES: Indicate by ticking (√) on the extent to which you judge the statements in B – E appropriate as Healthy Ageing Intervention Instrument for teachers in secondary schools in Anambra State.

KEY: Very Important (vi) = 5, Important (i) = 4, undecided (UD) = 3, Less Important (LI) = 2 and Unimportant (Ui)

SECTION B: Physical exercises. Recreation exercises guideline, recreation related strategies for promoting healthy ageing						
S/No	**ITEMS**	**VI**	**I**	**UD**	**LI**	**UI**
1	Jogging, Stretching and flexibility exercises					
2	Moving round the classes while teaching					
3	Taking long/brisk walks.					
4	Gardening/house hold chores					
5	Sports e.g. Tennis, basket ball, engaging in passive leisure, recreational activities like watching television/movies					
6	Cycling, dancing					
7	Swimming /Fishing					
8	Reading novels/magazines Newspapers/journals					
9	Visiting friends and relatives					
10	Visiting amusement parks/museums					
11	Listening to right music					
SECTION C: Nutritional Guidelines for promoting Healthy Ageing						
S/No	**ITEMS**	**VI**	**I**	**UD**	**LI**	**UI**
12	Consumption of adequate diet					
13	Avoiding fatty foods					
14	Avoiding high cholesterol diet					
15	Reducing salt intake					
16	Reducing sugar intake					
17	Eating lots of fruits and vegetables					
18	Eating more cereal based carbohydrate					
19	Consuming adequate protein					
20	Eating modestly to maintain ideal body weight					
21	Drinking lots of water (6-8 glasses daily)					
22	Avoiding fried food					
23	Eating natural and fresh food in preference to refined food					
24	Strict Adherence to Doctors recommendation for diet					
25	Alterations for any health problems					
SECTION D: Healthy Behaviours/Positive life-style options for promoting healthy Ageing						
S/No	**ITEMS**	**VI**	**I**	**UD**	**LI**	**UI**
26	Avoiding drug and alcohol abuse					
27	Avoiding cigarette/tobacco abuse					
28	Avoiding prostitution					
29	Regular, medical checkup/Blood pressure					
30	Maintaining high personal environmental hygiene					
31	Good parenting					
32	Maintaining good working relationship					
33	Avoiding injuries/accidents					

34	Involvement in spirituality					
35	Sleeping for seven to eight hours daily					
36	Visiting music performing arenas/concerts					
37	Eating adequate diet					
38	Exercising and adequate stress management					
39	Good social support					
40	Maintaining high environmental hygiene					
SECTION E: Stress Management Strategies to promote Healthy Ageing						
S/NO	**ITEMS**	**VI**	**I**	**UD**	**LI**	**UI**
41	Regular Performance of exercises					
42	Taking time out during the day to relax					
43	Finding time to stay with friends					
44	Doing things you enjoy doing most					
45	Habitual listening to music of choice and interest					
46	Using ecclesiastical means (ie, using prayer therapy)					
47	Talking things out with friends					
48	Finding time to stay with ones family					
49	Having the consciousness that every problem has a solution					

APPENDIX B

Department of Human Kinetics and Health Education
Nnamdi Azikiwe University
Awka.
19/2/2013

Dear Respondent,

About the Questionnaire

I am a Post Graduate student of the above named department conducting a research on Development and validation of Healthy Ageing Intervention Instrument (HAII) for secondary school teachers in Anambra State.

The study is purely academic. You have been specially selected to respond to this questionnaire due to your professional qualification and wealth of experience. The proposed components of the instrument are presented here and you are kindly requested to respond to the items. Any opinion you express on the questionnaire will be treated confidentially. Tick your choice for each item.

Thanks for your anticipated co-operation.

Yours sincerely,

Maduekwe T.C.

QUESTIONNAIRE

INTRODUCTION

The questionnaire has 5 sections labeled A – E. A contains information on the personal data of the respondents. Please indicate the items you deemed adequate. You are therefore expected to tell how relevant each of the item is ensuring that a person attains healthy ageing.

