

University of Central Florida

**STARS**

---

Electronic Theses and Dissertations

---

2004

## A Study Of Why Older People 65+ Do Or Do Not Exercise

Nancy McCain Williams

*University of Central Florida*



Part of the Curriculum and Instruction Commons

Find similar works at: <https://stars.library.ucf.edu/etd>

University of Central Florida Libraries <http://library.ucf.edu>

This Doctoral Dissertation (Open Access) is brought to you for free and open access by STARS. It has been accepted for inclusion in Electronic Theses and Dissertations by an authorized administrator of STARS. For more information, please contact [STARS@ucf.edu](mailto:STARS@ucf.edu).

---

### STARS Citation

Williams, Nancy McCain, "A Study Of Why Older People 65+ Do Or Do Not Exercise" (2004). *Electronic Theses and Dissertations*. 121.

<https://stars.library.ucf.edu/etd/121>

**A STUDY OF WHY OLDER PEOPLE 65+ DO OR DO NOT EXERCISE**

by

NANCY M. WILLIAMS  
B.A. Rollins College, 1964  
M. A. University of Central Florida, 1989

A dissertation submitted in partial fulfillment of the requirements  
for the degree of Doctor of Philosophy  
in the Curriculum and Instruction track  
in the College of Education  
at the University of Central Florida  
Orlando, Florida

Spring Term  
2004

Major Professor: Frank Rohter

© 2004 Nancy McCain Williams

## **ABSTRACT**

This qualitative study uses interviews to examine factors explaining why 20 elderly individuals from a variety of occupations and still living in the community independently did or did not exercise. Within the limits of this qualitative study, the reasons elderly participants gave for avoiding exercise included fear of injury, joint pain, poor health, complications from various degenerative diseases, and a lack of enjoyment of exercise. The reasons for exercising included necessity due to post-heart attack motivation, work-site exercise program or equipment availability, opportunity to habituate work-related tasks, spouse support, history of exercise experience, ability to exercise without injury, enjoyment of family outings, and an appreciation of the enjoyment of exercise.

This is dedicated to my lifetime walking partner, my patient and supportive husband, Terry.

## **ACKNOWLEDGEMENTS**

I would like to thank my committee for all their assistance in this effort. I would like to thank Dr. Rohter for his faith in me when I had so little in myself, Dr. Condly for his excellent motivation classes and examples, Dr. Deets for gently guiding me through the maze of qualitative analysis, Dr. Short for inspiring me to publish, and Dr. Tucker for helping me find a new calling.

## TABLE OF CONTENTS

<b>CHAPTER 1: INTRODUCTION.....</b>	<b>1</b>
<b>The Aging Dilemma .....</b>	<b>1</b>
<b>CHAPTER 2: REVIEW OF LITERATURE.....</b>	<b>8</b>
<b>Exercise and Overall Health .....</b>	<b>8</b>
<b>Exercise and Motivation.....</b>	<b>30</b>
<b>CHAPTER 3: METHODOLOGY.....</b>	<b>40</b>
<b>Significance of the Study .....</b>	<b>40</b>
<b>CHAPTER 4: RESULTS .....</b>	<b>51</b>
<b>Activity Levels .....</b>	<b>51</b>
<b>CHAPTER 5: DISCUSSION AND CONCLUSION .....</b>	<b>58</b>
<b>Factors Preventing Exercise.....</b>	<b>58</b>
<b>Factors Promoting Exercise .....</b>	<b>66</b>
<b>Conclusion .....</b>	<b>71</b>
<b>APPENDIX A: GUIDED INTERVIEW QUESTIONS.....</b>	<b>73</b>
<b>APPENDIX B: IRB LETTER OF APPROVAL.....</b>	<b>75</b>
<b>APPENDIX C: IRB APPROVAL FORM .....</b>	<b>78</b>
<b>APPENDIX D: CONSENT FORM .....</b>	<b>80</b>
<b>LIST OF REFERENCES .....</b>	<b>160</b>

## **CHAPTER 1: INTRODUCTION**

### **The Aging Dilemma**

The over-65 population increases by 795,000 each month and was 420 million worldwide by 2000 (Kinsella & Velkoff, 2001). The rapid growth of this population is both a blessing and a problem. While efforts extending life expectancy are considered successes, these are hollow successes if the extended life is merely a protracted dying process. As the Gerontological Society of America's (GSA) motto states, gerontological research must focus on "adding more life to years, not just more years to life" (Gerontological Society of America, 2003). Objectives must include a continued compression of morbidity to achieve this goal. This requires the "postponement of illness until later and later into advanced age" (Moody, 2000, p. 491), thus, expanding a healthy and still-productive oldest-old population, which consists of those over age 85 (Fries, 1980).

According to the 2000 census, this nation's over-65 population is 12.4% (Hobbs & Stoops, 2002). The year 2011 will begin the rapid rise of the over-65 age group from the 12.4% of 2000 to 20% by 2040 as the United States baby-boom cohorts begin reaching age 65 (Hobbs & Stoops, 2002; Pleis & Coles, 2002). Of the 35 million United States citizens over-65 from the 2000 census, approximately 4 million fall in the over-85 age range (Hobbs & Stoops, 2002). The 4 million who were age 85 and older in 2000 are expected to increase to 40 million by 2040 (Pleis & Coles, 2002; Siegel, 1996). Kinsella and Velkoff (2001) predict that 26.4% of the over-



65 population of 2030 will be in the oldest-old category and will comprise 5.3 % of the total United States population by that time.

“The population age 65 and over increased tenfold during the century, from 3.1 million in 1900 to 35.0 million in 2000, compared with a twofold increase for the total population” (Hobbs & Stoops, 2002, p. 49). Surviving to 65 increases the likelihood of surviving to or 85 and beyond due to improved medical services in most cases and positive lifestyle changes in a few cases (Vaillant & Mukamal, 2001). This shift from a youth to an old-age dominated society is cause for concern on several fronts.

First, consider the economic impact. Fries (1980) predicted that older people would remain vigorous for more of their older years and need less medical care in later life with chronic diseases interfering with less of their lifetime. This would allow the nation to avoid the devastation of caring for a growing population of infirm elders. However, Fries erroneously predicted no increase in the number of very old people, when, in fact, this population of the oldest-old is the fastest growing segment of the 65+ population not only in the United States, but worldwide. “The number of older people aged 90-99 [worldwide] is expected to rise from just over 8 million today to 60 million in 2050....” (Kalache, Aboderin, & Hoskins, 2002, p. 243). Fries’ (1980) prediction was based on active aging. However, this nation’s tremendous growth in the older populations is paired with a tremendous growth in the number and extent of chronic health problems associated with aging, due in part to inactivity (Mazzeo & Tanaka, 2001; Simkins, Simkins, & Lowenthal, 2002). Although aging is not a disease, the changes associated with the process of aging leaves individuals susceptible to disease (Moody, 2000).

Ten years ago health care costs had already risen to \$838 billion in the United States population in general, and this was with Medicare and Medicaid covering costs for those requiring some of the most expensive care (Fries et al., 1993). Increasing the size of our population requiring the greatest number of dollars in terms of health care could, in turn, over-extend our health care services for this and other aged populations. This is because chronic diseases, illnesses that span a long period of time without causing death but causing disability or at least inconvenience, occur predominately in the elderly population, those over 65 (Kligman, Hewitt, & Crowell, 1999). Over the years the threat of death from communicable and infectious diseases has gradually been replaced by diseases borne of lifestyle choices (Kinsella & Velkoff, 2001). Estimates of annual medical costs imposed by physical frailty in the United States ranged from \$54 to 80 billion 20 years ago (Foret & Clemons, 1986). Based on the value of today's dollar, the medical costs imposed by physical frailty in 1987 was only 29.2 billion, but today the National Center for Chronic Disease and Preventive Health Promotion, a department of the Center for Disease Control and Prevention, estimates that if all inactive adults became active, medical costs in the United States would be reduced by \$76.6 billion in 2000 dollars (Hensley, 2000).

Second, researchers and companies spend considerable funds on discovering medications and methods to prevent death after a life-threatening event such as a heart attack or stroke, or the discovery of remedies for debilitating chronic conditions such as arthritis, diabetes, or cancer that occur in the elderly. However, these same researchers must not overlook the elderly population when designing health promotion and illness prevention programs (Campbell, MacCauley, McCrum, & Evans, 2001). Age is not synonymous with illness or disability.

Third, health is more than “the absence of disease and disability” as suggested in the 1982 clinical model of health (Ferraro, 1997, p. 308). For older adults health may mean “experiencing high level wellness despite the presence of chronic or even terminal illness” (p. 308). According to Ferraro there are three components to a health program geared to the elderly. They are “medical care, illness prevention and health promotion” (p. 309). Illness prevention through efforts such as flu shot immunizations, and medical care through such measures as cardiac or bone density screening are increasing, but increases in activity levels still lag behind (Pleis & Coles, 2002). Motivating the aging population to increase their activity level may postpone or alleviate a great portion of these health problems.

### **Exercise and Aging**

A sedentary lifestyle increases the risk of obesity (Menec, 2003; Nicklas et al., 2003), heart disease (Gordon, 1998), hypertension (Sander, 2002; Vasan et al., 2001), depression (Blumenthal et al., 1999), cancer (Calle, Rodriguez, Walker-Thurmond, & Thun, 2003), diabetes (Campaigne, 1998) and other chronic diseases. As if this were not enough, even without disease, succumbing to frailty aggravates conditions such as arthritis (Barlow, Turner, & Wright, 2000) and greatly reduces the quality of life (Cavanaugh, Mulfinger, & Owens, 1997; Damush & Damush, 1999; Ellingson, & Conn, 2000; Femia & Zarit, 1997; Fiatarone, Marks et al., 1990). Since regular exercise contributes to reducing these costs by reducing frailty, and other disabling problems (Fiatarone, O’Neil et al., 1994; Fries et al., 1993), Director Dr. Julie L. Gerberding of the CDC also recognizes that these risks should be reduced through exercise (Ford-Martin,

2003). The cost of a sedentary lifestyle in terms of lost dollars or increased dependency or chronic illness is too great to ignore.

In order to compress morbidity and keep the nation's aging population very healthy and living independently for as long as possible, the 60% who do not currently exercise (Pleise & Coles, 2002) must be enticed to do so. As a result, many public health leaders are encouraging greater activity. In an effort to encourage older adults to be more accepting of the idea of physical activity, the CDC has expanded the meanings of physical activity and exercise to include such activities as gardening, vacuuming, and brisk walking in order to give a more accurate picture of activity in this nation (Ford-Martin, 2003).

### **Exercise and Motivation**

With approximately 40% of those over age 65 exercising and 60% remaining sedentary (Pleis & Coles, 2002), how do researchers discover the factors that motivated the minority to exercise, and what prevents the majority from doing the same? Even when older adults can be enticed to begin an exercise program, most adhere to their programs only six months or less (Resnick & Spellbring, 2000). Is there a way to overcome this lapse? Research indicates the same motivational factors effective with younger populations may not work with older populations (Campbell et al., 2001).

In 2000 Burbank, Padula and Nigg studied a process of going through specific steps, such as those identified in the Transtheoretical Model (TTM), to change exercise behavior in older adults. This method requires a match between the program recommended and the motivation

level of the participant in order to improve the likelihood of success. In addition, self-efficacy and timing proved important. This is true with motivation in most tasks. For example, whether working with sixth graders in a program to increase reading ability or sixty-year-olds in a program to increase activity levels, a mismatch between readiness level and intervention method is likely to guarantee failure.

### **Problem Statement**

The problem is discovering how to convince the elderly to exercise. In order to accomplish this, research needs to uncover why those who exercise do so, and why those who do not exercise fail to do so. This process requires an examination of daily physical activities or the lack thereof, and predominant attitudes toward physical activities, and the overall perception of health and wellness of the elderly. Revealing some of the barriers to physical activity may, in some cases at least, enlighten community planners about approaches to foster improved physical activity among the elderly in their domains (AARP, 2002).

### **Study Design**

The purpose of this qualitative study is to examine the factors that seem to explain why some individuals do exercise, and the factors that explain why others do not exercise. This was accomplished through interviews. The population was located by asking individuals encountered at the grocery store, in parking lots, at the drug store, in the work place and even in the hospital if

they could spare the time to answer 10 questions. In addition, the interviewer attended meetings involving senior citizens such as Seniors and Law Enforcement Together (SALT) and Citizens on Patrol (COPs), organizations in Orange and Seminole counties for senior citizens who do volunteer work for the local sheriffs in those counties. Potential participants examined the interview questions to alleviate the fear that they would not be able to answer them. Data was gathered through audio-taped interview.

## **CHAPTER 2: REVIEW OF LITERATURE**

### **Exercise and Overall Health**

As recently as the 1980's both proponents and opponents of exercise stated that in the interest of health and longevity more information indicating the benefit of exercise was needed. Holloszy stated that "scientific evidence that strenuous exercise has long-term health benefits or slows aging is meager and unconvincing" (Holloszy, 1983). However, evidence of the benefits of an active lifestyle started accumulating even before Holloszy's observation.

As early as the 1800's researchers debated the necessity of educating people about the benefits of exercise. Professor Eugene Richards (1886) of Yale College advocated exercise on the premises that every great civilization had trained its men in physical as well as mental endeavors. He claimed it was not until nations lost their moral footing that they began to fall. The Greeks, the Romans and all others had a method of training their men in athletics. Richards' paper points out that even in 1886 the Germans had an excellent system called the Turner system for training their youth physically. One of the most astounding observations of his paper, however, is his recognition of the importance of exercise in the lives of women. "Public opinion frowns upon their exercising like men," he comments (p. 327). Richards felt that exercise, nonetheless, regulated the benefits one could receive from the other essentials in life. According to Richards, a lack of exercise caused a deficient supply of oxygen in man, which resulted in problems with many organs, but especially "the liver, the great gland of the body" (p. 329). This

question of the effects of oxygen was apparently a major issue at that time and for many years to come.

By 1912, debates were still raging about the effects of oxygen and the lack thereof. Everyone agreed that no oxygen was certain death; the question was the effects of varying degrees of oxygen on health in general and heart rate or pulse in particular. Dr. John Parkinson, then medical registrar to the London Hospital, performed controlled studies on the effect of air versus pure oxygen on pulse rate and discovered that even in people at rest, pure oxygen could cause the pulse rate to lower allowing the heart to be less stressed (Parkinson, 1912). This may seem minor, but it was extremely significant for heart attack victims or others who had trouble breathing due to diseases of the lungs, which became compounded by stress on the heart. Even today, doctors use this information, as evidenced by the many patients receiving oxygen automatically to reduce stress on the heart during almost any type of surgery. Slowly, discoveries like these began to accumulate and the new knowledge resulted in an increase in longevity especially in the care of heart attack victims and those with other chronic diseases.

### **Exercise and Coronary Artery Disease**

More men and women in the United States die from coronary artery disease (CAD) than any other disease (American Heart Association, 2002). Exercise is a major lifestyle change needed to overcome this trend. Coronary artery disease in general is accompanied by an additional cluster of risks such as peripheral artery disease (PAD), cardio-pulmonary problems,



high blood pressure, and an increased risk of stroke. Abnormally elevated levels of total cholesterol, both low-density lipoproteins and high-density lipoproteins, influence all these.

Epidemiological criteria have established that consistent physical exercise reduces CAD (Gordon, 1998). In fact, the risk of inactivity is comparable to the risk of smoking, high cholesterol or hypertension. In most cases physical inactivity predates a diagnosis of CAD. In addition, the risk of CAD increases as physical activity decreases. Regular physical activity also lowers resting systolic and diastolic blood pressure, reduces triglyceride levels while it increases HDL levels in the blood, and increases glucose tolerance and insulin sensitivity.

Exercise slows the progression of CAD in those who already have established cases. Occasionally exercise will actually instigate a regression of the CAD. A meta-analysis of studies on aerobic exercise performed by patients already having suffered at least one myocardial infarction revealed a 20% to 30% reduction in coronary deaths (Gordon, 1998; Tanasescu et al., 2002). In spite of all this evidence, inactive adults outnumber smoking adults, and those suffering from hyperglycemia and hypertension (Gordon, 1998). Something as simple, inexpensive, and enjoyable as a little physical activity could make a considerable difference for the whole nation.

Triglycerides can also be reduced through exercise. Triglycerides may contribute to CAD by reducing high-density lipoproteins (HDL) and increasing the possibility of blood clots. Triglycerides may also contribute to insulin resistance and high levels of a special low-density lipoproteins (LDL), the small very low-density lipoprotein (VLDL) (Gordon, 1998).

Exercise also assists in contributing to cardiovascular health by reducing inflammation that may damage artery walls (Geffken, Cushman, & Burke, 2002). The most effective type of

exercise for inflammation and other cardiovascular risks appears to be walking, in part because individuals will try it. A portion of the Women's Health Initiative Observational Study compared 30 minutes of walking with 30 minutes of more vigorous exercise for 2.5 hours per week over a 5.9 year period and discovered cardiovascular risks were reduced by 30% with either exercise method (Manson et al., 2002). Nicklas et al. (2003) found that walking not only reduced coronary heart disease risk, but also obesity and diabetes risk, while Gardener (2001) found walking an effective intervention for peripheral artery disease, which is atherosclerosis of the lower extremities. In a study by Wong, Wong, Weng, Azizah and Dass (2003), walking proved to be an excellent preventive measure of general physical disability from coronary artery disease as well as other causes for older persons. Finally, exercise helps manage obesity. Because obesity has so many detrimental side effects such as contributing to increased blood cholesterol and triglycerides; reduction in high density lipoprotein, the good cholesterol; increased blood pressure; and diabetes; these effects combine to make obesity the third most powerful predictor of heart disease (Eckel, 1997; F. Rohter, personal communication, December 10, 2003).

### **Exercise and Hypertension**

Hypertension (high blood pressure) greatly increases the likelihood of heart attack, stroke, and heart and kidney failure according to results from the Framingham study published in the *New England Journal of Medicine* (Vasan et al., 2001). Chronic increases in blood pressure cause changes in cardiovascular physiology and structure and are clearly associated with an

increase in cardiovascular event rates, even if high blood pressure increase is only in the high-normal range (Ramachandran et al., 2001). Hypertension also increases the risk or speeds the onset of Alzheimer's disease and more subtle mental decline due to its restriction of blood flow (Sander, 2002).

Exercise can help reduce high blood pressure if it is the right kind of exercise and a program is implemented in appropriate stages. Rhythmic, steady paced exercise will actually cause the blood vessels to dilate increasing blood flow, and although initially this will increase blood pressure slightly, as the exercise continues, the pressure will drop. (Mcardle, Katch, & Katch, 1986; Witham, Struthers, & McMurdo, 2003). According to Dr. M. N. Walsh (2002) of the Indiana School of Medicine, "...people with such risk factors (hypertension, smoking, diabetes, obesity, and abnormal cholesterol levels) can significantly lower their risk by maximizing their exercise capacity" (p. 3). Improved exercise capacity may be accomplished by gradually taking up activities that require higher and higher energy expenditures. For example, walking takes up 3.5 metabolic equivalent units (METs), and dancing will use up 4.5 METs (Mcardle et al., 1986; Witham et al., 2003). In other words, one MET equals 250 milliliters of oxygen per minute, the average resting oxygen consumption rate)

### **Exercise and Arthritis**

Barlow et al. (2000) examined 544 British citizens for the effects of exercise on problems associated with arthritis. They used a control group of 233 and an intervention group of 311. Although anyone 18 or older could apply to be part of the study, the average age of the total

group was 58, indicating that the majority of the participants were older adults. Arthritis afflicts nearly one-half of people over 65 (Moody, 2000).

The study employed the Arthritis Self-Management Programme (ASMP), which offered a choice of exercise activities including cycling, walking, swimming, relaxation, flexibility, and strength training performed for two hours in six weekly sessions for 4 months and lead by instructors trained by Arthritis Care following established manual guidelines to ensure consistency of content. The two-hour sessions included information about arthritis, self-management, dealing with pain, nutrition, depression and other topics, as well. Their objective was to measure arthritis self-efficacy; health behaviors such as exercise, cognitive symptoms management, diet and relaxation; and health status regarding pain, anxiety, fatigue, depression, and positive effect.

Measurements were taken at 4 months and 12 months. Follow up interviews were done at 20 months and 4 years. At the four-month follow-up, 73% of the original participants had chosen to continue their original exercise method. While no significant changes were found for the control group during this time, the intervention group showed significant improvement in several areas including both cognitive symptom management and depression. Part of the improvement appeared to be due to an increased perception of control. This remained true at the 12-month follow-up as well. Even at the 20 month and 4 year follow-ups the improvements were still maintained (Barlow et al., 2000).

The most unanticipated finding of the study was the adherence to the increased use of exercise by the participants after the four months. Considering how difficult it is to alter behavior and the lack of additional intervention or support after four months, continued use of

exercise as a solution to their health problems was a pleasant surprise. Even though some of the participants did not feel they had less pain, they did feel the exercise helped them better manage the pain and other consequences of arthritis (Barlow et al., 2000).

### **Exercise and Osteoporosis**

The most effective treatment known for postmenopausal women in preventing osteoporosis is weight-bearing exercise (Nelson et al., 1994). Calcium is essential as well, but calcium without exercise is almost negligible in its effect (Erickson & Sevier, 1997). Bone is constantly changing. It is subject to remodeling; that is, old or damaged tissue is replaced by new tissue. This process, like many other processes in the body, slows with age. But also like many other processes in the body that slow with age, exercise can counter this to a certain extent offsetting the otherwise automatic and sometimes devastating bone loss causing so much pain and misery in old age (Hankinson, Colditz, Manson & Speizer, 2001). Bone loss is estimated to begin around the thirties at a rate of .5-1% per year. At menopause this rate accelerates for women until the body adjusts to the hormone deficiencies, about 5-7 years. Males also lose bone mass as they age, but they do not experience the temporary acceleration caused by menopause (Erickson & Sevier, 1997; Hankinson et al., 2001; Nelson et al., 1994; Nelson, 1998).

Exercise helps slow this bone loss process because exercise causes the muscles to pull on the bones at the sites of attachment creating stress. The bone's demand for calcium to repair what it perceives as damage actually strengthens the bone. Measurements of the bone density of athletes demonstrates that those involved in high impact loads and high power output have

denser bones than those involved in endurance activities. Older women who are active have a lower risk of fracture not only because their bones are denser, but also because their muscles are stronger, so they are less likely to fall in the first place (Hankinson et al., 2001; Nelson et al., 1994; Nelson, 1998).

### **Exercise and Type II Diabetes**

Adult onset diabetes, also called type II diabetes, is one of the most insidious of diseases greatly protracting the morbidity process. Exercise reduces risk of this for many of the same reasons that it reduces risk of CAD. In fact adult onset diabetes is one of the highest risk factors for CAD. In brief, exercise reduces risk for type II diabetes by producing reduced blood glucose and glycosylated hemoglobin levels, improved glucose tolerance, improved insulin response to oral glucose stimulus, improved peripheral and hepatic insulin sensitivity, improved blood lipid and lipoprotein levels, decreased blood pressure in hypertensives, decreased cardiovascular disease, improved physical fitness, increased caloric expenditure resulting in reduction or maintenance of body weight, reductions in body fat, and preservation of lean body mass, improved psychological well-being including enhanced quality of life and increased self-esteem, and improved flexibility and strength (Campaigne, 1998).

Duncan et al. (2003) used exercise training, 30 minutes of moderate intensity walking for 3 to 4 or 5 to 7 days a week for six months with a group of 18 sedentary adults. Both levels of exercise (3 to 4 or 5 to 7 days a week) lowered lipid levels by increasing fat metabolism and had

a positive effect on glucose markers indicating a reduced risk of diabetes in spite of the fact that participants lost no weight. Weight loss might have occurred after a longer period of time.

### **Exercise and Cancer**

Cancer Research UK recently polled women in Great Britain and discovered that only 20% are doing enough exercise to have an impact on longevity. This poll is not broken down into the over 65 group, but the reason given for not exercising was lack of time (Fitzpatrick, 2003). Exercise is more related to cancer survivorship than cancer prevention, and since more cancers are diagnosed in older patients, exercise becomes important in improving perception of body image and control of life (Denmark-Wahnefried et al., 2003).

Epidemiologic studies indicate that sedentary women increase their risk of breast cancer by 60%-70% over women who engage in three to four hours of moderate to vigorous exercise per week (McTiernan, 2003). According to the International Agency for Research on Cancer, 25% of breast cancer cases worldwide are due to overweight or obesity and a sedentary lifestyle (Calle et al., 2003; McTiernan, 2003). More extensive proof of the detriments of a sedentary lifestyle emerged in a longitudinal study of 900,000 participants recruited in 1982 and followed for 16 years. At the end of that time 57,145 participants had died of various types of cancer. The researchers calculated the proportion of deaths from all cancers, controlling for other risk factors, and discovered that the heaviest members of this cohort had death rates 52% higher for men and 62% higher for women than rates in normal-weight men and women (Calle et al., 2003). Similar results were found by Bianchini, Kaaks, and Vainio (2002) when examining

European studies which revealed increased cardiovascular and diabetes risks as well as several types of cancer including colon, breast, endometrial, esophagus, and kidney in conjunction with obesity and low activity levels.

### **Exercise and Depression**

The physical health benefits of exercise for adults are well established (Blackwood et al., 1998; Dishman, 1995), but only recently have these studies attempted to examine the mental health benefits for older adults, especially with regard to depression (Khatri et al., 2001; Krishnan, 1999). Depression is a marker for other health disorders including the cardiovascular disease cluster (Witham et al., 2003). Depression costs the nation \$43 billion per year in medications, professional care and lost work ("Exercise and Depression," 2000). However, exercise can help in reducing the need for a treatment and days lost from work by releasing endorphins, natural mood elevating and pain-relieving compounds, while it lowers levels of cortisol, a stress and depression related hormone in the bloodstream. Thus exercise produces a more positive mood and greater feelings of self-efficacy ("Exercise and Depression," 2000; Steptoe, Kimbell, & Basford, 1998).

Yeung (1996) reviewed the literature of the last 20 years on exercise and depression in the general population and more than 85% of the studies confirmed improvement of mood after physical activity. Landers (1997) completed a meta-analysis of more than 100 studies examining the relationship between exercise and depression and concluded that for exercise to have an impact on depression the exercise must last longer than nine weeks, involve frequent sessions,



and have a significant degree of intensity and duration. The research also showed that casual recreation and relaxation therapies did not decrease depression as much as more intense exercise or psychotherapy. While some of these studies included older adults, none was specific to that population, so further studies were needed to prove that these benefits would carry over into the older population.

Blackwood et al. (1998) examined the effects of exercise on 10 individuals diagnosed as clinically depressed compared to 10 individuals with chronic fatigue syndrome and 10 healthy controls. Their study included 30 to 50 year olds and revealed that after physical exercise on a treadmill, depressed patients scored better on a cognitive test than they had prior to the exercise. The depressed group improved their scores on the cognitive measurement test by 5 points after the exercise, whereas the healthy group had no change. Finally, Krishman (1999) studied only older adults and determined that exercise provides health benefits beyond treatment of depression, such as improved aerobic capacity, that behavioral therapies and medications do not.

Much more extensive proofs that exercise will reduce depression in older adults resulted from a Duke University study conducted by Blumenthal et al. (1999). They compared the effectiveness of standardized medication, exercise, or a combination of the two as treatment for Major Depressive Disorder (MDD) in 156 men and women age 50-77 and diagnosed with depression. The Diagnostic and Statistical Manual of Mental Disorders, the Hamilton Rating Scale for Depression, and the Beck Depression Inventory served as the diagnostic tools to determine the presence and severity of depression.

Patients were randomly assigned to one of the three treatment groups, but there was no control group receiving no treatment. After 16 weeks of treatment, the three groups did not

differ statistically on their HAM-D or BDI scores. There were differences, however, in initial response times. The individuals taking medication (50-200 mg per day of sertraline hydrochloride) alone responded more quickly to treatment except for those less severely depressed. The less severely depressed patients responded just as quickly when they received lower doses of medication supplemented with exercise. They actually responded more quickly than any other group, but all groups by the end of the 16 weeks of treatment improved significantly. At the end of the 16-week period, the percentage of patients no longer considered clinically depressed was the same in all the groups. The experiment demonstrated that an aerobic exercise program should be considered as an alternative or an adjunctive form of treatment for depression in older people (Blumenthal et al., 1999).

