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Congregate mealsite participants' self-reported and functional health, participation in activities and attitudes toward aging in Wisconsin

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Congregate Mealsite Participants' Self-Reported and Functional Health,
Participation in Activities and Attitudes Toward Aging in Wisconsin

By

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Thesis

Submitted to the School of Health Sciences

Eastern Michigan University

in partial fulfillment of the requirements

for the degree of

MASTER OF SCIENCE

in

Human Nutrition

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July 14, 2009

Ypsilanti, Michigan

APPROVAL

DEDICATION

For my daughter Maggie Fox, with appreciation of her love, support, patience, and understanding over the past two years. If you work hard you can accomplish your goals at any stage of your life.

For the Aging Network, my colleagues and mentors over the past 14 years who taught me the importance of having a vision for the future and an understanding of aging services that promote independence and quality of life for older adults.

For the Elderly Nutrition Program Congregate Mealsite Participants in Wisconsin, I thank them for their assistance in helping me complete my research. Their energy, attitude, appreciativeness, perseverance, independence, and spirit are truly inspiring.

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ABSTRACT

The number of older Americans is increasing. Participation in activities is essential for maintaining health and functional independence, preventing or delaying chronic diseases and improving quality of life. Generally, as older adults age, prevalence of regular activity declines. Many older adults are not engaging in activities and are not receiving the health benefits that these offer.

This cross-sectional study used a self-administered survey to examine whether there is an association between attitudes toward aging, self-reported and functional health, and participation in activities among older adults aged 55 and older who attend congregate mealsites in Wisconsin. It was hypothesized that older adults aged 55 and above who attend congregate mealsites and participate in varying types of seven or more health promotion and disease prevention activities would have positive attitudes toward aging and better self-reported and functional health. Results indicated a significant association between variables and can be useful in future studies.

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LIST OF ABBREVIATIONS

HHS	United States Department of Health and Human Services
AOA	Administration on Aging
OAA	Older Americans Act
SUA	State Units on Aging
AAA	Area Agency on Aging
ADRCs	Aging and Disability Resource Centers
ADLs	Activities of Daily Living
IADLs	Instrumental Activities of Daily Living

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CHAPTER 1: OVERVIEW OF STUDY

Introduction and Background

The number of older Americans has significantly increased in recent years, and this trend is expected to continue as this population will have dramatic growth between the years 2010 and 2030 when the “baby boomer” generation reaches age 65 (1). The US Department of Health and Human Services (HHS) Administration on Aging (AOA) has predicted that the proportion of older adults in the US population will increase from the current 13% to 20% of the US population in 2030 (1). The fastest growing segment of the population is the oldest-old, those who are 85 years and older (1). Generally, as older adults age, prevalence of regular activity declines. As the composition of the US population changes to reflect the increasing numbers of older adults, research will continue to focus on successful aging and ways to promote healthy lifestyles through the participation of social and health promotion and disease prevention activities to decrease morbidity and disability, improve attitudes toward aging and overall health, and increase quality of life among older adults.

The following chapter will introduce the problems associated with decreased participation in social and health promotion and disease prevention activities, specifically in relationship to health and attitudes toward aging among older adults, with special emphasis on the Older Americans Act (OAA) Nutrition Program. Bem's Self-Perceptions Theory, the theoretical framework for this study, which is based on an account of attitude change developed by a noted social psychologist, follows. The purpose of the study will conclude this chapter.

Statement of the Problem

Adequate nutrition along with participation in social and health promotion and disease prevention activities is essential for maintaining health, functional independence, preventing or delaying chronic diseases, and quality of life. In general, older persons in poorer health have lower participation rates in social and health promotion and disease prevention activities than those in better health (2-19). More specifically, older adults in poorer health tend to have more negative attitudes toward aging than older persons in better health who tend to have more positive attitudes toward aging (20-29). Thus, older adults who report negative attitudes toward aging are less likely to participate in social and health promotion and disease prevention activities. Therefore, they have poorer health and are more likely to experience disability (30,31) than those in better health (self-reported and functional). Even more compelling is the fact that as a nation, older adults are not engaging in several types of health promotion and disease prevention activities such as physical activity and exercise, nutrition screening, education, counseling, and influenza and pneumococcal vaccinations. Thus, they are not receiving the positive health benefits that these activities offer (32-37). This is worrisome due to the fact that physical inactivity among older adults is associated with increased risk for chronic disease, including cardiovascular disease and decreased cardiorespiratory fitness, diabetes and osteoporosis, decreased cognitive function, depression, more negative self-perceptions of aging, poor sleep, increased risk of disability, and loss of muscle mass, flexibility, and balance as well as more serious consequences from falling (2,5-9,11,16-18,30,32-36,38). Obesity is also one of the factors associated with disabling conditions and early mortality. Body weight or obesity

contributes to the development of many conditions such as cardiovascular disease, diabetes, hypertension, and osteoarthritis in later life.

The OAA Nutrition Program, established in 1972, is the largest and most visible federally funded community-based nutrition program for older adults (39,40). The Program is administered by the US Department of Health and Human Services (HHS), Administration on Aging (AoA), which provides funding to State Units on Aging (SUAs) for two senior nutrition programs: congregate and home-delivered meals (39-45). Funding is distributed by SUAs to Area Agencies on Aging (AAAs) and local county and tribal aging units and/or Aging and Disability Resource Centers (ADRCs), which provide oversight, information and/or coordination of both nutrition programs. These agencies and the services that they provide to older adults are defined as “The Aging Network,” which is depicted in Figure 1.

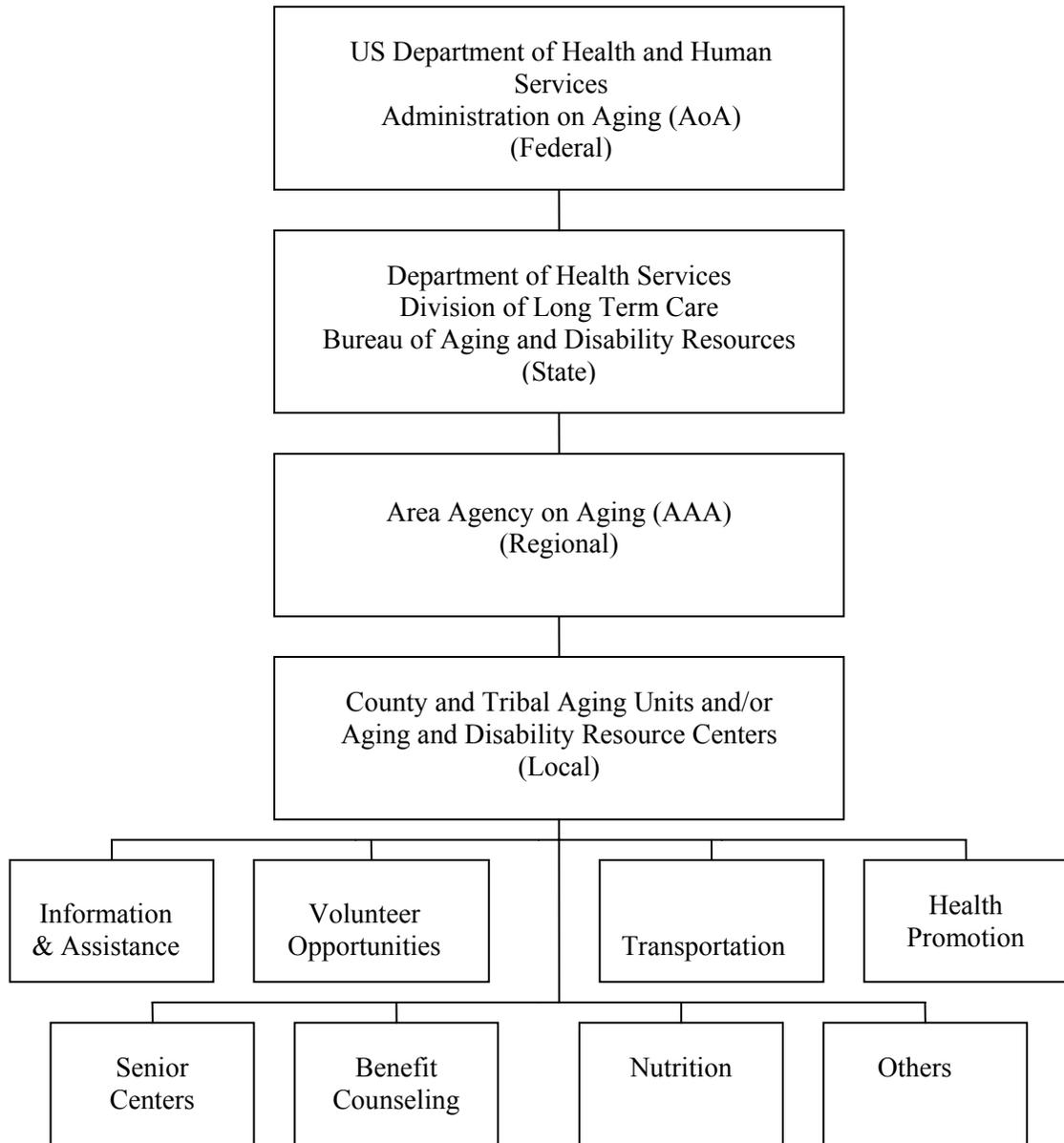


Figure 1. The aging network. This figure shows administration and oversight of the OAA Nutrition Program and other OAA services from the federal, state, regional, and local level.

In addition, funding is also provided for nutrition screening, education, and counseling, as well as a variety of other supportive and health services (39-45). In fiscal year 2007, approximately 95 million congregate meals and 141 million home-delivered meals were served across the nation. Of these meals, more than 4 million were served throughout

Wisconsin, including 2 million meals to persons in approximately 600 congregate mealsites and over 2 million home-delivered meals. (39,46).

Congregate meals are meals that are offered to seniors in groups at various social settings such as senior centers, community centers, churches, schools, restaurants, aging and disability resource centers (ADRCs), and senior housing facilities (41). In addition to providing a hot meal that meets one third of the Recommended Dietary Allowances and Dietary Guidelines for Americans, the congregate mealsites provide seniors with social interaction and stimulation and the chance to get involved in the community (39-45). In addition, congregate mealsite participants have the opportunity to participate in social and health promotion and disease prevention activities at various mealsite locations (39-45).

The OAA Nutrition Program seeks to improve participant nutrition and create social opportunities through the provision of meals and informal support networks (39-45). The stated purposes of the OAA Nutrition Program are to reduce hunger and food insecurity, promote socialization, and promote health and well-being by assisting individuals in gaining access to nutrition and other disease prevention and health promotion services to delay the onset of adverse health conditions due to poor nutritional health or sedentary behavior (39). The legislative intent of the program is to make nutrition and community-based services available to older adults at risk of losing their independence (41). Nutrition program services are available to anyone 60 years or older (39,41). The program targets nutrition services to older adults with the greatest economic or social need (39,41). Special attention is given to low-income minorities and rural older adults. In addition, the following individuals may also receive services: a spouse of any age, nutrition service volunteers, disabled individuals who reside at home with older individuals eligible for the program, and disabled individuals under

age 60 who reside in housing facilities occupied primarily by older individuals where congregate meals are provided (41). Participants are asked to contribute what they can afford toward the cost of the service; however, no one is denied meals or nutrition services because of an inability to do so (41). Provider agencies target services to seniors with the greatest nutritional, social, and economic need (41).

Studies of the OAA Nutrition Program (44,45) found that compared to the US population of older adults aged 60 years and older, OAA Nutrition Program participants tend to be older, be female, live alone, live in rural areas, be minority, have lower educational attainment, be divorced, widowed, separated, or never married, have lower income, and on average have two to three chronic health problems. Results also indicated that 33% of congregate meal participants consider themselves to be in fair or poor health, and 25% need assistance with or have considerable difficulty performing one or more activities of daily living (ADLs), including shopping for food or preparing meals (45). Congregate meal participants are also more likely to be overweight than home-delivered meal participants (45).

In 2003, an Administration on Aging (AoA) funded pilot survey of OAA Nutrition Program participants indicated that Older Americans participating in the congregate nutrition program are a vulnerable population who are older, have a higher nutritional risk, are lower income, may have more limited access to food, tend to live alone, and are able to continue living in their own home as a result of participating in the program (42). Results also showed that congregate nutrition program mealsites provide opportunities in health promotion and disease prevention. Overall, 57% of respondents reported that their social opportunities had increased since they started receiving congregate nutrition services and 79% of respondents

reported that, as a result of the Program, they could continue to live in their own home (42). However, as the survey results show, 48% of congregate nutrition participants did not participate in physical activity, and 41% did not participate in health screening when available. Also, 43% of respondents reported that their social opportunities had not increased since they started receiving congregate nutrition services (42). These findings are consistent with nationwide data, which show many older adults do not participate in health promotion and prevention activities, despite the positive health benefits that these activities offer (55,71).

The Purpose of this Study

The purpose of the study was to examine whether there is an association between attitudes toward aging, self-reported and functional health, and participation in activities among older adults aged 55 and older who attend congregate mealsites in Wisconsin.

Theoretical Framework

Self-Perceptions Theory

The Self-Perceptions Theory (47) was developed by Bem in 1972 and was initially formulated, in part, to address certain questions in the “philosophy of the mind.” For example, Bem asked, when an individual asserts, “I am hungry,” how does the individual know? According to Bem, “Individuals come to 'know' their own attitudes, emotions, and other internal states partially by inferring them from observations of their own overt behavior and/or the circumstances in which this behavior occurs, thus, to the extent that internal cues

are weak, ambiguous or interpretable, the individual is functionally in the same position as an outside observer, an observer who must necessarily rely upon those same external cues to infer the individual's inner states." Therefore, individuals develop their attitudes by observing their own behavior and then determining what attitudes caused their behaviors. Individuals who examine their own behavior and provide explanations for these behaviors also try to provide explanations for others' behaviors in the same way. In other words, behaviors affect attitudes or influence attitudes because people infer their attitudes by observing their own behavior and the situations in which their behavior occurs. Hence, people make direct inferences from their behavior to their attitude. Numerous studies support this theory; specific studies of older adults will be discussed further in Chapter 2.

