Leisure Constraints on Senior Center Participation

by

Carrie L. Toon

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Edward Udd, Ph.D.

Thesis Advisor

Joel Frater, Ed.D.

Committee Member

Kathleen Hunter, Ph.D., CHES

Committee Member

Thesis Approval

To the Graduate Faculty of Recreation and Leisure

The committee has examined the thesis of Carrie L. Toon, entitled "Constraints on Senior Center Participation," find it satisfactory and recommend it be accepted.

Edward Udd, Ph.D.

Signature of Thesis Advisor — Date: 6/17/02

Joel Frater, Ed.D.

Signature of Committee Member — Date: 6/17/02

Kathleen Hunter, Ph.D., CHES

Signature of Committee Member — Date: 6/17/02

Abstract

The purpose of this study was to determine which factors most greatly influence senior center participation levels. Some of the factors which were analyzed include perceived degree of arthritis, perceived quality of life, and demographic variables such as age, gender, race, living arrangements, marital status, highest level of completed education, income, and method of transportation to and from the senior centers. It was hypothesized that all these factors have an effect on level of participation to some degree. The participants in this study included 74 women and 31 men who ranged in age from 55 to 88 years ($\underline{M} = 74.67$) and attended one of three different senior centers in Monroe County, New York. In order to determine which factor or factors most affected senior center participation, a twenty-three question survey was developed. This survey was divided into four sections, senior center, arthritis, quality of life, and demographic information. Several multiple regressions calculations indicate that level of support from family and friends, gender, income, and living arrangements had the strongest correlation to senior center participation levels.

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Chapter One: Introduction

Introduction

Chapter one gives an overview of this study by describing the purpose and significance of the study. The research design, hypotheses, method of data collection, the study sample, and data analysis are also discussed. Finally, this chapter looks at assumptions, limitations, delimitations, and definitions of essential terms of this study.

Purpose

The purpose of this research project was to examine the leisure constraints on older adults' level of participation at senior centers. In particular this study assessed older adults' perceived quality of life and also their perceived degree of arthritis and how these factors impacted their reported levels of participation.

Significance of the study

In the year 2000, approximately 43.8 million people aged 60 years and older resided in the United States (U.S. Census Bureau, 2002). With such an increasing older population, leisure opportunities need to be made available to this population, due to many of them being retired. One community leisure opportunity that is provided in many communities throughout the United States is the multipurpose senior center. Unfortunately, not every older adult has access to these centers for a number of different reasons. For this reason, this researcher felt that a study which examines the constraints on leisure pursuits, particularly at Monroe County, New York senior centers, would be of benefit to academia and practice. Some of the constraints that were analyzed are perceived quality of life, perceived degree of arthritis, and demographic variables such as

age, gender, race, household income, highest level of completed education, marital status, living arrangements, and method of transportation to and from the senior center.

Research Design

The design of this study was non-experimental and descriptive in nature. The type of sample collected was a systematic stratified sample. This meant that the researcher chose this sample on the basis of age. Since the main focus of this study was on barriers to leisure participation in senior centers, individuals over the age of 60 were the best people to sample for data. This researcher obtained a list of all the senior centers with phone numbers in the Blue Pages of the Rochester Phone Book (Frontier Pages, 2001-2002). From this list, every second senior center was chosen as a potential study location. This researcher then called each of these centers to gain written permission to distribute the research questionnaire to the center's clients. When difficulty reaching a center occurred, then another center was randomly chosen to take that center's place in the study.

Hypotheses

1. H_0: There is no relationship between an older adult's reported level of participation in senior center programs and his/her perceived quality of life.
   H_1: There is a relationship between an older adult's reported level of participation in senior center programs and his/her perceived quality of life.
2. H_0: There is no relationship between an older adult's reported level of participation in senior center programs and his/her perceived degree of arthritis.

H_1: There is a relationship between an older adult's reported level of participation in senior center programs and his/her perceived degree of arthritis.

3. H_0: Demographic variables such as age, gender, race, highest level of completed education, household income, living arrangements, marital status, and method of transportation have no relationship to the participants' reported level of participation in senior center programs.

   H_1: Demographic variables such as age, gender, race, highest level of completed education, household income, living arrangements, marital status, and method of transportation have a relationship to the participants' reported level of participation in senior center programs.

Data Collection

Data for this research project was collected from the distribution of a written survey. The primary researcher with the help of faculty advisors developed this survey. In order to test the readability of the survey, the primary researcher used the SMOG Readability Formula and determined that the survey meets the requirements for a ninth-grade reading level (Snider, 2001).