KEY: Very Frequent (VF) = 4, Frequent (F) = 3,
Rarely (R) = 2 and Never (N) = 1

SECTION A: PERSONAL DATA

In this section, you should please tick (√) in the appropriate space.

1. Gender: (a) Male ☐ (b) Female ☐
2. Age: (a) Less than 21 years (b) 22 – 31 years ☐ (c) 32 – 41 years ☐
   (d) 42 – 51 years ☐ (e) 52 – 61 years above ☐
3. What is your marital status? (a) Single ☐ (b) Married ☐
   (c) Widowed ☐ (d) Divorced/separated ☐
4. Indicate the Highest Educational Qualification you have attained
   (a) NCE ☐
   (b) B.Sc / B.Ed ☐
   (c) M. Sc / Med ☐
   (d) Ph.D ☐
   (e) Others ☐
5. What is your religious affiliation?
   (a) Catholic ☐
   (b) Anglican ☐
   (c) Pentecostal ☐
   (d) Traditional ☐

GUIDELINES: Indicate by ticking (√) on the extent to which you judge the statements in B – E as Healthy Ageing Intervention instrument for teachers in secondary schools in Anambra State.

KEY: Very Frequent (VF) = 4, Frequent (F) = 3,
Often (O) = 2, Rarely (R) = 1

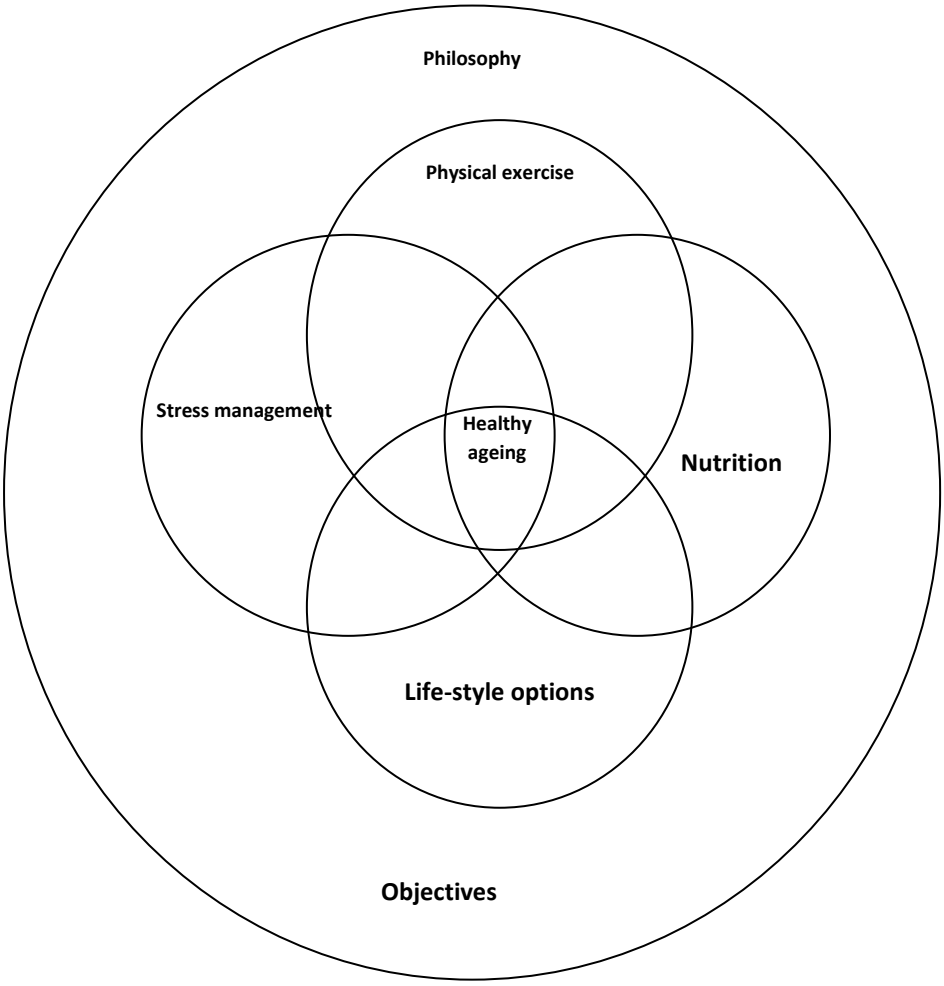
SECTION B: Physical exercises, Recreation Exercises Guidelines, Related Strategies for promoting Healthy Ageing are:

S/NO	Items: Physical Exercises/Recreation guidelines	VF	F	R	N
1.	Jogging, stretching and flexibility exercises.				
2.	Taking long/brisk walks				
3.	Gardening / house hold chores				
4.	Reading novels / newspapers				
5.	Visiting friends				
6.	Visiting amusement parks and museums				
7.	Listening to light music				
SECTION C: Nutrition Guidelines for promoting Healthy Ageing are:					
S/NO	**Items: Nutrition Guidelines**	**VF**	**F**	**R**	**N**
8.	Consumption of adequate diet				
9.	Avoiding fatty foods				
10.	Reducing high cholesterol diet				
11.	Reducing salt/sodium intake				
12.	Reducing sugar intake				
13.	Eating lots of fresh fruits and vegetables				
14.	Eating more cereal based carbohydrate				
15.	Consuming adequate protein				
16.	Eating modestly to maintain ideal body weight				
17	Drinking plenty of water (6 – 8 glasses daily)				
18.	Avoiding fried food				
19.	Eating natural and fresh food in preference to refined food				
20.	Strict adherence to doctor's recommendation				
21.	Alterations for any health problems				
SECTION D: Healthy Behaviour / Positive Life – Style Options For Promoting Healthy Ageing					
S/NO	**Items: Healthy Behaviours / posite life – style options**	**VF**	**F**	**R**	**N**
22.	Avoiding drug and alcohol abuse				
23.	Avoiding cigarette/tobacco abuse				
24.	Avoiding prostitution				
25.	Regular medical checkup				
26.	Maintaining high personal environmental hygiene				
27.	Good parenting				
28.	Maintain good working relationship				
29.	Avoiding injuries / accidents				
30.	Involvement in spirituality				
31.	Sleeping for seven to eight hours daily				
32.	Visiting music performing arenas / concerts				
33.	Eating adequate diet				
34.	Engaging in regular exercises				
35.	Good social support				
36.	Maintaining environmental hygiene				

SECTION E: Stress Management Strategies to Promote Healthy Ageing					
S/NO	**Items: Stress Management Strategies**	**VF**	**F**	**R**	**N**
37.	Taking time out during the day to relax				
38.	Finding time to stay with friends				
39.	Doing things you enjoy doing most				
40.	Habitual listening to music of choice and interest				
41.	Using ecclesiastical means				
42.	Talking things out with friends				
43.	Finding time to stay with ones family				
44.	Having the consciousness that every problem has a solution				

APPENDIX C

Schematic Representation of Healthy Ageing Intervention Instrument (HAII)



APPENDIX D

THE SIX EDUCATION ZONES IN ANAMBRA STATE WITH THE CORRESPONDING (21) TWENTY ONE LOCAL GOVERNMENT AREAS

S/No	Education Zones	Local Government Education Authority Under the Zone
1.	Aguata Zone	Aguata Orumba North Orumba South
2.	Awka Zone	Anaocha Awka North Awka South Dunukofia Njikoka
3.	Nnewi Zone	Ekwusigo Ihiala Nnewi North Nnewi South
4.	Ogidi Zone	Idemili North Idemili South Oyi
5.	Onitsha Zone	Ogbaru Onitsha North Onitsha South
6.	Otuocha Zone	Ayamelum Anambra East Anambra West