CHAPTER 2: REVIEW OF LITERATURE

Introduction

The conceptual framework of successful aging will be introduced and the basis of successful aging is discussed. In addition, the independent (participation in activities) and dependent (attitudes toward aging, self-reported health and self-reported functional health) variables used in this study are reviewed. The Self-Perceptions Theory will be discussed in detail, as well as its relationship to the independent and dependent variables and study as a whole.

Conceptual Framework

Successful Aging

In 1972, Rowe and Kahn (48) proposed a conceptual framework for successful aging and considered some pathways or mechanisms that make successful old age. Successful aging has also been termed "healthy, active, or positive aging." There are many definitions of successful aging, and the definitions continue to change as researchers recognize that older adults are not a homogeneous group. Rowe and Kahn indicated that the three components of successful aging are 1) low risk of disease and disability; 2) high cognitive and physical functioning and activity; and 3) active engagement with life through interpersonal relations (contacts with others, exchange of information, emotional support, and direct assistance) and productive activity that is either paid or unpaid (paid work, volunteering, and caregiving activities) (48). Both low probability of disease and disease-related disability and

maintenance of functional abilities are important. However, it is their combination along with active engagement with life that best represents the concept of successful aging.

A graphic representation of Rowe and Kahn's Model of Successful Aging is shown in Figure 2. This conceptual model, the basis for this study, is outlined in the form of a graphic to visually present the three components of successful aging that include avoiding disability and disease, high cognitive and physical functioning, and engagement with life.

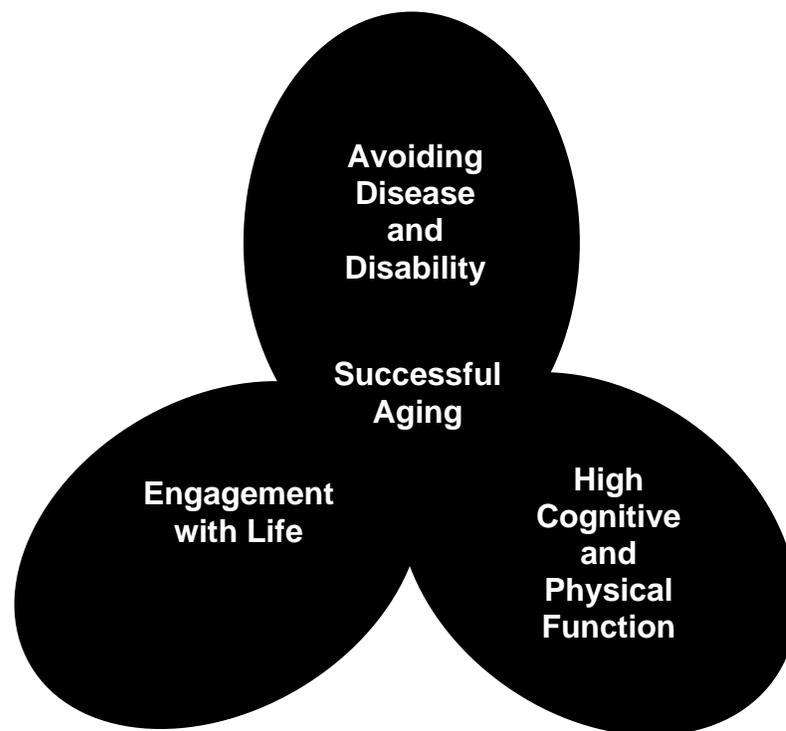


Figure 2. A model of successful aging adapted by Rowe and Kahn.

This framework has been utilized when examining the relationship of activity and social support to the functional health of older adults (19). Findings have shown (19) that maintenance of instrumental, social and high-demand leisure activities are associated with higher physical health scores. Still, findings have indicated that older adults' perceptions of

successful aging are multidimensional (49,50) and involve beliefs about physical, functional, psychological, and social health (50). Several studies (49) have included elements of social functioning in their initial study definitions of successful aging. These elements have varied in detail and have included social engagement, social roles, participation and activity, social conflicts, and exchanges and/or positive relationships with others. All of these variables have been associated with better health and psychological and physical functioning. In these same studies, there was evidence of associations found between social and productive activity, multiple roles and self perceived competence, efficacy, better health and functioning, autonomy, enhanced emotional well-being, and life satisfaction in older age, which have all been included in study definitions of successful aging (49).

Researchers have utilized interviews and surveys of community-dwelling older adults aged 60 and older as well as centenarians to examine their opinions about factors related to successful aging and active aging (26,51-55). Approximately, 92% of older adults viewed themselves as aging successfully despite having chronic physical illnesses and some disability (51). Data indicated that older adults emphasized the need for a positive attitude and that a positive attitude along with adaptation strategies often compensated for impaired physical health. (52). Those who considered themselves to be aging successfully had higher scores on health-related quality of life as well as resilience, greater activity, and number of close friends (51). Health was one of the most frequently mentioned variables to successful aging, followed by activity (housework, gardening, etc.); personal growth (physical activity, sports, gardening, walking, jogging, doing things with hands such as an upholstery course); happiness, close personal relationships (companionship); independence (driving a car, walking without assistance); appreciation for life and longevity (26). Most participants

identified physical inability or ill health as the worst aspects of aging (26). They placed more emphasis on psychological factors as the key to successful aging and less emphasis on factors such as longevity, genetics, absence of disease/disability, function, and independence (52).

For rural, community-dwelling older adults, women most often identified relationships, frame of mind, participation in activities (maintaining an active lifestyle), and religion/spirituality as important variables to successful aging (53). The most common perceptions of active or successful aging among older adults were having/maintaining physical health and functioning (43%), leisure and social activities (34%), mental functioning and activity (18%), and social relationships and contacts (15%) (54). A main sub-theme of active aging included exercising the body and mind in order to maintain health and functioning (54). Studies that have interviewed centenarians (54) have found common themes in their life experiences such as meaning of life, views of health, relationships with others, affirmation of worth, reasons for longevity, and god. Specifically, health was defined as “not having to go to the doctor.” Many centenarians recalled past experiences they or their family had with illness. They did not focus on any structured health regimen; instead, their health practices were a part of their life tasks. Their life included some form of activity, whether it was walking to get somewhere or working on a farm. Activity was associated with health (55).

Centenarians also emphasized the importance of nutrition and being socially engaged by having relationships with others. Specifically, socializing with others helped to prevent isolation. They also mentioned their lives counted for something (affirmation and worth) as many older adults served, helped, or were involved with others through their voluntary activities. These centenarians attributed their long life to heredity, activity, hard work, and

friendships (54). Overall, older adults mentioned several variables to successful aging that meet other study definitions or variables for successful aging, such as independent living, mastery/growth, health, positive adaptation, happiness, mental capacity, life satisfaction, adjustment to life changes, physical activity, and close personal relationships (26,51).

Variables

Self-Reported Health

The percentage of US older adults who report very good or excellent health decreases with age, and those who report fair or poor health increases with age. The percentages are even lower for some minority populations. In 2004-2006 (56), 76% of non-Hispanic white older adults aged 65 and over assessed their health as good to excellent compared to 63% of older Hispanics and 60% of older non-Hispanic blacks. The proportion of older adults who report good to excellent health decreases with advanced age (56). For example, in 2004-2006, 78% of older men aged 65 to 74 reported good to excellent health compared to 63% of older men aged 85 and older. This pattern also exists among women and within race and ethnic groups. Older adults who rate their general health as good to excellent are less likely to have chronic conditions such as arthritis, renal disease, neurological disease, and cancer (57). Data have indicated that most older adults have one or more chronic conditions (58). The most frequently occurring chronic conditions among older adults aged 65 and over in 2005-2006 (56) were hypertension (53%), arthritis (50%), heart disease (30%), cancer (21%), and diabetes (18%).

In addition, there is a strong correlation between disability status and reported health status. Among US older adults 65 years and older with a severe disability, 64% reported

their health as fair or poor (1). Research shows that older adults who report good to excellent health are “happier” than those who report fair to poor health (59). Also, older adults who are resilient have better self-reported health and age more successfully than older adults who are not resilient (60). Data indicate that self-reported health is a strong predictor of important health outcomes such as mortality (61,62). There is also a correlation between positive attitudes towards aging and health status. Older adults in better health tend to have a more positive attitude toward aging, and older persons in poorer health tend to have a more negative attitude toward aging (20-29). Also, older persons with better health have higher participation rates in social and health promotion and disease prevention activities (2-19). Overall, older adults who have better health are more likely to report positive attitudes toward aging and participate in social and health promotion and disease prevention activities; therefore, they are less likely to experience disability (30,31).

Self-Reported Functional Health

In 2005 (56), 38% of non-institutionalized Medicare beneficiaries aged 65 and older reported functional limitations, and 19% of men and 32% of women were unable to perform at least one of five physical functions that are linked to physiological capabilities. Specifically, 12% of these individuals reported difficulties in performing instrumental activities of daily living (IADLs) such as using the telephone, doing light housework, doing heavy housework, preparing meals, shopping, and managing money (56). Also, 26% reported difficulties in one or more activities of daily living (ADLs) such as bathing/showering, dressing, eating, getting in/out of bed/chairs, walking, and using the toilet (56). The ADL most difficult to perform for older adults was walking, and the IADL most

difficult to perform was doing heavy housework, followed by shopping (1). Physical functions most difficult to perform for older adults were the ability to walk 2-3 blocks, to stoop or kneel, and to lift 10 lbs (56). Functional limitations on activities due to chronic conditions increase with age, and difficulties with physical function are more frequent with advanced age. The rate of functional limitations on ADLs among persons 85 and older is much higher than those for individuals 65-74 (1). Among men and women aged 65 to 74, 14% of men and 22% of women reported that they were unable to perform at least one of five activities in comparison to 38% of men and 56% of women aged 85 years and older (56).

Activity limitation is one of the most frequent syndromes in the older adult population, and it has a significant impact on these individuals. Older adults who have higher activity levels and fewer activity limitations generally experience increased quality of life and satisfaction with participation (63). When older adults' activity levels are more limited, their participation level is further restricted and they view their physical environment as having more obstacles (63). Decreased physical function is also associated with poor sleep in older women and negative attitudes toward aging among older adults (38). Thus, older adults with more positive attitudes toward aging report better functional health than those with negative attitudes toward aging (20,23,25-27). Overall, self-perceptions of aging is considered an independent predictor of functional disability in older adults (25). In fact, self-perception of aging was found to have a greater impact on functional health over time than self-reported health, gender, race, and socioeconomic status (25). Since debilitating pain disrupts daily functioning and predicts lower happiness scores of older adults, it appears that older adults who have better daily functioning are "happier" than those with impaired daily functioning due to pain (59).

Participation in Social and Health Promotion and Disease Prevention Activities

Health promotion and disease prevention activities (64) include 1) primary prevention – the prevention of disease before it occurs by encouraging health-promoting behaviors, 2) secondary prevention – the detection of disease at an early stage which involves screening to emphasize early detection and diagnosis of disease, and 3) tertiary prevention – which involves treatment and rehabilitation to reduce the level of disability caused by the disease and thus achieve the highest level of function. Effective health promotion activities (65) must focus on the following factors: prevention or delay of premature death from preventable disease; improvement in quality of life by reducing the incidence of and morbidity associated with disabling diseases; improvement in self-rated health by enabling individuals to influence their own health care; and reduction of hazardous lifestyles, injury, and accidents. Therefore, health promotion can contribute to an increase in life expectancy and better health, and primary and secondary prevention activities can also prevent the onset or progression of disease (64-66). More recently, attention has been placed on the importance of evidence-based health promotion and disease prevention programs. These are important programs because they focus on the adoption and maintenance of attitudes and behaviors that have been researched. Thus, they have been found to promote health and well-being in older adults (67). Evidence-based health promotion and disease prevention takes interventions that have been found to be effective in certain controlled settings and applies them as programs that address the needs of individuals or groups that are served by service providers (67).

Some older adults who are given the opportunity to participate in health activities that focus on changing health behaviors to improve health status and lower the risk of disability

will improve their health behaviors (68,69); however, many will not make these changes (33). There are several variables which affect older adults' participation in health promoting activities, including socioeconomic factors, beliefs and attitudes of both patients and providers, encouragement by a healthcare provider, age, number of chronic conditions, specific motivation based on self-efficacy expectations, and access to resources (70). In examining determinants of health-promoting behavior among older women aged 65 and above, researchers found that older women with better perceived health made significant contributions to the health-promoting behaviors of physical activity as well as nutrition, spiritual growth, and interpersonal relations. Benefits of these behaviors were better psychological well-being, coping with general issues of aging, social interaction, improved function, and management of existing chronic health conditions (4). Internal barriers to participating in health-promoting behaviors included perceived physical difficulties with all types of health-promoting behaviors, and external barriers included aspects of the activity itself, lack of support from others, and structural barriers. Results suggest that older women participate in health-promoting behaviors for both health enhancement and health management reasons, and barriers may be an important determinant of older women's health promoting lifestyle behaviors (4).

Chronic health conditions that may respond to secondary prevention strategies include obesity, arthritis, stroke, hypertension, asthma, chronic bronchitis or emphysema, diabetes, cancer, and heart disease (55,66). In 2006, 64% of older adults aged 65 and older reported that they received an influenza vaccination during the past 12 months, and 57% reported that they had ever received a pneumococcal vaccination, two strategies of primary prevention (55). Generally, as older adults age, prevalence of regular activity declines.