### **Exercise and Longevity**

A longevity study published in 1916 revealed that in 1911 a person's average life span was 53.04 years. By 1934, the figure was 60.79, already a gain of 7.75 years. However, at this same time, Metropolitan Life Insurance Company was reporting a gain of 12.82 years in its policy holders (Stewart, 1936). This "...unprecedented progress in longevity, due doubtless to the effectiveness of modern hygiene, sanitation and preventive measures..." (p. 153) increased interest in exploring additional preventive measures, including exercise. To answer this need for more knowledge, in 1938 Sid Robinson led one of the most comprehensive studies up to that time. This landmark study compared fitness levels in individuals age 6-91. He divided them into 11 groups based on age ranges and measured a number of functions related to physical

characteristics. In one test, men over 73 years of age walked on a motorized treadmill at 3.75 km per hour for 15 minutes, rested 10 minutes, then walked for 5 minutes at 5.6 km per hour. Their heart rate (measured for a continuous period by the latest equipment, a cardiometer), lactic acid and sugar levels, lung ventilation, respiration and alveolar air were all measured and the results compared with other age groups performing the same activities and then performing activities at higher levels as well.

One of their conclusions revealed a decline in capacity for acceleration in older people. Basal heart rates showed no difference in those 17 to 70 in age. In both extreme groups, those age 6 to 17 and those age 70 to 91, a wider range of variations occurred. Median heart rates of men between 30 and 40 years of age were moderately lower than older men. Regardless of age, those starting with high basal heart rates hit higher working heart rates.

Everyone has a certain reserve air capacity, and Robinson (1938) discovered this reserve supply nearly compensates in the older men for the declining vital capacity. Men between 30 and 40 years of age make the greatest use of the oxygen debt and create the greatest levels of lactic acid as a result of exhausting work. However, older men do not release sugar from their livers as freely as young men when both groups are placed under severe physical stress. This study led to other studies comparing differences in ages that revealed that metabolic rate changes with age. This discovery led to speculations about how to slow the aging process through exercise and possibly achieve to even greater longevity.

By 1947, longevity had increased still further and along with it a concern over the work capacity of older individuals, especially those over 40 years old since this was a rapidly growing population (Simonson, 1947). Simonson warned of serious socio-economic consequences if

employment of older people did not keep up with increases in age. The question, he said, was whether the increase in age was matched with a decrease in work capacity or an extension of work capacity. If an extension in work capacity was not the case, then adjustments to industrial jobs would be necessary in order to insure jobs for that population. He also questioned the rate of psychological as well as biochemical deterioration with age and how that affected work capacity. And last, what could be done to counteract the decrease in work capacity with age (Simonson, 1947). Simonson examined past studies, especially Robinson's study of 1938, of both muscle strength and oxygen intake and revealed a trend toward improvement in both for older individuals. However, they were still far below younger men, so the next step was to find ways to counter the loss of muscle strength and endurance as people age. Through physical training, he was able to counter many of the problems of aging in his subjects and concluded that older men should be employable in certain jobs, especially office jobs.

Woodhall and Jablon (1957) recognized that keeping people alive longer was not the real challenge of the future, but keeping the aged "...vigorous and productive throughout the years..." (p. 586). By 1951 life expectancy had increased to 66.3 years of age for males and 72 for females. Heart disease was coming to the forefront as the big killer of adults instead of infectious disease. As people lived into their late 60's and early 70's, doctors speculated on whether the trend toward increased longevity was "finally reaching its limit" (p. 586), while others were convinced that with proper intervention it could continue on much further. At this point, Karvonen, master of changes in physiological functions, entered the discussion.

In 1959 Karvonen published his article on "Problems of Training of the Cardiovascular System," a study leading to the method used for the next 20 years in measuring the pulse to

determine minimum and maximum safe work load and called the Karvonen formula. This was a cornerstone study leading to many other studies about how the cardiovascular system effects structural, chemical and functional changes in the body. Training the heart as the primary muscle of the body and training the heart as a preventive measure to aging began in earnest at this point. Until this study, some doctors had considered training the heart possibly detrimental to health in general and Karvonen had to argue that “...longevity of trained athletes is equal to or even longer than that of other comparable groups... training of the cardiovascular system has much to recommend it because of its effects on performance capacity and health” (p. 207).

As Karvonen (1959) predicted, by training the heart, people began to live even longer and the medical community once again had to reassess its predictions on longevity as well as reconsider what public health programs and services they should offer. Thus, they began to use partial life expectancy, “the expected number of life years remaining to a randomly selected person between his current age and a fixed terminal age” (Hickman & Estell, 1969, p. 2244), rather than complete life expectancy, “the expected number of years remaining to a randomly selected person between his current age and the upper age limit of human life” (p. 2244), in making recommendations for the funding of public health programs. Since the public had become accustomed to positive trends in longevity, to maintain this trend required careful distribution of public health funds. In addition, regardless of funding or methods of measurement, to achieve marked changes in longevity trends, Hickman and Estell came to the unpopular conclusion that the public must be willing to alter its living habits, “smoking, eating, and exercise, for the purpose of achieving an improved level of health” (p. 2249). All of this

brought about a flurry of activity and research based on exercise as the new, magic “drug of choice” for increasing longevity.

In 1985, Olshansky examined trends in medicine and concluded that longevity gains since 1960 were equal to the elimination of a major disease. Unfortunately, along with this good news came warnings of diminished returns on the health care dollar as morbidity became compressed into later years (Olshansky, 1985) much like the predictions researchers and politicians make today about the health costs due to the increase in the numbers of elderly.

At the same time, people seemed to be getting smarter with age. Prohaska, Leventhal, Leventhal, & Keller, (1985) discovered that as people grow older they seem to become aware of certain behavior patterns that adversely affect their health and try to avoid them. A study at a health fair in 1985 revealed that older people tended to correct negative health behavior more readily than younger people in all areas except exercise. The Prohaska et al. study revealed that older adults actually feared exercise as a source of potential injury and diminished health, though they were willing to alter other lifestyle areas such as smoking in order to protect their health. Then a study through Harvard examined the physical activity level and other lifestyle elements of 16,936 of its graduates. This was one of the largest studies done at that time. The bottom line was that people who exercised not only lived longer, their quality of life was remarkably better than people who did not exercise (Paffenbarger, Hyde, Wing, & Hsieh, 1986). This caused some rethinking on the part of many older adults as well as quite a few doctors.

## **Exercise and the Quality of Life**

Today, knowing how exercise improves the quality of life has generated more studies to discover the effect of exercise on each organ and system, as well as specific chronic diseases. The older generations are an especially important segment of the population to examine since they will be so numerous in the near future, and exercise makes a greater difference to their quality of life as they age (Menec, 2003). The fastest growing segment of the population in the nation is the oldest old. An anticipated 400% increase in the over-age-85 population is expected in the next 30 years (Siegel, 1996). Physical inactivity is a major health risk factor for these individuals. It contributes to an increase in chronic diseases and conditions, and loss of independence for many older adults (Cousins 2001; King, 2001; Resnick & Spellbring, 2000).

As people age they tend to exercise less (Khatri et al., 2001; Nelson, 1998; Resnick & Spellbring, 2000). Less than one-third of older adults exercise regularly, much less vigorously (Ellingson & Conn, 2000; Pleise & Coles, 2002). In fact, “approximately 24% [of men] engaged in such activity [leisure-time periods of vigorous physical activity lasting 10 minutes or more] three or more times per week” (Pleise & Coles, 2002, p. 8). Lack of exercise leads to or aggravates numerous chronic health problems that plague the older population. These include, but are not limited to, obesity (Bianchini et al., 2002), Type II diabetes (Duncan et al., 2003; ), coronary artery disease (Geffken et al., 2002; Manson et al., 2002; Nicklas et al., 2003; Tanasescu et al., 2002; Wenger, Scheidt, & Weber, 2001; Witman, Struthers, & McMurdo, 2003), peripheral artery disease (Gardner, 2001), cardio respiratory disease (Witham et al, 2003), arthritis (Barlow et al., 2000), cancer (Calle et al., 2003; McTiernan, 2003), osteoporosis

(Erickson & Sevier, 1997; Nelson et al., 1994), cognitive impairment (Blackwood et al., 1998; Colcombe et al., 2003; Etnier & Landers, 1997; Isaacowitz & Smith, 2003), high blood pressure (Ramachandran et al., 2001; Sander, 2002; Vasan et al., 2001), stroke (Sander, 2002; Vasan et al., 2001), sleep disorders (Montgomery & Dennis, 2003; Singh, Clements, & Fiatarone, 1997), and depression (Blackwood et al., 1998; Blumenthal et al., 1999; Dishman, 1995; Krishnan, 1999; Steptoe et al., 1998).

Even without the involvement of chronic diseases, inactivity leads to inability to perform activities of daily living (ADL) necessary for living independently. Lack of exercise results in a reduced ability to rise or sit unassisted, walk unassisted for any distance; reach, lift or turn unassisted, or maintain balance, thus, producing broken bones from falls (Buchner & Cress, 1997; Fiatarone et al., 1994, LaStayo, Ewy, Pierotti, Johns, & Lindstedt, 2003; Miszko et al., 2003). The last is frequently the cause of nursing home confinement due to an inability to recover sufficiently to live without 24-hour care (Fiatarone et al., 1994). Over the next 40 years we will see a 400% increase in the over-85 population and age-related disability problems if the current rate of age-related disability continues (Siegel, 1996).

Regular, planned exercise increases the likelihood of living independently as one ages (Menec, 2003; Segall, 2001; Simkins et al., 2002; Vaillant & Mukamal, 2001). In addition, although the immune response generally decreases with age, exercise helps to improve it according to a recent 17-week study of 44 frail but healthy elders using an exercise program designed by researcher for the American College of Sports Medicine (“Defensive Moves,” 2001). Any illness can be depressing, be it chronic or temporary, and this makes the older generation especially vulnerable to depression and other forms of mental challenges.



Based on a review of empirical studies, Ellingson and Conn (2000) determined that the benefits of increasing mobility and energy through exercise resulted in an improved perception in the quality of life among elderly individuals. They also concluded that there are four dimensions to determining quality of life: health, socio-economic status, life satisfaction, and well-being. Strength also influences quality of life for much the same reasons due to increasing one's ability to participate in social functions with less assistance (Damush & Damush, 1999; Resnick, 2000). Exercise greatly affects health and well-being functions.

When Resnick and Spellbring (2000) worked with a nursing home population with a mean age of 88, they discovered that exercise improved self-efficacy, the belief that one can successfully complete a given task. Outcome expectations accounted for nearly 60% of the variance in behavior. In other words, if people believe what they are doing is making a positive difference, they are less likely to vary from it or discontinue the activity. Thus, emphasizing the benefits of an exercise program to the elderly only motivates if they are convinced they can perform the exercise (Barlow et al., 2000; Resnick & Spellbring, 2000).

### **Exercise and Cognitive Ability**

Aerobically fit older individuals tend to score better on several types of cognitive tests such as working memory, reasoning, and perceptual speed (Khatri et al., 2001). Emery and Blumenthal (1991) indicated that older individuals suffering from concomitant physical or emotional difficulties such as chronic obstructive pulmonary disease, Alzheimer's-type senile dementia, and cardiac disease might especially benefit from exercise training.

The Khatri et al. (2001) study used a subset of the participants from the 1999 Blumenthal et al. study, which demonstrated improvement in depression levels was the same across the board at 16 weeks. However, on the cognitive measurements, both memory and executive functioning levels improved more for the exercise only group when compared to the medication only group. Attention, concentration, and psychomotor speed did not change. The combined medication and exercise group was not used for this study. Thus, the study indicated that exercise might help improve some areas of cognitive functioning for older adults suffering from depression, since those who exercised experienced more significant improvement than those who only took medication. This is especially important since one of the cognitive areas showing significant improvement is the executive functioning area.

Colcombe et al. (2003) found that exercise reduced losses of the temporal lobe associated with Alzheimer's type dementia, and the prefrontal cortex associated with everyday function and clinical syndromes such as schizophrenia. Woo and Sharps (2003) further determined that exercise is very "domain-specific" (327) because while it has no effect on intellect, but does effect conversation recall. The study by Isaacowitz and Smith (2003) complemented the other two studies in that this higher level of cognitive functioning lead to a positive emotional state.

Since indications are that age-related cognitive declines are not uniform (Ferraro, 1997; Moody, 2000), for example, age-related decline in gray-matter volume tends to be greater in the prefrontal cortex and frontal cortex, the portion involved in executive processing, it is especially significant that this area is affected in a positive manner by exercise training. Etnier and Landers (1997) compared test results for healthy physically active and inactive older adults and young adults on learning performance and found a statistically significant difference for the older

adults, but not the younger ones. "...the fit older subjects exhibited the same amount of learning as the fit younger subjects, but the unfit older subjects did not show as much learning as the unfit young subjects" (p. 184).

All of these studies indicate a positive response to exercise training in maintaining mental abilities. A perceived decrease in cognitive function is a common complaint of depressed individuals and of those suffering from chronic fatigue syndrome, which also brings on depression (Blackwood et al., 1998; Smyer & Qualls, 2000). The inability to exercise appears to compound the problem (Blackwood et al., 1998).

### **Exercise and Strength, Falls, Balance and Flexibility**

Maintenance of flexibility and strength aids in maintaining balance. Likewise, strength improves the possibility of correcting a loss of balance reducing the likelihood of falling (Damush, & Damush, 1999). Anything that reduces the risk of falls increases the possibility of remaining independent, since broken bones due to falls are a major reason for nursing home care (LaStayo et al., 2003; Nelson, 1998). Increased strength through strength training exercises not only reduces the risk of falls, it also increases confidence levels (Buchner & Cress, 1997). Add power training to strength training and the result is an increase in the ability to process oxygen as well, which means not only the strength to climb stairs, for example, but the endurance to perform such repetitive tasks (Miszko et al., 2003). Indeed, falls cause more injury-related death in persons over 75 years of age than any other cause (Masud, & Morris, 2001). Stairs are especially dangerous (Cavanaugh et al., 1997), though they are not the only danger, because of

the loss of muscle mass and therefore the reduced ability to correct a loss of balance (Startzell, Owens, Mulfinger & Cavanaugh, 2000).

LaStayo et al (2003) studied 21 frail elderly individuals, average age 80, and discovered that following a negative work training program, which used less energy and therefore gained greater compliance than programs perceived as more strenuous might, improved balance, stair descent and fall risk in his group. Another study conducted through the United States Department of Aging (USDA) at the Human Nutrition Center on Aging at Tufts University by Maria Fiatarone et al. (1994) demonstrated how exercise benefits 80 and 90 year olds. Her participants increased leg muscle strength by 174% and muscle size by 9% in only 8 weeks of weight lifting.

Programs to improve fitness in the older populations do not have to involve a gym, but they do seem to require supervision. For example, the Canadian Center for Activity and Aging has a home support exercise program that uses a progressive set of 10 exercises, observed through regular visits. They examined the results of 60 participants following their program for four months and observed a decline in time required in up-and-go, sit to stand, and six minute walk tests. In addition, as the sense of balance and well-being improved, complaints of pain and general discomfort decreased (Johnson, Myers, Scholey, Cyarto, & Ecclestone, 2003). Such programs improve walking speed, mobility and independence in addition to reducing the number of falls (Fiatarone et al., 1994).

## **Exercise and Sleep**

A common complaint of the elderly is the inability to sleep or problems with nocturnal awakenings. Singh et al. addressed this problem in their 1997 study. They engaged 32 volunteer participants in a three-times-a-week, moderate exercise program, which proved effective in improving subjective sleep quality. Their program involved weight lifting rather than aerobics, but nonetheless, reduced depression, improved strength and improved quality of life without significantly altering other activities. Montgomery and Dennis (2003) found similar results in their study of 43 participants who were all over 60 and experiencing sleep difficulties. When they engaged in regular moderate exercise they experienced quicker sleep onset and improved duration.

## **Exercise and Motivation**

As with all efforts to educate, whether working with the young or the elderly, there must be a desire to comply with what is known. In a single word, this is motivation. So the real question becomes: How do those working with older adults motivate them to want to exercise on a regular basis? Once motivational factors are sorted out, a means to inspire others to join in may be accessible.

## **Theories of Motivation**

Theories about motivation have varied over the years. Current theories about self-beliefs such as self-efficacy and self-concept differ greatly from earlier theories of the behaviorists such as White, Wylie and Skinner who felt motivation was a result of environmental factors, or negative or positive reinforcement (Bong & Clark, 1999, Pintrich & Schunk, 2002).

In 1959 White recognized a "...deepening discontent with theories of motivation based on drives" (p. 297) and instincts as proposed by Hull and Freud and concluded that these theories missed something. They missed the need for "...dealing with the environment, the most fundamental element in motivation" (p. 329). Man has an intrinsic need to interact with his environment and from this interaction he derives satisfaction. This theory led to further examination of the effect of failure and success as motivators. Harter examined the degree of challenge of a task and the domain as important factors in motivation. Further research concluded that intrinsic motivation is based on the situation in which it occurs and changes over time. Success in one area may encourage an individual to attempt more in that same area or others by heightening self-efficacy. Bandura connected self-efficacy, the belief in one's own ability to accomplish a task, to the successful outcome of an endeavor. The concept of self-efficacy as a motivator currently permeates the research on motivating older adults to exercise.

Research designs to study motivation may follow several paradigms, correlational, experimental, qualitative, laboratory, or field and may explore several indices of motivation. First among these is choice of tasks. If a person chooses to perform a task, interest exists already (intrinsic motivation). No one has to attempt to interest the person in the task.

Second is effort. A person motivated to accomplish a task is motivated to expend the effort to accomplish that task. Generally, as effort is expended, ability increases and one is able to perform the task with less effort. Challenge decreases as ability increases. The third index is persistence. A motivated person will continue expending effort until the task is completed. Persistence is tied to self-efficacy. Individuals who are convinced they can accomplish a task are more likely to persist in the face of setbacks than those who doubt their ability to accomplish the task. The last index, achievement, is considered an indirect indicator of motivation. The more an individual achieves, the more he or she may be willing to attempt in the future (Bong & Clark, 1997; Condy, 2003; Pintrich & Schunk, 2001).

### **Applying Motivational Theories to Exercise**

One would think that with all the evidence about the importance of exercise in maintaining health that older people would be in the gyms, parks and recreation rooms of their condominiums exercising in droves, but that is not happening. Why? What compels the few to stay active and the many to remain sedentary? More to the point, how can this be remedied? Many attempts have been made to solve this dilemma.

On the Senior Wellness website ("Healthy Habits for Seniors," 2003), among the recommendations for healthy life styles are starting a program of exercise, with your doctor's permission, and staying active either with a part-time job or volunteer work. Most seniors, however, need more specific guidelines and specific, usable, suggestions about exactly what to do. Many doctors, researchers, and physiologists are making efforts to do just this by establishing specific exercise parameters (Lyndon-Griffith, 1996). However, these parameters

must take into consideration that older adults do not always exercise for the same reasons as younger adults (Campbell et al., 2001). In addition, many more seniors today use the internet to find information on exercise and health in general. Reliable websites suggesting low cost, quality interventions are needed (Cummins et al., 2003). In addition, instruction in how to access reliable information on the internet must be made available.

Engaging in an internet search may result in as much misinformation as factual, accurate information in some cases. Hours may be wasted accessing misleading advertisement after advertisement if one is not aware that all *.com* and *.net* sites are commercially sponsored. This does not mean that the information is automatically bad or misleading, but it is more likely to be. On the other hand, the *.gov* and *.edu* sites are accurate government and educational sites maintained with up-to-date accurate information. The *.org* sites will contain the bias of the organization sponsoring them. Like the commercial sites, some are very accurate and excellent while others provide only a narrow or biased level of information. In addition, some search engines, such as Yahoo, are geared to remain updated on the commercial sites and offer little access to the government and educational sites (Pryor, 2003).

In *Exercise and the Older Adult: An overview*, Lunan (1998) recommends that older adults first set realistic goals such as improving strength, flexibility, balance or endurance. Sometimes a specifically personal goal, such as being able to walk with the grandchildren, will prove more motivating than a general goal. Another great motivator, the family physician, is lacking for many older adults (Dishman, 1995). Even though many health problems are preventable, doctors rarely provide appropriate exercise recommendations. Recommendations need to carry an individualized motivational message, and a tailored prescription and evaluation



(Kligman et al., 1999). Cousins (2002) points out that as health care becomes less reliable or available self-care becomes more important. “Active-living interventions might be more effectively aimed at semi-active seniors who seem positively disposed to participating [in regular exercise]but need help to stay involved” (347). This follows logically with recent motivation theories as interest and a knowledge of task value already exist and emotions are positive (Condly, 2003). Once motivated, compliance and adherence become the next hurdles.

Motivation and compliance are significant in the success or failure of a program, and seniors will only move from contemplating exercise to action and adherence if they can find a program that appeals to them personally in some way. The program must address a personal physical, psychological, or social need for them (Spirduso, 1995). This was further confirmed in a recent study by Resnick and Spellbring (2000).

Resnick and Spellbring (2000) used a five step intervention program that included teaching patients the benefits of exercise and encouraging them to do things for themselves. As a part of the first step, residents learned to focus on the process rather than the task. Step two focused on testing to determine capability limits. This included musculoskeletal, neurological, cognitive, affective, and functional evaluation. The third step was to set short and long term goals, and the fourth step included teaching residents the benefits they could expect, encouraging them, and reinforcing successes with positive feedback. The fifth all-important step was regular reevaluations so residents could see the increases in their functional performance. Self-efficacy and outcome expectations exerted the greatest positive impact in the study. The intervention to motivate individuals to exercise must emphasize the increased self-efficacy to ensure future participation. Adherence after the study was not followed up.

Increasing the knowledge about the benefits of exercise for older adults might increase their physical activity level. In their study of 403 American adults over age 60, Goggin and Morrow (2001) discovered that although 89% were aware that physical activity was beneficial to their physical health, 69% were still inactive. However, more specific knowledge about the benefits might encourage a greater level of readiness to exercise (Barlow et al., 2000; Ellington & Conn, 2000; Goggin & Morrow, 2001; Resnick and Spellbring, 2000). Without specific benefits attributable to it, the term *beneficial* becomes vague and noncommittal.

In 1991, the U. S. Department of Health and Human Services specified three objectives for older adults, and one of them was increased physical activity as a major necessity to healthy aging (Goggin & Morrow, 2001). As Dr. Nelson reminds patients who claim time to exercise is a problem, if they exercise in their fifties, sixties and seventies, they could prevent ending up in nursing homes in their eighties and beyond (Nelson, 1998). However, several barriers can prevent even motivated elders from exercising.

Such physical obstacles as accessibility of facilities, opportunity, weather, safety, and even aesthetic attributes can hamper efforts and good intentions of seniors to exercise (Humpel, Owen, & Leslie, 2002). In addition, prescribed exercise must be safe and sustainable, and efforts need to be supported by family members (Heath & Stewart, 2002). McAuley, Blissmer, Kalmay and Duncan, (2000) found the greatest adherence among older adults who exercised with a friend, a family member or in groups of peers by walking or riding stationary bikes together. The researcher concluded this support added to feelings of sociability as well as safety.

Unfortunately, unsafe surroundings still interfere with efforts in the lower socioeconomic segment of elder society. In addition, this segment of society perceives itself as older at a

younger chronological age than wealthier segments of society. This is true of all their life transitions such as marriage and children, which all occur earlier. In addition, this lower socioeconomic group appears destined for lower health care as well and experiences worse health problems earlier in life (Barrett, 2003).

Dunlap and Barry (1999) examine personal factors such as fear of injury and various complaints of discomfort that discourage older adults from exercising. Like Resnick and Spellbring (2000), they attempted the stages of adoption approach. These followed the indexes of motivation as expressed earlier by Pintrich and Schunk (2001). Research has demonstrated success is more often achieved when behavior changes move from one stage to another rather than attempting to jump directly to the end goal (Dunlap & Barry, 1999). Dunlap and Barry concluded in their study of compliance that after progressing to the stage of compliance, older adults were more likely to continue if they perceived a low probability of injury, participated with a group or with friends, were supported by the family, and perceived the exercise session as fun.

Norcross and Prochaska (2002) motivated participants to a 76% compliance rate in a smoking cessation program with stage-matched progression, whereas traditional programs demonstrate a maximum of 5% compliance. However, Prochaska, who has devoted 20 years to working with individuals employing the stages of change, bemoans the fact that individuals may languish in the contemplation stage for a long time (Norcross & Prochaska, 2002). Prochaska also feels that more outreach is necessary to involve individuals in positive behavior changes. This is essentially true of inactivity as a behavior as well.

Fema and Zarit (1999) found the habit of inactivity in early years strongly predicted inactivity in later years. Basically, to stay active one must be active. Those who stayed active were also much happier with their lives and felt they experienced a good quality of life as well. Grossman and Stewart (2003) interviewed 33 sedentary or underactive older adults who were interested in exercise because they knew exercise was healthy and would help them remain independent. Unfortunately, they felt their already poor state of health and age might be insurmountable problems in an exercise program. Wenger et al., (2001) listed better training, education, counseling and behavior intervention as priorities in helping older adults overcome exercise barriers, especially with reference to cardiac rehabilitation.

Several strategies have been suggested to help in overcoming some of these barriers. One strategy to aid in this effort is group exercise with peers, which adds the psychological benefit of abating loneliness (McAuley et al., 2000). Another strategy is to seek out activities perceived as safe such as Tai Chi. This is a slow moving program that greatly improves balance and strength for seniors and is viewed as non-threatening (Kutner & Barnhart, 1997). Of course, walking is another exercise that improves both health and self-efficacy, especially done with a group. Elders also appreciate the usefulness of this exercise as something they use in a practical way every day (Konradi & Anglin, 2000).

Burbank et al., (2000) examined a process of going through specific steps, Transtheoretical Model (TTM), to change exercise behavior in older adults. Self-efficacy, timing, and type of exercise proved factors needing clear coordination. In the process of engaging participants in an exercise program, there must be a match between the type of program offered and the level of motivation of the potential participants in order for success to be

achieved. The group also pointed out that when applying this five step program to motivating older adults to exercise, one must avoid the pitfall, when moving from contemplation to action, of choosing an inappropriate exercise program. The program is most effective when matching interventions to all variables of TTM. A mismatch between the type of exercise program offered and the level of motivation of the participants results in a lack of continued compliance.

King (2001) recognized that in order to motivate older adults to exercise studies needed to discover not only the reasons some did exercise, but also the reasons others did not. “Without a fuller understanding of the types of sedentary behaviors that may need to be displaced so that weekly physical activity goals can be achieved, physical activity interventions may fall short of their desired objectives” (p. 41). Such information could possibly lead to workable interventions. Her study discovered that women are often less active than men, smokers are less active than non-smokers, the overweight are less active than the normal weight, and a lack of past experience with physical activity results in a lower level of activity in later years. Factors that appeared to motivate the currently active to remain so included a desire for improved physical fitness, positive beliefs concerning the value of physical fitness for improving or maintaining health, and feelings of self-efficacy, one’s confidence in being able to exercise.

Dunlap and Barry (1999) found impediments to exercise for older adults included discomfort, fear of injury, and social isolation. Even among those willing to exercise in spite of these primary obstacles, when confronted with problems with the environment, lack of access to an exercise facility, and bad weather were further discouraged. An already low motivation level needs little discouragement to negate it. This group recognized motivation problems as a major barrier to initiating an exercise program among older adults. Lack of motivation, at times, could

even be a greater deterrent than anemia, diabetes, depression, or dementia. There is, however, light at the end of the tunnel.

Cousins (2001) analyzed motivational triggers for a group of 32 women age 57-92 and discovered that semiactive women had doubts about the appropriateness of physical activity. A lack of awareness of community programs offered for older adults also contributed to a lack of activity. Had these women been aware of the availability of these programs several claimed they would have participated. Therefore, semiactive seniors who are favorable to activity may be the easiest group to entice into participation with proper awareness of both benefits and availability.