APPENDIX E

THE SIX EDUCATION ZONES IN ANAMBRA STATE AND LOCAL GOVERNMENT AREAS SELECTED FOR THE STUDY

S/No	The Six Education Zones	LAG's Drawn
1.	Aguata	(1) Aguata (2) Orumba North
2.	Awka	(1) Anaocha (2) Awka South
3.	Nnewi	(1) Ekwusigo (2) Nnewi North
4.	Ogidi	(1) Idemili North (2) Idemili South
5.	Onitsha	(1) Ogbaru (2) Onitsha North
6.	Otuocha	(1) Ayamelum (2) Anambra East

APPENDIX F

SCHOOLS IN THE LGA'S SELECTED AND THE NUMBERS SELECTED

Education Zones	LGAs in existence	Selected LGAs	No of Schools in the Selected LGAs	No of Schools Selected
Aguata	3	Aguata Orumba North	45 23	9 5
Awka	5	Anaocha Awka South	18 35	4 7
Nnewi	4	Ekwusigo Nnewi North	26 45	6 9
Ogidi	3	Idemili North Idemili South	60 33	12 7
Onitsha	3	Ogbaru Onitsha North	39 40	8 8
Otuocha	3	Ayamelu Anambra East	13 17	3 4
Total	**21**		**394**	**82**

Key to Selection of schools:

LGA with 1-5 Schools = 1

LGA with 6-10 Schools = 2

LGA with 11-15 Schools = 3

LGA with 16-20 Schools = 4

LGA with 21-25 Schools = 5

LGA with 26-30 Schools = 6

LGA with 31-35 Schools = 7

LGA with 36-40 Schools = 8

LGA with 41-48 Schools = 9

LGA with 46-50 Schools = 10

LGA with 51-55 Schools = 11

LGA with 56-60 Schools = 12

APPENDIX G

SCHOOLS IN THE SIX EDUCATION ZONES SELECTED WITH THE POPULATION OF TEACHERS MALES AND FEMALES AND NUMBER OF TEACHERS SELECTED.

S/No	Names of Schools Selected in Aguata LGA	Male Teachers	Female Teachers	Total	Number of teachers selected
1.	Girls High School Ekwulobia	7	25	32	10
2.	Girls secondary School Igboukwu	6	20	26	10
3.	Aguata High School Aguata	12	13	25	10
4.	Uga Boys Secondary School, Uga	12	13	25	10
5.	Community Secondary school Umuchu	6	8	14	5
6.	God's Own Secondary School Umuchu	13	6	19	5
7.	Concept Secondary School Ekwulobia	14	12	26	10
8.	Holy Child Secondary School Isuofia	7	6	13	5
9.	Madonna Secondary School Uga	9	8	17	5
Total		**86**	**111**	**197**	**70**
	Names of schools selected in Orumba North				
1	Community High School Nanka	10	14	24	10
2.	Community Secondary School Oko	10	20	30	10
3.	Austica Memorial Sec. Sch. Nanka	9	9	18	5
4.	Polytechnic Staff Secondary Oko	12	16	28	10
5.	Gaus Benson Oko	10	10	20	10
Total		**51**	**69**	**120**	**45**

Key for selection of Teachers:

School with 1 – 20 teachers = 5
School with 21 – 40 teachers = 10
School with 41 – 60 teachers = 15
Schools with 61 – 80 teachers = 20

APPENDIX H

SCHOOLS SELECTED IN AWKA ZONE WITH POPULATION OF TEACHERS (MALES AND FEMALES) AND NUMBER OF TEACHERS SELECTED.

S/No	Names of Schools Selected in Anaocha Local Government Area	Male Teachers	Female Teachers	Total	Number of teachers selected
1.	Girls High School Agulu	15	17	32	10
2.	Flora Azikiwe Memorial Sec. Sch. Neni	12	16	28	10
3.	Loretta Special Science Sch. Adazi	8	10	18	5
4.	St. Anthony's Sec. Sch. Inst. Agulu	8	9	17	5
	Total	**43**	**52**	**95**	**30**
	Names of Schools Selected in Anaocha Local Government Area				
1.	St. John of God Sec. Sch. Awka.	12	62	74	20
2.	St. Paul's University Sec. Sch. Awka	14	32	46	15
3.	Krosa Model Sec. Sch. Amawbia	14	23	37	10
4.	Igwebike Grammar School	10	44	54	15
5.	Bishop Crowder Seminary Awka	15	18	33	10
6.	Unique comprehensive Secondary School Amawbia	12	16	28	10
7	Rosary College Nise	8	12	20	10
Total		**85**	**207**	**292**	**90**