Guidelines suggest that older adults should perform moderate-intensity aerobic (endurance) physical activity for a minimum of 30 minutes per day on five days of the week or vigorous-intensity aerobic activity for a minimum of 20 minutes per day on three days each week to improve and maintain health. In addition, it is recommended that older adults do eight to 10 strength-training exercises of 10-15 repetitions of each exercise two to three times per week, and if individuals are at risk for falling, they should also perform balance exercises (32). These guidelines are consistent with study findings (6) that indicate that older adults who participate in regular exercise activities (30 minutes of moderate-intensity activity on most days of the week) demonstrate greater functional capacity than older adults who expend similar amounts of energy (400 kcals per day) but perform less-intensive activity.

In 2005-2006, 26% of older adults aged 65-74 and 10% of persons 85 and older reported engaging in regular leisure-time physical activity (71). Men aged 65 and older were more likely (25%) than women (19%) in the same age group to engage in regular physical activity. Approximately 61% of older adults aged 65 years and older are inactive (71). Unfortunately, older adults have not met the recommended levels of physical activity and have been below the goals for US adults in *Healthy People 2010* established by the US Department of Health and Human Services (HHS), which provides information on the leading health indicators (33,37). Physical inactivity among older adults is associated with an increased risk for chronic disease, including cardiovascular disease and decreased cardiorespiratory fitness, diabetes, and osteoporosis, decreased cognitive function, depression, more negative self-perceptions and expectations of aging, poor sleep, increased risk of disability and loss of muscle mass, flexibility, and balance as well as more serious consequences from falling (2,5-9,11,16-18,22,30-36,38) among older adults. In particular,

physical activity has also been associated with functional status in older women (7,8). Study findings have shown that poor strength, chronic conditions, and functional limitations are associated with inactivity in older women (7-8). In fact, older women with low levels of physical activity earlier in their life have decreased functional status many years later.

Therefore, benefits of physical activity among older adults include lower overall mortality, more positive self-perceptions and expectations of aging, lower risk of chronic diseases and improved cardiorespiratory fitness, improved mood and relief from symptoms of depression, better cognitive and physical functioning, improved quality of life, improved sleep, weight loss and maintenance of loss, and lower risk of falls and injury (2,5-9,11,16-18,22,30-36,38).

Data suggest that older adults who participate in leisure activities tend to have better self-rated and functional health (6,9,10,12,19). Women who have better self-rated health tend to go to art exhibitions, theatre, movies, and concerts, whereas men with better self-rated health tend to participate in studying and self-development (12). These data suggest that the association between leisure activities and good self-rated health may differ for men and women due to their nature or meaning. In examining changes in leisure activities (10) of older adults over an 8-year period, researchers found that theater, movies, spectator sports, and travel were least likely to be continued, whereas watching television and reading were most likely to be continued. Functional ability and self-rated health were associated with the continued participation of certain activities over time as well as changes in activities with no consistent pattern. Specifically, a change in functional ability is associated with a change in some specific activities (10). Thus, as functional ability changes, so does leisure participation. Data indicate that both leisure activities that are physically demanding and those that are less strenuous such as attending classes or volunteering are associated with

better functioning for older adults (6,9,10,12,19); however, exercise provides greater benefits for physical functioning (6). One study found that the maintenance of instrumental, social, and high-demand leisure activities (swimming, woodworking, walking, and gardening) are associated with greater physical health, and maintenance of low-demand activities (sewing, reading, watching television and listening to music) are associated with less physical health but higher cognitive function (19). Thus, researchers have suggested that engaging in any variety of activities may indicate successful aging (6).

Social participation is the action of individuals who share a part of their resources with other individuals and contribute their resources to the social environment (15). There are three types of social participation (15) that have been identified by the resources that are shared, and they include collective, productive, and political participation. In collective social participation, the only resource that is shared is time, such as in playing cards and traveling with others, whereas in productive social participation, besides time, other resources such as special abilities and competencies are shared such as in caregiving and paid and volunteer work. In political participation, besides time and special skills, additional resources such as social knowledge and social competence are shared (15). Older adults who are younger and healthier are more likely to participate in social activities in very old age. Several studies that examined social functioning found that social engagement, social roles, participation and activity, social contacts and exchanges, and/or positive relationships with others was associated with increased social participation following the loss of a spouse, better self-rated health, mental and physical functioning, decreased mortality, positive effects on the cardiovascular, endocrine, and immune systems and quality of life (2,3,11,13,14,72). Specifically, vision and hearing are broadly related to social participation and are important

factors that predict self-reported health (11). Therefore, good hearing and vision facilitate social participation.

Older adults with low expectations for aging are more likely to report sedentary lifestyles and less likely to participate in moderate-vigorous physical activity and report seeking health care for age-associated conditions than those with high expectations for aging (31). Researchers have found that Latinos have significantly lower expectations for aging than non-Latino whites and African Americans (29). In addition, for non-Latino white, African American, and Latino older adults, older age and lower physical and mental health-related quality of life were strongly associated with lower expectations for aging (29). Further data have found that although older adults show more attention to things of interest in their own age group and report doing things that are appropriate for their age group, older adults are more likely than younger adults to state interest in the activities of younger adults and more likely to say that they do things that are more appropriate for a younger age group (73). Older adults clearly express interest in the things younger adults do.

Attitudes toward Aging

Attitude is a learned evaluative response favorably or unfavorably directed at specific objects, which is relatively enduring and both influences and motivates our behavior toward these objects (74). There are three components of attitudes: 1) Affect – likes and dislikes (emotions) of the object; 2) Cognition – beliefs and thoughts about the object, and 3) Behavior – behavior towards the object (74). For many years, it has been noted that attitudes of the old-old (75 and older) are more negative than attitudes of the young-old (55-64) (75). Older adults who report “positive attitudes toward aging” have better functional and self-

rated health, higher levels of physical activity, increased longevity and greater will to live, and decreased incidence of illness. They practice more preventive health activities over time that are related to alcohol consumption, diet, exercise and physical activity, medication compliance, seatbelt use, tobacco use, and regular doctor visits. They also have less cardiovascular stress and describe old age and aging in positive terms (21-28,30,31,76) compared to those with negative attitudes toward aging.

Group differences in attitudes toward aging have been found for older and younger adults (72,77). Older adults aged 55 and older are rated more stereotypically, i.e. they are seen as less attractive, less competent, and least likely to interact with, are treated more negatively and evaluated less favorably than younger adults (77). Also, older adults see fewer differences between the young and the old than younger adults who see greater differences between the two age groups (77). There have been no differences found between younger and older adults in the average age considered old. Older adults are generally more positive about aging (78), have more elaborate and complete views on aging (79), give a significantly higher age as the happiest age (72), have significantly more knowledge about aging, and are more likely to feel young, do things that younger people do, and have interest in things of interest to younger people (72) than younger adults. Older adults aged 50 and older also tend to view older profiles of persons in poor health more negatively than profiles describing healthy persons (18). In addition, older adults tend to view younger adult profiles as more healthy than older adult profiles (18).

Age differences of subjective age (the age that people perceive themselves to be) and what one considers “old age” have also been examined (26,80,81). Approximately 48% of older adults aged 64 to 84 years old who described in years the age they felt themselves to be

(feel age) and their preferred age (ideal age) had the same attitudes toward their age over an eight-year period (73). Thus, only 26% of older adults indicated a younger and older feel age (80). These same patterns were also found with chronological age and ideal age of older adults (80). Older adults also indicate younger age identities (81). When participants were asked what "old" was, few respondents (17 out of 60) were able to put an age to "old," the majority of whom stated it was once a person reached 80 years of age. Two respondents believed 60 was considered "old," and three respondents indicated that 70 was considered "old" (26).

Some studies have found no gender differences in attitudes toward aging (18,82), while others have found limited gender differences among men and women (72,81). Older women indicate a significantly older age as the age considered old and experience younger age identities than men. But men and women do not differ in the age they feel, the age they look, the things they do or are interested in, the age they name as the happiest, their knowledge of aging, or their belief that old age is or is not a happy time (72,81).

One study (83) that examined women's attitudes toward aging suggested six themes that are central to the attitudes on aging and old age of older women who attend senior centers. These themes included defining characteristics, illness, independence, resistance to self-identify themselves as "old," death or illness of a significant other, and reciprocity. Older women viewed "old age" and aging in terms of one's mental (attitude) and physical abilities, independence, and illness. Specifically, women view attitude as an important component to old age and aging. Older women tend to distance themselves from "old age" and the loss of health, independence, and mortality that is associated with "old age" whenever possible (83). Those who do not identify themselves as "old" tend to have

functional ability, are content with their mental and physical capabilities, have overcome illness or are in the process of doing so, have grieved the loss of a significant other without placing emphasis on their own mortality, and have the need to give and receive help, which provides beneficial interactions with others. Instead of older women describing "old age" in positive terms, they chose to deny that they were experiencing "old age" and instead identify themselves using positive terms that did not include the word "old" (83). A study that examined attitudes toward aging of older adult men aged 65 to 85 found that attitudes toward "old men" were significantly more negative than attitudes toward "young men." Overall, older men in poor health tend to view themselves as the stereotypical "old person" compared to healthy old men who tend to view themselves as being more like a "young person" (21).

There are also cultural and racial group differences in attitudes toward aging. Older African-Americans view aging differently than older Caucasians. Most Caucasian older adults that believe that old age is a relatively happy time, name an older age as the happiest age, have more knowledge about aging and possibly the knowledge of aging is more positive, have more interest in and do the same things as younger adults do, and are more likely to feel young compared to older African Americans (72). Older African American adults believe that old age is not a happy time, that the happiest time of life is late adolescence and that the happiest time in their life has already passed them by (72). Both groups also differed in what they viewed as major health concerns of older adults and the typical image of an older adult. African American older adults named health or health care and retirement as their top concerns. However, only one third of older Caucasians named health or health care as their top concern, and none named retirement as a top concern (72). Instead, most older Caucasians named finances and health as their top concerns. As far as roles or images of

aging, two-thirds of older African Americans named “retired,” with “grandparent” as the next frequently named image of aging. In contrast, older Caucasians used the word “wise” more frequently and less frequently named “retired,” with “grandparent” as a role or image of aging (72).

Compared to Americans aged 18 to 91, Koreans have greater levels of fear of old people and anxiety about aging, psychological concerns, and concerns over physical appearance (84). In comparison to Koreans, older Americans have a greater fear of old people. In both groups, older adults have greater psychological concerns and fear of losses than younger groups, and older American women have more anxiety about aging and concerns over physical appearance than older adult males (84). One study (50) that examined views of aging among Japanese-Americans and Caucasians found that Caucasians whose thoughts had not changed were more likely to rate their health as excellent. Overall, 90% of participants had previously thought about aging or aging successfully. Approximately two thirds mentioned that their thoughts about successful aging had changed over the past 20 years. Japanese American participants rated 13 attributes as important factors to successful aging. The Caucasian group also rated these as important along with the additional attribute of learning new things. From the 13 attributes that were found to be common in both groups, two were related to physical health, one item to functioning, eight to mental health, and two to social health. In examining expectations for aging among Latinos, non-Latino Caucasians, and African Americans, research shows that Latinos have significantly lower expectations for aging than non-Latino Caucasians and African Americans (29). Being African American was not significantly associated with lower expectations for aging. For non-Latino Caucasian, African American, and Latino older

adults, older age and lower physical and mental health-related quality of life were strongly associated with lower expectations for aging (29).

Data show that as the years go by, some older adults change their attitudes and perceptions toward old age and aging (23), whereas others do not (26). Studies have examined older adult's attitudes toward the aging process and have compared their attitudes and perceptions of old age and aging at the present to their attitudes and perceptions of old age and aging to the past (23). Three different types of attitudes were identified including negative attitudes toward old age, positive attitudes towards old age, and indifference towards old age. Those with negative attitudes used more metaphors and used more powerful adjectives to describe their attitudes. A total of six different characteristics of attitudes toward aging and old age were identified. First, some of the older adults had a change of attitude. Specifically, older adults who had negative attitudes toward aging in their youth held positive attitudes in old age. In contrast, some older adults who had positive attitudes towards old age in youth held negative attitudes in old age (23). Over 75% of older adults had changes in attitudes in one way or the other. Next, some older adults maintained their attitudes over time. Older adults, who in their youth held negative or positive attitudes and perceptions of aging, continued to hold those same attitudes and perceptions (23). And last, older adults who did not think about the concept of old age or aging in their youth held either positive or negative attitudes towards old age or aging later on in life. Results indicated that older adults whose attitudes toward old age at the present were negative defined their health as medium to bad, and those with more positive attitudes toward aging defined their health as good to excellent (23). Other study results found that only 8% of older adults indicated that aging was worse than they had expected it to be, whereas 40%

believed it was better than what they had expected, and 52% believed their perceptions of aging had not changed (58).