In a very recent study, it appears the word is getting out about exercise and interest is growing. Grossman and Stewart (2003) examined 33 previously sedentary or under-active adults over age 75. They discovered hindrances included poor health, lack of time, aging, and adverse environments. The key here is the phrase *previously sedentary or under-active adults* since all were trying to improve their activity levels.

## **CHAPTER 3: METHODOLOGY**

### **Significance of the Study**

Studies revealing methods to encourage compliance with increased activity goals among older adults help those individuals to live longer in a healthy, independent lifestyle (American Heart Association, 2002; Barnes & Schoenborn, 2003; Ellingson & Conn, 2000; Walsh, 2002), decrease the likelihood of depression in this segment of society (Blumenthal et al., 1999; Emery & Blumenthal, 1991; Krishman, 1999; Landers, 1997; National Institute of Mental Health, 1999; Smyer & Qualls, 2000; Yeung, 1996), and reduce government spending on health costs for that segment of the population (Fries et al., 1993, Hensley, 2000). Including everyday physical activity as exercise has broadened the scope of exercise. Based on the new guidelines from the CDC and the Department of Health and Human Services (HHS), many activities normally performed in the course of a day such as tending a garden, heavy housework such as vacuuming, and brisk walking to do errands also constitute exercise in addition to the traditional forms and give a more accurate view of American's daily lifestyles (Ford-Martin, 2003).

Even moderate activities offer health benefits, according to the new Lifestyle Activities, Behavioral Risk Factors Surveillance System (BRFSS) 2001 which provided data for the entire United States and its territories and was used to establish baseline activity level measurements for 2001 (Center for Disease Control and Prevention, 2002). "Physical activity is not an all or nothing proposition," said HHS Secretary Tommy G. Thompson. "We cannot overstate how critical physical activity is for our good health and we want every American to understand that

small steps toward a more physically active life yield significant health benefits” (Ford-Martin, 2003, online).

This study revealed that individuals who do not exercise may rationalize that because of their poor health they must not exercise. They also may avoid exercise because they experience pain due to joint problems, chronic illness, or obesity. Another factor very difficult to overcome through most motivational techniques is the fear of potential injury.

### **Purpose**

The purpose of this qualitative study is to examine the factors that seem to explain why some older adults individuals exercise and others do not. The question to be answered is: What are the reasons the elderly do or do not exercise? Before beginning this study, permission was obtained from the Instructional Review Board of the University of Central Florida to interview individuals over age 65 about their activity levels. The board examined the guided interview questions and approved the procedure.

### **Definitions**

*Compression of morbidity* –Compression of morbidity is a major goal of increased activity levels in older adults (Fries, 1980). Compression of morbidity refers to the “postponement of illness until later and later into advanced age” (Moody, 2000, p. 491). An individual who spends years in a vegetative state prior to dieing endures a long morbidity



regardless of age, whereas a 96-year-old individual who walks out to his garden, gathers his beans or peas and dies while sitting on the porch hulling them experiences a uniquely brief and extremely compressed morbidity.

*MET* – Abbreviation for metabolic equivalent, a unit of measure used to determine the amount of energy burned during physical activity. “One MET equals the uptake of 3.5 milliliters of oxygen per kilogram of body weight per minute” (Thomas, 1986, p. 1037).

*Physical activity* – Physical activity refers to activities that cause one to burn calories above and beyond those necessary to maintain bodily functions, the same as exercise (Ford-Martin, 2003). In this study physical activity would also incorporate “occupational or recreational exertion” (McArdle et al., 1986, p. 577) and is used interchangeably with exercise.

*Elderly* – The elderly are individuals 65 years of age and older (Ferraro, 1997; Moody, 2000; Siegel, 1996).

*Emotion* – In the context of motivation, negative or positive affect associated with a task. (Pintrich & Schunk, 2002).

*Exercise* – In this study exercise is defined as “occupational or recreational exertion” (McArdle et al., 1986, p. 577) and is used interchangeably with physical activity. Physical activities are those activities that cause one to burn calories above and beyond the calories necessary to maintain bodily functions and perform low-level daily activities such as reading or changing TV channels (Ford-Martin, 2003).

*Old* –The old are individuals 55 years of age and older (Ferraro, 1997; Siegel, 1996).

*Old-old* –The old-old are individual 75 years of age and older (Moody, 2000; Siegel, 1996).

*Oldest-old* – The oldest-old are individuals 85 years of age and older (Moody, 2000; Siegel, 1996).

*Motivation* – “...something that gets us going, keeps us moving, and helps us get jobs done...the process whereby goal-directed activity is instigated and sustained” (Pintrich & Schunk, 2002, p. 4).

*Self-efficacy* – The perception of one’s ability to accomplish a particular goal (Pintrich & Schunk, 2002).

*Task value* – The worth of the task with reference to the effort required to perform the task. The effort required to accomplish a task may exceed the value of the task reducing or even negating the motivation to perform the task (Pintrich & Schunk, 2002).

*Transtheoretical Model* – The name used for the stages of motivation model proposed by Prochaska and Diclemente (1982) for changing behavior. This model introduced the idea of change through stages including precontemplation, contemplation, preparation, action and maintenance.

*Very old* – The term used for the population age 90-99 (Fries et al., 1993).

## **Participants**

A criterion-based random purposeful sample of participants was selected from various locations, income levels, and ethnicities. Criterion-based means all individuals interviewed meet some criterion useful for quality control, and a random purposeful sample provides credibility to a sample when a potential purposeful sample is too large (Creswell, 1998). Clearly subject pool

could not include those living in nursing homes or assisted living establishments. Thus participants were recruited by asking individuals encountered at the grocery store, in parking lots, at the drug store, in a park, in the work place and even in the hospital if they could spare about 15 minutes to answer 10 questions. These locations were selected in order to identify participants who would meet the selected criteria of being ambulatory, community-dwelling, healthy, and over 65 years of age. In addition, participants were recruited while the interviewer attended meetings involving senior citizens such as Seniors and Law Enforcement Together (SALT) and Citizens on Patrol (COPs), organizations in Orange and Seminole counties for people who do volunteer work for the local sheriffs in those counties.

Interviews with 20 individuals over 65 years of age who met the criterion were audiotaped and the answers they gave to ten questions about their activity levels and habits were gathered. Of the individuals interviewed, four participants were Black, four Hispanic and 16 were Caucasian. Eleven were male and nine female. Ten participants were in the 65 to 70 age range, the remainder fell in the 76 to 85 age range. The youngest just turned 65 a few days before the interview and the oldest was 82.

Occasionally, potential participants examined the interview questions to alleviate the fear that they would not be able to answer them. Apparently some individual feared they were going to be tested about facts on exercise or activity levels. As soon as they saw the types of questions, the typical response was, “Oh, I can answer these.”

The ten guided interview questions are listed in Appendix A. However, the subsequent questions were not included because they varied based on the participant’s answer. The 10 guided interview questions used evolved out of a pilot study using friends, friends of friends, and

relatives with about 30 questions along similar lines. By examining those questions, combining some of the categories that arose, and eliminating questions that elicited virtually the same responses as some others, the interviewer was able to control redundancy and reduce the interview time to an average of 12-15 minutes in this study. There were a few exceptions. One interviewee required an entire 30 minute tape and part of another.

Some of the individuals interviewed were retired. However, most had moved back into the work force, usually in part time jobs that still allowed them the freedom to engage in other activities besides work. Current or former occupations included an artist, a dance instructor, USDA meat inspector, maid, fulltime housewife, plumber, custodian, credit union manager, broadcaster, a fast-food chain owner, farmer, electrical engineer, nutritionist, Navy mechanic and other related vocations. Teaching was the only occupation with two participants, one male and one female. Most individuals had been employed in more than one occupation during their lifetime.

Participants received no compensation. They were told as an emphasis of the informed consent document they did not have to answer any question they found offensive or did not want to answer for any reason. Each was asked to sign a consent form and given a copy to keep.

## **Procedure**

This research design includes the guided interview questions and subsequent questions that follow the central underlying question: Why do you or do you not exercise? These interviews were structured to reveal the participants' views within the context of the

interviewee's perception of their exercise activities. From an analysis of these answers the interviewer inductively discerned ideas or conclusions in the study as recommended by Creswell (1996) and Wolcott (2001). Special efforts were made to prevent glossing over "observational efforts that leaves them [the interviewer] with no reportable data" (p. 98). Although the above audiotaping, interviewing, and then transcribing was time consuming, it allowed for greater accuracy in quoting, especially where dialects are concerned.

The interviews were examined for key words and their synonyms or synonymous phrases. These were grouped and coded in order to assign names to specific groupings and, when appropriate, values in order to enter the information into SPSS and produce charts illustrating visually what the words described. For the purpose of cross tabulation, the clusters of meanings have been grouped according to themes or meaning units removing overlapping and repetitive statements. Transcriptions are word for word from the tapes deleting only an occasional moment of indecision such as "Hmm."

Interpretation of data is of great concern in any research, but especially qualitative data. In this study, the words and phrases of the individuals interviewed offer their own interpretation and value. Where the interviewer was uncertain exactly what the interviewee intended subquestions were used to clarify the statement. Nonetheless, in some instances individuals did not understand some words such as *moderate* and this had to be explained, possibly influencing the results.

Participants' quotes were selected to capture the prevailing view and captured the variation in views sometimes based on sex and other factors specified in the question: Why do you or do you not exercise? Most important, participants spoke for themselves in their own

words to explain the factors that encourage them to or discourage them from following an exercise lifestyle. A few expressed the opinion that they would not be good candidates because they did not exercise regularly. They were assured that they were important to be included.

This study did not include housebound seniors or those in nursing homes. They need even more extensive attention. This study included semi-active seniors who are already out and about and who have an opportunity to do something about their health so that they will be able remain active. Their future and the future of younger generations who will be required to take care of them if they do not take care of themselves depend on it.

### **Study Limitations**

Limitations included a time span of only three months in which to locate and interview participants. Some difficulty was encountered in persuading strangers, especially women, to allow the interviewer to audio-tape them. Males seemed more receptive, thus 11 males and only nine females were interviewed. In addition, because of the short time and in the interest of producing more accurate and manageable data, the researcher chose to interview small but diverse sample of 20 participants, which included four Blacks, four Hispanics and 12 Caucasian. Most interviews were done at work locations, a few in the individual's home, one in a park, and two just before meetings. Because of the limited sample size the results may not generalize to the population as a whole. Finally, the sample population did not include any participants living in assisted living facilities.

## **Assumptions**

Assumptions were that individuals would answer honestly regarding age and activity levels, the two most important items for this study. However, every effort was made to ensure that participants felt comfortable in telling their true age and activity levels. The assumption must also be made that the interviewer accurately interpreted the answers given as to the meaning intended by those giving the answers.

## **Analysis**

Analysis includes a cross-tabulation examination of themes to discern common themes and in some instances directional interpretation. A holistic rather than embedded approach has been employed. Values were assigned according to race, sex, age, and ethnicity. In their description of a typical day those who were truly sedentary were easy to identify from their own description of what they did not do. Low activity tended to exclude any extra walking beyond that required for housework or light gardening, yard work and shopping. The medium category included the activities in the low category plus working in circumstances that required much more stair climbing or walking on the job. A person who spent the day in a fairly sedentary situation, but who added moderate activity after work for the specific purpose of exercise might also fall into this category. Very active individuals included those who added activity beyond what was required by an active job, such as a daily walk after work. No one considered himself or herself extremely active. They seemed to all agree that an extremely active person is one who

runs marathons or such. However, their self-evaluation levels of activity did not always coincide with levels that would be considered accurate. Two individuals underestimated their level of activity and one overestimated.

Activities on a weekly basis were simply grouped as no new activity or additional activity. Those who engaged in a special weekend activity on a regular basis engaged in such activities as mowing the yard, pulling weeds, vacuuming, laundry, shopping or participating in activities with their church such as a special clean-up project. Annual activities were also categorized as nothing new or active or inactive family gatherings or vacations.

Greater variety began to emerge when categorizing descriptions of how age had affected activity ability, choices, and attitudes, which were the main focus of the questions. The prior questions served more as a warm-up, get acquainted exercise. In determining the extent to which exercise had affected exercise ability and choices, the researcher had some difficulty. The categories chosen were *greatly*, *a good deal*, *average*, *slightly*, and *not at all*. The interviewer had anticipated that *greatly* would indicate a negative effect; however, in rereading the responses, two individuals had answered *greatly*, their own word choice, for completely opposite reasons. One individual claimed age had greatly hindered his ability to exercise due to the onset of arthritis. The other said that because he had reached the age of retirement, he had much more free time and used a great deal of it to exercise. He now exercised twice a day on a much more regular basis. So in his view, age had greatly improved his ability to exercise.

For attitudes, types of feeling appeared to emerge clearly from the answers. These were chosen as the categories. Attitudes ranged from hating exercise to enjoying it. Some individuals felt their attitude was no different now than it had been in years past, so this was labeled as *none*



and placed in the middle. A few individuals expressed concern and fear about exercise, especially with reference to trying something new, and about the same concluded that they exercised more because it was necessary than that they enjoyed it. Thus, the categories became *hate, fear, none, necessity, and enjoyment*.

Several participants had planned exercise routines, though many admitted that their participation was more a matter of convenience than planned consistency. Activities included weights, swimming, biking, walking, or some combination of these. Thus the categories became *none, weights, swim, bike, walk, and combo*.

In categorizing the best and worst things about exercise, the researcher again used the exact words of the participants. *Best things* were categorized as maintaining strength, controlling weight, creating energy, and, improving balance, flexibility and health. Most people mentioned several of these rather than just one. Categories were as listed above with *combo* added. The worst things were pain, in the number one spot, sweat and body odor, fatigue, injury, time and nothing. These became the categories of worst things. However, *pain* was the only worst thing listed that actually prevented a participant from being truly active.

Some additional categories that were not guided interview questions, but that emerged in the interviews included the individual's apparent perception of his or her own health and lifetime activity level. Almost without exception and without being specifically asked, participants who were most active explained their own activity level as something they had done all their lives. They used such phrases as: "I was always active," "I've always been active," "I've never been one to sit around," and "I don't see how some people just sit and watch TV all the time...."

## **CHAPTER 4: RESULTS**

### **Activity Levels**

In this study only one individual described his daily activity level as sedentary. This individual had diabetes, heart trouble, and several health problems, which he used as his reasons for inactivity, in spite of the fact that his doctor had told him that he did need to exercise. Incidentally, his health did not prevent him from going fishing at least once a month.

Four participants described activity levels that would qualify as low. Two of those with low levels of activity tended to be very overweight. One suffered joint difficulties due to obesity and the other suffered embarrassment due to her obesity and confided that the clothing worn in exercise classes and the kinds of movements in most classes made her feel too obvious and awkward. The third had reduced all her out-of-home activity levels in order to take care of her husband who was suffering from Alzheimer's disease but still lived at home. The fourth individual had just recently been diagnosed with multiple sclerosis. Three from this group were 65 and one was 68.

Ten others described activity levels that were average or slightly above. Only four described high levels of activity. The four who described high activity levels engage in exercise more than once a day, went bicycling on weekends, or had fairly rigid, self-generated exercise routines to which they adhered. One individual had retired twice, and decided to get a job at the YMCA to avoid having to pay a membership fee, but still have the opportunity to use the

equipment. The YMCA trained him in the use of the exercise equipment, and he now helps other use it. He was 77 years old.

Another high activity level individual suffered a heart attack right at retirement time. He is now 68 years old and is more active than ever. He claimed that his heart attack and age had greatly changed his life for the better. He stated:

... even before [the heart attack] I was exercising, but from that point on, of course, it has been very consistent so what I do during a day is ... I will get up early in the morning, probably around 7:00, ... I will go out and I work on a Nordic track ... at least, a half hour or an hour ... and that will cover approximately nine miles doing Nordic Track. Then I usually take a break ... then I will go out and I'll walk 3 miles ... and that will take me about 50 minutes to do that. Then I will break for ... my reward ... [later in the day] I climb back on the Nordic track, and I do another 3 miles of that plus 3, maybe 3 more, so I end up doing 15-18 miles every day, every single day.

He had been following this routine for about two years and has had excellent reports from his doctor recently, which served as motivation to keep him going.

Another high activity individual had a regular weightlifting routine that she had followed and added to since her days as a cheerleader before it was popular for women to use weights. She also walked daily and biked on weekends. She did not have an annual special activity, but did something active on her vacations each year. In her view, being active was a habit, and she felt she would not have known what to do with herself if she could not be active.

Most of those who described activity levels in the average or moderate range were engaged in jobs that kept them active as opposed to sedentary desk jobs. Some worked in

buildings or complexes that had multiple floors, and they spent their time walking around these places and up and down the stairs in the process of performing the duties of their jobs. For example, one individual was an engineer at Florida Hospital, which has 7 floors and 5 buildings covering a huge area. He used to wear a pedometer in order to keep track of how much he walked, and he would accumulate 7-10 miles in a day. Part of this mileage involved climbing stairs. As he explained, “It is like my machinery. If it is not use(d) for a long time it just sit(s) around. It does not get care. It does not work when you need it. Your body is like that. It does not work if you do not use it.”

Another on-the-job walker was the man, 79, who carried groceries to the cars of the elderly patrons at a local grocery store. He too spent his days doing a great deal of walking and lifting, though he said he was certain it did not add up to five miles. Of course, he also walked at home evenings with his wife.

Other additional activities included here were bicycling and swimming. Three individual expressed the desire to go skating, as they once did, but were concerned that they might fall and break a bone. One of these individuals rides a bicycle daily, but does not fear a broken bone from a fall off her bicycle. As she explained, “I’ve always been a bike rider, I guess. You know, as a kid you learn to ride a bike. It’s just one of those things I do.”

Thirteen engaged in some sort of different activity at least once a week, usually on weekends. Weekly activity level variations mainly emerged in the form of weekly shopping or house or yard work. Some individuals did extra yard work or other maintenance at their churches as well.

Only two individuals engaged regularly in annual events such as Senior Olympics (one male) or Walk America (one female). Most other annual activity variations centered around family vacations which resulted in more sporadic bouts of activity, such as an evening walk on the beach, and a great deal of eating. Family reunions were the most frequently mentioned annual activity. While one of these reunions involved hiking as a group activity, most focused more on the food and stories shared. In all, 9 individuals engaged in at least sporadic activity at some sort of annual function, 7 attended inactive annual functions and 4 had no annual event in which they participated.

In providing a self evaluation of their own activity levels, some over estimated their level of activity, but some under estimated it. Two of the individuals who had jobs in which they walked at least five or more miles a day on the job and then went home and walked with their wives described themselves as having low activity levels. They may be confusing level of intensity with activity level. Another individual described her activity level as high, when it would be better described as moderate. However, she was at one point inactive, had a mild heart attack and was simultaneously diagnosed with diabetes at which point she began to change her lifestyle. She had made excellent progress, based on her description of before and after, and for her, her level truly was very high when compared to her former level.

In summing up overall levels of activity, most people recognized that they could do more, but a few were not sure activity beyond their current level was particularly necessary. Those who were inactive had definite doubts about the benefits of exercise at all. As one man stated,

I've known people during my Naval career who exercised, played football, some of them for the Naval Academy, were prime specimens of humanity, as far as their

doctor's reports said from their examinations, but they went out and they ran their distances, 5 miles, 6 miles, whatever it was on their daily basis run, come in, sit down and die of a heart attack. Now these are personal experiences that I'm totally aware of and that jaundice my opinion of exercise to a great degree. There are unknown factors involving the capability of the body and the actual status of your body.

For those who have remained active, age has had little or no effect on their activity level except to slow it down. All claimed to be able to do whatever they wanted except that they did it slower. The only exception to this was the individual who developed multiple sclerosis. She experienced pain with some of her activities, though the doctor told her to stay active anyway. She had to use a cane sometimes to maintain her balance, so this added to the slowing down process. She was one of the individuals to state that age had greatly changed her level of activity. However, her disease, not age, is responsible for her change in activity level. Another individual who claimed age had changed his activity level greatly had developed arthritis. Again, the disease, not age is responsible for his lowered level of activity. And again, his doctor told him to keep active and to lose weight.

The other person who had stated that age had greatly affected his activity level was the individual who now exercises more due to the time allowed by retirement. Yet another individual felt he had actually become stronger with age because he has added weight lifting to his routine, whereas at a younger age he had only engaged in aerobic activity. He now prefers weights to aerobics and says, "Any time you run more than 2 miles it's for ego, and it's not for conditioning or physical fitness." All in all 13 people have not found age in and of itself to be debilitating. Seven had some difficulties related to age, such as glaucoma or "a little knee pain,"

if not caused directly by age, but nothing that they felt prevented them from being as physically active as they desired or needed to be.

Several barriers to exercise emerged. The most compelling reason for not exercising or being active was fear. The greatest fears were pain and injury, such as a broken bone from a fall. Individuals expressing fear of pain were also most likely to express a dislike of exercise in general from childhood. Other reasons related to fear mentioned for avoiding exercise included unsafe walking trails due to “perverts” or uneven ground. Three individuals expressed the view that exercise was necessary, like it or not, nine actually expressed an enjoyment of exercise. Eighteen participants felt there was no real disadvantage to exercise. Nonetheless, only eight individuals engaged in a formal, planned exercise routine.

Time was the biggest hurdle after fear. These “retired” individuals were very active socially, if not physically. The banishment of loneliness was one reason given for seeking senior-oriented organizations and doing volunteer work, which kept some participants more active than they would otherwise have been.

By far, the most popular activity was walking. Even those who did not walk on a regular basis stated that if they could, walking would be their first choice of activities. Of those who did exercise on a regular basis, walking was unanimously included as a part of their regular routine. Other activities included swimming, biking, yoga, stretching routines, weights, and one individual thought Tai Chi looked like a good routine, but he did not know how to find a class with seniors.

One individual’s reason for exercise was weight control. Three others felt flexibility was an important reason to exercise. Health and energy had six supporters, but four individuals could

not commit to just one major reason to exercise. They had a combination of reasons including the components of the others. One female who mentioned more than one reason for exercise commented, "... when I am dieting I park real far away so I'll have to walk. I do all the right things. When I'm good, I'm really, really good, and when I'm bad I'm really, really bad."

Not surprisingly, those who were sedentary or underactive considered themselves in poor health, and those who had no regular exercise routine, but were active on the job or in other ways, considered their health good to excellent. In addition, being active as a child does not guarantee being active as an adult. In this study 18 participants claimed to have been active as children. Of those 18 who were active as children, 15 are still active as adults, which made childhood activity level a good indicator of adult activity level.

Ontologically, in the minds of most of these participants, exercise is not a part of daily activity. Through activity participants expected to complete a chore, earn a living, or produce a product. Through exercise they expected to improve their health, a somewhat abstract idea with no immediate, visible, or concrete result. The successful results of exercise may take years to discover, just as consequences of failure to exercise may take years to discover. The only invariant structure for participants is a recognition that they should exercise. However, few really viewed any of their daily activities as a form of exercise until the interviewer suggested that this could possibly be the case. Thus exercise, like religion, grapples with the difficult to grasp future reward or consequence. Verbatim transcriptions of interviews using letters in place of names to maintain confidentiality are in Appendix D.



## **CHAPTER 5: DISCUSSION AND CONCLUSION**

### **Factors Preventing Exercise**

The elderly participants in this study revealed several reasons for avoiding exercise. Fear of joint pain or of injury and the consequent loss of independence, complications from various degenerative diseases or other health problems sometimes due to earlier lifestyle choices, lack of time due to other obligations, lack of appreciation for the enjoyment of exercise, or lack of information on the accessibility of appropriate exercise all played a part to some extent. In most cases more than one of these factors occurred at one time.

Fear is a paralyzing motivational block (Condly, 2003). We recognize this in its application to education, so we need to recognize this in encouraging physical activity as well, especially among older adults who know all too well that an injury may equal a loss of independence. Nonetheless, these individuals frequently do need to exercise. Pain management becomes an issue here then. Individuals who fear pain caused by exercise will never be able to move beyond the contemplation stage without resolution of this barrier. They may genuinely desire to exercise but never will be able to unless the fear of pain caused by exercise can be overcome first. This is especially true of individuals with chronic illnesses such as the arthritis Mr. A suffered. His doctor recommended that he ride a stationary bicycle. However, his knee replacement limited his ability to ride a bicycle and the same doctor "... warned against doing too much [on the stationary bicycle] because my new hip joint is not 'authentic' meaning it is not the original," and thus Mr. A fears more pain or injury if he overdoes it. Apparently the

guidelines for exactly how much exercise Mr. A. could safely do were vague. Thus, one problem is the specificity from doctors of exactly how much and how little exercise is appropriate in each individual case.

Obesity also complicated Mr. A's problem, as it does for many others. While Mr. A's doctor also recommended exercise such as walking, Mr. A's weight caused too much pain when walking, so he had completely given up on this exercise choice. Non weight-bearing exercise such as swimming may have been a better choice, although Mr. A may not have wanted to follow this advice either for much the same reason as Ms. F. Obesity it seems causes several kinds of pain.

Embarrassment is a negative emotion and, therefore, is a block to motivation (Pintrich & Schunk, 2002). While Mr. A's pain from obesity was physical, Ms. F's pain was emotional. She suffered the pain of embarrassment due to her obesity. Only because her husband insisted on it did she even allow me to interview her. However, once she began talking, she expressed her frustration with all the advice she had received commenting on everything from the clothes necessary for working out in clubs to the looks she feels she receives from others, whether real or imagined. When I asked her if she would consider attending a workout class if everyone in it had the same problem she had, she said she would feel more comfortable in such a class, if she could afford it. She knew of no such classes offered anywhere though.

Obesity is also discouraging. This discouragement produces a lack of self-efficacy, which further reduces motivation (Condly, Clark, & Stolovitch, 2003; Pintrich & Schunk, 2002). Even before attempting any exercise the individual feels doomed to failure. As Ms. F said, "...you feel like you have a long way to go when you get really heavy. Some people say they've

got ten pounds to lose. Well, when you've got 100 pounds to lose, well, that's a long way to go."

Thus, any doctor's advice to "exercise more" is falling on deaf ears if he cannot offer some specific exercises that will cause a minimum of pain and explain that some small amount of pain is normal but not dangerous, unless, of course, it is dangerous, which also needs to be specified. To overcome fear of pain and resultant injury during or after exercise, more methods to control pain or forms of exercise that cause little pain, especially in conditions such as arthritis, obesity and misalignment of joints due to past injury, need to be explored. Pain needs to be taken seriously by anyone proposing exercise programs as well. Until we can devise medications or methods to break the pain cycle for those with true physical problems causing considerable and lingering pain in association with exercise, encouraging exercise for these individuals is fruitless. Real pain is not the same thing as fatigue or discomfort from muscle cramp or sore muscles.

In this study even activities that have a high potential for injury were not viewed as threatening if they were within one's recent or daily experience. In those instances the individual experienced a high degree of self-efficacy and felt confident of success. For example, consider Ms. K, who would love to roller skate again, but rides her bike instead because she fears injury from a fall skating. She skated at one time in her life, so it would not be entirely new to her, but she has not done so in a long time. Her skills in skating are not what they used to be, but her skills in bicycling have remained polished due to continued use, so this activity has remained in her comfort zone while skating has not, even though an injury from bicycling could be just as serious as one from skating. New exercise or activity experiences that could lead to injury

engender uncertainty of success and sometimes even fear. Activities others might take for granted such as walking on a treadmill, may be fear inducing and therefore truly dangerous for elders. Indeed, one participant had just suffered that experience by falling on her treadmill. Although Mrs. N was not injured, she was so shaken by the experience that she vowed never to set foot on it again.

Ms. N's interview required well over an hour. When I arrived she introduced me to her husband who had been out in the yard working as I drove up. I asked if he would like to be interviewed also. She said no and later explained that her husband had been diagnosed with the early stages of Alzheimer's disease. Indeed, he sat in exactly the same chair at the kitchen table throughout most of the interview, but he never interrupted us. Ms. N and I sat in the living room. However, there were no walls between the kitchen and the living room, so we could see Mr. N the whole time.