APPENDIX I

SCHOOLS SELECTED IN NNEWI ZONE WITH THE POPULATION OF TEACHERS (MALES AND FEMALES) AND NUMBER OF TEACHERS SELECTED

S/No	Names of Schools to be Selected in Ekwusigo Local Government Area	Male Teachers	Female Teachers	Total	Number of teachers selected
1.	Community Sec. School Ichi	6	11	17	5
2.	Boys Secondary School Oraifite	5	5	10	5
3.	Community Secondary School Ozubulu	7	7	14	5
4.	Sacred Heart Secondary School Ozubulu	8	7	15	5
5.	Mount Olives Secondary School Ozubulu	6	7	13	5
	Total	**32**	**37**	**69**	**25**
	Names of Schools Selected in Nnewi North Local Government Area				
1.	National Science and Technology College Nnewi	18	13	31	10
2.	Maria Regina Memorial Comprehensive Secondary School Nnewi	10	26	36	10
3.	Nnewi High School Nnewi	9	22	31	10
4.	Okongwu Memorial Grammar School Nnewi	9	24	33	10
5.	Anglican Comprehensive Secondary School Uruagu Nnewi	8	9	17	5
6.	University Preparatory Secondary Nnewi	9	9	18	5
7.	The Lords Foundation Secondary school Nnewi	8	10	18	5
8.	Bishop Uzodike Secondary School Nnewi	10	10	20	10
9.	Stella Maris Secondary School Nnewi	8	11	19	5
	Total	**89**	**134**	**223**	**70**

APPENDIX J

SCHOOLS SELECTED IN OGIDI ZONE WITH THE POPULATION OF TEACHERS (MALES AND FEMALES) AND NUMBER OF TEACHERS SELECTED

S/No	Names of Schools Selected in Idemili North Local Government Area	Male Teachers	Female Teachers	Total	Number of Teachers Selected
1.	Notre Dame High School Abatete	7	7	14	5
2.	Government Training College Nkpor	10	11	21	10
3.	Girls Secondary School Ogidi	8	9	17	5
4.	Boys Secondary school Ogidi	10	15	25	10
5.	Community Secondary School Uke	5	9	14	5
6.	Mater Mabilis Secondary School Umuoji	7	7	14	5
7.	Supreme knowledge Comprehensive Secondary school Nkpor	11	13	24	10
8.	Ideal Minds Foundation Secondary School Awada-Obodi	9	8	17	5
9.	Royal Found. Secondary School Awada Obosi	9	15	24	10
10.	Mater Christi Secondary School Awada Obosi	7	8	17	5
11.	Day Star Comprehensive Secondary School Ogidi	8	9	17	5
12.	Awada Secondary School Awada	9	10	19	5
Total		**100**	**121**	**221**	**70**
	Names of schools selected in Idemili South Local Government Area				
1.	St. John Science & Technical School Alor	9	11	20	10
2.	Merchant of light Secondary schools Oba	10	13	23	10
3.	Community Secondary School Nnokwa	8	9	17	5
4.	Girls Secondary School Ojoto	7	9	16	5
5.	Busy Secondary School Oba	8	7	15	5
6.	Madonna Int'l School Nnobi	8	8	16	5
7.	Christ the King Seminary Nnobi	9	9	18	5
Total		**59**	**66**	**125**	**45**