The Self-Perceptions Theory (47) may offer an explanation regarding the change of attitudes of older adults from negative ones in their youth to positive ones in their present day as well as those who held negative or positive attitudes toward old age in their youth and have maintained these attitudes. According to Bem, “Individuals come to 'know' their own attitudes, emotions, and other internal states partially by inferring them from observations of their own overt behavior and/or the circumstances in which this behavior occurs, thus to the extent that internal cues are weak, ambiguous, or interpretable, the individual is functionally in the same position as an outside observer, an observer who must necessarily rely upon those same external cues to infer the individual’s inner states.” Therefore, individuals develop their attitudes by observing their own behavior and then determining what attitudes caused their behaviors. Individuals who examine their own behaviors and provide explanations for these behaviors also try to provide explanation for others’ behaviors in the same way. It may be likely that older adults experience changes in attitude due to changes in their behaviors during their life, as the self-perceptions theory asserts that behaviors affect or influence attitudes. It appears that some older adults see others who are more suitable to being named “old” (83) and thus many older adults can continue to maintain negative attitudes towards old age and aging without harming their own Self (85). In a study that examined whether the confrontation of negative, age-stereotyped information would lead to a deterioration of older adults’ self-perceptions, researchers found that older adults who received negative information about competence in old age had general perceptions of other

older adults that worsened. However, their own self-perceptions improved. Results show that older adults do not integrate negative age stereotypes into their self-perceptions (85).

Justification for this Study

Despite numerous studies that have investigated the OAA Nutrition Program, none have examined whether there is an association between attitudes toward aging, self-reported and functional health, and participation in activities among older adults aged 55 and older who attend congregate mealsites in Wisconsin. By examining elders' participation in mealsite activities, attitudes toward aging, and self-reported and functional health, aging network staff in Wisconsin will be able to better understand the components of successful aging to help expand efforts to increase the quality and availability of social and health promotion and disease prevention activities offered at congregate mealsites, and to encourage social engagement and activity of elders in Wisconsin. This, in turn, will promote health, well-being, and socialization among congregate mealsite participants, thus meeting the purpose of the OAA Nutrition Program.

Hypothesis and Specific Aims of Hypothesis

In the current study, it was hypothesized that older adults aged 55 and above who attend congregate mealsites and participate in varying types of seven or more social and health promotion and disease prevention activities would have positive attitudes toward aging and better self-reported and functional health. The specific aims to address the hypothesis were as follows:

1. Do older adults aged 55 and above who attend congregate mealsites and participate in varying types of seven or more social and health promotion and disease prevention activities have positive attitudes toward aging?
2. Do older adults aged 55 and above who attend congregate mealsites and participate in varying types of seven or more social and health promotion and disease prevention activities self-report good, very good, or excellent health?
3. Do older adults aged 55 and above who attend congregate mealsites and participate in varying types of seven or more social and health promotion and disease prevention activities complete four or more of the following physical activities: heavy work around the house (shoveling snow, washing walls, etc.); work a full-time job; ordinary work around the house; walk a half mile; go to a movie, to church, to a meeting, or to visit friends or relatives; walk up and down stairs?

CHAPTER 3: RESEARCH METHODOLOGY

Introduction

The following chapter provides a description of the methodology used in this study, including the study design and subjects, dependent and independent variables, and method of data analysis.

Methodology

Study Design and Subjects

Between January and April 2009, subjects were invited to complete a self-administered survey at specific OAA Nutrition Program congregate mealsites. The subjects in the study were male and female volunteer congregate mealsite participants aged 55 and older from 15 different OAA Nutrition Program mealsites in 14 Wisconsin counties. Eligibility criteria included being an attendee of the congregate mealsite and being aged 55 and older. Three subjects below the age of 55 and six subjects who did not report their age were excluded. The final sample included 287 respondents. From the sample, one subject who was missing participation scores was excluded. In addition, the median was split between subjects who scored a total of seven or more participation items and those who scored a total of five or less participation items. Forty-three subjects that scored a total of 6 participation items were at the median and excluded from the study. Therefore, the analysis of the final hypotheses included 243 subjects. Approval of this study was obtained from the College of Health and Human Services Human Subjects Review Committee at Eastern

Michigan University in Ypsilanti, MI, prior to data collection (Appendix A). Participants were requested on the day of their mealsite attendance to grant informed consent and complete the survey (Appendix B). The informed consent explained that participation in the study was voluntary and that participants may withdraw at any time without negative consequences, including their participation at the congregate mealsite, which they signed prior to participating in the study. Surveys were completed anonymously.

A cross-sectional study design was used. A 27-question, two-page back-to-back survey was developed and included questions on demographics, including age, race, gender, marital status, living arrangement, educational attainment, employment status, and annual household income; attitudes toward aging; self-reported and functional health; and participation in activities. The survey and study variables were based on the Self-Perceptions Theory, Model of Successful Aging, and a review of literature. A pilot survey was conducted on a sample of 33 congregate participants at a mealsite in Wisconsin to pre-test the survey for reliability and validity (Appendix C). Questions and tables were reworded, combined, rearranged in different order, and simplified to provide greater clarity to older adult survey respondents and to shorten the length of the survey. Also, five-point Likert scale questions were changed into three-point Likert scales to help clarify potential answer choices for older adult survey respondents (Appendix D).

Variables

To investigate the research question, a cross-sectional study design was used. Table 1 represents the independent and dependent variables.

Table 1. Study variables.

Independent Variable	Dependent Variable
Participation in activities	Attitudes toward aging
Participation in activities	Self-reported health
Participation in activities	Self-reported functional health

Independent Variable: Participation in Activities. A 20-item checklist including an “other category” was used to assess participation in social and health promotion and disease prevention activities. The checklist consisted of a series of social and health promotion and disease prevention activities that are commonly offered at congregate mealsites, including blood pressure screenings and other health screenings, health education classes, physical activity and exercise classes, nutrition education classes, cooking classes and cooking, foot care clinics, flu clinics and immunizations, world events and politics, trips, listening to music, playing music and singing, dancing, celebrations and parties, volunteering, arts, crafts, hobbies, and scrap-booking, computer classes and internet, featured speakers, movies, card games, puzzles, board games, bingo and pool, Living Well with Chronic Conditions Workshop, Stepping On Falls Prevention Workshop, and others. Participants indicated whether they had done the activity at the mealsite and/or elsewhere. For each activity, individuals who did not indicate participation were considered nonparticipants (0 = nonparticipant) and those who did indicate participation were considered participants (1 = participant). The number of activities that subjects participated in was calculated, with possible scores ranging from 0 to 20; additional activities reported in an “other category”

were each scored 1. A higher score indicated participation in seven or more types of social and health promotion and disease prevention activities.

Dependent Variable One: Attitudes toward Aging. For the attitudes toward aging measure, the “Attitudes toward Own Aging” subscale was adapted. It was originally a five-item subscale published in 1983 by Liang and Bollen (86) based on five items from the Polisher Research Institute Abrahamson Center for Jewish Life (formally the Philadelphia Geriatric Center) Morale Scale (87). The original subscale consisted of the following items: (1) “Things keep getting worse as I get older,” (2) “I have as much pep as I had last year,” (3) “As you get older, you are less useful,” (4) “I am as happy now as I was when I was younger,” (5) “As I get older, things are (better, worse) than I thought they would be.” The subscale has been used to capture an individual’s perception of the changes taking place in his or her own life and asks for an evaluation of those changes. Items relate to the older person’s attitude toward the aging process they experience. The subscale was expanded by adding three additional questions adapted from Brooks, Fox, Reaves, and Lukomski (88) consisting of the following items: (1) “In general, I believe that elders are physically attractive,” (2) “I am looking forward to growing older,” (3) “I believe there should be a mandatory retirement age for most jobs.” The subscale was also adapted by adding terms that specifically address elder’s attitudes toward aging as well as changing the answers to a three-point Likert scale to help clarify potential answer choices for the older adult population completing the survey. For each high morale response, a numerical score of 1 was given; each low morale response or items that were not answered received no numerical score. Therefore, participants received a total score ranging from 0 to 8, with a higher score

indicating a more positive aging self-perception or attitude toward aging. In addition to the adaptation of the “Attitudes toward Own Aging” subscale, general questions on attitudes toward aging were added to the survey; however, they were not included in the subscale. The subscale and general questions on attitudes toward aging were titled, “Views on Aging” on the survey.

Dependent Variable Two: Self-Reported Health. Self-reported health was measured by the item, “In general, would you say your health is (5) excellent, (4) very good, (3) good, (2) fair, (1) poor.” Each item was scored from 1 to 5, with a score of 1 indicating lower self-reported health.

Dependent Variable Three: Self-Reported Functional Health. Functional health was assessed using Rosow and Breslau’s (89) six-item Health Scale for the Aged. Participants were asked, “Which of the following things are you physically able to do? (1) heavy work around the house (shoveling snow, washing walls, etc.); (2) work at a full-time job; (3) ordinary work around the house; (4) walk a half a mile; (5) go to a movie, to church, to a meeting, or to visit friends or relatives; (6) walk up and down stairs.” Each check was scored as a 1. Thus, the scores ranged from 0 to 6, with a lower score indicating lower functional health.

Data Analysis

Descriptive statistics were calculated for study variables. Characteristics of the participants were described by means and standard deviations or frequencies and percentages

according to the type of variable and characteristic and compared across the groups with analysis of variance (ANOVA) or F-test. The sample was divided into two groups classified as Group A and Group B for the participation in activities independent variable. Subjects with five or fewer participation items checked, indicating participation in fewer types of social and health promotion and disease prevention activities, were classified in Group A, and those with seven or greater participation items checked, indicating participation in more types of social and health promotion and disease prevention activities, were classified in Group B. Subjects were then regrouped according to their scores on the attitudes toward aging, self-reported health, and self-reported functional health scales. The attitudes toward aging dependent variable was scored on a scale from 0 to 8, the self-reported health dependent variable was scored on a scale from 1 to 5, and the self-reported functional health dependent variable was scored on a scale from 0 to 6. The average number of scores in Group A and Group B was determined. ANOVA was used to examine differences between Group A and Group B with a significance level of $p \leq 0.05$. All statistical analyses were performed using Version 17.0 of SPSS (2008, SPSS, Inc, Chicago, IL).

CHAPTER 4: ANALYSIS AND DISCUSSION OF FINDINGS AND RESULTS

Introduction

The chapter concludes with an overall summary of findings and results. Results are discussed in reference to the conceptual framework discussed in Chapter Two.

Results and Findings

Sociodemographic Characteristics of the Subjects

Descriptive sociodemographic characteristics of the congregate mealsite participants are presented in Table 2. Participants were predominantly older (66.2%), female (69.0%), widowed (52.5%), retired (70.5%), and living alone (60.6%) as well as had lower income (72.8%) and a high school education or GED (46.6%).

Table 2. Sociodemographic characteristics of Wisconsin congregate meal participants, 2009 (n=287)

Sociodemographic Characteristic	Total Number of Respondents	N (%)*
Gender	281	
Male		87 (31.0)
Female		194 (69.0)
Age, years	287	
55 to 64		39 (13.6)
65 to 74		57 (19.9)
75 to 84		112 (39.0)
85 to 94		78 (27.2)
95 or older		1 (0.3)
Race	275	
American Indian/Alaskan Native		8 (2.9)
Black/African American		1 (0.4)
White/Caucasian		259 (94.2)
Other		7 (2.5)
Marital status	284	
Married or Partnered		95 (33.5)
Widowed		149 (52.5)
Never Married/Single		16 (5.6)
Separated/Divorced		24 (8.5)
Annual household income	232	
Less than \$10,000		49 (21.1)
\$10,000 to \$14,999		65 (28.0)
\$15,000 to \$24,999		55 (23.7)
\$25,000 to \$34,999		36 (15.5)
\$35,000 to \$49,999		13 (5.6)
\$50,000 to \$74,999		8 (3.4)
\$75,000 and over		6 (2.6)
Employment	281	
Full-time		5 (1.8)
Part-time		19 (6.8)
Unemployed		14 (5.0)
Volunteer		24 (8.5)
Retired		198 (70.5)
Homemaker		15 (5.3)
Other		6 (2.1)

*Data are given as number of participants. Values in parentheses indicate percentages based on the total number of participants for each of the sociodemographic characteristics presented in the table.

Table 2. Sociodemographic characteristics of Wisconsin congregational meal participants, 2009 (n=287)

Sociodemographic Characteristic	Total Number of Respondents	N (%)*
Highest level of education	281	
Less than high school diploma		44 (15.7)
High school diploma or GED certificate		131 (46.6)
Some college or technical training		63 (22.4)
College graduate		16 (5.7)
Some graduate work		6 (2.1)
Graduate or professional degree		21 (7.5)
Lives alone	284	
Yes		172 (60.6)
No		112 (39.4)
Including self, number of people living in household	281	
One		173 (61.6)
Two		95 (33.8)
Three		4 (1.4)
Four		4 (1.4)
Five		3 (1.1)
Six		1 (0.4)
Nine		1 (0.4)

*Data are given as number of participants. Values in parentheses indicate percentages based on the total number of participants for each of the sociodemographic characteristics presented in the table.

General Aging Responses

General aging responses of Wisconsin congregational meal participants are presented in Table 3. The average age at which participants thought that one becomes honored by society as an elder was 68 years. The average age at which participants thought that one was old was 81.0 years, and the average age that participants indicated was their ideal length of life was 88.2 years.

Table 3. General aging responses of Wisconsin congregate meal participants, 2009 (n=287)		
Characteristic	Total Number of Respondents	Total Responses†
General aging questions		
At what age do you think one becomes honored by society as an elder?	225	68.3 ± 11.5
In your opinion, at what age is one old?	220	81.0 ± 12.7
What is your ideal length of life?	201	88.2 ± 9.3
†Data are given as mean ± SD.		

Frequency of Visits to Mealsite and Participation in Activities

Frequency of visits to mealsite and participation in activities of Wisconsin congregate meal participants are presented in Table 4. Older adults were most likely to participate in activities on a somewhat frequent basis at both the mealsite (28.4%) and elsewhere (37.5%); older adults were more likely to participate in social and health participation and disease prevention activities on a more frequent basis (fairly often and very often) at the mealsite (50.0%) versus elsewhere (27.5%). Subjects were less likely to almost never or never participate in activities at the mealsite (21.6%) versus elsewhere (35.0%).