As I was interviewing Ms. N, she constantly digressed and it was difficult to politely keep her on the subject in the guided questions. Not all of our conversation is on the transcript because I turned off the tape after all of the guided questions were completed. After the interview, Ms. N insisted on showing me the house, which she and her husband had built themselves, literally, and she guided me upstairs to show me the dreaded treadmill on which she had fallen. She explained that it occurred to her after her fall that if she had been injured not only was there no one who could have helped her, but she had no idea how her husband would react. She also took this opportunity to show me a closet of shelves full from top to bottom of scrapbooks. On each spine was a neatly lettered date of the period covered in that particular book and on the pages were neatly captioned pictures complete with names and occasions of

every minor and major event in her whole family's life. She was sure that God had guided her to create these books because He knew she would need them to help her husband retain his memory. The doctor had told her that creating a "memory book" would help, and she had a ready supply. In all of this time Ms. N's husband did not speak a single word, and I understood why she had digressed so much and had agreed to the interview.

Ms. N had given up on exercise out of necessity. She actually enjoyed exercise as she stated in the interview and as was evidenced by pictures of her with her family playing volleyball in the yard or at the beach and swimming. There was a picture of her pitching to one of her son, whom she taught to play baseball, as it turned out. Clearly, she had once been quite active. Right now, her husband accompanies her everywhere, as he did with us when she took me upstairs to look at his "memory books." She says she can no longer afford to go to a wellness center or YMCA, and besides, even if she could, her husband would have to go with her. She gets her exercise now cleaning house and taking care of him.

Those who claim individuals who do not exercise simply have not made it a "priority" or that they simply have to "make the time" are trying to simplify a complex problem that may be more challenging than appears on the surface. Making time for exercise or making exercise a priority is not an option for Ms. N, as is the case for many caregivers. Although a few Alzheimer's facilities do offer adult sitting services on a daily basis, most are reluctant to do so, and, if they do at all, the service is very expensive. Even family members who volunteer to help may not know what to expect or how to deal with the needs of the person for whom they are caring in such cases. Increasing the availability of safe, supervised, inexpensive locations for exercise as well as safe equipment designed with the elderly in mind could encourage more

elderly to exercise by reducing the element of fear of pain or injury. Even in this small study 50% of those interviewed could not afford the luxury of a wellness center where supervision could help them devise appropriate, safe, effective exercises programs.

Time limitation due to caring for a medically challenged adult is a very real deterrent to exercise. Not only does the job of caring for someone with medical problems consume great quantities of time, it leaves the caretaker drained and fatigued. Just as in this study, the task falls most often to a female member of the family (Phillippe et al., 2004). To that extent, it is comparable to the task of caring for small children.

Unlike caring for children, it is rarely possible to find a “sitter” for adults with medical problems because of their special needs, and hiring a nurse is expensive. While this might be a solution for special occasions, it could hardly be the solution for a regular exercise routine. Even when other family members are willing to assist in the caretaking process, they may not have the expertise to do so. On the other hand, if the caretaker cannot have relief from these duties, the caretaker will eventually fall victim to the stress of the task him or herself. Considering the predicted increase in this population, this problem can only grow in severity and the number of families affected.

Another problem for older adults is the unaccustomed look and feel of exercise equipment. The equipment is intimidating, and they perceive the overall attitude of younger exercisers as one of fast-paced, serious athleticism rather than health and wellness. This may be why mall walking and grocery store/warehouse walking are becoming popular. First, at a mall or store there is safety in numbers, a security guard, and emergency equipment close by. Second, the surface is level. There is no fear of stumbling over a broken sidewalk or stepping in a pothole

and breaking an ankle and ending up stranded alone somewhere. Third, grocery carts serve nicely as substitute walkers to prevent falls without being obvious or embarrassing. This contributes to self-efficacy since the elderly are both familiar with this piece of “equipment” and know they can succeed in walking with it. Even Ms. A, who was beginning to have to use a cane due to her newly diagnosed Multiple Sclerosis, could walk with the assistance of a grocery cart. In this study two men and three women mentioned using grocery carts in this way. Finally, they can accomplish their shopping while acquiring some walking exercise. Utility of this sort is a nice motivator, even if it is not an overwhelming one in this case.

However, utility is sometimes the most powerful motivator (Condly et al., 2003). Some individuals who experience physical pain force themselves to exercise at least moderately despite pain in order to maintain the utility of movement as in the case of Mr. F. He had always been self-employed, and one occupation was tree trimming. One day he injured his leg when he fell from a tree and has limped ever since. The limp caused his back to eventually go out of alignment. Although it is painful, this 82-year-old still mows the yard, gardens, climbs ladders and works under cars. As he explains, “... every step I take it hurts, but I figure I got to take them or I’m going to be in a wheelchair, you know.” Few people can force themselves to move and exercise in spite of pain, unless, perhaps, there is a greater fear, such as the loss of independence.

Many problems blamed on age are really the result of poor lifestyle choices. Some of these choices begin very early in life. No amount of healthy exercise will prevent all disease or injury, but it does help to reduce the risk. Individuals who commented on being inactive as a

child or stated that they had always hated exercise tended to be the least healthy and the least satisfied with their current life situation.

Activity levels started in early years may influence activity levels in later life. Activity choices that can carry over into later life need to be encouraged in early life stages. For example, no one interviewed mentioned involvement in organized team sports as a child or young person, though many mentioned playing with siblings or friends in informal team sports or being active in other ways. Each person who had a planned exercise routine engaged in this activity without competition being involved, but frequently with other individuals involved, such as a friend, spouse or other family member. Perhaps more emphasis needs to be placed on non-competitive activities earlier in life, or on the fun and friendship of competitive sports rather than who wins. Competition against other individuals or teams did not emerge as a motivating factor in the task of maintaining or improving one's health. However, every person interviewed mentioned enjoying the company of others during activities at some point.

Former sedentary occupations contributed to health problems in later years. As Mr. A points out,

In the Navy I did a lot of marching in parades and in high school as well. During those years I got some really good exercise. After retirement and moving to a desk job, I was sitting behind a desk all day long and moving about the office very little. That allowed the onset of the arthritis to begin to work even more feverishly, and so I deteriorated even more rapidly from that point on.

Eliminating sedentary jobs is not an option and, in fact, their numbers appear to be increasing, not decreasing. One glance at any newspaper "Help Wanted" section will reveal



more jobs requiring computer skills than manual labor skills. However, corporations interested in keeping down health costs and improving performance are discovering the importance of exercise as well.

Allowing time at work for exercise is one option, since many individuals have obligations at home that prevent them using any time away from work to exercise. Assistance in locating appropriate programs for individuals with limitations due to health would be beneficial, and helping individuals find an exercise program they can enjoy, such as Mr. F, who expressed an interest in Tai Chi but had no idea where to find a class, would solve at least part of the exercise dilemma.

### **Factors Promoting Exercise**

The majority of participants in this study were active to some extent, though only two men and three women had traditional, formal, established exercise routines. Reasons for activity were slightly more numerous than reasons for inactivity. In addition, reasons for being active seemed more individual. Two individuals, Mr. E and Ms. G, were motivated to exercise as the result of a heart attack. Prior to the attacks, Ms. G had been inactive and Mr. E. had been sporadically active. However, here again, doctors provided few specifics about exercise other than the general advice of “get more exercise.” Ms. G had experience as a former dance instructor and incorporated some of her past dance stretches and exercises as part of a self-devised exercise routine, and Mr. E. dug out an old, retired Nordic track and developed a very ambitious exercise routine combining Nordic track and walking. Not all heart attack victims

have these resources on which to call. As with the case of Mr. F. who made himself work and move around in spite of pain, the utility of remaining mobile combined with the necessity of good health in order to remain mobile motivated these individuals to exercise or remain active (Condly et al., 2003).

Many seniors discover they must still work at least part time after retirement. Of the 20 people I interviewed, only five were retired and did not have any paying employment. Of those working, four men had never retired even though they were over 65, and three others retired and went back to work part time for the pay and for something constructive to do. Of the women, two were employed full time and one part time. One of those employed full time, Ms. L, says she will never stop working because she cannot afford to, and besides, she does not know what she would do with her time if she did stop working.

Offering part-time jobs that involve walking for these seniors is a good way to keep them healthfully active, combat loneliness, and supplement their income all at one time. Some of the seniors interviewed deliberately chose jobs that were active, such as Mr. H, who carries groceries for people more than 20 year younger than he, and Mr. M. who transports patients in wheelchairs or on carts which he pushes all over a huge hospital. Helping seniors locate such jobs, encouraging companies to employ them, and possibly even creating such jobs would solve several problems at one time. Since six of the seniors interviewed commented that they were unable to afford even the low fees offered by some gyms and health facilities to senior citizens, on-the-job activity may be their greatest source of exercise. Such jobs also have the added benefit of amplifying their feelings of usefulness and independence, and allowing them social contact throughout the day with a variety of other people of all ages.

Any organizations looking for more ways to draw new senior members and include them in their activities should consider a walking club. Churches and senior centers could incorporate free walking clubs as a draw to their facilities, and much more needs to be done along these lines. Walking with a group of even three or four helps alleviate fears of mugging or being stranded by an injury and provides the element of social enjoyment as well.

Another new trend is that some corporations are including on-site gymnasiums or reduced-rate gymnasium memberships as a draw for their employees. While this may seem irrelevant to today's retirees, it may make a difference for future retirees by establishing exercise habits, overcoming fears of "foreign" equipment, and the perception that gyms are for those already proficient in exercise. Orange County Public School System, for example, encourages its employees to join the YMCA at a reduced rate obtained by an agreement between the YMCA and the school system. Other schools and hospitals offer on-site exercise facilities or classes free of charge or for a per-visit fee. For those close to retirement this may make a positive difference and is certainly a move in the right direction. It also provides an opportunity to become familiar with exercise equipment and programs under supervision, which greatly reduces the risk of injury and provides a much greater feeling of security and safety.

Some seniors exercise because they know it helps them maintain or improve their health. In this study in addition to the two individuals who exercised because they had already suffered a heart attack, Ms. G exercised to help control her diabetes as well. Seven others who had no other specific health problems to their knowledge exercised simply because they knew it was "good" for them.

Seniors are also interested in remaining healthy through controlling their weight and remaining mobile and flexible. Providing programs that are geared to specific disabilities along the lines of rehabilitation efforts encourages greater participation and again reduces the fear factor. Slow moving programs aimed more at balance, and flexibility rather than high intensity, endurance programs are more appealing to a greater number of seniors based on these interviews. This is one of the reasons walking is such a popular activity.

The majority of participants mentioned sharing activities such as walking with a spouse as an enjoyable activity. Walking sometimes carried over into family vacation activities such as beach walking or hiking with the family. Mr. H and his wife, Mr. and Ms. O and Mr. and Ms. M all enjoyed an evening walk after work when the weather permitted because it offered a time alone to talk as well as exercise uninterrupted by television or telephones. Some family members were especially clever in their method of support. For example, Mr. C has a couple of health problems, diabetes and heart trouble. He is convinced that he cannot do anything and claims he does nothing all day but watch soap operas on television. However, Ms. C has him on an exercise program he is not even aware of. As she tells it, every morning he must get up and get dressed for the day because she has things he must do. In the morning he collects the newspaper, and in the afternoon he collects the mail. Four times a day he must walk the dog. He either must go to a doctor appointment or to the store on an errand every day also. She makes certain no doctor appointments are on the same day and that there is always something they must have from the store. He thinks he sits all day, but she makes certain he does not. Her last trick is the best. She arranges fishing trips and asks if he wants to come along. She knows he loves

fishing, and he always says yes because he knows she's really saying, "I'm going fishing and if you don't want to be left here all alone, you'd better come too."

Early exercise experience influences what will happen in later life. Activities associated with good experiences are more likely to produce future exercisers. Simple, informal activities enjoyed with friends and siblings in early years were remembered as fun and offered a positive association with exercise. In addition, exercise experiences that were repeated frequently throughout life increased self-efficacy in reference to the individual's ability to successfully and safely perform the exercise as in the case of Ms. K and her bicycle riding or Ms. P and her activities. Ms. P and Mr. B began to enjoy organized competitive sports more by early adolescent years. Exercising without injury early on fosters more confidence in safe exercise ability in later life. These are also the individuals who can develop an appreciation for the enjoyment of exercise.

Two elements emerged in this study that were not really a part of this study, but that bear mentioning. First, 14 of these 20 healthy individuals credited their good health to their healthy diets, not necessarily their exercise habits. They suggested that exercise was important, but felt eating habits were more important. Mr. H even gave me a recipe. Second, one area this study did not examine but that showed up a sufficient number of times as an influencing factor and would be a good possibility for a future study is the influence of spirituality. Mr. and Ms. A, Mr. and Ms. F, Ms. D, Mr. H, Ms. L, Mr. M, Ms. N and Mr. O all referred at some point to their church, blessings of God, or their worship habits and beliefs as contributing to their good health. As Ms. N pointed out as I was walking out to my car, she probably should do more walking since Christ had set the example. "Jesus was a walker, too," she smiled and waved.

## **Conclusion**

One of the advantages of a qualitative study is its ability to generate hypotheses for future studies. One area needing further study as a result of this study is the situation of caretakers. As more and more people grow older, there will be more and more people in the caretaking roll. These will be primarily women, if the past is any indication of the future. They in turn will become needful of care if they become so burdened by their added duties, even if it is a burden of love, that they will no longer be able to function and will need care themselves, further complicating an already complex problem.

Another problem that warrants further study is embarrassment due to obesity. This study included only adults 65 and older. Most likely, embarrassment due to obesity prevents other ages from exercising as well and may be even more pronounced in younger women than older. This may lead to a vicious cycle of no exercise, thus more weight gain, followed by more health problems until there is little or no possibility of exercising, regardless of the desire to do so. If these women can be enticed to exercise at an earlier age, through, perhaps, special classes that cater to overweight individuals only and use safe, graduated levels of intensity to build endurance and strength, a great deal of misery might be avoided, not to mention medical expense. Many programs already exist that could meet these requirements with a few alterations.

Due to the changes in the definition of exercise by the CDC, new and increased educational efforts, especially among the older populations, about how we get exercise outside of formal, planned exercise routines need to be developed. This need is revealed by the fact that

several participants in this study who did a great deal of walking on the job, seven to ten miles in some cases, did not consider that part of their daily exercise. In a phone survey, if such an individual were asked to describe his daily exercise level, he may describe it as low, as these participants did, because his only planned exercise was a one mile, evening walk, weather permitting, or the individual may have no planned exercise routine at all. When older adults think of exercise they still envision their school gym class of jumping jack and toe touches, the television version of aerobics classes, or the newspaper write-up about the most recent marathon.

Within the limits of this qualitative study, the reasons elderly participants gave for avoiding exercise included fear of injury, joint pain, poor health, complications from various degenerative diseases, and a lack of enjoyment of exercise. Inconvenience and expense were obstacles to exercising as much as some participants would have liked, but never were given as obstacles completely preventing exercise. Lack of time was sometime an excuse when lack of priority was the real problem, but lack of time was also sometimes a legitimate impediment as in the case of the caretaker. The reasons elderly participants gave for exercising included necessity due to post-heart attack motivation, work-site exercise program or equipment availability, opportunity to habituate work-related tasks, spouse support, history of exercise experience, ability to exercise without injury, enjoyment of family outings, and an appreciation of the enjoyment of exercise. Many of the reasons for avoiding exercise could be reduced or eliminated with programs designed to better accommodate individuals with degenerative diseases and minor disabilities.

## **APPENDIX A: GUIDED INTERVIEW QUESTIONS**



### Guided Interview Questions

1. Describe a typical day in your life in terms of activity.
2. Describe a typical week for you in terms of activity.
3. Describe a typical year in terms of activity
4. How would you sum up your overall level of activity?
5. Describe how age has affected your activity level and/or choices.
6. Describe how aging has affected your attitude toward exercise.
7. Describe any planned exercise routine in which you participate.
8. Describe the best things about exercise in your opinion.
9. Describe the worst thing about exercise.
10. May I contact you again if I discover I need additional information?

## **APPENDIX B: IRB LETTER OF APPROVAL**



Office of Research

July 3, 2003

Nancy Williams  
4621 Misty Way  
Oviedo, FL 32765

Dear Ms. Williams:

With reference to your protocol entitled, "A Study of Factors Motivating Older Adults to Exercise: Preferences, Helps, and Hindrances," I am enclosing for your records the approved, executed document of the UCFIRB Form you had submitted to our office.

Please be advised that this approval is given for one year. Should there be any addendums or administrative changes to the already approved protocol, they must also be submitted to the Board. Changes should not be initiated until written IRB approval is received. Adverse events should be reported to the IRB as they occur. Further, should there be a need to extend this protocol, a renewal form must be submitted for approval at least one month prior to the anniversary date of the most recent approval and is the responsibility of the investigator (UCF).

Should you have any questions, please do not hesitate to call me at 823-2901.

Please accept our best wishes for the success of your endeavors.

Cordially,

A handwritten signature in black ink, appearing to read "Chris Grayson".

Chris Grayson  
Institutional Review Board (IRB)

Copies: Dr. Frank Rohter  
IRB File

Office of Research  
12443 Research Parkway Suite 207 • Orlando, FL 32826-3252  
407-823-3778 • FAX 407-823-3299  
An Equal Opportunity and Affirmative Action Institution



## **APPENDIX C: IRB APPROVAL FORM**

**IRB COMMITTEE APPROVAL FORM  
FOR UCF/OOR/IRB USE ONLY**

**PI(s) Name:** Nancy M. Williams

**Title:** A Study of Factors Motivating Older Adults to Exercise: Preferences, Helps, and Hindrances.

**Check as applicable (optional):**

- ☐ Yes    ☐ No      Have sufficient assurances been given to the committee to establish that the potential value of this research exceeds the risks involved?
- ☐ Yes    ☐ No      Written and oral presentations must be given to participating subjects (parents or guardians, if minors) informing them of the protocol, possible risks involved, the value of the research, and the right to withdraw at any time.
- ☐ Yes    ☐ No      A signed written consent must be obtained for each human subject participant.
- ☐ Yes    ☐ No      Are cooperating institutions involved? If yes, was there a sheet attached providing the name of the institutions, the number and status of participants, name of the involved official of the institution, telephone, and other pertinent information?

**Committee Members:**

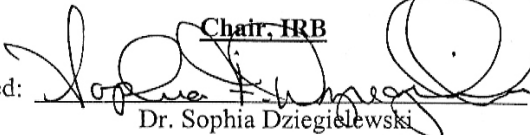
☐ Contingent Approval  
Dated: \_\_\_\_\_

☐ Final Approval  
Dated: \_\_\_\_\_

☒ Expedited  
Dated: 2 July 2003

☐ Exempt  
Dated: \_\_\_\_\_

Dr. Theodore Angelopoulos: \_\_\_\_\_  
Ms. Sandra Browdy: \_\_\_\_\_  
Dr. Jacqui Byers: \_\_\_\_\_  
Dr. Ratna Chakrabarti: \_\_\_\_\_  
Dr. Karen Dennis: \_\_\_\_\_  
Dr. Barbara Fritzsche: \_\_\_\_\_  
Dr. Robert Kennedy: \_\_\_\_\_  
Dr. Gene Lee: \_\_\_\_\_  
Ms. Gail McKinney: \_\_\_\_\_  
Dr. Debra Reinhart: \_\_\_\_\_  
Dr. Valerie Sims: \_\_\_\_\_  
Dr. Bob Spina: \_\_\_\_\_

**Chair, IRB**  
Signed:   
Dr. Sophia Dziegielewska

## **APPENDIX D: CONSENT FORM**

### Consent Form

I am a doctoral candidate at the University of Central Florida. As part of my dissertation, I am conducting an interview, the purpose of which is to learn about exercise practices among adults over 65 in order to discover preferences, and motivational helps and hindrances to exercise for this age group. I am asking you to participate in this interview because the results could influence exercise options available to you and other as well as assist health professional in understanding exercise motivational factors for your age group. Interviewees will be asked to participate in an interview lasting approximately an hour. You may preview the questions in advance. You will not have to answer any question you do not wish to answer. Your interview will be at your convenience and choice of location. With your permission, I would like to audiotape this interview. Only I will have access to the tape, which I will personally transcribe, removing any identifiers during transcription. Upon successful defense of my dissertation, the tape will be erased. Your identity will be kept confidential, and your identity will not be revealed in the final manuscript.

There are no anticipated risks, compensation or other direct benefits to you as a participant in this interview. You are free to withdraw your consent to participate and may discontinue your participation in the interview at any time without consequence.

If you have any questions about this research project, please contact me at (407) 671-1241. My faculty supervisor is Dr. Frank Rohrer. Questions or concerns about research participants' rights may be directed to the UCFIRB office, University of Central Florida Office of Research, Orlando Tech Center, 12443 Research Parkway, Suite 207, Orlando, FL 32826. The phone number is (407) 823-2901.

By signing this letter, you give me permission to report your responses anonymously in the final manuscript to be submitted to my faculty supervisor as part of my course work.

Sincerely,

Nancy M. Williams

\_\_\_\_\_ I have read the procedure described above for the Motivating Older Adults to Exercise : Perceptions of Helps and Hindrances study.

\_\_\_\_\_ I voluntarily agree to participate in the interview.

\_\_\_\_\_ I would like to receive a copy of the final "interview" manuscript submitted to the instructor.

\_\_\_\_\_ I would not like to receive a copy of the final "interview" manuscript submitted to the instructor.

\_\_\_\_\_  
Participant

\_\_\_\_\_  
Date

UCFIRB

APPROVED SED

DATE 2 July 2003



## **APPENDIX E: TRANSCRIPTS OF INTERVIEWS**

## Interviews

Mr. A

65

retired

30 yrs in navy – musician

also 12 years Navy Federal Credit Union serving finance needs for navy and marine personnel.

*Describe your activities in a typical day.*

I primarily spend the day calling on doctor's offices, shopping centers, or sitting about the house doing nothing.

*When you visit these places, do you usually park as close as possible or farther away?*

I always park as close as can get. I have a disabled parking permit, but I will use an even closer spot if it's available, not for me but for my wife, X. I walk from the car to the building and back, once a day. I only make one appointment a day.

*Do you ever use stairs instead of the elevator?*

No, no stairs. I always use the elevator instead if need to go to other floor than the first floor. I always take the easier conveyance.

*Do you have anything you do on a weekly basis that is different for your daily routine?*

The weekend is pretty repetitious of the day. Some things vary, for example, weekly activities might vary with the needs of church. I'm a deacon in Catholic church, and sometimes I have to oversee christenings, burials and such according to need. But I do no yard work, vacuuming, or things like that unless they are absolutely necessary.

*Describe your activities in a typical year.*

The year is just an extension of each day. There are no planned activities,

*How would you sum up your overall level of activity?*

I have a sedate level of activity. Health and physical reasons preclude a considerable amount of daily activity. Hopefully that is going to be rectified with a considerable amount of weight loss that will free me up personally to engage in some level of physical activity other than what I have been engaged in. Right now my activities are prevented by degenerative arthritis in one hip and both knees. Right hip has already been replaced. I also have diabetes. Weight loss has already helped my left hip some. I can do a stationary bike some now, but doctor warned against doing too much because my new hip joint is not “authentic” meaning it is not the original. It is titanium. You could say I’m super hip.

*Describe how age has affected your activity level or choices.*

When I was younger I walked with my wife and now I’m not able to do so. I’m walking better than I was before the hip replacement, but my left hip still hurts too much to do long distance walking. Can’t walk far enough or fast enough to elevate my heart rate. I can’t do anything regular. Also, I’m lazy. I don’t really like to exercise. I never have been a person who exercised. In the Navy did a lot of marching in parades and in high school as well. During those years I got some really good exercise. After retirement and moving to a desk job, I was sitting behind a desk all day long and moving about the office very little. That allowed the onset of the arthritis to begin to work even more feverishly, and so I deteriorated even more rapidly from that point on.

*Describe how age has affected your attitude toward exercise.*

As I said, I never really loved exercise. I guess I played the usual childhood games, but to have a lifestyle activity regimen, well, I've never been one to exercise for the love of exercise. I stayed in the bands because of the music and the friends and being part of something, not the exercise. I really didn't care for most of the marching.

*In your opinion, what is the best thing about exercise?*

I guess the exhilaration created by the release of endorphins; it elevates your spirits, provides meaningful responses to things you don't usually think about. Most people think of exercise as something that just builds up your stamina and elevates your heart rate, but it's also just good for your mental attitude. It helps you deal effectively with stress and many other arenas that most people don't give much consideration to during the run of a day. The most beneficial thing, if it's an exercise program generated for just making you feel good and keeping your body toned then allowing you the freedom to be out moving around. I think a walking program is the most desirable for all age groups depending on the benefits desired. I can't think of one program that would be a benefit to me.

*What is the worst thing about exercise in your opinion?*

I hate getting hot and sweaty and stinky. Other than that there's no real down side. For every individual it has it's on down side and demeaning side. External application is impossible for me, that's the real down side for me personally. The cartilage in my hip and knees is worn out and since it's due to arthritic condition, exercise worsens it by causing bone grinding on bone. Exercise has beneficial effects and it also has devastating effects. For people who are in excellent physical condition, who have exercised all their lives, who have been, if you will, the leaders in various exercised techniques, to go out and exercise then come in and drop dead, it

gives me pause for concern as to how beneficial exercise can be overall to the human body. I don't know that exercise is all that beneficial when people who exercise all their lives live no longer than people who don't exercise at all, in many cases. I've know people during my Naval career who exercised, played football, some of them for the Naval Academy, were prime specimens of humanity, as far as their doctor's reports said from their examinations, but they went out and they ran their distances, 5 miles, 6 miles, whatever it was on their daily basis run, come in, sit down and die of a heart attack. Now these are personal experiences that I'm totally aware of and that jaundice my opinion of exercise to a great degree. There are unknown factors involving the capability of the body and the actual status of your body. How good is your heart muscle? How good are those arteries supplying blood to the heart? How good are those arteries supplying blood to the lungs? Can you have an aneurism? Can you have an embolism? Can you have any number of things that can kill you on the spot and can they be generated because you went out and exercised? Obviously they can, because we've lost such people as Jim Fix to a heart attack and he's the guru of runners. The consequences of all of this in my thinking is that exercise may or may not be one of the good things you can do for yourself and I think you have to make sure that you've had all the necessary tests, that your doctor has looked at everything about you and said, yes, your blood runs free through your arteries, your lungs are nice and clean, there's nothing about you that indicated there's detrimental side effects to your regimen, then you can safely go about and exercise with the expectation the you are going to reap the benefits of longer life expectancy increased health and whatever other side effects you may individually derive from that.

Mr. B.

Caucasian

77

Data processing for a finance company 25 years then purchased a pizza franchise, retired. Now works at YMCA instructing use of weights and weight machines.

*Describe your activities for a typical day –*

I go to the Y everyday. I work part time there as a trainer and fitness instructor. I help people develop a fitness program of exercise and make sure they use the equipment safely and show them how to make the best use for themselves and help them using free weights (dumb bells and free weights) if they want to do that and resistance machines.

*Did the Y train you for this?*

Well, no, all my life I've been very, very active in physical activity and physical training. I already knew how to use the machines from years of experience when I first went there. I couldn't afford to keep my membership due to some financial setbacks and I proposed that I could work part time for them and they let me.

*Had you ever had any college courses in fitness?*

No, I didn't take any college courses, but in the Y you must go through a program that introduces you to the things that you may not be familiar with. However, having worked with virtually all the equipment and all the weights, knowing most of the exercise programs and so forth, it was virtually things I'd been doing all my life.

*So, on a daily basis you get up, get dressed, and go to work?*

That's correct. I work usually from about 8 until 12 or 1 everyday, five days a week, and at the end of that day is when I usually do my workouts.

*What does your workout consist of?*

My workout consists primarily of doing an initial cardiovascular exercise, for me it's usually running, and I will run usually a mile.

*On the track here?*

Usually on the track. On weekends or when I'm over at the beach or something I'll run on the beach or I'll, if I'm not coming in here, I'll run around the neighborhood.

*Your aerobic activity then is to run? Do you do that everyday, every other day, three days a week or what?*

Just about every day.

*Then you do weights?*

Then I do a weight resistance routine. What I used to do, I'll tell you what I used to do, but I don't do that much any more, and that is that I used to do a workout in which I did upper body one day and then I'd do lower body and back the next day and then I'd alternate those.