This survey was divided into four subsections. The first section focused on information about the senior centers, and the subject's level of participation at the center. In the second section, participants answered questions regarding arthritis and its severity. Section three focused on perceived quality of life and the final section dealt with demographic information such as age, gender, race, living arrangements, marital status, household income, and highest level of completed education.

Sample

The sample of this research project consisted of older adults, age 60 and older, who resided in Monroe County within the state of New York. Study participants also needed to attend at least one of the three senior centers selected to be surveyed for this study. If a potential subject attended more than one of the centers, then he/she was only able to answer the questionnaire at one of the senior centers.

Data Analysis

In order to analyze the data obtained from survey completion, this writer used the statistical computer program entitled, SPSS 11.0, to run the statistical tests of Pearson's r and multiple regression as they were believed to be most appropriate for the data collected. In order to analyze hypothesis two, a Pearson's r statistical test was used to determine the relationship between reported level of participation and perceived degree of arthritis. For hypotheses one and three, this researcher made use of a multiple regression test. In hypothesis one, this test was used to determine the relationship between the dependent variable, level of participation, and the factors that contributed to the independent variable, quality of life. Also, in hypothesis three the dependent variable was level of participation at the senior centers, while the independent variables were age, gender, race, highest level of completed education, household income, marital status, living arrangements, and method of transportation to and from the senior center.

Assumptions

1. All individuals completing the survey answered all questions honestly and truthfully.

2. All participants in this study were willing and able to express their answers to all survey questions in writing or orally.
3. All participants in this study were able to read at or above a ninth-grade level.

Limitations

1. Some participants in this study may have had cognitive impairments that the primary researcher was unaware of at the time the survey was distributed to these individuals.
2. The total sample size of this study was limited to approximately 100-120 individuals due to the limited resources of the primary researcher.

Delimitations

1. The primary researcher was responsible for all data collection and analysis.
2. Subjects were delimited to older adults who attend one of the three senior centers surveyed.

Definition of Terms

1. ADL: "activities of daily living which include eating, toileting, dressing, bathing, grooming, and mobility" (Buettner & Martin, 1995, p. 197)
2. Affective status: measured by determining if depression exists by looking at sleeping habits, appetite, how tired a person is, and if a person is happy or sad (Hanssen, Meima, Buckspan, Henderson, Helbig & Zarit, 1978)
3. Arthritis: an inflammation of the joint which may be caused by damage from normal wear and tear, disease, injury, metabolic disorders, or infection (Vierck, 1991)

4. Barrier: "an obstacle that does, or is perceived to, inhibit an individual's recreation participation" (Searle & Jackson, 1985, p. 24)
5. Chronically ill: an individual with an "ongoing disease characterized by progressively deteriorative effects and which usually is irreversible or incurable" (Hawkins, May & Rogers, 1996, p. 361)
6. Constraints: "...factors outside the individual which serve as barriers to leisure behavior and enjoyment." (Yiannakis, 1999)
7. Health: "a state of complete physical, mental, social, psychological, and spiritual well-being." (Carter, Van Andel & Robb, 1995, p. 565)
8. IADL: "instrumental activities of daily living which include money management, household chores, use of transportation, shopping, health maintenance, communication, and safety preparedness" (Buettner & Martin, 1995, p.197)
9. Leisure: "time free from work and other obligations" (Goodale & Godbey, 1995, p. 4)
10. Leisure activity: "any activity engaged in voluntarily, that is, by choice rather than necessity or obligation, which the person finds intrinsically meaningful and self-rewarding." (Bevil, O'Connor & Mattoon, 1993, p. 4)
11. Osteoarthritis: "...a defect of...cartilage that is characterized by the gradual loss of this cushioning substance. (It) is also referred to as degenerative joint disease...." (Kart, Metress, & Metress, 1992, p. 89).

12. Quality of life: refers to health status as well as satisfaction with the environment, economic resources, relationships, work, and leisure time (Wikstrom, Isacsson & Jacobsson, 2001)
13. Recreation: "the expression of individual values through participation in freely chosen activities" (Goodale & Godbey, 1995, p. 120)
14. Rheumatoid Arthritis: the second most common type of arthritis; it involves the joints in the arms and legs, particularly the fingers and wrists, and usually involves the same joints on both sides of the body (Brewer & Angel, 2000)
15. Senior Center: the National Council on the Aging defines a senior center as "...a community focal point on aging where older persons as individuals or in groups come together for services and activities which enhance their dignity, support their independence and encourage their involvement in and with the community." (Gelfand, 1993, p. 153)
16. SMOG Formula: "...a recommended and tested method for grading the readability of written materials." (Snider, 2001, p. 1)
17. Social agency model: "...emphasizes the need of a services/provision of services juncture between the elderly and the senior center; ...needy elders attend senior centers for help in coping with everyday life." (Ferraro & Cobb, 1987, p. 431)
18. Therapeutic Recreation: "...the specialized application of recreation and experiential activities or interventions that assist in maintaining or improving the health status, functional capacities, and ultimately the quality of life of persons with special needs." (Carter, Van Andel, & Robb, 1995, p. 10)