Table 4. Frequency of visits to mealsite and participation in activities of Wisconsin congregational meal participants, 2009 (n=287)

Characteristic	Total Number of Respondents	N (%)*
Frequency of visits to the mealsite	283	
More than five times a week		10 (3.5)
Five times a week		65 (23.0)
Three to four times a week		83 (29.3)
One to two times a week		62 (21.9)
Two to three times per month		41 (14.5)
Once a month or less		22 (7.8)
Frequency of participation in activities at mealsite	282	
Very often		69 (24.5)
Fairly often		72 (25.5)
Sometimes		80 (28.4)
Almost never		28 (9.9)
Never		33 (11.7)
Frequency of participation in activities elsewhere	280	
Very often		19 (6.8)
Fairly often		58 (20.7)
Sometimes		105 (37.5)
Almost never		38 (13.6)
Never		60 (21.4)
* Data are given as number of participants. Values in parentheses indicate percentages based on the total number of participants for frequency of visits to the mealsite and participation in activities.		

Participation in Activities

Participation in activities of Wisconsin congregational meal participants is presented in Table 5. Participation in activities ranged from 0 to 20. Additional activities reported in an “other category” were each scored 1, with a higher score indicating participation in seven or more social and health promotion and disease prevention activities. The average score for participation items was 7.0 ± 4.4 (mean \pm standard deviation).

The health promotion and disease prevention activity that older adults were most likely to participate in at the congregate mealsites compared to elsewhere was the Stepping On Falls Prevention Workshop (7.6%). The social activities that older adults were most likely to participate in at the congregate mealsite compared to elsewhere were celebrations and parties (29.2%), volunteering (28%), and featured speakers (22.1%). Activities that were considered both social and health promotion and disease prevention activities that older adults were most likely to participate in at the mealsites were cards, puzzles, board games, bingo, and pool (42.9%). Older adults were also more likely to participate in “other activities” at the mealsite than elsewhere (5.0%). Health promotion and disease prevention activities that older adults were most likely to participate in elsewhere compared to the congregate mealsites were blood pressure and other health screenings (38.6%), physical activity and exercise (18.1%), cooking classes and cooking (7.9%), world events and politics (15.2%), arts, crafts, and hobbies (14.7%) and movies (18.9%). Activities that older adults participated in almost equally at both the congregate mealsites and elsewhere were health education, nutrition education, Living Well with Chronic Conditions Workshop, computer, dancing, music, trips, flu clinics and immunizations, and foot care clinics.

Table 5. Participation in activities of Wisconsin congregate meal participants, 2009 (n=287)

Characteristic	Total Number of Respondents	Participation in Activities			
		N (%)*			
		Mealsite	Elsewhere	Both	Neither
Blood pressure screenings and other health screenings	285	84 (29.5)	110 (38.6)	12 (4.2)	79 (27.7)
Health education classes	281	31 (11.0)	32 (11.4)	4 (1.4)	214 (76.2)
Physical activity, exercise classes	281	36 (12.8)	51 (18.1)	1 (0.4)	193 (68.7)
Nutrition education classes	281	34 (12.1)	24 (8.5)	4 (1.4)	219 (77.9)
Cooking classes, cooking	278	5 (1.8)	22 (7.9)		251 (90.3)
Foot care clinics	280	41 (14.6)	45 (16.1)	1 (0.4)	193 (68.9)
Flu clinics, immunizations	279	70 (25.1)	79 (28.3)	7 (2.5)	123 (44.1)
Word events, politics	282	16 (5.7)	43 (15.2)	6 (2.1)	217 (77.0)
Trips	283	56 (19.8)	62 (21.9)	10 (3.5)	155 (54.8)
Listening to music, playing music, singing	281	77 (27.4)	84 (29.9)	11 (3.9)	109 (38.8)
Dancing	280	14 (5.0)	20 (7.1)	4 (1.4)	242 (86.4)
Celebrations, parties	281	82 (29.2)	65 (23.1)	21 (7.5)	113 (40.2)
Volunteering	282	79 (28.0)	51 (18.1)	24 (8.5)	128 (45.4)
Art, crafts, hobbies, scrap-booking	278	25 (9.0)	41 (14.7)	5 (1.8)	207 (74.5)
Computer classes, internet	281	20 (7.1)	27 (9.6)	5 (1.8)	229 (81.5)
Featured speakers	281	62 (22.1)	21 (7.5)	7 (2.5)	191 (68.0)
Movies	280	37 (13.2)	53 (18.9)	4 (1.4)	186 (66.4)
Card games, puzzles, board games, bingo, pool	282	121 (42.9)	57 (20.2)	15 (5.3)	89 (31.6)
Living well with chronic conditions workshop	277	15 (5.4)	16 (5.8)	3 (1.1)	243 (87.7)
Stepping on falls prevention workshop	278	21 (7.6)	8 (2.9)	5 (1.8)	244 (87.8)
Other activities	259	13 (5.0)	8 (3.1)	1 (0.4)	237 (91.5)

*Data are given as number of participants. Values in parentheses indicate percentages based on the total number of participants for that characteristic.

Specific Aim One: Participation in Activities and Attitudes toward Aging. Attitudes toward aging of Wisconsin congregate meal participants are presented in Table 6. The majority of subjects agreed with the following statements: “In general, I believe that elders are physically attractive” (69.5%), “I am looking forward to growing older” (51.5%), “Things keep getting worse as I get older” (56.2%), “As I get older, things are better than I thought they would be” (59.0%) and “I am as happy now as I was when I was younger” (57.4%). In contrast, the majority of subjects did not agree with the following statements: “I believe that there should be a mandatory retirement age for most jobs (40.8%) and “As I get older, I feel less useful” (46.5%). Attitudes toward aging ranged from 0 to 8, with a higher score indicating a more positive aging self-perception or attitude on aging. The average score for total positive statements toward aging of all participants was 3.8 ± 2.2 (mean \pm standard deviation).

Table 6. Attitudes toward aging of Wisconsin congregate meal participants, 2009 (n=287)

Characteristic	Total Number of Respondents	N (%)*
Attitudes toward aging scale		
In general, I believe that elders are physically attractive	266	
Agree		185 (69.5)
Disagree		27 (10.2)
Don't know		54 (20.3)
I am looking forward to growing older	270	
Agree		139 (51.5)
Disagree		67 (24.8)
Don't know		64 (23.7)
I believe that there should be a mandatory retirement age for most jobs	272	
Agree		105 (38.6)
Disagree		111 (40.8)
Don't know		56 (20.6)
Things keep getting worse as I get older	276	
Agree		155 (56.2)
Disagree		84 (30.4)
Don't know		37 (13.4)
I have as much pep as I had last year	281	
Agree		135 (48.0)
Disagree		114 (40.6)
Don't know		32 (11.4)
As I get older, I feel less useful	273	
Agree		114 (41.8)
Disagree		127 (46.5)
Don't know		32 (11.7)
As I get older, things are better than I thought they would be	271	
Agree		160 (59.0)
Disagree		66 (24.4)
Don't know		45 (16.6)
I am as happy now as I was when I was younger	277	
Agree		159 (57.4)
Disagree		95 (34.3)
Don't know		23 (8.3)
*Data are given as number of participants. Values in parentheses indicate percentages based on the total number of participants for each attitude toward aging response.		

Positive statements on aging score by participation in activities are presented in Figure 3.

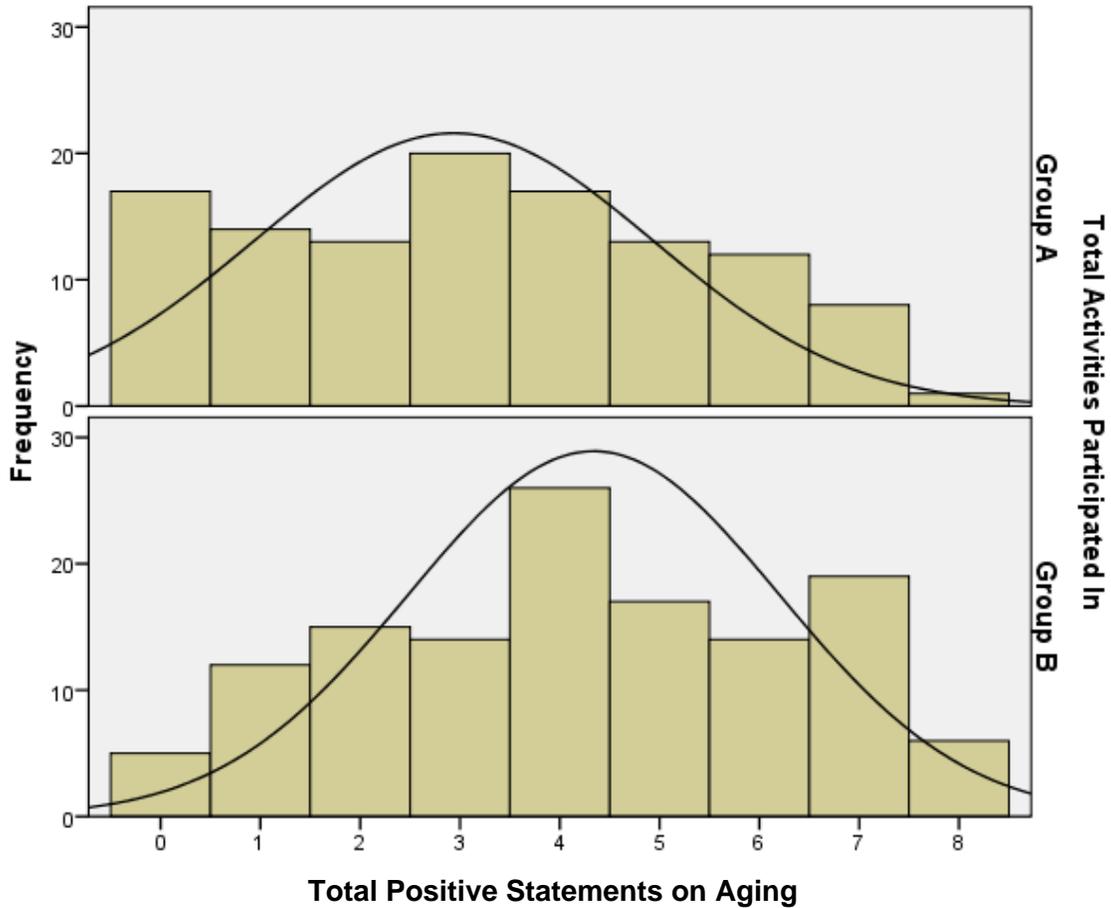


Figure 3. Positive statements on aging score by participation in activities (n=243). Numbers on the x-axis represent total positive statements on aging (high morale responses) ranging from 0 to 8, with a higher score indicating a more positive aging self-perception or attitude toward aging. The y-axis represents total activities participated in. Group A represents those who had five or fewer participation items checked, indicating participation in fewer types of social and health promotion and disease prevention activities, and Group B represents those that had seven or greater participation items checked, indicating participation in more types of social and health promotion and disease prevention activities.

Results indicated that older adults aged 55 and above who attend congregate mealsites and participate in varying types of seven or more social and health promotion and disease prevention activities have positive attitudes toward aging. Median score for participation items checked was 6.0 out of a total score of 20 with the possibility of additional scores from activities reported in an “other category.” The median was split between subjects who scored a total of seven or more participation items and those who scored a total of five or fewer participation items. Subjects with five or fewer participation items checked, indicating participation in fewer types of social and health promotion and disease prevention activities, were classified in Group A, and those with seven or greater participation items checked, indicating participation in more types of social and health promotion and disease prevention activities, were classified in Group B. Subjects were then regrouped according to their scores on the attitudes toward aging scale. The attitudes toward aging dependent variable was scored on a scale from 0 to 8, with a higher score indicating a more positive attitude toward aging. The average number of scores in Group A and Group B were determined. Average score for the attitudes toward aging scale, indicating participation in fewer types of social and health promotion and prevention activities, was 3.2 ± 2.2 (mean \pm standard deviation), and average score for the attitudes toward aging scale, indicating participation in more types of social and health promotion and disease prevention activities, was 4.2 ± 2.2 (mean \pm standard deviation). The difference between the two groups therefore was 1.0 ± 0.0 (mean \pm standard deviation). ANOVA (F-test) indicated that this difference was significant ($p \leq .001$).

Specific Aim Two: Participation in Activities and Self-Reported Health. Self-reported health of Wisconsin congregate meal participants is presented in Table 7. Thirty-six percent

of the participants self-reported excellent or very good health, and 42.3% self-reported their health as good. Self-reported health ranged from 1 to 5, with lower scores indicating lower self-reported health. The total score for self-reported health of all participants was $2.8 \pm .9$ (mean \pm standard deviation).

Table 7. Self-reported health of Wisconsin congregate meal participants, 2009 (n=287)		
Characteristic	Total Number of Respondents	N (%)*
Self-reported health	286	
Excellent		21 (7.3)
Very good		82 (28.7)
Good		121 (42.3)
Fair		54 (18.9)
Poor		8 (2.8)
*Data are given as number of participants. Values in parentheses indicate percentages based on the total number of participants for each self-reported health response.		

Self-reported health score by participation in activities is presented in Figure 4.