*So you don't do that anymore. Do you just do the whole thing?*

No, what I do now is that I will usually do chest and arms one day, I'll do shoulder all by themselves one day. I'll do legs one day, no I'll do legs and back one day... so I've broken it up into three groups. Where I used to do it in 2 days, now I do it in three.

*Do you do anything different on the weekends from your daily activity other than the running that would be considered an activity?*

Well, during a part of the year I will train in swimming. And what I will do is I will train for a period of 6 or 8 weeks, maybe 2 months or so, before the senior games. I will train freestyle swimming. And a couple of, several years I was, I won the state championship in the 50 meter freestyle and I was fifth in the nation in 50 meter freestyle.

*I didn't know I was interviewing a celebrity.*

You're not. No celebrities. And I will probably compete next year

*So every year you compete in the Senior Olympics?*

I have, but I skipped this year. The Senior Olympics is every other year and I will compete next year depending on where it is next year, if it's not too far away I'll, maybe I'll probably go.

When it was down here at Disney was when I competed last.

*Is there anything else that you do in a year? The Iron Man in Hawaii?*

No way, I wouldn't think of it. Any time you run more than 2 miles it's for ego and it's not for conditioning or physical fitness.

*How would you describe your overall activity level?*

What do you mean? Strong, medium, or light? or what?

*Do you consider yourself extremely active or active or moderate or inactive?*

I'm moderately active.

*You consider yourself moderately active?*

Well the reason I say that is because there are other people that, my age group too, that do much more extreme activities than I do. They'll ride 100 miles on a bicycle for example, or they might, a lot of them will do marathons. Some of them will do, well for example my swimming



for example. I will compete in just one race when I do it and others will compete in five or six races.

*How has age affected your activity level or choices?*

The only thing that I notice about it, as a matter of fact my size and strength has improved each year. You know I haven't worked with weights non-stop during this period. As a matter of fact, I have intermittently worked with weights over the years. I started when I was in college. After I got out of college for the first ten years after I got out, married and so forth, I didn't do weights again for a year or two then did them again, but during this whole period I ran. I started running when nobody else was running. In fact around my neighborhood I was considered to be quite a geek running back in, of, I guess it was 1960. And then it wasn't until I came back to Florida, I guess I didn't get back to weight lifting until back in the 90's. I guess it was the 90's when I started lifting weights again. And I have been pretty consistently lifting weights since then.

*Do you think the weight lifting does you more good than the aerobics?*

It's hard to differentiate between the two. If I don't do aerobics I'll gain weight, and I don't like to gain weight. I don't like to do that. As a matter of fact if I want to lose five pounds I can lose five pounds just by doing aerobics and cutting out one or two items that I eat, and it's very easy for me to do that. But if I didn't do aerobics I know I'd gain weight because weight lifting will not take weight off of you. No, weight lifting will not take weight off of you. But I think that the weight lifting is very good for me, and I would highly recommend it for people as they get older because what will happen is their muscles will certainly go to pot if they don't. If you don't put your muscles to work you're really making a big mistake.

*Describe how age has affected your attitude toward exercise.*

Aging has had nothing to do with it. I truly, and this is not a brag or anything of the kind, I've never considered age as anything, I've never thought of age, never.

*So your attitude toward age is it just doesn't matter?*

It's something that you're going through, and that's all there is to it. It's just there and you can't get by without it.

*Describe the best thing about exercise, in your opinion.*

Well, I can notice, for example, if I don't exercise, if I have a period of a week or maybe two weeks that I just don't do anything, I get "loggy," I just, absolutely, and then it's hard for me to get myself going again, hard to get back into the routine, and then when I get back into the routine it takes me two weeks to catch back up to the one week that I missed. I think the things that I enjoy, well it's not so much that I enjoy it so much, I recognize that I cannot do without exercise. I have always, since I can remember, had plans to live a very long life. And I know there is no way you can do that without doing your exercise.

*Elaborate on "loggy"*

I would think... that I would get lazy. I'll sleep and I'll sleep at periods when I shouldn't be sleeping, and I'll get into a , I guess in a way, you're not doing anything and it just bothers me terribly.

*So "loggy" is another version of lazy...*

That's all it is. And not only that but I don't know whether it's imagined or not but I feel heavy and clumsy and not as sharp as I like to be and

*I call that mushy-mindedness.*

Well, that's basically right, and I do crosswords puzzles to take care of that.

*Describe the worst thing about exercise in your opinion.*

(Long pause) Well, I can't think of a whole lot of things that are bad about exercise. I can't think of anything that I don't really like about exercise. I guess, I guess that if I had to say the thing I least like about exercise it's the necessity of doing as much aerobics as is requires. Some days I don't feel like doing it, but I do it anyway.

Mr. C

70

Black

Retired Navy electronic equipment repairman

*Describe your typical daily activities.*

Well, I live a sedentary life. I don't do much of anything because I can't get around too well, problems with my feet, knees...they need replacing...I tend to sit around doing nothing except enjoying my 2 soaps in the morning.

*Is that pretty true of your entire week then? Do you go with your wife to the nursing home or anything? –*

Yes, it's the same every day.

*Do you do anything different on a yearly basis? Do you at least get to go fishing with her once a year? –*

Fishing on a yearly basis? Oh no! More than that. I go fishing at least once a month.

*But you would say your activity level is basically low?*

Very low.

*Describe how age has affected your activity level or choices.*

Well, quite a bit because of increasing maladies such as heart problems and diabetes.

*Was your diabetes adult onset diabetes?*

Yes.

*Has this changed your attitude toward exercise then?*

No, it hasn't changed my attitude, no. It's just that I can't do it anymore.

*What is your attitude then?*

About aging?

*About aging and about exercise*

Well, my attitude about aging I guess is not too enthusiastic in reality. However, I don't knock it though. It's a natural process. In that light, I just can't get out and go.

*So what is your attitude about exercise?*

Well I like it, but I just keep telling myself that I can't get out and do it any more because every time I try aches and pains just stop me short. But I have a good attitude about it. If I could do more then I would.

*What is the best thing in your opinion about exercise?*

It keeps you young, you live a little longer

*What is the worst thing about exercise?*

Like I said the aches and pains that accompany a lot of the exercises that you do, you know, oh gee whiz, you want to do more, once you're into it you want to do more, but you tell yourself, "Oh, it hurts so much, it hurts so much..." you know, and it changes your mind about continuing

your routine with your regular exercise, you know. You want to do more once you get started, but you just can't.

Sidebar: Ms. C. has an exercise regimen for her husband. He has to walk the dog 4 times a day. He must get the newspaper in the morning and the mail in the afternoon. He has to get up and get dressed every morning because she keeps a list of errand he must run on a daily basis. She makes sure all doctor appointments are on separate days. She arranges fishing trips and asks if he wants to come along. He always says yes because he knows she's really saying, "I'm going fishing and if you don't want to be left here all alone, you'd better come too." Although he thinks he sits all day, she sees to it that he doesn't.

Mr. E.

Caucasian

Age 68

Public education as a teacher 44 years

*Tell me about your daily activities.*

Since I am newly retired, I have just sort of been getting used to not having to meet deadlines, getting up at the same time, so my activity has centered mainly around... I painted my house this summer which I probably would not have under taken if I had been continuing teaching. I would have had somebody else do it. But since I had experience going through college doing painting, etc. and having decorated a number of houses that we have built inside and outside, why I decided to venture and do my own, which I did. It didn't take me long because it's not that big

of a house, but it made me go up and own a ladder and get used to doing that kind of thing, plus doing my regular regimen of exercise which I do.

*What is your regular regimen of exercise?*

Well, when school was out we went to Ohio to take care of the grandkids, so we did some walking then and they were riding bicycles and that kind of thing, but I had always done a fair amount of exercise prior to my heart surgery of 22 months ago and I had always thought that I was in pretty good condition, but a test that I took proved was not, that my heart wasn't doing as well as it could be. So, even before I was exercising, but from that point on, of course, it has been very consistent so what I do during a day is ... I will get up early in the morning, probably around 7:00, I usually put on my workout togs, I will go out and I work on a Nordic track which I have had for a number of years, and I try to do at least, uhm, a half hour or an hour of Nordic track which will do me. I usually break after the half hour, just a short break, but I find that if I stay with it it's better and that will cover approximately nine miles doing Nordic Track. Then I usually take a break. I'll have my breakfast, then I will go out and I'll walk 3 miles. Which also... it's good as far as I'm concerned because it gives me time to think, gives me time to listen to the birds, gives me time to, oh, as I said, I can solve a lot of problems walking and so things to think about and I go about 3 miles and that will take me about 50 minutes to do that. Then I will break for that and I will probably go get a slurpy as my reward for having done that much and then I will read. I found... I always read, but I found when I was teaching I did so much reading anyway, that it wasn't pleasure to read something else so now I'm able to pick up books that I've purchased or books that were given to me and I will read, oh, maybe an hour outside on the

patio and then after that I climb back on the Nordic track and I do another 3 miles of that plus 3 maybe 3 more, so I end up doing 15-18 miles every day, every single day.

*Did your doctor recommend that you do that much or did you decide you needed that much?*

I decided to do that much. No, my doctor appreciates what I do. One of my cardiologists told me after my surgery, because I was operated on on the 31<sup>st</sup> of October, and then I was released from the hospital. That was on a Tuesday. I went in for a catheterization on Monday; they found I needed 4 bypasses, so they just kept me, which was fine. They operated on me, that was a Tuesday, I was home by Sunday, and, of course, they had a wonderful plan. I had excellent treatment, and they knew I would follow the regimen, and they give you a certain amount that you're supposed to do even when you get home. It's walk inside for 5 minutes twice a day continuously, just in the house. And eventually, of course, they have you go outside for 15 minutes and then work it up to a half hour, then by the time you go back and visit the surgeon, my surgeon I went back a month later, I was to have been walking 45 minutes straight. So that was part of the regimen. I never thought walking was that beneficial until had my heart surgery and then I realized it is very beneficial. I would jog or I would do Nordic track, but walking to me was silly. I felt I needed to push myself. And so when I went back to the surgeon, he released me. He said, "You can start driving a car," and I said "You're kidding." And he said "No, you can start driving a car now. You have to be careful, but you can start driving a car." But anyway, I didn't because my wife said no. She wasn't going to let me drive. But I had to go back to see my cardiologist at the Orlando Heart Center and I had to pass a stress test in order to be able to go back to teach. And I had scheduled a stress test for the fifteenth of December. I had scheduled to see him and he gave me an EKG and he said, "Well, It's a little uneven."

And I didn't know what he meant by that and I was ticked off by it until I went to where I was doing rehab work and the 2 nurses there, when I , they said , "Well, what did he say?" And I told them and they knew I was a little miffed because of it and he wouldn't give me the stress test and this was the fifteenth of December. School was going to start again on the third or fourth of January. And I thought I'd really worked and followed the regimen and it bothered me. What I didn't understand was that my heart was still adjusting to the bypass. And it was still healing and that was all part of the plan. He didn't tell me that, which, he's a wonderful guy, but he's a year younger than I am and he's semi retired. I now have Dr. X. whose kids were in the I. B. program, so – anyway, I decided after that, O.K., besides doing 3 miles, I'm going to do more. So, I'd walk 3 miles in the morning and I'd walk 5 miles in the afternoon. And that was 8 miles that I was pushing myself to do. He said no Nordic track, but he said walking? Fine. When I went back then a week later – or was it 2 weeks later – to have the stress test – I scheduled it – they gave me an EKG and he said, "Well, it's better. It's settled." So I told him how much I was walking and he said, "Well, that's wonderful, except orthopedically I don't know if it's that good for you at your age." But never the less, When school began, I couldn't do that much, because I would get home at, like, 3:30 or 4:00 o'clock, and it's – you're exhausted from teaching – I don't care what any body says, try it sometime. People don't realize facing 125, 30. 40 kids everyday, being onstage, and standing up and having to be active in the respect, it's a physical thing. It becomes draining. But then I decided after having been to Ohio, right after school was out I decided I was really going to get back on my regimen. When people said, "What are you going to do when you retire?" I said, "I'm going to get my health back! I'm going to exercise. I've got time to do it. I'm not pushed." So that's when I decided to push. When I went back in to



see my cardiologist, probably a month ago, and I told him, he just looked at me with big eyes, and he said, “O.K. 15-18 miles a day, that’s wonderful.” He didn’t say I had to do it, but he said, “If you feel good, and you have the time, it’s going to be beneficial.” And it also caused me to lose, probably about 12 pounds, which made him happy as well. He never talked about my weight, but I knew that I needed to lose some poundage.

*Did it affect your cholesterol, the exercise?*

Yes, yes. And I have – what really got me going to a doctor – you know how men are – they procrastinate and say their not – their fine – they hate going to the doctor and not that I welcome them, but I understand the purpose when it hits you with your heart, but I, my primary doctor is the one who said to me, “Kiddo, you’ve got high blood pressure.” He said, “Of course you’re in an occupation which brings about high blood pressure. But,” he said, “your cholesterol is out of sight as well.” I said, “What do you mean by ‘out of sight’?” He said, “Well it’s like 318.” And I never was a person to eat, I thought. And so he worked with me for a year to 2 years – this is my regular doctor – and he would give me an EKG during my full physical. And it was in July over 2 years ago that he sat me down in his office, and he said, “I know you exercise. I know you play tennis. But,” he said, “I don’t want you dropping dead on me out on the tennis court, so I want you to go have a stress test.” And that’s when I procrastinated and said, “But the grandkids are coming in.” And he said, “O. K. but you better schedule it.” Well, I procrastinated. Finally went to see a cardiologist at the Orland Heart Center and he said, “Well, we can’t give you a stress test until you get your blood pressure down.” So I had to buy a home kit, take my blood pressure, bring him in a diary of it and after about 3 or 4 weeks, when I went back, or maybe, I think it was 5 weeks, he said, “O.K. We can schedule a stress test.” And again

I procrastinated. So my blood pressure medicine from my primary doctor was going to run out and I knew what he was going to say – “No, not until you go take that stress test...” So I called, my doctor was semi-retired, so it took me almost 3 weeks to schedule it, because he only did it on certain days, and it was on that Monday in October that I went in and had it, so that’s when I realized, and of course I had been on every type of medication, I was even on the one they recalled, which was Baycall, I was on all of this. And there was a concoction that I was on that when I went to my pharmacist, he said, “You obviously have a problem with your cholesterol.” I said, “Yes, I do. Why?” He said, “That’s a rather volatile concoction he’s giving you.” So when I went back again, you know you have to have blood tests every month, at least at that time, to check your liver and all that. So when I went back in I said, “By the way, my pharmacist said that that...” He said, “Oh didn’t I tell you that that was just approved?” He’s that type of guy. We have this repartee` between us where we’re rather sarcastic to each other, but he said, “Yes, they just approved it and I just thought maybe we’d try it with you.” But there was really no great effect. And I thought, I told him was eating, I felt like a rabbit, because I was eating so much lettuce and carrots and salads and not eating meat, red meat, and I was not eating the cheeses and was doing all of this stuff and it wasn’t making any progress. Well, what I needed was a cardiologist. And Dr. X is very,... studies this stuff and so when I finally got him we went back to zero. He tracked everything I had had for five years, showed me a chart, showed me what had happened. And so he said we’re going to go back to zero. and we’re going to start there and we’ll increase things and see what kind of effect it has and that will prove – the last check I had, which was in July, actually it was June, I went in July, and it was the lowest it that it had ever been. He said, “We’ve had a breakthrough.” It was 165. So he – it’s exercise,

it's diet, I eat a lot more fish than I ever did. I eat a lot of salmon and a lot of salads. And I'm just careful. My downfall always comes when we travel because, you know, you go to France for 2 weeks, sauces and everything else. It's hard not to eat, you know, it's hard to tour, it's hard to say, "No, I 'm not going to have any of that dessert," or any thing like that. But I just have to be more careful with it. But no, to get back to the original, no, they didn't tell me I had to do that. It was just my own initiative because I'm a person that has always felt that I had to push my body in order to feel good.

*Is there anything that you do on a weekly basis that's just a once a week thing?*

Something like playing tennis? I don't play it every day, but I play tennis one day a week or 2 days a week. I used to play it every day, played it every day until my partner moved away to North Carolina and he was self-employed, so I would call him from school and say, "I'm on my way," and he'd say, "I'll meet you at Red Bug 5, 10, 15 minutes." And we would play every day of the week, and if it would rain we'd go someplace else and play. So it was very "that was it," and I still play tennis, you know, once a week.

*Any other activities once a week, vacuuming a house or – ?*

Oh yes, yes. I clean house, and that's not a slam at my wife, and I've been doing it for years because she would not get home from her high school duties, being a counselor, sometimes until late. It was easier for me to clean the house on Thursday and get the wash ready to be done, do that kind of thing. Yeah, and my yard and everything is done essentially, but other than washing cars occasionally and things like that. And she's busy with her Creative Memories back in her cubby hole, I call it, and she sort of descends into that with ideas and she gets on a roll, and she

doesn't like to quit, and so I will make the evening meal, you know. We both eat salads and stuff like that and so I get the meal ready.

*Do you have an annual event that's an activity?*

Well, twice a year we usually go to New Smyrna for a week, in fact my wife would do it, cause they had a week break in October, so she would book herself a condominium over on the beach and go over, and then I would go over for the weekend. But this summer we had all the grandkids come down and we took them over to the beach, my daughter-in-law, three grandkids and my son, who is completing his doctor's degree in psychology, was going through some orals, so I didn't collect him until half way through the week from the airport. He works for Southwest Airlines. But anyway, we do that. Yes and if I can find the time and my mother is in reasonably good condition – my mother's 90 years of age; she'll be 91 in October. We had a big celebration for her in her retirement center last year – and I take her to Ohio, back to her home stomping grounds, and her mind is like a steel trap. She remembers all the back roads, and I will take her through the town, and she will tell me who lived there and who lived there. I mean, I know because I grew up early years, actually was born on a farm, but my other grandparents had a country store in a little town in Ohio, still in the family. I have a cousin who's running it and the homestead in Ohio is still in the E. name, which has been there in the E. name for the last 170 years. So, yeah, we do stuff like that.

*How would you sum up your level of activity, in your opinion?*

I would think it would be very active. Yes I would think very active, I'm not a person to be sedate. I don't sit much.

*How has age affected your activity level or choices?*

Well, probably, I do a lot more walking. I used to jog a great deal. And it's not that I'm reluctant to do that, actually one of the things that keeps me from doing very much of it is, of course, you know they take veins from your legs for your bypasses and that's probably one of the most painful things about heart surgery. I mean, my chest I didn't have any problem what so ever, didn't feel that and the leg, so, there's still a degree of numbness, even at this point, you know, where the scar, of course you can't see it, they did a good job, but there's still a little bit of that. I've jogged a little bit doing my workout, but not any great distance, not like I used to. And so that's probably how it's been altered, I don't know, I've actually I have more time so increased the amount of activity I have.

*How has age affected your attitude toward exercise?*

It's made it more positive. I mean, I've never minded exercise; it was the time factor. I would feel like I had to take a block of time out of a day or every day and set that aside and if there was something else that came up where I couldn't do that I was probably ticked off or angry thinking, "OK, I'm not going to be able to do this." Gradually though, even while I was teaching school, I would go up and see my mother every other Saturday and take her out to see what the rest of the world was like and take her shopping and have breakfast with her and have lunch with her or something. It gets her out and gets her a chance to see what's going on. and I wouldn't exercise on that a day because I felt as though I would be cheating her if I would go up there, because she's in DeLand, and it's a 40, 45 minute drive and get up there, spend just a short time, say, "Well, sorry, Mom. I have to go home. I have to exercise." I wouldn't do that. And that sort of

changed my attitude about it as well. I figured, “OK, I can miss a day.” But some people would say I’m driven to exercise. But it’s just me and it’s sort of rubbed off on my daughter-in-law, who’s not, she runs and she’s been in marathons and she gotten involved. She says she’s never felt better in her life than to do it. And she’s had 3 children and she doesn’t look like she’s had 3 children. I have time. I don’t feel guilty. In fact, I thrive on the fact that I don’t have to rush to get done with a certain amount of it. I planned my day today knowing that I was going to come here and do this. And so I just chose a little bit earlier time to do my workout, and had to take my car in, and so that’s the luxury of being retired and not having to do something everyday. And so my attitude toward it has changed. Now I’m concerned because we’re going to Ohio, we’re actually going to be away from home for 5 weeks, and while I’m in Ohio I can do the exercises because the kids love, they have carriages and such and I push and run with them. So that part of it, but not as much. And then when you’re touring, and you’re riding on planes and buses, and you’re in different time zones, then – That’s why I said to my wife, “I’ve got to really get myself in shape,” and not push myself to lose weight, do it to lose enough weight, because when you go on tour and they provide 3 meals a day you come home feeling you have to be wheeled off the plane on a wheelbarrow. So my attitude is actually more positive toward exercise.

*What is the best thing about exercise in your opinion?*

The best thing I find with the type of exercise I do and even when I was teaching and would come home and do Nordic track at least is that I had time to think. I could work out situations or problems that had arisen, and I would be wracking my brain on how do I deal with this or how do I handle this, or even the next day in school knowing that every class has a different

personality sometimes and knowing that what would work in one may not work in another class, so I did a lot of thinking in terms of what I could do differently, so I did a lot of that. I think the best part of it is being able to use my mind while I'm exercising and that way staying on top of things as well. I don't try to blot out things. I love walking because I can hear the birds. I don't use a walkman with ear phones because you can't hear the birds then, and I love hearing the birds and the quietness of the morning and that kind of – So that's the best thing to me. I can use my mind. I can plan, I can think things through. I was doing something yesterday. I was exercising and I had cooked something up with technology and I'm a technology dinosaur, but I had gone and bought something and tried to hook it up and didn't know if I'd hooked it up correctly and then as I began to think, "Now why did I buy that when I could have just bought that because the TV does seem to have another attachment for that. I could have spent less money..." so I'm thinking this through in my mind while I'm on Nordic track thinking about it and I said to my wife, "Let me show you this diagram..." and she said, "yes", and I said, "Well now see, I hooked it up this way and it works but down here is another's another set of these and I could probably have away with just buying this rather than a combination of things and it would have cost us less money, not that that was the big thing, but I thought through all of that while I was walking or exercising, not while I was sitting down thinking looking at something or reading or thinking, "OK, how am I going to deal with this. So it's little things like that that I find helpful. And I do a lot of reading.

*Do you read while you're doing Nordic track?*

No, actually I have a radio on and I listen to music. It's just that when I'm not doing that I'm able to go out on the back patio, screened in porch, and even thought it's just my cooldown. I'll

sit down out there and I'll get something to drink and I take the book that I'm trying to read.

This summer I read *Elizabeth*, which was 800 pages. Of course, it's history and I love history, but it was something that I just waded through, and I just finished *Hitler*, which is another 800 page book. I've read about 4 or 5 books this summer that are of significant length that I would not have attempted. I would never have been able to concentrate on it.

*What's the worst thing about exercise?*

The fact that you must take the time. You must block out a section of time. Sometimes you feel too rushed to take the time, but you must do it.

Mr. F.

Caucasian

82

Air force, tree trimmer, farmer.

I had a fall out of a tree and I crushed my heel and I couldn't dance any more.

I limped for about ten years and it hurt, so I favored one side and threw body off and my spine got more bent as years went on.

*Describe your activities on a daily basis.*

On Thursdays, I go down and have coffee with the old boys, coffee clutch, and it's about the same old thing. You discuss your ailment sand operations and all that. And then I come home and have dinner and take a nap. I fall in the chair and go to sleep. Before I go I get Ms. E.'s breakfast and take it to her bed. But it helps me because every step I take it hurts, but I figure I got to take them or I'm going to be in a wheelchair you know. And I after that I take my



medicine. I fix my breakfast, and I go then after about an hour or 2 hours I come back and we have dinner, and I take a nap in my recliner and I might have to go to the bank. And I usually walk around in the store whenever we do the shopping. I get my exercise that way and working outside and working in my garden, and I cut the yard, and I used to do my tree work. But I'm too old for that any more. And I try to do a little mechanical work. It's hard to do mechanical work now. It's hard to get down. It's hard to get up underneath, the car and it just makes it a little harder. I fix little things that break down, the water pump, lawn mowers. And I climb the step ladder to put in my sky lights. And I have to be careful. Years ago it was easy, but now I have to be careful. I just do things around the house.

*Do you have any different activities that occur mostly on a weekly basis?*

Well, let's see, I don't think so.

*How about annual activities? Could you describe any of those that you have?*

Income tax (laughing). Oh well, we have a family reunion we go to every year. I'll tell you another thing I used to do. I used to go to the flea market down in Deland, and I have a little buggy that I push and I got pretty good with that buggy. I could walk pretty good with that buggy. It was kind of like a support. I used to enjoy going because there's so many things you can see there. And I'd walk all day with that buggy. And even with a grocery cart. I can get a lot of support with a grocery cart. Soon as we get out of the car we look for a cart every time we go to the store.

*Describe your overall activity level.*

I'd say it's pretty good. I just can't sit still, you know, I got to do something. There are so many things I quit doing. Ms. E's brother comes down and we go fishing and it's hard to walk on that beach. But I'm pretty active even though it hurts to walk.

*Describe how age has affected your activity level and choices.*

It wasn't age, it was health. I had an aneurism, two hernia operations, and a hip replacement. And it didn't slow me down too much. But I could tell the difference, cause if you're under a lot of medication and they put you under, it's just a long time till you get your strength back and you're just weak a lot. We used to go fishing a lot and the beach, my friends and I. Some of them just aren't around anymore.

*Describe how age has affected your attitude toward exercise.*

You don't look too far in the future. You know what I mean? Maybe some of us think life will be over too soon and when you get in your 80's you're going down hill. You're going to the other side of the hill, but that don't bother me, but I do think about it. What's going to happen, are you going to be in a home? There's more information on TV and in the mail, funeral homes and that stuff. When you get older too, you know you can't work any longer. Your condition won't let you. And you see your bills and things getting out of hand, your taxes and things like that and you naturally worry a little more. Sometimes you think you had enough to retire on and then the interest rates has gone boom and that makes you more concerned about your physical self. What am I going to be able to do? Am I going to be able to take care of myself? Am I going to be able to stay in my home? You can see on TV, that Willard Scott, all the time he's talking about people over 100. There was one on there 103. They had an old woman showing her exercise routine one morning. Exercise is a necessity, but you have to slow down anyway.

*What is the best thing about exercise in your opinion?*

Well, I seen a show one time where this old lady, she was 90 years old, and she could no longer exercise and she took her toes and she exercise them in the bed every night. She wiggled her toes every night, 99-100 times, and that was her exercise. Well everybody's got to have exercise cause if you don't you get stiff, you can't do anything, you know. And it's part of your whole body function, you know, and I try to do as much as I can. The most embarrassing thing I have is I bend over when I walk and you just hate for anybody to see you doing that, but that's the only way you can walk, you know. But I know exercise is the best thing for you. Lots of times I make extra steps because I want to stay out of a wheel chair. I don't know what my case here someday will lead to, or if it is as far as it goes now. You know the Chinese have an exercise, you know, you've seen them do it, that just moves real easy. Tai Chi. I went to the Chinese restaurant down there, you know, because her husband can do that, and I tried to get him to teach me, but he wouldn't do it. I'll tell you why he wouldn't do it. It was be cause he had been a foreman of a group of men, a large group of men about 140 of them, and some of the fellows got a little rough with him, and he never forgive them. And so he never got too friendly with none of us. I thought I'd be nice to know that exercise and because it didn't take a lot of strength and for a person who was losing their strength that'd be a wonderful way to keep in shape.

*What's the worst thing about exercise in your opinion?*

Sometimes it's painful. In my case it's painful. And you can overdo it. Next morning you can tell it. And I guess that's about it.

Mr. G.

Hispanic

71

Broadcaster

*Describe a typical day in your life in terms of activities.*

My daily activities. Well, I get up and go to work. I work part time for Phillip Morris Company. I'm what they call a merchandiser. I go to stores and put up signs and change the graphics and so I'm in and out of the car a lot. I'm up and down, walking and climbing, climbing on ladders, climbing on milk cartons to get whatever I need to get. Getting down on my knees to get to cartons that are stored on the shelves so I can make them get the newest cartons on the bottom so they sell the oldest first so they keep fresh product. So I'm up and down and up and down and bending and lifting and all the other stuff.