19. Voluntary organizational model: "provides individuals with opportunities for self-expression; ...more socially active and advantaged older people would be...likely to use a senior center." (Ferraro & Cobb, 1987, p. 431)

Chapter Two: Literature Review

Introduction

Recreation is an important part of any person's life. As people reach the age when they can retire, they begin to see many different life changes, with one of the most noticeable ones being an increase in leisure time (Stanley & Freysinger, 1995). One option that these older adults have to fill this leisure time is to attend a senior center. These centers offer a variety of activities for people 60 years of age and older. However, many factors can influence an older person's desire or ability to participate in senior center programs.

This review of literature has looked at recreation and senior centers in more depth. It also reviewed factors that influence a person's participation in the centers including arthritis and quality of life as well as demographic variables such as age, gender, race, household income, highest level of completed education, living arrangements, marital status, and transportation that is available to and from the senior centers.

Recreation and Leisure

Leisure or free time is a relatively new phenomenon in later life. Earlier, at the turn of the century, almost every person worked until shortly before their death, which was often times around the age of forty-five (Stanley & Freysinger, 1995). Now, individuals have the opportunity to retire once they reach the age of 65 or even sooner in some cases. Because many individuals live to see this retirement age, they are facing the decision of what to do with their newly acquired leisure or free time (Stanley & Freysinger).

Leisure activity can be defined as "any activity engaged in voluntarily, that is, by choice rather than necessity or obligation, which the person finds intrinsically meaningful and self-rewarding." (Bevil, O'Connor & Mattoon, 1993, p. 4). More commonly, individuals view leisure activity as another name for play behaviors, which have been described as fundamental and necessary human characteristics (Bevil, O'Connor & Mattoon). Throughout childhood, play behaviors are the predominant activity, while adulthood sees a switch to the work role in life. However, once an individual retires from the work role, he/she sees an increase in the amount of play or leisure time that is available.

According to a study performed by Bevil, O'Connor & Mattoon (1993) the most common activities that community-dwelling older adults participate in are watching television, visiting with friends and family, reminiscing, and listening to the radio. Of these more common leisure activities, individuals are likely to visit with friends and reminisce while attending a senior center. Other common activities of older adults include exercising, traveling, Bible study, and playing cards (Bevil, O'Connor & Mattoon). All these activities are also common at community senior centers.

Senior Centers

Senior centers historically have their roots as recreational and social settings. Many of the centers which exist today help older adults bridge the gap between work and retirement, full independence and limited support, and good health and chronic conditions (Administration on Aging, 2000). Multipurpose Senior Centers are "...often both the first, and the foremost, source of vital community based social and nutrition

supports that help older Americans to remain independent in their communities." (Administration on Aging, 2000).

The Older American Act views the multipurpose senior center as a community facility that provides a wide range of services for the older adult (Gelfand, 1993). Group and individual psychological counseling, health services, recreation, education, information and referral, housing, and legal and income counseling are just some of the many services offered (Hanssen, Meima, Buckspan, Henderson, Helbig & Zarit, 1978). They also provide meal and nutrition programs, fitness and wellness programs, transportation services, arts programs, volunteer opportunities, employment assistance, intergenerational programs, social and community action opportunities, and other special services (Administration on Aging, 2000). Overall, the recreational activities and social services offered in senior centers are designed to promote independence (Gelfand, 1993), provide enjoyment or improve one's health and well-being (Williams, Haber, Weaver & Freeman, 1998).

In the United States, there are approximately 10,000 senior centers (Calsyn, Burger & Roades, 1996; Calsyn & Winter, 1999). Most of the older adult population is aware of these centers (Krout, 1983); however, only about eight to twenty-one percent of the older adult population (age 60 and older) participate in the activities and services that the centers offer (Calsyn, Burger & Roades, 1996). This equates to approximately 5-8 million people over the age of 60 (Krout, Cutler & Coward, 1990).