APPENDIX K

SCHOOLS SELECTED IN ONITSHA ZONE WITH THE POPULATION OF TEACHERS (MALES AND FEMALES) AND NUMBER OF TEACHERS SELECTED

S/No	Names of Schools Selected in Ogbaru Local Government Area	Male Teachers	Female Teachers	Total	Number of Teachers Selected
1.	Community Secondary School Iyiowa Odekpe	9	12	21	10
2.	Community Secondary School Atani	8	18	26	10
3.	Community Girls Secondary School Okpoko	9	19	28	10
4.	Ideke Girls Secondary School Odekpe	12	27	39	10
5.	Calvary Secondary School Okpoko	11	12	23	10
6.	Versity Comprehensive Secondary school Okpoko	11	13	24	10
7.	All Hallows Seminary Onitsha	9	10	19	5
8.	Rock Foundation College G.R.A Onitsha.	12	16	28	10
Total		**83**	**129**	**212**	**75**
	Names of schools selected in Onitsha North Local Government Area				
1.	Government Training College Onitsha	24	32	56	15
2.	St. Charles Secondary School Onitsha	20	42	62	20
3.	Christ the King College Onitsha	22	40	62	20
4.	Dennis Memorial Grammar School Onitsha	27	52	79	20
5.	Holy Spirit Int' Secondary School Onitsha	18	20	38	10
6.	Heritage Heights Sec. Sch. Onitsha	15	17	32	10
7.	All Hallows Seminary Onitsha	20	15	35	10
8.	Rock Foundation College G.R.A Onitsha	15	16	31	10
Total		**161**	**232**	**395**	**151**

APPENDIX L

SCHOOLS SELECTED IN OTUOCHA ZONE WITH THE POPULATION OF TEACHERS (MALES AND FEMALES) AND NUMBER OF TEACHERS SELECTED

S/No	Names of Schools Selected in Ayamelum Local Government Area	Male Teachers	Female Teachers	Total	Number of Teachers Selected
1.	Community Secondary School Omor	6	8	14	5
2.	Amikwe Comprehensive Secondary School Omor	5	6	11	5
3.	St. Joseph Secondary School Amaku	6	6	12	5
Total		**17**	**20**	**37**	**15**
	Names of Schools selected in Anambra East Local Government Area				
1.	Government Technical College Umueri	10	10	20	10
2.	Father Joseph Memorial Secondary School Aguleri	9	12	21	10
3.	Tansi Memorial Secondary School Aguleri	10	9	19	5
4.	International Model Secondary School Nsugbe	8	10	18	5
Total		**37**	**41**	**78**	**30**

APPENDIX M

SUMMARY

S/No	Education Zones	Local Government Areas	Number of Teachers			Numbers of Teachers Selected
			M	F	T	
1.	Aguata	Aguata	86	111	197	70
2.		Orumba North	51	69	120	45
3.	Awka	Anaocha	43	52	95	30
4.		Awka South	85	207	292	90
5.	Nnewi	Ekwusigo	32	37	69	25
6.		Nnewi North	89	134	223	70
7.	Ogidi	Idemili North	100	121	221	80
8.		Idemili South	59	66	125	45
9.	Onitsha	Ogbaru	83	129	212	75
10.		Onitsha North	161	234	395	115
11.	Otuocha	Ayamelu	17	20	37	15
12.		Anambra East	37	41	78	30
Total			**843**	**1221**	**2064**	**690**

APPENDIX N

Department of Human Kinetics and Health Education
Nnamdi Azikiwe University,
Awka.
20/08/12

TO WHOM IT MAY CONCERN

INFORMATION ON FIELD WORK

Maduekwe Theresa C., a post graduate student of Department of Human Kinetics and Health Education, Nnamdi Azikiwe University, Awka is carrying out a research on Development and validation of Healthy Ageing Intervention Instrument Secondary School Teachers in Anambra State.

This is a request your kind co-operation to enable her have access to information and to provide her with other forms of assistance by examining the specific sections and items on the instrument to justify the relevance of the content in terms of their clarity, appropriateness of the language and its ability to elicit accurate information that will enable the researcher to modify the proposed model.

Thank you for anticipated co-operation.

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Prof. E. C. Agbanusi
(Head of Department)