*Describe a typical week for you in terms of activity. In other words, is there anything you do on a weekly basis that is different from your daily activities?*

On a weekly basis... I don't know, I officiate football and basketball, so during, ahh, during the week I usually have a couple of football games, or a couple of football games and basketball games, you know, and, I mean, well for instance this week I'm going to be working two football games and, well actually, four football games, two high school football games and two Pop Warner games.

*Do you have any hobbies that involve activities?*

Well that's not hobbies but I mow the lawn, do the weeding and go golfing. You know – just regular stuff.

*Describe a typical year in terms of activity. Is there anything you do on an annual basis that involves activity?*

Hum um. You mean something like at a certain time of year do I go on a mountain climb or a ski trip? No, I don't have anything like that.

*How would you sum up your overall activity level?*

I'm very active. But I've always been active. As a child my brothers and I stayed outside all day, you know, and made up all kinds of chasing and running games like tag, and we rode bikes to a swimming hole. And my job has lots of bending and climbing and refereeing means running up and down a football field or basketball court to be sure I can see everything. I'd say very active. But, now, I don't run marathons or anything like that.

*How would you classify a person who ran marathons in terms of activity level?*

That would be extreme. I'd call that extremely active.

*Describe how age has affected your activity level or choices.*

It hasn't – I don't think. I still do all the things I used to do when I was younger. I still ride a bike, I still officiate, I still golf, I still do all the things I did when I was younger.

*And age hasn't affected it at all?*

Not that I know of.

*Describe how age has affected your attitude toward exercise.*

Well, I've always been active so I, you know, I don't think age has anything to do with having changed anything that I do. I mean, as long as I can do it, the only difference probably is that I can see between when I was younger and now is that when I was in the military I had a regimen that I had to do. OK? Every day I had to get up and do PT and do so many sit-ups and so many

of this and this and that. Now I don't do that, but whenever I officiate I stretch and I do this and all before the game starts and I make sure I don't pull a hamstring or do something and, so, you know.

*But you don't have a planned activity, a planned routine?*

No, no.

*Describe the best thing about exercise in your opinion?*

Well, just think it keeps you limber, keeps you vibrant. It, uh, helps you keep from becoming stagnant. If you don't exercise, if you don't – your bone are, become, well you can't do things. You just, you know, it's one of those things that you either use it or lose it. And if you don't use your flexibility and so forth, you loose it so that you no longer can be very flexible and do things.

*Describe the worst thing about exercise in your opinion.*

Well, I guess if there's a down side it's, it's umm, it's being disciplined to do it every day ... the same thing. I don't think there's any harm in exercising. The difficulty is doing a routine. Like, I don't have a routine. Those people who I see out jogging everyday, ahh, I think that's nice. They're going to jog for a while, but they're not going to do that for very long. I mean they'll do it for maybe two or three years, then after a while, then they fall off the wagon and what have you. I have been doing what I have been doing since I got into officiating [over ten years ago] and I'm still doing it. So...

Mr. H.

Caucasian

79

World War II B-17 radio operator, meat inspector for federal government, and later for Florida.

Currently a bag boy for Publix part time to stay active.

*Describe a typical day in your life in terms of activity.*

Well, I get up and if I come to work for Publix I work here, then I go home and I stay active cutting the grass or doing other things, I stay busy. I bag groceries, then put them in the carts, and walk them out to the cars with the customers.

*So you're walking all day?*

Walking all day in and out to cars and around the store.

*Describe any thing different from your daily activities that might happen only once a week.*

That's the biggest thing I do, what I do. I walk with my wife at night when I get home. She walks around the block, and I walk with her. Just around the block.

*Describe a typical year in terms of activity.*

Sometimes we take a vacation and go places. We used to swim a lot, but we don't do that a lot anymore. Sometimes I ride my bike.

*So how would you sum up your activity level?*

Very active. I can't sit very long and watch TV or anything. I have to be doing something.

*Do you have any planned exercise program other than walking around the block with your wife?*

Not at the present time because I get plenty of exercise at Publix. That's the main reason I'm working for them. I've always been very active, but I've never had a planned exercise. I've bowled and stuff like that, and I skated, roller skated and ice skated some too when I was in the military.

*Describe the best thing about exercise in your opinion.*

Well you feel better for one thing. You have to move around. I couldn't sit and look at TV long at a time. I just couldn't do that.

*Describe the worst thing about exercise.*

I don't see anything.

*How has age affected your attitude toward exercise?*

It hasn't.

*How has age affected your activity level or choices?*

Well I still do the things I want to. I still stay active and work. I don't roller skate 'cause I might fall and break something. And I do this [work at Publix] not especially for the money... I know it's good for me. The biggest thing that makes me feel good is that I never smoked and I never drink. And I do eat your good meals, you know, I eat like I should.

Mr. I.

Hispanic

64

Engineering Department Florida Hospital

*Describe a typical day in terms of physical activity.*

(This is with the help of an interpreter, Ms. Z.)

I cover everything involved with the hydraulics and pneumatic pumps maintenance of this place. I walk all over this place to all the buildings to check that everything is working. I may go to one place and then go back again to it later because I have to check it again after I fix something. I do all the PMs (pneumatic maintenance) in this place. I do a lot of PMs. I fix all air conditioning, refrigeration, anything involving hydraulics. I do all that. If a new refrigerator



comes in I have to check it out for safety and put a tag on it and write it on my pages (indicated clipboard with pages) and write down its number and the floor and the room and where it is. We have 7 floors here where things are located.

*Is that to be sure there is a record of where everything is located?*

Yes, I keep record of where everything is located. And I walk throughout all these buildings to do that.

*I understand you used to wear a pedometer to keep track of how far you walked in a day.*

Yes, I wore a pedometer for a while, but it broke. I walked so much I broke it.

*About how far did you walk in a day while it worked?*

I walked between 7 and 10 miles a day on most days. We have 35.5 million square feet to cover in the rooms and halls and all. I use the steps.

*Describe a typical week for you in terms of activity.*

I walk all over the buildings in each week. I have a schedule of the order to check all the equipment in all the buildings. You see these pages of the schedule (indicates clipboard again). Any new equipment comes in, my job is to check it for safety before it goes in and I check it. Last week I installed a new refrigerator, and I checked all the hydraulics in all the air conditioning. ...

*What about your free time when you're not at work?*

Oh, I work on my son's hydraulics system on his truck. My son drives an 18 wheeler truck. I check his brakes and lights and all the electrical system and keep all that working good for him.

*Do you do any other type of work on weekends?*

Yes. And I mow my yard and take my wife to the grocery store so she can go shopping. I stay busy all the time.

*Describe any activities that you enjoy on an annual basis, like family gatherings or such.*

Oh family, yes. My family loves vacations. Last vacation my uncle in Indiana was ninety years birthday, and we went to see him. It was a long trip, and I was tired when we got there, but I was glad we went; all the family went. All the family that could go went. We had a good time talking. And on the way back we went to all over to Chicago and to Tennessee and to Gatlinburg and Atlanta. And any weekend you say Miami and I go. It is like my back yard! I love to go to Miami.

*How would you sum up your overall activity level?*

How?

*Would you say you are very active, moderately active, or inactive?*

Moderate active.

*How has age affected your activity level or choices?*

Not at all

*How has age affected your attitude toward exercise?*

Not at all.

*So you like exercise and still consider it a good thing?*

Yes

*Do you have a planned exercise you do each day?*

No. But I walk each day with my wife. After dinner we walk about six blocks because she needs the exercise. She has diabetes and she needs to walk each day, so I walk with her. It does her good to walk.

*Describe the best thing about exercise.*

The exercise help you stay healthy. That is why we walk. My daughter has a exercise machine an I use sometime, but not much. I like to walk.

*Describe the worst thing about exercise.*

No, there is no worst thing. It is like my machinery. If it is not use for a long time it just sit around. It does not get care. It does not work when you need it. Your body is like that. It does not work if you do not use it.

Mr. J.

Caucasian

70

custodian Seminole County Schools

*Describe a typical day in terms of activity.*

I'm lazy. I'm laid back. I don't do much of anything. I repair stuff around the house.

I repaired the steps about a week ago. And I patched the roof.

*Did you climb a ladder to do that? Do any hammering and sawing?*

Yeah, um hum. I don't know we just do a lot of stuff. A lot of hammering and sawing. Well, I work about two hours and then I'm lazy after that. I don't have to do any more than that.

*Describe a typical week in terms of activity.*

Well, most of it I spend over at the sheriff's office doing what ever they want me to do. I work accidents, I write citations, I do radar, I put out civil process papers. Whatever they want me to do, I do.

*Do you do a lot of walking around to do these things?*

No. Most of it's sitting in a chair or a car seat.

*How do you stay so slim?*

I don't eat much. I'm diabetic and I have high cholesterol.

*Is there anything you do annually that's a special activity?*

Well I usually go up, well as a matter of fact, I just got back from South Carolina to see my daughter, I go up there about twice a year.

*What did you do up there?*

We shopped. My wife and her went shopping and we walked a lot. And carried the bags.

*How would you sum up your overall activity level?*

Medium. My overall level of activity is uneven. I just do what I want to do. If I want to be active one day I'm all right, and if I want to I may just lay off for two days.

*Describe how age has affected your activity level?*

It's slowed me down a lot. You can still do what you used to do, but you can't do it in the same time. When I went back to custodian after I retired, I thought I could just go in like gangbusters, but I went back to work for a year and that last year was rough. I was 69 and I just couldn't go. It was rough.

*Describe how age has affected your attitude toward exercise.*

It hasn't changed my attitude. I used to walk a lot. I used to walk four miles a day. Now I don't walk hardly at all. Except when I'm shopping (laughs). I know its [walking] good for my diabetes, but its [the diabetes] not high. This morning it was 114.

*Describe any planned exercise that you do.*

No planned exercise routine. I keep a diabetes diary.

*What is the best thing about exercise?*

Well, when I was able to, the best thing about exercise was that I enjoyed it.

*What is the worst thing about exercise?*

It hurts. I have bad hips. My joints bother me. When I turned 70 I fell apart.

Mr. M.

Black

71

Occupation-Transportation Department.

Florida Hospital

*Describe a typical day in terms of activity.*

I do my activities all day long is walking around collecting the equipment and taking care of the equipment and such as wheel chairs, stretchers and etcetera and now and again I like do some transporting of patients when there is a need for. Walking around all day.

*How large do you think this hospital is?*

Very large, very, very large. (It is five large buildings, and some of the large buildings have up to 7 floors. There are also several small buildings.)

*What do you do on a weekly basis that's different from your daily activities?*

Well you see, my activity is about the same all week long. As long as I walk 5 days per week that's what I do is walk around the whole hospital. That's what I do is transport the personnel. That's what we do. We have a courtesy wheelchair business like to all the visitors and patients that come in we do courtesy wheelchair. We have about 6 points that we stock with wheelchairs in: the medical plaza, information desks, lobbies etcetera we give them wheelchairs. That is part of my job to transport them all day and when they call for wheel chairs.

*On your days off what do you do that is different?*

Oh yeah, on my days off I have a lot to do at home. I mow my grass. I edge my grass, I pull weed and I goes up to my church. I'm very active in my church. I goes up to my church and sometimes I mow grass at my church. Not all the time sometimes I edge. We have a riding mower and sometimes other people cut the grass. I goes up and sometime I edge around the grass.

*Is there anything that you do on an annual basis, such as family gatherings?*

Oh yeah, yes, I go on vacation. I love to go on vacation and I love to travel. I love the highway. I'm a highway person.

*Where are some of the places you've traveled?*

Oh, I've traveled, well I lived in New York, I traveled from New York to Detroit, Chicago , New Orleans, Alabama, to all those places driving the highway and then I come to Florida. I like doing that traveling. And then when I goes over seas, take for instance, some time ago I, well in 1999, I took a trip to London, I took a trip to Egypt, I took a trip to Jordan and Israel, my wife and I .

*How would you sum up your overall level of activity?*

My activity is like very busy because I keep moving all the time. Very active

*How has age affected your level of activity or your choices of activity.?*

Well, it's funny but uhm, sometimes, even now, I don't see age as a problem. Age has not become a problem to me. I'm feeling good. With the help of the Lord and bless the lord I'm feeling good, very good. My only problem is that I have a little glaucoma which is not keeping down. It don't restrict my activity when I'm driving and things like that, and I have a little problem in my knee that's not really keeping me back and don't give me that problem all the time, its my right knee. And so, I am dat age I'm feeling good in body, in spite of the years I'm feelin' good.

*Has age affected your attitude toward exercise?*

No, all my years I've been doing, I've never been a person who goes out and does a lot of, well when I was a young boy I did a lot of running and exercising, playing cricket and swimming and etcetera. As a matter of fact, right now if I go in the ocean I'm not saying that I'm an excellent swimmer, but I could hold my own. I could hold my own and swim in it. I swim in the pool or anywhere. Not in the lake. I don't go swimming in the lake. But in the ocean. I go swimming in the ocean, but I don't do too much swimming here in these waters in Florida. But in the West Indies I go to the beach and I go swimming.

*So you've been pretty active all your life?*

Yeah, yeah. As a matter of fact I plays um, basket ball, not run around like the young guys, but I go shoot some balls at the nets sometimes at my church. We have a community center where we have our activities at our church.

*But you don't follow some planned, formal exercise routine?*

No, I've been an active go-getter all my life.

*Describe the best thing about exercise.*

Well, sometimes what I do, sometimes I like to like to put myself between two things and pick myself up. (gesture of building large bicep muscles).

*So you like the fact that it keeps you strong?*

Right and I do the bend over and touching the toes.

*So you like the fact that exerciser can help you stay flexible?*

Right, Right. I can touch my toes at the year of 71, almost 72 I can still touch my toes.

I could still swing. If I had to swing on something I could still swing and pick myself up.

*What is the worst thing about exercise in your opinion?*

Oh, well it gets you a little tired but that's normal. Gets you a little tired. I give the Lord praise for the physical ability the Lord has given me. I love people and I want to thank the good Lord for that.

Mr. O.

Hispanic

68

Plumber

*Describe a typical day in your life in terms of daily activity.*

First I get up at 5:30, leave the house read for an hour, then have some breakfast, then at 7 o'clock I punch in work 8 hours, punch out at 3:30, go back and do a lot of times I have side jobs on plumbing or related and some days I'm 2, 3, or 4 hours on that.



*When you punch in, in the morning, what kinds of activities do you do during the day on the job?*

Ahhh, repair work. That's all I do, repair work all day long.

*Is there much walking, any lifting or such in this repair work?*

I walk from the first floor to the seventh and then walk down again , walk down. Walking all day long. I don't know how many miles in the day, but a lot of walking. At home I walk with my wife sometimes.

*What kind of work do you do then after your job?*

Plumbing. Very hard plumbing.

*Is there a lot of lifting involved in plumbing?*

AH, no, mostly light repair work. Walking and light repair work. Last week I installed a water heater, which is heavy, but that's all.

*Is there anything you do on your time off on a weekly basis that's different from you daily work?*

Sometimes I walk again in the evening with my wife as a regular exercise.

*That's as a regular planned exercise?*

Yes. And my diet is very light. I don't eat meat. Very rare that I eat meat. I don't eat no red meat and I don't eat pork. Never. I don't smoke and I don't drink.

*But there's nothing your do different on the weekend?*

Oh I mow the yard every week. And I go to church every Saturday and then on Sunday I go to church to check the plumbing.

*Do you have any typical yearly activities that are different?*

None.

*No family gatherings?*

Once in a while I have family gatherings. In Georgia, I usually go to Atlanta. I have family there.

*Anything in particular that you do there?*

Walking. Just go back to walking.

*How would you sum up your overall activity level?*

In the sense of?

*Do you consider yourself very active, moderately active ...*

Moderately active. Yeah I'm always on the move.

*Describe how age has affected your activity level or choices.*

Age? Hum. No does not affect me. No, does not affect me at all.

*How has age affected your attitude toward exercise?*

Ah, none. No, none.

*Have you always liked exercise then?*

Yes, especially if you are born in the country where you do a lot of walking. When I was growing up, just to go to school you walk about ten miles each way. That's a lot of walking.

*Describe the best thing about exercise in your opinion.*

Well, kind of if you stay active everything works fine. I don't have any problem whatsoever, my health is good. My eye has glaucoma, but that come with age...

*What's the worst thing about exercise in your opinion?*

I don't find anything in the sense of getting pain or nothing. I'm starting to ride the bike. Use my bike to exercise. But the best thing to do is walking. And in the summertime sometimes I go to the beach and go swimming. And of every year we go to the beach

Mr. O.

Hispanic

68

Plumber

*Describe a typical day in your life in terms of daily activity.*

First I get up at 5:30, leave the house read for an hour, then have some breakfast, then at 7 o'clock I punch in work 8 hours, punch out at 3:30, go back and do a lot of times I have side jobs on plumbing or related and some days I'm 2, 3, or 4 hours on that.

*When you punch in, in the morning, what kinds of activities do you do during the day on the job?*

Ahhh, repair work. That's all I do, repair work all day long.

*Is there much walking, any lifting or such in this repair work?*

I walk from the first floor to the seventh and then walk down again , walk down. Walking all day long. I don't know how many miles in the day, but a lot of walking. At home I walk with my wife sometimes.

*What kind of work do you do then after your job?*

Plumbing. Very hard plumbing.

*Is there a lot of lifting involved in plumbing?*

AH, no, mostly light repair work. Walking and light repair work. Last week I installed a water heater, which is heavy, but that's all.

*Is there anything you do on your time off on a weekly basis that's different from your daily work?*

Sometimes I walk again in the evening with my wife as a regular exercise.

*That's as a regular planned exercise?*

Yes. And my diet is very light. I don't eat meat. Very rare that I eat meat. I don't eat no red meat and I don't eat pork. Never. I don't smoke and I don't drink.

*But there's nothing you do different on the weekend?*

Oh I mow the yard every week. And I go to church every Saturday and then on Sunday I go to church to check the plumbing.

*Do you have any typical yearly activities that are different?*

None.

*No family gatherings?*

Once in a while I have family gatherings. In Georgia, I usually go to Atlanta. I have family there.

*Anything in particular that you do there?*

Walking. Just go back to walking.

*How would you sum up your overall activity level?*

In the sense of?

*Do you consider yourself very active, moderately active ...*

Moderately active. Yeah I'm always on the move.

*Describe how age has affected your activity level or choices.*

Age? Hum. No does not affect me. No, does not affect me at all.

*How has age affected your attitude toward exercise?*

Ah, none. No, none.

*Have you always liked exercise then?*

Yes, especially if you are born in the country where you do a lot of walking. When I was growing up, just to go to school you walk about ten miles each way. That's a lot of walking.

*Describe the best thing about exercise in your opinion.*

Well, kind of if you stay active everything works fine. I don't have any problem whatsoever, my health is good. My eye has glaucoma, but that come with age...

*What's the worst thing about exercise in your opinion?*

I don't find anything in the sense of getting pain or nothing. I'm starting to ride the bike. Use my bike to exercise. But the best thing to do is walking. And in the summertime sometimes I go to the beach and go swimming. And of every year we go to the beach

Ms. A. –

65

Caucasian

Library clerk and teacher's assistant

retired

*Describe your activities in a typical day. –*

I have very little activity; I do some shopping, go to the grocery store and such, but not much activity because I've recently been told I have multiple sclerosis, so there's not much activity

except to walk around with a cane or holding my husband's hand. I can't do most of the housework I used to do or the gardening. Uneven ground is especially dangerous. My balance is not good anymore.

*Is there anything different on a weekly basis from your daily routine?*

It's not really any difference. It's really the same except for a doctor's appointment every now and then.

*Describe any annual events you enjoy.*

Every year we go on vacation to South Carolina to see our brother-in-law.

*Is there anything in particular you like to do there?*

We mostly socialize, talk, share stories, things like that.

*How has age affected your activity level or choices?*

My activity level has gone down quite a lot in the last year. Prior to that I was very active; I mowed the yard, walked, could handle all the housework myself, vacuuming and such. But my reduction in activity has more to do with MS rather than age.

*Describe how age has affected your attitude toward exercise.*

I loved walking and exercise. My husband and I walked together and he said he always felt so much better when he did that. Now I fall too easily.

*What is the best thing about exercise in your opinion.*

How it makes you feel and how it helps you as far as health goes. Walking is the best exercise to do.

*What is the worst thing about exercise in your opinion?*

There isn't a worst thing as far as I'm concerned.

Ms. C

-73

Registered dietitian,

Black

Retired from Navy

*Describe a typical day in your life in terms of activity?*

Oh, my typical day is walking in the morning at 4:30, coming back, taking care of the dog, maybe get some coffee and start breakfast and have breakfast and typical housework, washing, making beds, taking out garbage and whatever needs to be done. And also most likely visiting the nursing home or sick friends, then fix supper and go to bed.

*How far do you walk of a morning?*

Right now I'm walking 2 miles. I was walking 3 and 4 but I had one knee replaced and one gone bad and I had to cut it down.

*Have you measured the distance? How did you arrive at that estimation?*

I walk on a track near my house. It's a school track and that's why I go so early. I can finish before the kids all get there.

*What about your nursing home visits? Is that a daily thing?*

No it's not. That's about three times a week.

*So this is something that you do more on a weekly basis.*

Yes, I have a relative there. I try to feed her and I talk to quite a few of the others there. I feel friendly with them.

*Do you drive to the nursing home or do you drive?*

Oh no, I drive.

*Is there anything that you do on a yearly basis?*

Yes, I travel. I do all the driving, and we visit the children, I do the yard work, go fishing, cI do the boat, play bridge.

*So how would you sum up your overall activity level?*

My activity, I'd figure it up at about eight and a half or nine.

*How has age affected your activity level and or choices?*

Only a slight depression that I can't get up and do things as quickly as I used to .I can't move as quickly, or do as many things as I used to in the past. My energy level isn't what it used to be, but other than if I push myself and keep pushing I do very well.

*Were you pretty active as a young person then?*

Yes, I was very active as a younger person.

*Were you in any sports or anything?*

No, no real sports.

*How has age affected you attitude toward exercise? –*

It hasn't affected my attitude; I always liked exercise and I still like it.

*What is the best thing about exercise in your opinion?*

-It helps me keep my keep weight off, it gets my heartbeat up. It makes me, I guess, not depressed about most anything, I feel more alert.

*So you can notice a difference in how depressed you feel when you exercise?*

Yes, I can notice a difference in depression when I exercise.



*Which of those do you think motivates you the most?*

Fishing and planting and walking.

*What is the worst thing about exercise in your opinion?*

Is that I don't have time to do, and I have to do the house work and you go out, you put it aside, you put it off, and not being able to do it as much as I would like. And that's the worst thing. I don't hate it in any way. But that I do hate, not being able to do it as much as I would like.

Frustration – not enough time to do it with other things to do too.

Ms. D.

65

Caucasian

retired

Day care worker and worked for printing company

*Describe your activities on a daily basis.*

I do not drive so I walk everywhere I go. I also have Leslie Sandstone walking tapes and little blue balls that I use every morning for about 15 or 20 minutes. I know this gets heart rate up and that's what you're supposed to do. I also like gardening. I'm always on the go, walking, I walk to the grocery store almost every day. And I don't use a pull cart; I carry it home.

*Do you ever monitor your heart rate to see how high it gets?*

No, I never have done that. I don't really know how or what it would mean anyway. I just know I'm getting a good workout because I perspire.

*Describe anything you do on a weekly basis that's different from your daily routine.*

I mostly just follow a daily routine, mostly.

*Is there anything you do on an annual basis that's different?*

Yes, my daughter and I always do the Walk America event. That's a 12 mile walk and we do that together and we always finish.

*How would you describe your activity level?*

Not sedentary, but not extremely active. About in the middle, I think.

*Describe how age has affected your level or choices of activity. –*

None. Age hasn't affected me any. I have no health problems. I played ball in school and went backpacking and hiking. I've always been active and I've always walked everywhere.

*Describe how age has affected your attitude toward exercise.*

I like to exercise, I have always enjoyed it. I have a treadmill and cardio glide and I use them. Their in storage at the moment because I'm moving, but I will use them again when I get moved. Right now It's just my tape.

*What is the best thing about exercise in your opinion?*

Knowing that I did it, the feeling of accomplishment after I finish it. And I do do it religiously every morning. I don't have any health problems, so I don't know if the exercise I do is a benefit to my health or not. It probably is, but I don't know how. I do it because I enjoy doing it.

*What do you consider the worst thing about exercise?*

Getting all sweaty and stinky. But I do mine first thing in the morning and then shower.

Sidebar: Ms. D. is moving in to help as a caretaker for Ms. A. She says she is motivated to stay healthy so she can help her friend. In further conversation without the recorder we as women discussed the problems associated with childbearing and exercise. The major problem here was incontinence as a result of childbearing which affects exercise choice, for example, no jogging or other bouncing exercises.

Ms. F.

Caucasian

77

I worked with food for a while with a catering company, then I worked for a bait company making lures, then went into catering for myself for about 15 years. That's when I gained all my weight, and I thought I was going to lose weight when I got through catering, but I guess not.

(laughter). Any how...

*Describe a typical day in terms of activity.*

First, I have breakfast in bed. He (her husband) brings me my toast and coffee. And he likes to do that. I guess just the normal household things you do; maybe load, unload the dishwasher, make jelly, well I, we entertain a lot too. A lot of times we're either in there preparing for somebody to come over or cleaning the house to get ready for somebody to come or you know, just preparing the food, still catering here at home, I think. I came from a big family. There was nine of us, so I have a lot of them living right around in this area. You know, we just visit back and forth, so by the time you invite one, it's time to invite somebody else or you know something like that. And with your kids around, you know, you have them over once in a while. But I

don't do a whole lot of vacuuming or dusting. Just what I can get by with I guess. I hate housework. I've always hated house work. I'm not much of a – I mean I just don't. Now my niece, she plays at her house all the time. I call it playing house so. I do more cooking and baking...

*Describe a typical week in terms of activity. Is there anything that is mostly a weekly activity?*

We watch the preachers on TV on Sunday. I fell not too long ago, well, its been about 3 years ago now. My husband was in the hospital and I kind of hurt my leg, and it gives me a hard time. And then with my weight, ( this individual is about 5'5" and at least 200 to 250 pounds) I just get less activity. It hampers my activity. I don't do a lot of walking, you know. We go grocery shopping and we go to the doctors and the bank and just the necessity things mostly.

*Do you park in the closest space mostly?*

Pretty Much. We do. We have a handicapped sticker because my husband has scoliosis of the back and spine, so it's hard for him as well as me.

*Describe any activities you do mostly on an annual basis.*

Well we do, we go to the beach with our kids. They rent a house over there. They rent a house on the beach like at Easter sometimes, most of the time and Thanksgiving we go to Destin. They rent a house there. That's like... our grandchildren live in Nashville, so it's the closest beach, Destin, it's about the same distance for us as it is for them to go there. We all meet there so...we do that.

*What do you do at the beach?*

Well the kids all do their thing... but I don't wear a bathing suit anymore but, so, anyhow,

*How would you describe your level of activity?*

Very little. We used to go and walk in the park up at Red Bug Park and it got so scary there was a lot of, you know, people, that you'd be walking along the path and people'd rush up on you on a bicycle and then you'd hear a lot of things, you know, like, well, when like this one man was mugged in the park, and then it wasn't safe for your children to even go in the rest room because of, you know, sexual things. So we just kinda got used to not going. In California I heard about these men having sex in the park there years ago. I thought boy how terrible that is, you know, then first thing I know, here it was in Orlando. I mean even in the parks that you're paying for it seem like you're not safe.

*Describe how age has affected you level or choices of activity.*

Well, I think a lot of times when you're younger you have goals that you're striving for and as you get older it seems you have less goals because you've accomplished some of the goals, like building a house, you know, owning property, you know, stuff like that, and then you just kind of, and then if you get a pension or something, well then you just kind of relax and kind of enjoy it, you know, and pretty soon you just get in habits, the habit of just stagnating I guess, not really. I mean we have a lot of company and stuff, but as far as just actual physical, Frank works in the garden some, you know, he has his garden but, you know, that's about it.