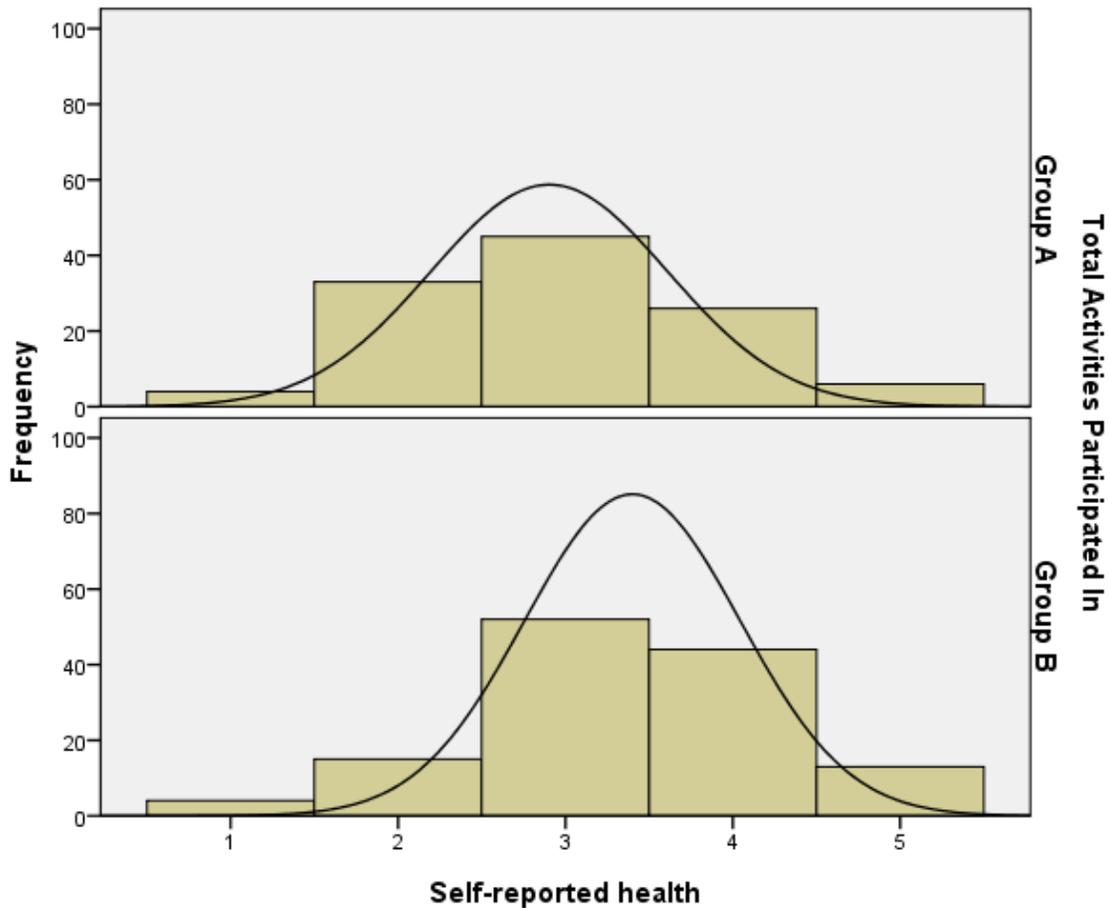


Figure 4. Self-reported health score by participation in activities (n=243). Numbers on the x-axis represent self-reported health scores ranging from 1 to 5, with lower scores indicating lower self-reported health. A score of 1 = poor, 2 = fair, 3 = good, 4 = very good, and 5 = excellent self-reported health. The y-axis represents total activities participated in. Group A represents those with five or fewer participation items checked, indicating participation in fewer types of social and health promotion and disease prevention activities, and Group B represents those with seven or greater participation items checked, indicating participation in more types of social and health promotion and disease prevention activities.

Results indicated that older adults aged 55 and above who attend congregate mealsites and participate in varying types of seven or more social and health promotion and disease prevention activities self-report good, very good, or excellent health. Median score for participation items checked was 6.0 out of a total score of 20, with the possibility of additional scores from activities reported in an “other category.” The median was split between subjects who scored a total of seven or more participation items and those who scored a total of five or fewer participation items. Subjects with five or fewer participation items checked, indicating participation in fewer types of social and health promotion and disease prevention activities, were classified in Group A, and those with seven or greater participation items checked, indicating participation in more types of social and health promotion and disease prevention activities, were classified in Group B. Subjects were then regrouped according to their scores on the self-reported health scale. The self-reported health dependent variable was scored on a scale from 1 to 5, with a higher score indicating higher self-rated health. The average number of scores in Group A and Group B was determined. Average score for the self-reported health scale, indicating participation in fewer types of social and health promotion and prevention activities, was $3.0 \pm .94$ (mean \pm standard deviation), and average score for the self-reported health scale, indicating participation in more types of social and health promotion and disease prevention activities, was $3.4 \pm .93$ (mean \pm standard deviation). The difference between the two groups, therefore, was $0.4 \pm .01$ (mean \pm standard deviation). The ANOVA (F-test) indicated that this difference was significant ($p = .001$).

Specific Aim Three: Participation in Activities and Self-Reported Functional Health.

Self-reported functional health of Wisconsin congregational meal participants is presented in Table 8. The majority of subjects indicated that they could complete the following physical health items: do ordinary work around the house (79.3%), go to a movie, to church, to a meeting, or to visit friends or relatives (79.0%) and walk up and down stairs (67.5%). However, 52.5% of the participants said that they could not walk a half a mile, 72.3% could not do heavy work around the house, and 91.8% could not work a full-time job. Functional health scores ranged from 0 to 6, with lower scores indicating lower functional health. The average score for total functional health items was 3.8 ± 2.2 (means \pm standard deviation).

Table 8. Self-reported functional health of Wisconsin congregational meal participants, 2009 (n=287)

Characteristic	Total Number of Respondents	N (%)*
Functional health scale		
Heavy work around the house	282	
Yes		78 (27.7)
No		204 (72.3)
Work at a full-time job	281	
Yes		23 (8.2)
No		258 (91.8)
Ordinary work around the house	285	
Yes		226 (79.3)
No		59 (20.7)
Walk a half a mile	284	
Yes		135 (47.5)
No		149 (52.5)
Go to a movie, to church, to a meeting or to visit friends or relatives	286	
Yes		226 (79.0)
No		60 (21.0)
Walk up and down stairs	283	
Yes		191 (67.5)
No		92 (32.5)

*Data are given as number of participants. Values in parentheses indicate percentages based on the total number of participants for each self-reported functional health response.

Self-reported functional health score by participation in activities is presented in Figure 5.

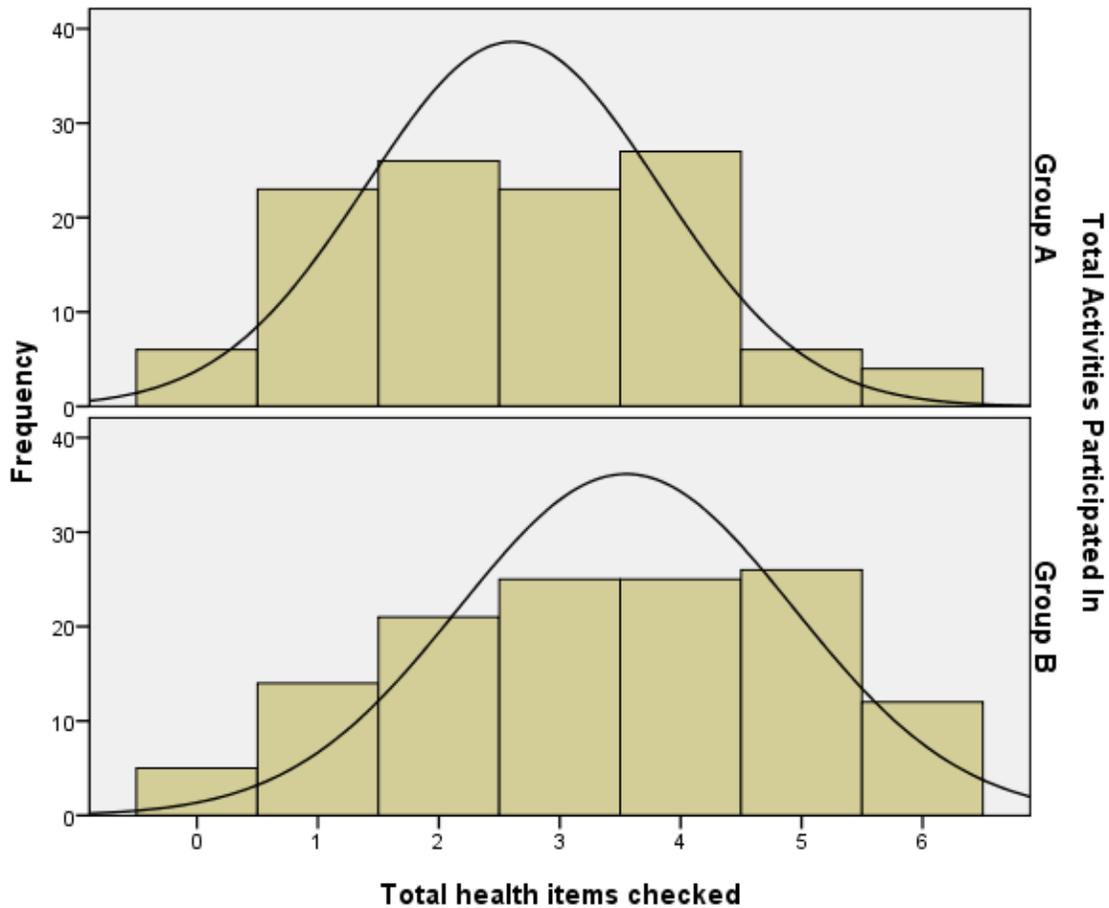


Figure 5. Self-reported functional health score by participation in activities (n=243).

Numbers on the x-axis represent total physical health items checked, ranging from 0 to 6, with lower scores indicating lower functional health. The y-axis represents total activities participated in. Group A represents those with five or fewer participation items checked, indicating participation in fewer types of social and health promotion and disease prevention activities, and Group B represents those with seven or greater participation items checked, indicating participation in more types of social and health promotion and disease prevention activities.

Results indicated that older adults aged 55 and above who attend congregate mealsites and participate in varying types of seven or more social and health promotion and disease prevention activities can complete four or more of the following physical activities: heavy work around the house (shoveling snow, washing walls, etc.); work a full-time job; ordinary work around the house; walk a half mile; go to a movie, to church, to a meeting, or to visit friends or relatives; walk up and down stairs. Median score for participation items checked was 6.0 out of a total score of 20, with the possibility of additional scores from activities reported in an “other category.” The median was split between subjects who scored a total of seven or more participation items and those who scored a total of five or fewer participation items. Subjects with five or fewer participation items checked, indicating participation in fewer types of social and health promotion and disease prevention activities, were classified in Group A, and those with seven or greater participation items checked, indicating participation in more types of social and health promotion and disease prevention activities, were classified in Group B. Subjects were then regrouped according to their scores on the self-reported functional health scale. The self-reported functional health dependent variable was scored on a scale from 0 to 6, with a higher score indicating higher functional health. The average number of scores in Group A and Group B was determined. Average score for the self-reported functional health scale, indicating participation in fewer types of social and health promotion and prevention activities, was 2.7 ± 1.5 (mean \pm standard deviation), and average score for the self-reported functional scale, indicating participation in more types of social and health promotion and disease prevention activities, was 3.4 ± 1.6 (mean \pm standard deviation). The difference between the two groups therefore was 0.7 ± 0.1 (mean \pm standard deviation). The ANOVA (F-test) indicated that this difference was significant ($p \leq .001$).

Discussion

There was some ambiguity found between the characteristics of congregate mealsite participants and specific social and health promotion and prevention activities that subjects participated in at the mealsites and elsewhere. The majority of subjects reported that they participated in activities on a somewhat frequent basis at both the mealsite (28.4%) and elsewhere (37.5%) and participated in social and health participation and disease prevention activities on a more frequent basis (fairly often and very often) at the mealsite (50.0%) versus elsewhere (27.5%). However, the majority of subjects reported that they did not participate in 16 out of the 20 social and health promotion and disease prevention activities at either the mealsite or elsewhere. These included health education classes, physical activity and exercise classes, nutrition education classes, cooking classes and cooking, world events and politics, trips, dancing, arts, crafts, hobbies and scrap-booking, computer classes, internet, featured speakers, movies, Living Well with Chronic Conditions Workshop, and Stepping On Falls Prevention Workshop. It is possible that the activities that they did participate in at the mealsite and elsewhere were not listed on the survey and that they did not write in other possible activities under the “other category”; however, these findings are consistent with previous research that indicates that as a nation, many older adults are not engaging in health promotion and disease prevention activities (32-37). Implications and recommendations for these findings will be discussed in further detail in Chapter 5.

Activities with the highest participation at the mealsite or elsewhere were blood pressure screenings and other health screenings (68.1%), flu clinics and immunizations (53.4%), listening to music, playing music, and/or singing (57.3%), celebrations and parties (52.3%), volunteering (46.1%), card games, puzzles, board games, bingo, and pool (63.1%).

These data support nationwide findings that show that 68% of older adults aged 65 and older reported that they had received an influenza vaccination during the past 12 months and 57% that they had ever received a pneumococcal vaccination. It appears that older adults may be receiving these forms of primary prevention through their medical providers or the community; this may also be true for blood pressure screenings and other health screenings that are another form of primary prevention. It is uncertain as to why some of the other activities were highly participated in among older adults. However, some of the most frequent and popular activities offered at mealsites are cards, entertainment (music and singing), celebrations and parties, and bingo, as seen from previous surveys administered by the researcher.