*How has age affected your attitude toward exercise?*

I think it's really good and I know I need it. It's just that I guess that you just need the motivation to....

*Well what do you think would motivate you to exercise?*

I don't know...I think you get in habits and then you kind of get in a rut and because when I was walking I wouldn't miss, you know, cause I just went everyday, you know, when I was walking in the park. Other things too – the weather got bad, too hot, thunder and lightening...

*What is the best thing about exercise in your opinion?*

It keeps you agile. You know, where you don't get where you can't walk up and down steps like you should, you know, you have to be more careful about and it just keeps you more agile....

*What is the worst thing about exercise?*

Well, one thing is the perspiration. I hate that. I have this sister who's about this big around and you go walking with her and she never has a drop of sweat, never has a drop, her hair is always perfect. When I go walking I have to come home and take a shower. So unless you don't worry about that, like a lot of hairdos now, a lot of people don't have to worry about that. And it's monotonous sometimes. I think you need some kind of a something to make it interesting. Like a stationary bike is a thumbs-down. Well, it just seems like five minutes is an hour. And I don't know

*Have you ever considered joining a Y or club or some sort?*

Yeah, I have, but I don't consider it now because I don't like to think about getting an outfit to do it. You know, you get out in some place and you see all these hard bodies and you just would not fit in

*Do you think you would do it if you had a class of all people who had the same problem?*

Yeah, I probably would. You know, you wouldn't feel you had so, and another thing, you feel like you have a long way to go when you get really heavy. Some people say they've got ten pounds to lose. Well when you've got 100 pounds to lose, ...well, that's a long way to go.

Ms. G.

Hispanic

66

Dance instructor, loan company employee, school teacher.

*Describe a typical day in terms of activity.*

Well, I wake up at 5:00 o'clock in the morning and usually I get out my little barbells and I'll do exercises and waist twists and all sorts of exercises, you know, with my arms and the weights.

And then while I'm still in bed I'll do kind of like raise my legs, their kind of like stomach exercises. And then when I get home from school I do a lot of walking. Of course in the school on campus we do a lot of walking just simply because of the proximity of the buildings and so I try to walk as much as I possibly can, so I make excuses to go to the office and go to the library which involves stairs and so fort, just to give myself more exercise. And then when I get home I walk around the block which is , not around the block, but around our circle, which is probably a good half a mile.

*So you have some actual planned exercise activities?*

Yes, I do walking everyday because I know that I need to exercise. Walking, I think, is the best kind of exercise for somebody my age.

*Is there anything you do on a weekly basis that's not included in your daily activities?*

Sometimes on the weekend I will garden. You know work out in the garden, which I live to do.

That's my hobby. And when I'm able to squeeze that into my routine I'll always do gardening.

*Is there anything that is an annual activity then?*

Well I have a timeshare in Mexico and I go there every year. And before I had my heart attack I always went to the national education convention, and it changes places every year.

Do you do a lot of walking when you go to your condo?

Uhh. No, because when I'm at my timeshare that's my resting time and I like to just lay by the pool and read. I take five or six novels and I do nothing but read, read, read.

*How would you sum up your overall activity level?*

I would say medium. 'Cause I'm not overly active, but then I'm not sedentary either. So I would say medium.

*How has age affected your activity level or choices?*

Well, I really, other than, umm, I really haven't stopped doing anything, you know now that I'm done my cardio rehabilitation. I'm back to doing everything I used to do before. Oh, I haven't gone golfing yet though. One day I'd like to go back to that because I used to golf a lot.

*So age hasn't really affected your choices of activities, but has it affected the level at which you perform those activities, then?*

Umm, other than just regular age, you know, instead of running a lot I would just walk fast.

*So to a certain extent it has slowed you down a little bit?*

Yeah, but not a lot.

*How has aging affected your attitude toward exercise?*

My attitude now is that it's necessary and before it was just fun.



*You've already described your planned exercise program, so we won't repeat that, but describe the best thing about exercise in your opinion.*

The best thing about exercise is that it keeps you flexible. And, uh, 'cause I do toe touches and twists and over arm extensions and I think it's the flexibility and also yoga. You know I do the yoga too. And that's excellent for my balance, because I've noticed that as I age my balance has kind of gone down hill. But the yoga has really, really been, has just done wonders to prevent total deterioration of my balance.

*Describe the worst thing about exercise in your opinion.*

Umm, I suppose just fitting it into your schedule, having time for it. But if you have it in your head you're going to do it, you'll do it. You just make yourself do it. And that's what we have to do actually.

Ms. K.

Caucasian

78

Worked in jewelry store as a sales clerk.

*Describe a typical day in your life in terms of activity.*

OK. Well, in the morning the usual things. And I take a bike ride.

*Really ? Stationary?*

Oh no, outside. Regular bike. And probably ride, I'd say about a mile. My knees aren't too good, and I have to be careful how far I ride, and I have to be careful, I live in a [trailer] park, about the inclines on the street. It's too hard to do. I've always been a bike rider, I guess. You

know, as a kid you learn to ride a bike. It's just one of those things I do. Whenever I can. And I usually have something going every day. Let me see. Monday and Wednesday mornings I play Bingo with the seniors at the senior center. Tuesday I sing with the Crooners at the Casselberry senior center, not that I'm good, we volunteer at the nursing homes. Thursday I volunteer at the Florida hospital, and Friday I go to the senior center and I paint. We have a paint class. We paint on canvass, but mostly I paint on china. And shopping when somebody hollers.

*Do you do a lot of walking at the hospital?*

Some. But not really. I mostly help with information and locating people for guests.

*I was going to ask you to describe a typical week for you in terms of activity, but that's basically what you've done are there any other things that are just once a week activities?*

Not really. I'm alone. My husband passed away two years ago, so I do whatever I want when I want. Plus being involved in COPS, Citizen on Patrol. We get to drive the car, cruise the neighborhood, whichever is your district, and, uh, and I haven't done it alone as yet, I could, well I've done it [cruised a neighborhood] alone in the car once, but I'm riding with someone else now because it's not so lonely, you know, in the car. I'd hate to have to run! I love every minute of it, and for the last several years we've been taking classes, academy classes, police department, Casselberry Police Academy, and we took the state attorney academy and the law enforcement at the sheriff's department.

*Is there anything you do that's an annual activity?*

Well, let me see. I don't have any family here. They're scattered all over so I travel when I can. I go to Aruba twice a year. And I go to Michigan in the summer. Most of my family is in Michigan. I go to Texas for Christmas. My grandchildren come and see me.

*Describe how age has affected your activity level or choices.*

Choices – it hasn't done a thing. Speed, yes, it has slowed me down immensely. Mostly because my knees are bad. I don't have a doctor and I'm very, very active and there's nothing wrong that I know of.

*Describe how age has affected your attitude toward exercise.*

I've always been quite active. I've walked a lot, rode a bike and whenever I could and I don't think of it as an exercise. It's just something fun to do.

*Do you have any planned exercise routine other than biking?*

I guess, if you want to call it planned, in the afternoon if I get a little bored I go out and hop on my bike. And I swim, also. I live in a little park. I told you, and there's a pool right down the street, and so I swim whenever I can. And if I wasn't so blasted old, I'd do a lot of other things. I love to roller skate, but I think now it's not worth a broken bone at this age.

*Describe the best thing about exercise in your opinion.*

I just think it makes you feel good. I know some people that, they're younger than I am, and they sit and watch TV all day long and they have no energy. Where if they would get out and move and do things a little, even just go shopping or whatever, I think they'd feel so much better. I think a lot of your energy is born in you, you know, but, uh, I think if I just sat around and did nothing that I wouldn't have any energy.

*Describe the worst thing about exercise.*

I don't think there is a worst thing about it. There isn't with me. I think it's great.

Ms. L.

Black

71 (Born 1931)

Occupation farm worker and working in people's homes

*Tell me about your typical day.*

Taking care of children, washing and ironing going up and down stairs (15 steps to second floor), taking clothes and stuff up and down, things like that.

*When you're taking care of kids can you tell me some of the things you do?*

I fixes lunch, play with them and, uh, if they need me to do anything for them, I do it; wash them bathe them.

*What kind of playing with them?*

Uhm, we'll play games like ball or somthin or 'nother. We'll play something like story games inside.

*What about in a typical week? Is there something not included on a daily basis?*

Oh, I do everything about the same every week.

*But is there anything that happens only once a week instead of daily?*

I go grocery shopping. I take other peoples to the grocery store too.

*Tell me about the other people you take to the grocery store.*

Uhm, this lady, that uh, she's a old lady, and she asked me to take to the grocery store and things like that.

*How old is this older lady?* Oh, she's 80 something. And not only her, some others out there where I live at, I takes them, different people we, to the grocery store.

*Is there anything you do on an annual basis, maybe once-a-year get-togethers?*

Yeah, we do, once a year my family, we all get together, you know, and we have something sort of like a family reunion.

*Oh, you have a family reunion?*

Yeah, we have something sort of like a family reunion, we always did that.

*When is that, summer, fall, winter, spring?*

Oh its' in summer usually around July.

*What sort of things do you do there?*

Oh, we barbecue, and we have the grandkids there, and my sisters, we all get together. I had one die, and I have 4 sisters left now and so, and we older people get together and we have a lot of fun and we laugh about stuff we did, tell what we did when we was young and we laugh about things we did. And things like that, once a year.

*How would you sum up your overall activity level?*

How would I sum it up? I would sum it up good I think.

*Do you feel you're a fairly active person? Is that what you mean by good?*

Yes, I'm not sickly. I get up every morning, and I feel good. I get ready to go to work, and I don't have pains like a lot of peoples should have at my age. I don't have that. And I eat a lot of vegetables and stuff like that.

*How has age affected your activity level or your activity choices?*

It hasn't. It hasn't at all, no it hasn't. The only thing is that I have to wear glasses, and I didn't used to wear glasses, but I have to wear glasses now. But other than that I feel just like I always did..., you know, I don't have no bad feelings. Course I think it's in my family. I think my

mother was..., I got a little ole aunt now, she's a100, and, uh, I think in my family we just never was sickly on my mother's side. So we just usually have heart problems.

*But you don't have any heart problems?*

No, I was on a farm with collard greens and stuff like that.

*So how has age affected your attitude toward exercise?*

It hasn't affected it at all.

*You don't feel different or dislike exercise?*

No

*Describe the best thing about exercise.*

Oh, the best thing about exercise? Oh, I'd say walkin'. Walkin' is the best exercise.

*Do you walk then on a regular basis?*

Yeah, I walk sometimes. And then I goes up and down these steps around here, up and down all day.

*Do you have a little route that you walk?*

Uh-hum. Right.

*Do you have friends you walk with?*

Sometimes and sometimes I go alone.

*How far do you think you walk when you walk?*

Uh, I would say, hum, bout half a mile. Most days. I don't do it every day.

*What is the worst thing about exercise?*

There is not worst thing about exercise. I just love to do it. It doesn't bother me to exercise. So there's nothin' bad about exercise to me, I don't see it.

*Have you ever done exercise just for the sake of exercise, like you'd do in a gym?*

Yeah, I've done that in my house. Um-hum. I've done that in my house, you know, like I see on TV like you gets a rope, you know, and jump and exercise, and do like that. But I don't exercise like that .... I don't think I really need to.

*You don't think you need a formal program of exercise?*

No, I gets plenty of exercise on these steps and doing other things. I think that's the reason I'm as more active as I am because of work, you know, I never just sit, you know, never just sitting and reading. I'm always active. Even at my home I'm doing something all the time.

Note: This person works in a very large home, about 5,000 square feet, on a lake with a composition basketball/volleyball court in the back yard, swing sets, and all sorts of other play equipment.

Ms. N.

73

Caucasian

Housewife

*Describe your daily activities.*

I got married at 17, never worked out of the home until our two daughters left home. Then I went to beautician school and owned my own business for about 3 years and decided that was the dumbest thing I ever did. I sold that thing... and about the day I did that my husband came down with a real bad case of arthritis and I should have kept it cause I was doing real good at it, but anyways, that was water over the damn. Since I didn't work out of the home I did a lot of volunteer work. I was very active in our church. X (her husband) and I were youth leaders for a

long time, and we tried to do everything. At that time we didn't want our children to go to the proms, we wanted them to have their things at the church, so we would put these mass productions on every year. We did. We decorated... you wouldn't believe how. And just made it so that our kids had a wonderful time, and there were about 4 school districts in that area so we would have to have colors for all the different schools, but that wasn't too much. We just did that. And we had a pool so we had a lot of pool parties at our house. Anything that our kids were in, that's what we were in. I worked in scouting for 5 years, and I worked in our church forever. This one particular church I worked in for about 27-28 years. And I don't know what else to tell you... I was always great in sports. I mean, I loved volley ball and I played baseball until I was a grandma. I quit playing the year my grandson was born. I played that year and then I quit after that. Play until you're a grandma and that's enough. But I love sports. I always did. And we always could play volleyball in our church, so X and I played volleyball all our life until about the time we moved here, you know.

*So what about a typical day?*

Oh. OK. I usually get up around 7:00, 6:30 or 7:00, my husband gets up earlier... I get up about that time. And then I try to have a little prayer time and devotion time, and Bible reading. I don't do it every day, but I try to. I do some kind every morning. Then I just come downstairs, Rusty and I come down stairs. Rusty, that's my dog. He sleeps with us. He gets up when I get up.

*How many steps in your stairs and how often in a day do you go up and down the steps?*

I think there are 13 steps. And I probably go up and down those stairs, I would say, 10 times a day, sometimes more. I bet some days I go up and down 15 time. A day. So that's a lot of



exercise. And we have a lovely master bedroom down here, but we chose to be upstairs. We lived upstairs for almost a year before we got the downstairs done. And we liked it up there, so we didn't move down. And one reason was because of the stairs. I said, well if I have to climb them stairs, well at least I'll get that much exercise every day. You know something you have to do, you will do it. And that's just the main thing. And, you know, lots of days since Harold's retired we might go out to lunch. We'll go down to Fazoles' or somewhere, it doesn't matter where, how far or what. We just go to lunch.

*Do you always park close?*

I try to park as close as I can. Now when I'm on a diet... I can't tell you how many diets I've been on in my life. I'm a habitual dieter, and I made 'em all work. I just don't keep it off. And when I'm over that diet, I'm over it. And I'll keep it off maybe a year and then I start gaining it back and then... I said all that to say...that when I am dieting I park real far away so I'll have to walk. I do all the right things. When I'm good, I'm really, really good, and when I'm bad I'm really, really bad. (laughter)

*So after lunch, what?*

Well, you never know. I might be out digging in my flowers or ...that's what I've been doing lately. Putting down mulch and that kind of stuff...or I might be out doing a piece of furniture or ...like right now I've got a chair I want to strip the varnish off of and ... everything we've got in our house is something we've got at a garage sale or an auction, and we bring it home and we do it. X (husband) takes it all apart and puts it back together and I put the new finish on it. But a lot of things I just rip into, strip the varnish off... I don't buy any painted stuff...cause it's too hard

to get it out, but I do a lot of the other. I don't do as much now as I used to because I don't have anymore room, there's no more room left to put anything. This house is packed full.

*How big is your house?*

It's 3,500 feet. It's pretty big. And you know, by the time I keep everything picked up I, what I do mainly all day long is pick up and put away, you know, whatever's laying around I pick it up and put it away and I straighten and I smear and I don't know. I don't know. You just mess all day. Vacuum and, uh, oh like today I took the Swifter, and like today I took that thing and that area over there where the bricks are, I took that thing and I did that. And that hall is 30 feet by 5 feet. And all that dining room and kitchen, I mopped all that one day last week with a big huge mop. I mean that is a lot of pulling and pushing and when I got done with that I took the bleachy water and put some more bleach in and went out and did a big section of the driveway. I mean, I couldn't tell you what all I do because I'm just working all the time or doing something all the time. I'm always doing something all the time. But then, you know, there might be a day where I don't do anything. I jus say, "I'm not going to do anything today." I'll just take off and go to Wal-Mart's or...something.

*And at Wal-Mart's what do you do?*

I just walk. Look at everything. I just walk around and look at everything, touch everything. 'til I've saw everything.

*You walk?*

You have to walk. And when you go to Old Time Pottery, believe me, you really walk Have you ever been to that? Believe me, it's huge. This new one is 5 minutes from my house.

*Is there anything that you do regularly on a weekly basis?*

We go to church about 5:00 o'clock every Wednesday and eat supper there and we stay for the service and we go to church almost half a day on Sunday mornings and evening and by the time we get home and twist around three times it's time to go back in the evening. And I go over to X's (sister) a lot, and we'll eat together and things like that. But I couldn't say we do that every day, but most of the time we do that on a Thursday or it might be on a Tuesday. We will do that one day a week, at least one night a week. And I have 2 brother's in Sanford. I go up and see them and ... I don't know what I do...

*How about things that are pretty much of an annual activity?*

Well, I have the New Year's Eve party here every New Years with my family  
*and you have a big family*

Yeah, and that and sometimes I have it bigger than other times. It just depends on how tired I am. We always go to Ohio for Thanksgiving. So when you come back there's a tree to put up and all that stuff and so sometimes you're just almost wore out. 'Til you get ready to have a party. But I do it every year. My tree is 12 feet tall. I mean, it's 2 or 3 feet higher than that shelf. (indicating shelf all the way around the living room about ten feet up. Living room is 22 feet high at the peak). So I have to use ladders to put it up. But X (husband) built the house and at the time my mom was very sick and I was having to run 13 miles across town and back sometimes every day to help with my mother, and that just about wore me down. Plus I'd be wanting to be here to help X do things, you know, like, you know, he'd be doing the hearth, I'd want to hand him each brick 'cause I'd want to know where colors are and the brick out here on the porch and the front porch. We really did a lot of work ourselves.

*So as far as annual gatherings, there's the Thanksgiving in Ohio and your New Year's party and*

...

And we have a family reunion every July, the third week-end in July we go to North Carolina and stay in this wonderful place...

*What kinds of things do you do when you're at the family reunion?*

Well, we really have productions because we stay three nights and four days. And my aunt, which is Y's sister in Indiana, she and I pretty well are in charge and do everything, really. I keep albums. I keep a lot of albums. I forgot to tell you about my albums. I spend a lot of time doing my albums for my school reunion, we went to a little private school, a little Bible school, for my school reunion, my family reunion and for my own pleasure. Anyway, we had an angel tea this year, which means everyone was supposed to come dressed in white, wings and halos were optional, but I had wings on and a halo and we put all the tables together so it would be about as wide as from here to the fireplace so that everybody could be around the table so we would have to make it real wide across the end so we could get about ten across the end cause there are about 37 women that we do this with and we put pillowcases on every chair and it looked really lovely, and then white table cloths and I had a big angel that we put tulle around with little lights in it, you know. I bought her at a garage sale for two dollars. I thought, "Now I'll do something with this angel, I don't know what..." I didn't know I was going to use her for this angel tea when I bought her. But it worked out fine. And then we had little angels at each person's place. We served tea and, we just had a grand time. My aunt up there, she gets a lot of the ideas and I just pick up and help her. An another thing was to bring, everybody was to bring a special hat that had a lot of meaning or something, you know, through your life, and so

we all brought hats and told about . And then Y's brother Z is 89 years old. He still drives a horse and buggy for people to take rides in across the Blue Ridge across Kentucky out of Cincinnati. He is just a precious man, and we honored him. He was the oldest one, and everybody was supposed to come with stories, and tell about Uncle Z, and we took up money for him and gave him cards with nice things written in it and money, and I don't know how much money he got, but he is just such a wonderful person. I have a picture right here I could show you...

*Well, how would you sum up you're overall level of activity?*

Well, I'm not a sitting person, I'm moving most of the day. I don't do exercise per se, like I've got a treadmill up there, I could go up there and do all of the time if I want to. I've got a wonderful bike out here and at times I've gone to the spas and I had a personal trainer for a while... I mean I've done all that stuff, but right now I'm not doing any of that, anything on a regular basis...

*Is there a reason why you don't use your treadmill or bike or anything like that?*

I don't know... I just don't do it. I just choose not to do that. And I really want to but I just don't do it and I'm just too lazy I guess or else there's just something in me that rebels, I don't know, just crazy.

*But it isn't a matter of not enough time or...*

No, cause how much time could it take you on a treadmill? 10 or 15 minutes ...got a TV sitting right there in front of it, fan over my head, there is no reason for me not to get on that treadmill. And I begged for it for 2 or 3 years, you know, I wanted this for Christmas and I finally got it for

Christmas and for many Christmases I used it all the time. I walked on that thing at least an hour a day. Really. But now, I don't do it.

*So how long ago did you stop using your treadmill?*

About 2 years ago.

*So if I had asked you these questions 2 years ago I'd be getting very different answers.*

Oh yeah, I'd have really been good. And I was going to this fellow who goes to our church and he's a personal trainer. And I would go to him now if I could afford it, but I can't afford that.

Oh it was wonderful because then you just did it. You got your outfit on and you went and you did it. I want to show you one thing I did last year... (we looked at albums)

My husband was diagnosed with Alzheimer's last year and one of the things they suggested was a memory book and I've had these forever... (we looked at albums some more).

*You told me what you do, but you never told me what you consider your activity level...*

I don't know, compared to other people, I don't know. I know that I don't just sit and read all day and I never turn the TV on until Oprah comes on at 4 o'clock.

*So would you consider it moderate activity, very active , extremely active...*

It wouldn't be extremely active but I'm active, I'm very active, I'm moving all day long. I don't just sit. I'm not as active as I used to be, I know, because I know what I can do now. I just run out of energy.

*Has age affected you activity level or choices?*

Well, I just know things that I used to do that I don't do now. I just kind of slacked off a little bit. Now I run the sweeper every two or three weeks where I used to run it every day. And I would dust the hutch maybe twice a week, take everything off and dust it, I mean really, really dust it,

use cleaner and the whole nine yards. Now I do it maybe once a month and I just move stuff around, move it over and dust and move it back. I don't take it all off. There's dust on everything over there, but nobody sees it.

*So some of your activities have changed with age?*

Well, yeah we did used to walk more. And we used to do a lot of, of course I haven't roller skated in years, but we used to do a lot of roller skating, and we were very active then, volleyball and roller skating. We used to be very active.

*So the levels have changed with age...*

Yeah, they've changed a lot, but it happens so gradual that you don't know it. And we had a pool in Ohio, so we were in the pool everyday swimming too, you know, I guess compared to now... I'm not as active as I was but I'm doing what I can do. If something comes up that I have to do, I can do it, you know, if a project comes up. My brother had to have a liver transplant. Well, they had to have \$10,000 in a trust fund, or some deal, even though his insurance was going to pay for the operation. So we all pitched in, all the family and we met once a week and we worked on these craft, you wouldn't believe how hard we worked, but we got that money raised. Just the family we had garage sales, and we made all kind of crafts, and so if something comes up, I can do it. I just have to. Other times I don't.

*Has your attitude toward exercise changed any as you aged?*

Right now it's pretty poor. But once you get into it and if you have somebody to exercise with, you just will do it, and you love it, and it's just making yourself do it. We used to go the Red Bug Park, X and Y and my aunt and uncle when they come down from Indiana, and we'd walk

over there around that thing, you wouldn't believe how many times and have a good time.

Haven't done that in a while.

*What in your opinion is the best thing about exercise?*

Well, I think you feel good. It makes you feel alive. You just, even though it about kills you when you're doing it, when you're done, you do have added energy. My trainer's wife came in down there one day while we was working and she says, "I'm so exhausted I just had to come over and exercise so I could get some energy." And I'd never heard anything like that before and I thought to myself, "Well that really is true!" I mean I've said it to myself since then

*What's the worst thing about exercise?*

Just doing it. Cause I really like it once I get started, you know. I look at that treadmill up there and I think, why don't I get on that thing for about 15 minutes? And it's like I just forget it. It's like I block it out of my mind. It's not a worse thing, I don't know. I don't know how to tell you. I guess the worst thing is just getting started....

Ms. P.

65

teacher

Caucasian

*Describe your day in terms of activities.*

Well, when I'm teaching, that concerns walking around the room, going up and down stairs twenty times a day because I always forget something the first nineteen times, sitting at a computer, now, in the last 4 or 5 years, to do attendance and check emails etcetera, going to another teacher's room to check on something or to give some information, walking back and



forth as I lecture and rant and rave and emote, as the case may be. Then I drive to school and I drive home. I do go work out, to the wellness center 3 times a week.

*Can you tell me something about what you do there?*

I do all the, they used to be called Nautilus machines, I don't know what they're called now. I try to walk, not as far as I should because I hate aerobic activity, but at least a half mile, and then go down and do the weight lifting machines. I do some free weights, but I do all the machines. It takes about 45 minutes to an hour to do.

*What kind of things do you do upper body machines do on the machines?*

You do upper body machines and biceps and triceps and shoulder machines and then the lower body machines where you do the leg press and leg lift and the hamstrings, all of those. It's a planned routine. I usually do it Tuesdays, Thursdays and then one of the weekend days.

I'm off schedule this week because I didn't get to go Sunday, so I went Monday and Wednesday and I'll go Friday. But I'm really faithful.

*How long have you been doing this?*

I've been doing this for 30 years. I've been doing some kind of Nautilus machines ever since Larry Gergly opened his place down on 17-92 and my kids were still home. That's been 25 years at least.

*Is there anything different that you do on a weekly basis, something that may be only once a week?*

I try on the weekend to ride my bike. In the summer I try to ride my bike every morning, and do for the most part, in spite of the German Shepherd that bite me a few years ago, anywhere from 30 to 45 minutes depending on how much time I have and how energetic I am. So on the

weekend I try to ride my bike at least 45 minutes. But it depends on the weather, it depends on the traffic, it depends on my commitment and everything else, but occasionally I will ride my bike.

*Is there anything you do on an annual basis involving physical activity?*

Nooooo. I watched P-Diddy on Oprah the other morning and he was going to run a marathon and beat Oprah's time and he hardly trained or anything and he did it. But I can't even imagine running for 26 miles. I can't imagine running even a half marathon or any of those things. No. We don't ski, or swim or do anything like that. No. We don't do anything like once a year I'm gonna go break this leg. No.

*How had age affected your activity level or choices?*

Well, that's interesting. That's a good question. I was doing, sitting on one of the machines today, because you know you sit on the seat to raise or lower the weight, and I was watching a much younger woman on the stair-step thing and I'm thinking, "OK. If I were her age I would be doing that stair-step machine without even thinking about it. But now I can't stay far enough away from it. So I think I am more faithful consistently because I am aware that that my body needs it. I must do this now for osteoporosis prevention, for my energy level, for the herniated fifth lumbar disk that I have, all of those things make me stay more consistent. I've always been active. I've always been a cheerleader or a majorette or when I wasn't, I can remember when my kids were home when the first air... I mean we're talking, my oldest child is 44 and the next one is 42, so when they were little and I couldn't go anywhere, and then the baby was even younger, I had the booklet on the air force exercises that came out and I, what do you call it when you work against your own weight or muscles

*Isometrics?*

Isometrics, I did those. So when I couldn't go somewhere, I've always done something physical. And I did the unthinkable. I put my daughter in the basket on the handlebars of my bike and I'd bike and we rode mile s and miles and miles around Charlotte North Carolina with her sitting of a towel facing me. I mean we could have both been killed. We'd never heard of baby seats or helmets or any of those things. And then I did it intermittently, didn't worry about whether it was every other day or every 36 hours or any of the things that they say now. Today I do it, I was always skinny, so I didn't do it because I needed to lose weight, I just did it because I've always been physical and that's what you did. And now I do it more because I feel that I have too. But I don't have the energy level, I can't walk with out keeping track of the laps, I'm aware it's the sixth time I've been around this thing. No, no it's definitely changed, I don't have that same level.

*How has age changed you attitude toward exercise?*

Well, I think I just kind of answered that in the last question. My attitude before was sort of catch as catch can and it's an important thing, but it wasn't really a health conscious thing it was more an appearance conscious thing, that it would , and so my attitude now is more one of desperation. I know that I need to do this because I'm old. And that the older I get I need it and so it's a different attitude. Sometimes it's a begrudging attitude. I really do not want to go to the wellness center, but I want to go because I'll pay for it later if I don't. So ... I mean I don't panic, sometimes if I'm out of town I may work out if its convenient. But I don't worry about that if I don't. But I get right back on it. I mean I got off a plane at noon a couple of weeks ago and after I got home and got unpacked I went to the wellness center. Because I hadn't gone for

four days. And I knew that and I wanted to get back on track. So it's become habit. It's become more habit.

*I was going to ask if you had a planned routine, but you've already described that. What is the best thing about exercise?*

Well, as a young man who was working out with the free weights as I was doing curls ... He said, as he finished and dropped the weights, "There has to be a better way." I said, "I'm sure there does, but I don't know what it is." Sometimes I don't know the best thing, but there's a sense of satisfaction when you're leaving. Probably because sometimes time is of the essence. I mean I'm not retired, I always have papers to grade and essays to read. It's not like I have an afternoon to kill and so what can I do. There's no time to stop and relax and have a chat between machines. Or start off with a twenty minute walk and end with it. It's not like that. I'm always watching the time with it. So the best thing is, one, I know that it's good for me to do this. And that's what the young man and I agreed on, and by young I mean 40-45. And like I said, there's a sense of satisfaction, the idea that OK, I have done something worthwhile today. And that part is good. Knowing that it's good for my body to do that. And I can tell a difference when I don't do my exercises.

*Can you describe the worst thing about exercise?*

Sometimes it's tedious. You get into a routine. They tell you to get into a routine. You do your larger muscles first on the weight machines and then do the smaller muscle groups last. But every once in a while just because I can't stand it I'll go ahead and do the curls and triceps and upper body and smaller muscle before I do ... and that just makes me feel so good because that seems shorter. But sometimes it's just tedious to do it. If you have someone to walk with you're

talking, if you have any breath left to talk with, it depends on how fast some of these people walk, that breaks it up. And I listen to audio tapes while I'm walking. And that helps me. It's the tedious ness of it. When I ride my bike in the summer I never do the same route. I go in different directions and I go to church on Sunday usually, but if something happens that I'm not going to church, riding on Sunday morning is great because I can go places I can't go during the week because there's a lot of traffic. Howell Branch Road is a disaster area. I hate to try to cross Howell Branch when there's a lot of traffic during the week. I just can't do it. I almost got killed this summer. I just didn't see this car. I've had a couple of minor accidents where I've slid or hit a bump, but I've been very lucky. But the worst thing that happened was the day after the Fourth of July about three years ago when the German Shepherd bit me. I still have a scar on my left thigh. He just did not like my looks and he thought I was going to hurt his little mistress who had hold of his leash as I rode by. But I've been very lucky and I wear a helmet now. I'm much clumsier than I use dot be. I grew up in West Virginia where to ride your bike you rode up mountains and down mountains and these were not ten speeds. These were just old bikes. There was some flat land, but to go to your friends' houses you rode the mountains. I never even thought about it. That's what you did. You rode the mountains hour and hours and hours. Until I started working in the summer, we would ride bikes. And we never even kept track. It was so easy to ride. But I was lucky there. No helmet. You know, we'd come flying down the mountain. You know, foolish things. And now my son bought me my first helmet a few years ago because he is sure that I am going to trip one day on a hair and, you know, break my neck. I'm just clumsy. So I am much clumsier. My sense of balance is not nearly what it used to be. I feel very guilty because my

mother was physically active before she had a stroke 6 or 7 years ago, and I remember, she and I went bike riding, oh, she was seventy, I was 55, and turning the corner around the block near our house, she didn't see the ramp and she hit it and fell. I was mad at her for being so clumsy. I mean I took care of her, and I lifted her up and I got her glasses and I was concerned and sorry and I knew that it was my fault because I didn't warn her, but, "Mother what's wrong with you that you can't turn a corner?" was what was in my mind. Now I'm so sorry because I know there were times that I was impatient with things, you know.

*Can I call you if I need to, if I have more questions?*

Absolutely. If I haven't lost my helmet and broken my neck...

## LIST OF REFERENCES

- American Association of Retired Persons. (2002). Exercise attitudes and behaviors: A survey of midlife and older adults. Retrieved June 20, 2003 from <http://research.arp.org>
- American Heart Association. (2002). Main menu: Diseases and conditions. Retrieved on March 22, 2003 from [www.americanheart.org](http://www.americanheart.org)
- Barlow, J. H., Turner, A. P., & Wright, C. C. (2000). A randomized controlled study of the Arthritis Self-Management Programme in the UK. *Health Education Research*, 15, 665-680.
- Barnes, P. M., & Schoenborn, M. P. H. (2003). Physical activity among adults: United States 2000. *Advance data from vital and health statistics*; no. 333. Hyattsville, Maryland: National Center for Health Statistics. Retrieved June 12, 2003 from [www.cdc.gov](http://www.cdc.gov)
- Barrett, A. E. (2003). Socioeconomic status and age identity: The role of dimensions of health in the subjective constitution of age. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, 58B(2), S101-108.
- Bianchini, F., Kaaks, R., & Vainio, H. (2002). Overweight, obesity, and cancer. *Lancet Oncology*, 3(9), 565-574.
- Blackwood, S. K., MacHale, S. M., Power, M. J., Goodwin, G. M., & Lawrie, S. M. (1998). Effects of exercise on cognitive and motor function in chronic fatigue syndrome and depression. *Journal of Neurology and Psychiatry*, 65, 541-546.
- Blumenthal, J. A., Babyak, M. A., Moore, K. A., Craighead, W. E., Herman, S., Khatri, P., Waugh, R., Napolitano, M. A., Forman, L. M., Appelbaum, M., Doraiswamy, P. M., & Krishnan, K. R. (1999). Effects of exercise training on older patients with major depression. *Archives of Internal Medicine*, 159, 2349-2357.
- Bong, M. & Clark, R. E. (1999). Comparison between self-concept and self-efficacy in academic motivation research. *Educational Psychologist*, 34(3), 139-153.
- Buchner, D. M. & Cress, M. E. (1997). The effects of strength and endurance training on gait, balance, fall risk, & health services. *Journals of Gerontology Series A: Biological Sciences & Medical Sciences*, 52A(4), 218-114.
- Burbank, P. M., Padula, C. A., & Nigg, C. R. (2000). Changing health behaviors of older adults. *Journal of Gerontological Nursing*, 26, 26-33.

- Calle, E. E., Rodriguez, C., Walker-Thurmond, K., & Thun, M. J. (2003). Overweight, obesity, and mortality from cancer in a prospectively studied cohort of U. S. adults. *The New England Journal of Medicine*, 348, 1625-1638.
- Campaigne, B. N. (1998) Exercise and diabetes mellitus. In Roitman, J. L. (Ed.) *American College of Sports Medicine's resource manual* (3<sup>rd</sup> ed., pp. 267-274); Philadelphia: Lippincott, Williams & Wilkins.
- Campbell, P. G., MacAuley, D., McCrum, E., & Evans, A. (2001). Age differences in the motivating factors for exercise. *Journal of Sports and Exercise Physiology*, 23, 191-199.
- Cavanaugh, P., Mulfinger, L. M., & Owens, D. A. (1997) How do the elderly negotiate stairs. *Muscle and Nerve*, 5, 552-555.
- Centers for Disease Control and Prevention. (2002). Behavioral Risk Factor Surveillance System Survey Data. Atlanta, Georgia: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Retrieved from <http://.cdc.gov/brfss/2002>
- Colcombe, S. J., Erickson, K. J., Raz, N., Webb, A. G., Cohen, N. J., McAuley, E., & Kramer, A. F. (2003). Aerobic fitness reduces brain tissue loss in aging humans. *Journals of Gerontology Series A: Biological Sciences & Medical Sciences*, 58A(2), 176-180.
- Condly, S. (2003, November). Motivation, metacognition, and achievement: Interactions and effects with implications for educational practice. Paper presented at the annual conference of the Florida Educational Research Association, Orlando, FL.
- Condly, S. J., Clark, R. E., & Stolovitch, H. G. (2003). The effects of incentives on workplace performance: A meta-analytic review of research studies. *Performance Improvement Quarterly*, 16(3), 46-63.
- Cousins, S. O. (2001). Thinking out loud: What older adults say about triggers for physical activity. *Journal of Aging and Physical Activity*, 9, 347-363.
- Creswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among the five traditions*. Thousand Oaks: Sage Publications.
- Cummins, C. D., Prochaska, J. O., Driskell, M. M., Evers, K. E., Wright, J. A., Prochaska, J. M., & Velicer, W. F. (2003) Development of review criteria to evaluate health behavior change websites. *Journal of Health Psychology*, 8(1), 55-62.
- Damush, T. M. & Damush, J. G. (1999). The effects of strength training on strength and health-related quality of life in older women. *The Gerontologist*, 39, 705-710.
- Defensive moves. (2001). *AmericanFitness*, 29(4), 48-51.



- Denmark-Wahnefried, W., Morey, M. C., Clipp, E. C., Pieper, C. F., Snyder, D. C., Sloane, R., & Cohen, H. J. (2003). Leading the way in exercise and diet project (Project LEAD): Intervening to improve function among older breast and prostate cancer survivors. *Controlled Clinical Trials*, 24, 206-224.
- Dishman, R. K. (1995). Physical activity and public health: Mental health. *QUEST* 47, 362-385.
- Duncan, G. E., Perri, M. G., Theriaque, D. W., Hutson, A. D., Eckel, R. H., & Stacpoole, P. W. (2003). Exercise training, without weight loss, increases insulin sensitivity and postheparin plasma lipase activity in previously sedentary adults. *Diabetes Care*, 26(3), 557-562.
- Dunlap, J., & Barry, H. C. (1999). Overcoming exercise barriers in older adults. *The Physician and Sportsmedicine*, 27(11), 69-76.
- Eckel, R. H. (1997). Obesity and heart disease: A statement for healthcare professionals from the nutrition committee, American Heart Association. *Circulation*, 96, 3284-3250.
- Eitner, J. L., & Landers, D. M. (1997). The influence of age and fitness on performance and learning. *Journal of Aging and Physical Activity*, 5, 175-189.
- Ellingson, T., & Conn, V. S. (2000). Exercise and the quality of life in elderly individuals. *Journal of Gerontological Nursing*, 26, 17-25.
- Emery, C. F., & Blumenthal, J. A. (1991). Effects of physical exercise on psychological and cognitive functioning of older adults. *Annals of Behavioral Medicine*, 13, 99-107.
- Erickson, S.M., & Sevier, T.L. (1997). Osteoporosis in active women: Prevention, diagnosis, and treatment. *Physician and Sportsmedicine*, 25(11), 61-62.
- Exercise and depression. (2000). *American Fitness*, 18(3), 38-41.
- Femia, E. E., & Zarit, S. H. (1997). Predicting change in activities of daily living: A longitudinal study of oldest old in Sweden. *Journals of Gerontology Series B: Psychological Sciences & Social Studies*, 52B(6), 294-302.
- Ferraro, K. F. (1997). *Introduction to gerontology. Gerontology: Perspectives and Issues*. New York: Springer.
- Fiatarone, M. A., Marks, E. C., Ryan, N. D., Meredith, C. N., Lipsitz, L. A., & Evans, W. J. (1990) High-intensity strength training in nonagenarians. *Journal of the American Medical Association*, 263(22), 3029-2034.
- Fiatarone, M. A., O'Neill, E. F., Ryan, N. D., Clements, K. M., Solares, G. R., Nelson, M. E., Roberts, S. B., Kehayias, J. J., Lipsitz, L. A. & Evans, W. J. (1994) Exercise training

- and nutritional supplementation for physical frailty in very elderly people. *The New England Journal of Medicine*, 330(25), 1769-1775.
- Fitzpatrick, M. (2003). Women on the treadmill. *Lancet*, 361, 9361.
- Ford-Martin, P. (2003) Physical activity definitions broaden to include daily activities. *About Diabetes*. Retrieved November 1, 2003, from <http://diabetes.about.com>
- Foret, C., & Clemons, J. (1996). The elderly's need for physical activity. *The Journal of Physical Education, Recreation and Dance*, 67, 57-62.
- Fries, J. F. (1980). Aging, natural death, and the compression of morbidity. *New England Journal of Medicine*, 303, 130-135.
- Fries, J. F., Koop, C. E., Beadle, C. E., Cooper, P. P., England, M. J., Greaves, R. F., Sokolov, J. J., & Wright, D. (1993) Reducing health care costs by reducing the need and demand for medical services. *The New England Journal of Medicine*, 329(5), 321-325.
- Gardner, A. W. (2001). Exercise training for patients with peripheral artery disease. *The Physician & Sportsmedicine*, 29(8), 25-31.
- Geffken, D. F., Cushman, M., & Burke, G. L. (2002). Physical activity in the elderly reduces inflammation. *Physician & Sportsmedicine* 30(6), 15.
- Gerontological Society of America. (2003). History. Retrieved on June 20, 2003 from <http://www.geron.org>
- Goggins, N. L., & Morrow, Jr., J. R. (2001). Physical activity behaviors of older adults. *Journal of Aging and Physical Activity*, 9, 58-66.
- Gordon, N. F. (1998). Conceptual basis for coronary artery disease risk factor assessment. In J. L. Roitman, (Ed.) *American College of Sports Medicine's resource manual* (3<sup>rd</sup> ed., pp. 3-12). Philadelphia: Lippincott Williams & Wilkins.
- Grossman, M. D. & Stewart, A. L. (2003). "You aren't going to get better by just sitting around": Physical activity perceptions, motivation, and barriers in adults 75 years of age and older. *American Journal of Geriatric Cardiology*, 12, 33-37.
- Hankinson, S. E., Colditz, G. A., Manson, J. E., & Speizer, F. E. (Eds.). (2001). *Healthy women, healthy lives: A guide to preventing disease from the landmark nurses' health study*. New York: Simon & Schuster Source.
- Healthy habits for seniors. (2003). Senior Wellness. Retrieved on June 22, 2003 from [www.seniorwellness.com](http://www.seniorwellness.com)

- Heath, J. M. & Stuart, M. R. (2002). Prescribing exercise for frail elders. *Journals of American Board Family Practice*, 15(3), 218-228.
- Hensley, T. (2000). Lower direct medical costs associated with physical activity. National Center for Chronic Disease and Preventive Health Promotion. Retrieved on December 12, 2003 from <http://www.cdc.gov/nccphp/dnpa>
- Hickman, J. C. & Estell, M. S. (1969). On the use of partial life expectancy in setting health goals. *American Journal of Public Health*, 59(12), 2243-2250.
- Hobbs, F. & Stoops, N. (2002). U. S. Census Bureau, Census2000 special reports, series CENSR-4, *Demographic Trends in the 20<sup>th</sup> Century*. Washington, D. C: U. S. Government Printing Office.
- Holloszy, J. O. (1983). Exercise, health, and aging: a need for more information. *Medicine and Science in Sports and Exercise*, 15, 1.
- Humpel, N., Owen, N. & Leslie, E. (2002). Environmental factors associated with adults' participation in physical activity: A review. *American Journal of Preventive Medicine*, 22(3), 188-199.
- Isaacowitz, D. M., & Smith, J. (2003). Positive and negative affect in very old age. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, 58B(3), 143-142.
- Johnson, C. S. J., Myers, A. M., Scholey, L. M., Cyarto, E. V., & Ecclestone, N. A. (2003). Outcome evaluation of the Canadian Center for Activity and Aging's home support exercise program for frail older adults. *Journal of Aging and Physical Activity*, 11(3), 408-424.
- Kalache, A., Aboderin, I. & Hoskins, I. (2002). Compression of morbidity and active ageing: Key priorities for public health policy in the 21<sup>st</sup> century. *Bulletin of the World Health Organization*, 80(3), 243.
- Karvonen, M. J. (1959). Problems of training of the cardiovascular system. *Ergonomics*, 2, 207-215.
- Khatri, P., Blumenthal, J. A., Babyak, M. A., Craighead, W. E., Herman, S., Baldeicz, T., Madden, D. J., Doraiswamy, M., Waugh, R., & Krishnan, K. R. (2001). Effects of exercise training on cognitive functioning among depressed older men and women. *Journal of Aging and Physical Activity*, 9, 43-57.
- King, A. C. (2001). Interventions to promote physical activity by older adults. *Journal of Gerontology: Series A*, 56A, 36-46.

- Kinsella, K. & Velkoff, V. A. (2001). U. S. Census Bureau, Series P95/01-1. *An Aging World: 2001*. U. S. Government Printing Office: Washington, DC.
- Kligman, E. W., Hewitt, M. J., & Crowell, D. L. (1999). Recommending exercise to healthy older adults: The preparticipation evaluation and exercise prescription. *The Physician & Sportsmedicine*, 27(11), 42-53.
- Konradi, D. B. & Anglin, L. T. (2000). Walking for exercise self-efficacy appraisal process: Use of a focus group methodology. *Journal of Gerontological Nursing*, 26(3), 29-37.
- Krishman, K. R. (1999). Effects of exercise training on older patients with major depression. *Archives of Internal Medicine*, 159, 2349-2357.
- Kutner, N. G. & Barnhart, H. (1997). Self-report benefits of Tai Chi practice by older adults. *Journals of Gerontology Series B: Psychological Sciences & Social Sciences*, 52B(5), 242-246.
- Landers, D. M. (1997). The influence of exercise on mental health. *President's Council on Physical Fitness and Sports Research Digest*, 2(12).
- LaStayo, P. C., Ewy, G. A., Pierotti, D. D. Johns, R. K. & Lindstedt, S. (2003). The positive effects of negative work: Increased muscle strength and decreased fall risk in a frail elderly population. *Journals of Gerontology Series A: Biological Sciences & Medical Sciences*, 58(5), 419-424.
- Lunan, J. (1998). Exercise and the older adult: An overview. In R. G. Stone, (Ed.) *Gerontology Manual*, Tacoma, WA: University of Puget Sound: School of Occupational and Physical Therapy. Retrieved from OTPT page on May 12, 2003 from <http://otpt.ups.edu>
- Lyndon-Griffith, B. (1996). Exercise parameters for the elderly. In Stone, R. G. (Ed.) *Gerontology Manual*. Tacoma, WA: University of Puget Sound: School of Occupational and Physical Therapy. Retrieved from OTPT page on October, 19, 2002 from <http://otpt.ups.edu>
- Manson, J. E., Greenland, P., LaCroix, A. Z., Stefanick, M. L., Mouton, C. P., Oberman, A., Perri, M. G., Sheps, D. S., Pettinger, M. B., & Siscovick, D. S. (2002). Walking compared with vigorous exercise for the prevention of cardiovascular events in women. *New England Journal of Medicine*, 347, 716-25.
- Masud, T., & Morris, R. O. (2001). Epidemiology of falls. *Age and Ageing*, 30, 3-7.
- Mazzeo, R. S., & Tanaka, H. (2001). Exercise prescription for the elderly. *Sports Medicine*, 31(1), 8-18.

- McArdle, W. D., Katch, F. I., & Katch, V. L. (1986). *Exercise Physiology: Energy, nutrition and human performance*. Philadelphia: Lea & Febiger.
- McAuley, E. B., Blissmer, B., Katula, J. & Duncan, T. E. (2000). Exercise, environment, self-efficacy, affective responses to acute exercise in older adults. *Psychology and Health*, 15, 341-355.
- McTiernan, A. (2003). Behavioral risk factors in breast cancer: Can risk be modified? *The Oncologist*, 8(4), 326-334.
- Menec, V. H. (2003). The relationship between everyday activities and successful aging: A 6-year longitudinal study. *Journals of Gerontology SeriesB: Psychological Sciences & Social Sciences*, 58B(2), 574-82.
- Miszko, T. A., Cress, M. E., Slade, J. M., Covey, C. J., Agrawal, S. K., & Doerr, C. E. (2003). Effect of strength and power training on physical function an community-dwelling older adults. *Journals of Gerontology Series A: Biological Sciences & Medical Sciences*, 58A(2), 171-175.
- Montgomery, P., & Dennis, J. (2001). Physical exercise for sleep problems in adults aged 60+. *The Cochran Library* (2) Retrieved online June 20, 2003 at <http://www.medscape.com/viewarticle455185>
- Moody, H. (2000). Aging: Concepts and Controversies. Thousand Oaks, CA: Pine Forge Press.
- National Institute of Mental Health. (1999). Depression research at the National Institute of Mental Health. Retrieved on February 28, 2001 from <http://www.nimh.nih.gov>
- Nelson, M. E. (1998) *Strong women stay young*. New York: Bantam Books.
- Nelson, M. E., Fiatarone, M. A., Morganti, C. M., Trice, I., Greenberg, R. A., & Evans, W. J. (1994). Effects of high-intensity strength training on multiple risk factors for osteoporotic fractures: A randomized controlled trial. *Journal of the American Medical Association*, 272(24), 1909-1914.
- Nicklas, B. I., Dennis, K. E., Berman, D. M., Sorkin, J. Ryan, A. S., & Goldberg, A. P. (2003). Lifestyle interventions of hypocaloric dieting and walking reduces abdominal obesity and improves coronary heart disease risk factors in obese, postmenopausal, African-American and Caucasian women. *Journals of Gerontology Series A: Biological Sciences & Medical Sciences*, 58A(2), 181-189.
- Norcross, J. C., & Prochaska, J. O. (2002). Using the stages of change. *Harvard Mental HealthLetter*, 18 (11), 5-8.

- Olshansky, S. J. (1985). Pursuing longevity versus elimination of degenerative diseases. *American Journal of Public Health*, 75, 754-757.
- Parkinson, J. (1912). The effects of inhalation of oxygen on the rate of the pulse in health. *The Journal of Applied Physiology*, 64, 54.
- Paffenbarger, R. S., Hyde, R. T., Wing, A. L., & Hsieh, C. C. (1986). Physical Activity, all-cause mortality, and longevity of college alumni. *The New England Journal of Medicine*, 314(10), 605-613.
- Phillippe, T., Pierre, I., Fabrice, L., Hazif-Thomas, C., Billon, R., Vieban, F., & Clement, J. (2004). Reasons of informal caregivers for institutionalizing dementia patients previously living at home: the Pixel Study. *International Journal of Geriatric Psychiatry*, 19(2), 127-136.
- Pintrich, P. R., & Schunk, D. H. (2002). *Motivation in education: Theory, research, and applications*(2<sup>nd</sup> ed.). Englewood Cliffs, NJ: Prentice Hall.
- Pleis, J. R., & Coles, R. (2002). Summary Health statistics for U. S. adults: National Health Interview Survey, 1998. *National Center for Health Statistics. Vital Health Stat*, 10(209). Retrieved June 12, 2003 from [www.cdc.gov](http://www.cdc.gov)
- Prochaska, J. O. & DiClemente, C. C. (1982). Transtheoretical therapy: Toward a more integrative model of change. *Psychotherapy: Theory, Research, and Practice*, 19, 276-288.
- Prohaska, T. R., Leventhal, E. A., Leventhal, H., & Keller, M., (1985) Health practices and illness cognition in young, middle-aged, and elderly adults. *Journal of Gerontology*, 40, 569-578.
- Pryor, J. (2003, December). Teaching students to research, not search, on the internet. Paper presented at Teacher Inservice Training at Winter Park High School Ninth Grade Center, Winter Park, FL.
- Ramachandran, S. V., Larson, M. G., Leip, E. P., Evans, J. C., O'Donnel, C. J., Kannel, W. B., & Levy, D. (2001), Impact of high-normal blood pressure on the risk of cardiovascular disease, *The New England Journal of Medicine*, 345(18), 1291-1297.
- Resnick, B. (2000). Functional performance and exercise of older adults in long-term care settings. *Journal of Gerontological Nursing*, 26(3), 7-6.
- Resnick, B., & Spellbring, A. M. (2000). Understanding what motivates older adults to exercise. *Journal of Gerontological Nursing*, 26 (3), 34.

- Richards, E. L. (1886). The influence of exercise upon health. *The Popular Science Monthly*, 22, 322-335.
- Robinson, S. (1938). Experimental studies of physical fitness in relation to age. *Arbeitsphysiologie*, 10, 251-323.
- Sander, G. E. (2002). High blood pressure in the geriatric population: Treatment. *The American Journal of Geriatric Cardiology*, 11(3), 223-232.
- Segall, R. (2001). Work it out. *Psychology Today*, 34 (1), 1.
- Siegel, J. (1996). Aging into the 21<sup>st</sup> century. *Administration on Aging: National Aging Information Center*. Retrieved June 6, 2003 from <http://www.aoa.dhhs.gov/aoa/stats/aging21/summary.html>
- Simkins, B. S., Simpkins, M. A., & Lowenthal, D. T. (2002). Maximizing the benefits of exercise in the elderly. *Family Practice Recertification*, 24(1), 38-50.
- Simonson, E. (1947). Physical fitness and work capacity of older men. *Geriatrics* 2, 110-119.
- Singh, N. A., Clements, K. M., & Fiatarone, M. A. (1997). Sleep, sleep deprivation, and daytime activities: A randomized controlled trial of the effect of exercise on sleep. *Sleep*, 20, 95-101.
- Smyer, M. A., & Qualls, S. H. (2000). Depression. *Aging and Mental Health*. (pp. 163-181). Malden, Massachusetts: Blackwell Publishers.
- Spirduso, W. (1995). *Physical Dimensions of Aging*. Champaign, IL: Human Kinetics Publishers.
- Startzell, J. K., Owens, D. A., Mulfinger, L. M., & Cavanaugh, P. R. (2000). Stair negotiation in older people: a review. *Journal of the American Geriatric Society*, 48, 567-580.
- Steptoe, A., Kimbell, J., & Basford, P. (1998). Exercise and experience and appraisal of daily stressors: A naturalistic study. *Journal of Behavioral Medicine*, 21(14), 363-374.
- Stewart, T. D. (1936). A quarter century of progress in longevity. *American Journal of Physical Anthropology*, 22(1), 153-6.
- Tanasescu, M., Leitzmann, M. F., Rimm, E. B., Willett, W. C., Stampfer, M. J., & Hu, F. B. (2002). Exercise type and intensity in relation to coronary heart disease in men. *Journal of American Medical Association*, 288(16), 1994-2000.
- Thomas, C. A. (Ed.). (1986). *Taber's cyclopedic medical dictionary: Edition 15*. Philadelphia: F. A. Davis Company.

- Vaillant, G. E., & Mukamal, K. (2001). Successful aging. *American Journal of Psychiatry*, 158(6), 839-847.
- VanNorman, K. (1998). Motivation and compliance in exercise programs for older adults. *The Journal of Physical Education, Recreation, & Dance*, 69(8), 24-27.
- Vasan, R. S., Larson, M. G., Leip, E. P., Evans, J. C., O'Donnell, C. J., Kannel, W. B., & Levy, D. (2001). Impact of high-normal blood pressure on the risk of cardiovascular disease. *The New England Journal of Medicine*, 345(18), 1291-1297.
- Walsh, M. N. (2002). Physical fitness prolongs life. *HealthNews*, 8(5), 3.
- Wenger, N. K., Scheidt, S., & Weber, M. A. (2001). Exercise and elderly persons. *American Journal of Geriatric Cardiology*, 10(5), 241-242.
- White, R. W. (1995). Motivation reconsidered: The concept of competence. *Psychological Review* 66, 297-333.
- Witham, M. D., Struthers, A. D., & McMurdo, M. E. T. (2003). Exercise training as a therapy for chronic heart failure: Can older people benefit? *Journal of the American Geriatric Society* 51(5), 699-709.
- Wolcott, H. F. (2001). *The art of fieldwork*. New York: Alta Mira Press.
- Wong, C. H., Wong, S. F., Weng, S. P., Azizah M. Y., & Dass M. J. (2003). Habitual walking and its correlation to better physical function: Implications for prevention of physical disability in older persons. *Journals of Gerontology Series A: Biological Sciences & Medical Sciences*, 58A(6), 555-560.
- Woo, E., & Sharps, M. J. (2003). Cognitive aging and physical exercise. *Educational Gerontology*, 29, 327-337.
- Woodhall, B. & Jablon, S. (1957). Prospects for further increase in longevity. *Geriatrics*, 12, 586-591.
- Yeung, R. R. (1996). The Acute Effects of Exercise on Mood State. *Journal of Psychomatic Research*, 40 (2), 123-141.