Previous research in older adults has shown that individual views on aging can influence health behavior, and individuals with a more positive view on aging may have more health-promoting behaviors and practice more preventive health behaviors over time (22,30). Additional research has also shown that among older adults who attend senior centers, those with high expectations regarding aging were more likely to report high levels of physical activity than those with low expectations (31). Earlier findings suggest that participation in certain forms of leisure activities such as art exhibitions, theatre, movies, concerts, studying and self-development, are positively related to self-rated health (12). Better health status has also been associated with higher probabilities of participation in multiple social activities (2,11). Healthier older adults or those who self-report good health are more likely to participate in social and health promotion and disease prevention activities such as exercise, sports, camping, gardening, walking, volunteer work, taking lessons or informal instruction, visiting libraries, museums and art galleries, and watching live events as

well as participating in larger numbers of these activities (10,13,15,52). The present results support these findings as subjects who attended congregate mealsites and participated in varying types of seven or more social and health promotion and disease prevention activities had good, very good, or excellent self-reported health. Specific activities that subjects participated in that support previous research include exercise, volunteering and lessons or informal instruction.

Previous findings with older adults has shown that individuals who participate in health promotion and disease prevention activities, in particular physical activity (6), have less functional disability, fewer functional limitations, and less functional decline (5,7-9,16). The present results support these findings, as subjects who participated in varying types of seven or more social and health promotion and disease prevention activities could complete four or more of the following physical activities: heavy work around the house (shoveling snow, washing walls, etc.); work a full-time job; ordinary work around the house; walk a half mile; go to a movie, to church, to a meeting, or to visit friends or relatives; walk up and down stairs.

Overall, these findings suggest that additional components may need to be included in the concept of successful aging. As depicted in Figure 2, the Model of Successful Aging indicates that the three components of successful aging are 1) low risk of disease and disability; 2) high cognitive and physical functioning and activity; and 3) active engagement with life through interpersonal relations (contacts with others, exchange of information, emotional support, and direct assistance), and productive activity that is either paid or unpaid (paid work, volunteering, and caregiving activities). Although findings of this study support active engagement with life through participation in social and health promotion and disease

prevention as well as high cognitive and physical functioning and low risk of disease and disability through better self-reported and functional health, the conceptual framework did not consider the component of positive attitudes toward aging for successful aging. This finding is consistent with previous research (19,26,49-55), which supports various components of the Model of Successful Aging but offers additional or different components of successful aging.

CHAPTER 5: SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The final chapter provides a summary of the study findings, conclusions, and limitations. There is a detailed discussion of recommendations to engage older adults in social and health promotion and disease prevention activities to promote successful aging among these individuals. There are also recommendations for professionals working in the field of aging, in particular the Aging Network, as well as for future studies.

Limitations of the Study

This research study had several limitations. First, there was racial and ethnic homogeneity in the study as subjects were predominantly Caucasian. This made it difficult to tell how participation in activities, attitudes toward aging, and self-reported and functional health may differ between racial and ethnic groups and whether race and/or ethnicity interacts with participation in activities to influence attitudes toward aging and self-reported and functional health. Future studies are needed to answer this question and should consider the influence in other subgroups not represented in this study, including Asian Americans and Hispanics. Second, selection bias may have occurred with respect to which counties were chosen to participate in the study, which mealsite locations were selected for the study, who agreed to participate in the study, and who chose to respond to certain questions. For instance, several participants did not respond to the question of income and certain questions

that pertained to attitudes toward aging. Also, some nutrition directors who assisted the researcher in identifying mealsite locations for the study chose sites that offered many numbers and types of activities versus sites that did not offer many numbers and types of activities to older adults.

Third, since this was a cross-sectional study, no causal inferences could be made. Thus, until a longitudinal examination is completed, it will remain uncertain among older adults aged 55 and above who attend congregate mealsites whether greater participation in varying types of seven or more social and health promotion and disease prevention activities causes positive attitudes toward aging and better self-reported and functional health or positive attitudes toward aging and better self-reported and functional health causes greater participation in varying types of seven or more social and health promotion and disease prevention activities among these same individuals. There have been cultural and racial group differences found in attitudes toward aging (29,50,72,84). Fourth, since this study included congregate mealsite participants who were predominantly older, female, widowed, retired, and living alone as well as had lower income and a high school education or GED, these findings may not be generalizable to other community dwelling older adults. Fifth, analyses were based on a sample of older adults from 14 different counties and 15 different communities in Wisconsin and may not be representative of older adults from all counties/communities in the entire state of Wisconsin or nationwide.

Last, another possible limitation of this study is that the functional health dependent variable is a self-reported measure, not a performance measure. There could be some bias in the reported data as sources state that self-reported health measures may be inaccurate, despite the fact that they are relatively easy and inexpensive to administer. Research has

found that subjects (1) tend to report what they believe an individual expects to see or (2) report what reflects positively on their own abilities, knowledge, beliefs, or opinions (90). In particular, self-report measures of function are limited in that they may be influenced by a predisposed view of the respondent (91). Performance-based measures of function are influenced less by affective, social, economic, and cognitive factors (91). However, the functional health measure used in this study has been found to correspond to performance measures (92,93). In addition, studies have found that lower self-reported function predicts a number of adverse health outcomes, including mortality (61,62). It could be argued that self-reported measures of function are preferable to performance measures because performance measures may be vulnerable to differences in effort and influenced by testing situations.

Recommendations

For the Aging Network and Professionals

Findings from this study and nationwide data suggest that many older adults are not engaging in social and health promotion and disease prevention activities. The numbers of older adults in the US are rising, and generally, as older adults age, prevalence of regular activity declines. Results of this study suggest that there are several benefits associated with the participation of social and health promotion and disease prevention activities among older adults, including better self-reported and functional health and positive attitudes toward aging. A review of literature supports these findings and also suggests additional benefits associated with participation in these activities (2,3,5-9,11,13,14,16-18,22,30-36,38,72). As a result, research has suggested that engagement in any type of activity may indicate successful aging (6).

Since health promotion and disease prevention activities include primary, secondary, and tertiary prevention, professionals should encourage engagement in social and health promotion and disease prevention activities to help prevent disease before it occurs, detect it at an early stage, or prevent the progression of disease in older adults. It is important as professionals to understand factors that may influence older adults' participation in social and health promotion and disease prevention activities. As the study results suggest, older adults who participate in varying types of seven or more social and health promotion and disease prevention activities have better self-reported and functional health and positive attitudes toward aging. These findings suggest that participation in activities provides additional health benefits for these individuals.

For those who work with or treat older adults it is necessary to recognize the importance of this study's findings to explore ways to enhance preventive health behaviors. For example, aging service providers and professionals should ask their clients if they participate in activities, and if they do not participate in any activities or decreased numbers of activities, the aging service providers and professionals should explore why they aren't more active so they can find ways to engage their clients in social and health promotion and disease prevention activities (35). For example, an individual may not consider some activities beneficial because they are not forms of physical activity or exercise. However, research indicates that engagement in any type of activity may offer positive health benefits to an individual (6). This information should be communicated to the client to encourage participation in social and health promotion and disease prevention activities. The OAA Nutrition Program provides several volunteer opportunities to congregate mealsite participants. As the Model of Successful Aging suggests, volunteering is a form of

productive social activity and one important component of successful aging (48). Aging service providers should communicate the benefits associated with these social activities to engage older adults in these activities. Examples of interventions to engage older adults in activity are 1) identify activities that are available to them at congregate mealsites or in their community, 2) educate them on the benefits of each type of activity, 3) assist them in goal setting, written activity prescriptions, and individually tailored activity regimens, 4) provide continued follow-up to them, 5) establish community-based programs at congregate mealsites and other community locations that provide programs that are tailored to seniors so they can become more active, 6) provide positive messages through media and educational materials that encourage engagement in activities, including articles in newsletters, campaigns, printed materials, placemats, tabletops, posters, a calendar of activities and special monthly themed events that can be made available to older adults who attend congregate mealsites (35), and 7) collaborate with health professionals to offer health promotion and disease prevention activities such as blood pressure screenings, foot care clinics, flu shots and other immunizations, blood sugar checks, and so on, at congregate mealsite locations.

In addition, if one congregate mealsite location does not offer activities or offers a few but not a variety of activities, it may be necessary for aging-service providers to provide transportation to these older adults so they can visit mealsite locations or other community locations that do offer these activities. Also, with the “push” towards prevention coming from the state and federal government, several aging service providers have created a health and wellness position to focus on health promotion and disease prevention programming for older adults. It would seem with the increase in older adults that every aging service

provider would want to evaluate the need for this position in his or her agency. Other aging service providers have, instead, opted to expand the role of the registered dietitian to include health promotion and disease prevention programming as part of their job function.

Registered dietitians are in an excellent position to aid older adults in improving healthful living by suggesting ways that older adults can become engaged in the participation of social and health promotion and disease prevention programming and activities. Registered dietitians can also help design and coordinate health promotion and disease prevention programming. When counseling or educating older adults about the benefits of nutrition and participation in social and health promotion and disease prevention activities, it may be helpful to also talk about positive attitudes toward aging and self-reported and functional health and their contributions to successful aging

Older adults state interest in the activities of younger adults and are more likely to say that they do things that are more appropriate for a younger age group (73). This may indicate that aging-service providers need to offer or design activities that both younger and older adults like to participate in. One example of this type of activity that several congregate mealsites are now offering as a means of engaging older adults in activity is the Wii Game System. One of the most popular games played on this interactive system is bowling. Another is through the adoption of evidence-based health promotion and disease prevention programs that have been implemented throughout the Aging Network, as well as Wisconsin. These are important programs because they focus on the adoption and maintenance of attitudes and behaviors that have been researched, thus they have been found to promote health and well-being in older adults as well as those of younger age groups (67). Examples of programs that Wisconsin has implemented and are offered at various locations such as

congregate mealsites and senior centers are the Stepping On Falls Prevention Program, Living Well with Chronic Conditions, Eat Better, Move More, A Matter of Balance, Healthy Eating for Successful Living in Older Adults, Sure Step, People with Arthritis Can Exercise, and Body Recall. The Stepping On Falls Prevention Program and Living Well with Chronic Conditions are two fairly new programs, which may indicate why the majority of older adults indicated on their survey that they did not participate in either of these activities. It was promising to see, that although the majority of subjects indicated that they did not participate in the two activities, 36 of the 285 (12.7%) subjects indicated that they participated in the Stepping On Falls Prevention Workshop and Living Well with Chronic Conditions Workshop at the mealsite and/or elsewhere. It would appear from these results that aging service providers should evaluate the feasibility of offering these activities at the congregate mealsite or at other locations in the community or collaborating with other agencies that offer these programs to older adults in the community.

By understanding the associations between these variables, service providers and professionals can assist individuals in modifying their activities to adjust for functional declines, address negative attitudes toward aging through education that discusses the benefits of positive attitudes toward aging, and provide additional aging services or supports to those with lower self-reported health. For example, one study indicated that vision and health are broadly related to social participation and important factors that predict self-reported health (11). These data suggest that good hearing and vision facilitate social participation. While assisting older adults with the completion of their self-administered surveys, the researcher discovered that several older adults mentioned that they had ceased participation in certain activities as a result of poor vision. Individuals who are visually

impaired may need more encouragement and/or support to continue participation in activities.

As the Self-Perceptions Theory suggests that behaviors influence attitudes, it is important, therefore, for Aging Network service providers to understand the importance of engaging older adults in social and health promotion and disease prevention activities since behaviors may influence attitudes. For example, if an older adult has a negative attitude toward aging and chooses to engage in social and/or health promotion and disease prevention activities, this behavior may lead them to changes that reflect a more positive attitude. Literature shows that older adults who report positive attitudes toward aging have better functional and self-rated health, higher levels of physical activity, increased longevity, and greater will to live, decreased incidence of illness; they practice more preventive health behaviors over time related to alcohol consumption, diet, exercise and physical activity, medication compliance, seatbelt use, tobacco use, and regular doctor visits, and they experience less cardiovascular stress. They also describe old age and aging in positive terms (21-28,30,31,76) compared to those with negative attitudes toward aging. These findings support this study's results as well as the Model of Successful Aging, which suggests that the three components to successful aging are avoiding disability and disease, high cognitive and physical function, and engagement with life.

Recommendations for Further Studies

First, these findings support the theoretical framework of the Self-Perceptions Theory, which asserts that behaviors affect or influence attitudes because people infer their attitudes by observing their own behavior and the situations in which their behavior occurs.

In other words, people make direct inference for their behavior to their attitude. However, since this was a cross-sectional study, no causal inferences could be made. Thus, until a longitudinal examination is completed, it will remain uncertain among older adults age 55 and above who attend congregate mealsites whether participation in varying types of seven or more social and health promotion and disease prevention activities causes positive attitudes toward aging and better self-reported and functional health, or whether positive attitudes toward aging and better self-reported and functional health causes participation in varying types of seven or more social and health promotion and disease prevention activities among these same individuals. Measures (variables) should be tracked over time to determine causation. No causal inferences could be made with these results. Future research that could utilize longitudinal studies to identify cause and effect between measures (variables) would better support the Self-Perceptions Theory and components of the Model of Successful Aging.

Second, there was ethnic and racial homogeneity in the study, as subjects were predominantly Caucasian. This made it difficult to tell how participation in activities, attitudes toward aging, and self-reported and functional health may differ between ethnic and racial groups, and whether ethnicity and/or race interacts with participation in activities to influence attitudes toward aging and self-reported and functional health. Future studies are needed to answer this question and should consider the influence in other subgroups not represented in this study, including Asian Americans and Hispanics.

Third, this study included congregate mealsite participants who were predominantly older, female, widowed, retired, and living alone as well as had lower income and a high school education or GED. As a result, these findings may not be generalizable to other

community-dwelling older adults. Future studies in the field of gerontology may want to explore associations between participation in activities, self-reported and functional health among older adults who are not receiving community services, or a more generalized population to explore whether the findings would be similar to this study's results. Last, analyses were based on a sample of older adults from 14 different counties and 15 different communities in Wisconsin and may not be representative of older adults from all counties/communities in the entire state of Wisconsin or nationwide. Future studies may include subjects who better represent community-dwelling older adults across the US or different areas of the US.

Conclusion

This is the first study to find an association between attitudes toward aging, self-reported and functional health, and participation in activities among older adults aged 55 and older who attend congregate mealsites in Wisconsin. Results showed a significant association between attitudes toward aging, self-reported and functional health and participation in activities. As the numbers of older adults in the US continues to rise, research will continue to focus on successful aging and ways to promote healthy lifestyles through the participation of social and health promotion and disease prevention activities to decrease morbidity and disability, and improve attitudes toward aging, overall health, and quality of life among older adults. The Aging Network is uniquely positioned to offer such programming to older adults. As part of the OAA Nutrition Program, congregate mealsites provide opportunities for engagement in social and health promotion and disease prevention activities for older adults.

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APPENDICES

Appendix A

Human Subjects Approval

December 17, 2008

Amy Ramsey
c/o Judi Brooks
Eastern Michigan University
School of Health Sciences
Ypsilanti, Michigan 48197

Dear Amy Ramsey,

The CHHS Human Subjects Review Committee has reviewed the revisions to your proposal entitled: "Congregate Mealsite Participants' Self-Reported Health, Participation in Activities and Attitudes Toward Aging in Wisconsin" (CHHS 09- 017).

The committee reviewed your proposal and recommends the following additions to your proposal and informed consent:

- Contact information identifying the student should be removed.

Your study is approved by the committee with the revisions requested above. Please return documents with revisions at your earliest convenience to chhs_human_subjects@emich.edu.

Good luck in your research endeavors.

Sincerely,

Gretchen Dahl Reeves, Ph.D.
Interim Chair, CHHS Human Subjects Review Committee

Appendix B

Informed Consent Form Eastern Michigan University

Congregate Mealsite Participants' Self-Reported Health, Participation in Activities and Attitudes Toward Aging in Wisconsin

The purpose of this research project is to examine congregate mealsite participants' attitudes toward aging and aging individuals in Wisconsin based on their self-reported health and participation in center activities. This research will be conducted by a student researcher enrolled in a Research course at Eastern Michigan University.

This research will consist of a set of demographic, self-reported health, and general questions as well as the Attitudes toward Own Aging subscale. The survey will be completed during attendance at the congregate mealsite. The data gathered will benefit all elders by providing an opportunity for elders to share their views on aging as well as share activities that they would like to participate in at the mealsites.

Participation is completely voluntary. By signing this consent form, elders aged 55 and over who attend congregate mealsites are agreeing to participate in completing the survey. You may discontinue your participation at any time. Participants will not be compensated for their participation in the study.

Critical Points:

- **If you agree to participate, all you have to do is sign and date this form and complete the survey**
- **Nothing, including your participation at the mealsite, will be impacted by a decision not to participate**
- **It is solely your decision whether or not to participate**

Upon completion of the survey, results will be stored in a locked file cabinet at the student researcher's office and will not be accessible to anyone external to the student researcher. Your information is confidential. At no time will your identity be correlated with your survey results. Data gathered from this research will be presented in aggregate at state and national meetings. In addition, data will be disseminated via mail and e-mail to the aging network (area agencies on aging, local county and tribal aging offices, senior centers) in Wisconsin. There is no risk of discomfort or injury to the elders aged 55 and over participating in this research.

If you have any questions about the above study or would like receipt of the summary results of the study, you can contact Judi Brooks, PhD, RD, Research Chairperson at 734.487.3221. This research protocol and informed consent document has been reviewed and approved by the College of Health and Human Services Human Subjects Review Committee (HSRC) at Eastern Michigan University for use December 2008 to April 2009. If you have any questions about the approval process, please contact Dr. Gretchen Reeves, Chair of the HSRC, via telephone at 734.487.0077.

Participant's signature

Date

Participant's Copy

Appendix C

Meal Participant Survey 2009 - Pilot

Depending on the format of the question, fill in the blank lines with your information and/or place an "X" on the appropriate box corresponding to your answer.

1. How often do you eat at the senior dining center mealsite?

- More than 5 times a week
- 5 times a week
- 3-4 times a week
- 1-2 times a week
- 2 to 3 times per month
- Once a month or less

2. When you are eating at the senior dining center mealsite, how often do you participate in social and/or health promotion activities at the senior dining center mealsite?

- Very Often Fairly Often Sometimes Almost Never Never

3. How often do you participate in social and/or health promotion activities elsewhere?

- Very Often Fairly Often Sometimes Almost Never Never

4. In reviewing the list of health promotion activities below; indicate if you participate in the activity at the senior dining center mealsite, participate in the activity elsewhere, if you do not participate in the activity or if the activity is not available at the senior dining center mealsite or elsewhere.

Health Promotion Activities	Participate in the Activity at the Senior Dining Center Mealsite	Participate in the Activity Elsewhere	Do Not Participate in the Activity	Activity is Not Available at the Senior Dining Mealsite or Elsewhere
1. Living Well with Chronic Conditions Workshop				
2. Stepping On Falls Prevention Workshop				

Health Promotion Activities	Participate in the Activity at the Senior Dining Center Mealsite	Participate in the Activity Elsewhere	Do Not Participate in the Activity	Activity is Not Available at the Senior Dining Mealsite or Elsewhere
3. Physical Activity/ Exercise Classes				
4. Nutrition Education Classes				
5. Cooking Classes				
6. Foot Care Clinics				
7. Flu Clinics/ Immunizations				
8. Blood Pressure Screenings or Other Health Screenings				
9. Health Education Classes				
10. Other (please list) _____				

5. In reviewing the list of social activities below, indicate if you participate in the activity at the senior dining center mealsite, participate in the activity elsewhere, if you do not participate in the activity or if the activity is not available at the senior dining center mealsite or elsewhere.

Social Activities	Participate in the Activity at the Senior Dining Center Mealsite	Participate in the Activity Elsewhere	Do Not Participate in the Activity	Activity is Not Available at the Senior Dining Mealsite or Elsewhere
1. World Events/Politics				
2. Trips				
3. Listening to or Playing Music/Singing				
4. Cooking				

Social Activities	Participate in the Activity at the Senior Dining Center Mealsite	Participate in the Activity Elsewhere	Do Not Participate in the Activity	Activity is Not Available at the Senior Dining Mealsite or Elsewhere
5. Dancing				
6. Celebrations or Parties				
7. Volunteering				
8. Art/Crafts/Hobbies/ Scrap-booking				
9. Computer – Classes, Internet				
10. Featured Speakers				
11. Movies				
12. Card Games/Puzzles Board Games				
13. Bingo				
14. Pool				
15. Other (please list) _____				

6. What additional health promotion activities would you like to see offered at the senior dining center mealsite? _____

7. What additional social activities would you like to see offered at the senior dining center mealsite? _____

DEMOGRAPHIC, SELF-REPORTED HEALTH, AND GENERAL INFORMATION

8. In general, would you say your health is:
Excellent Very good Good Fair Poor
9. Which of the following things are you physically able to do?
(Place an "X" on the box by each of the things that you can do.)
Heavy work around the house (shoveling snow, washing walls, etc.)
Work at a full-time job
Ordinary work around the house
Walk a half a mile
Go to a movie, to church, to a meeting, or to visit friends or relatives
Walk up and down stairs
10. In your opinion, at what age does one become an elder? _____
11. In your opinion, at what age is one old? _____
12. How old would you like to be when you die? _____
13. In general, I believe that elders are physically attractive.
Strongly Agree Agree Uncertain Disagree Strongly Disagree
14. I am looking forward to growing older.
Strongly Agree Agree Uncertain Disagree Strongly Disagree
15. I believe that workers should be forced to retire when they reach a given age.
Strongly Agree Agree Uncertain Disagree Strongly Disagree
16. Things keep getting worse as I get older.
Strongly Agree Agree Uncertain Disagree Strongly Disagree
17. I have as much pep as I had last year.
Strongly Agree Agree Uncertain Disagree Strongly Disagree

DEMOGRAPHIC, SELF-REPORTED HEALTH, AND GENERAL INFORMATION

18. As I get older, I am less useful.
Strongly Agree Agree Uncertain Disagree Strongly Disagree

19. As I get older, things are better than I thought they would be.
Strongly Agree Agree Uncertain Disagree Strongly Disagree

20. I am as happy now as I was when I was younger.
Strongly Agree Agree Uncertain Disagree Strongly Disagree

21. Age:
55 to 64 years
65 to 74 years
75 to 84 years
85 to 94 years
95 years or older

22. Race: (check all that apply)
American Indian/Alaskan Native
Asian/Pacific Islander
Black/African American
Hispanic/Latino
White/Caucasian
Other _____

23. Gender: Male Female

24. Marital Status:
Married or Partnered
Widowed
Never Married/Single
Separated/Divorced

25. Living Arrangement: Do you live alone? Yes No

26. Including yourself, how many people live in your household? _____

DEMOGRAPHIC, SELF-REPORTED HEALTH, AND GENERAL INFORMATION

27. Highest level of education attained:

- Less than high school diploma
- High school diploma or GED certificate
- Some college or technical training
- College graduate
- Some graduate school
- Graduate or professional degree

28. Employment Status:

- Full-time
- Part-time
- Unemployed
- Volunteer Work
- Student
- Retired
- Homemaker
- Other _____

29. Annual Household Income:

- Less than \$10,000
- \$10,000 to \$14,999
- \$15,000 to \$24,999
- \$25,000 to \$34,999
- \$35,000 to \$49,999
- \$50,000 to \$74,999
- ≥ \$75,000

Please check that you have answered every question – thank you!

Appendix D

Meal Participant Survey 2009 - Final

This survey will help us understand what activities people want at their mealsites. The questions in the survey ask about the activities you participate in at the mealsite or somewhere else as well as your background and health information. Thank you for taking the time to complete this survey.

1. How often do you come to the mealsite?

- More than 5 times a week
- 5 times a week
- 3-4 times a week
- 1-2 times a week
- 2 to 3 times per month
- Once a month or less

2. How often do you participate in activities at the **mealsite**?

- Very Often
- Fairly Often
- Sometimes
- Almost Never
- Never

3. How often do you participate in activities **somewhere else**?

- Very Often
- Fairly Often
- Sometimes
- Almost Never
- Never

4. In general, would you say your health is:

- Excellent
- Very good
- Good
- Fair
- Poor

5. Which of the following things are you physically able to do?

(Place an "X" on the box by each of the things that you can do.)

- Heavy work around the house (shoveling snow, washing walls, etc.)
- Work at a full-time job
- Ordinary work around the house
- Walk a half a mile
- Go to a movie, to church, to a meeting, or to visit friends or relatives
- Walk up and down stairs

6. **Please check all activities you participate in at the mealsite or somewhere else.**

Activities	Yes, mealsite	Yes, somewhere else
a. Blood Pressure Screenings, Other Health Screenings		
b. Health Education Classes		
c. Physical Activity, Exercise Classes		
d. Nutrition Education Classes		
e. Cooking Classes, Cooking		
f. Foot Care Clinics		
g. Flu Clinics, Immunizations		
h. World Events, Politics		
i. Trips		
j. Listening to Music, Playing Music, Singing		
k. Dancing		
l. Celebrations, Parties		
m. Volunteering		
n. Art, Crafts, Hobbies, Scrap-booking		
o. Computer Classes, Internet		
p. Featured Speakers		
q. Movies		
r. Card Games, Puzzles, Board Games, Bingo, Pool		
s. Living Well with Chronic Conditions Workshop		
t. Stepping On Falls Prevention Workshop		
u. Other (please list) _____		

7. What other activities would you like to see offered at the mealsite?

VIEWS ON AGING

The next set of questions asks you about your opinion. There is no right or wrong answer.

8. At what age do you think one becomes honored by society as an elder? _____

9. In your opinion, at what age is one old? _____

10. What is your ideal length of life? _____

11. In general, I believe that elders are physically attractive.

Agree Disagree Don't Know

12. I am looking forward to growing older.

Agree Disagree Don't Know

13. I believe that there should be a mandatory retirement age for most jobs.

Agree Disagree Don't Know

14. Things keep getting worse as I get older.

Agree Disagree Don't Know

15. I have as much pep as I had last year.

Agree Disagree Don't Know

16. As I get older, I feel less useful.

Agree Disagree Don't Know

17. As I get older, things are better than I thought they would be.

Agree Disagree Don't Know

18. I am as happy now as I was when I was younger.

Agree Disagree Don't Know

DEMOGRAPHIC INFORMATION

19. Age:

- 55 to 64 years
- 65 to 74 years
- 75 to 84 years
- 85 to 94 years
- 95 years or older

20. Race: (check all that apply)

- American Indian/Alaskan Native
- Asian/Pacific Islander
- Black/African American
- Hispanic/Latino
- White/Caucasian
- Other _____

21. Gender: Male
Female

22. Marital Status:

- Married or Partnered
- Widowed
- Never Married/Single
- Separated/Divorced

23. Living Arrangement:

Do you live alone? Yes
No

24. Including yourself, how many
people live in your household?

25. Highest level of education attained:

- Less than high school diploma
- High school diploma or GED
certificate
- Some college or technical training
- College graduate
- Some graduate school
- Graduate or professional degree

26. Employment Status:

- Full-time
 - Part-time
 - Unemployed
 - Volunteer Work
 - Student
 - Retired
 - Homemaker
 - Other
-

27. Annual Household Income:

- Less than \$10,000
- \$10,000 to \$14,999
- \$15,000 to \$24,999
- \$25,000 to \$34,999
- \$35,000 to \$49,999
- \$50,000 to \$74,999
- ≥ \$75,000

**Please check that you have answered
every question – thank you!**