Senior centers are one of the most common organizations that allow for peer interaction among the non-institutionalized elderly (Ferraro & Cobb, 1987). These centers have been modeled as a way of helping provide services such as recreation,

referral to other community agencies and services , nutrition, social integration, and health maintenance. Having the option to go to one place to receive so many different services, like health, education, recreation and social interaction opportunities, is one big incentive for the older population (Ferraro & Cobb; Krout, Cutler & Coward, 1990). Amendments to Older Americans Act of 1965 have identified senior centers as appropriate focal points for comprehensive and coordinated service delivery to those over the age of 60 (Krout, Cutler & Coward).

Participation and Utilization of Senior Centers

Participation is defined as "...taking part or sharing with others in an activity, not simply being present..." (Ferraro & Cobb, 1987, p. 430). Attendance on the other hand is "...a necessary condition for participation...(but it)...is not a sufficient condition for participation." (Ferraro & Cobb, p. 430). Currently, most senior centers use a voluntary attendance model, which means that they are voluntary organizations that provide individuals with opportunities for self-expression and emphasize group interaction (Ferraro & Cobb). Other centers use a combination of the voluntary model and a social agency model. The social agency model emphasizes the need for a services/provision of services juncture between the elderly and the senior center. For example, the needy elderly often attend senior centers for help in coping with everyday life (Ferraro & Cobb).

One of the biggest differences found between users and nonusers is in morale and/or well-being. Users of senior centers tend to have a more positive attitude toward aging, tend to be more active, and also appear to be better adjusted than nonusers. A study by Hanssen et al (1978) found that depression may be a general reason as to why

persons stop attending senior centers or why they do not use them in the first place (Hanssen et al).

Being involved in an existing social network and previous lifestyles are also related to senior center participation. Persons valuing sociability or who have shown lifelong patterns to affiliate with organizations are more likely to participate in senior centers. Also, persons who are functioning well in several areas, including health, affective status, social supports, and those with a prior history of social participation are most likely to use senior centers. On the other hand, persons in need of specialized services besides recreation or socialization may be less likely to have prior contact with a multiservice center like senior centers. Overall, senior centers appear to attract the less depressed, more active, and more physically intact older person possibly due to the fact that senior centers do not consistently accommodate those seniors with perceived physical limitations and those who are mildly depressed (Hanssen et al, 1978).

Some studies report that demographic variables do not distinguish between members and nonmembers, users and nonusers, or low usage and high usage (Hanssen et al, 1978; Tuckmann, 1976). However, according to Krout (1983), some sociodemographic variables do indeed differentiate users from nonusers. Blacks, women, and those with less income and education are more likely to have attended a senior center in the last year. Hanssen et. al. has found that there is evidence to suggest that senior centers still function primarily as social and recreational settings and are utilized by aged with relatively high level of health, effective status, and social supports. Car ownership and frequency of car use are two factors which can strongly enable participation at senior centers but does not determine it. Also, informal network contact tends to hinder

participation at senior centers because adults see it as an alternative to senior center participation. Individuals with greater amounts of informal network interaction (at least with children and neighbors) would be less likely to attend senior centers (Krout).

From Krout's (1983) study, it was discovered that a significantly greater percentage of participants at senior centers are female, not married, and live alone. This would mean that predisposing factors would appear to be of primary importance in accounting for center participation. Krout also found that individuals with lower household income and lower levels of completed education, those who see their friends more often, and desire more contact with children are more likely to be senior center participants. Of these predictors, income is the strongest, followed by frequency of contact with friends, education, and desire for more contact with children.

Another finding from Krout (1983) determined that individuals tend to get involved at senior centers for one of three reasons: something to do, invitation from friends or relatives, and desire for company/to make friends. Also, greater frequency of contact with friends appears to be both a cause and an effect of senior center utilization. One last finding states that elderly individuals participate in senior center activities to compensate for a shortage of informal network linkages, and may need higher than average levels of sociability (Krout).

Most often women tend to use the senior centers more than men do, although this could be due to the fact that women tend to outlive the men in the older population (Calsyn & Winter, 1999). Also, senior center participants tend to have less income than non-users. With regard to location, those individuals living in an urban area tend to use the senior centers more often than those individuals living in a rural area (Calsyn &

Winter). Health is necessary for continued attendance at the senior centers. Individuals who are in better health tend to participate in more intense programs and activities (Ferraro & Cobb, 1987).

Ferraro and Cobb (1987) examined several different socioeconomic factors in their study. The frequency of senior center attendance is higher among working and lower middle class elderly, but is also related to the type of participation among those who attend. Also, regarding social psychological characteristics, senior center attendees have better morale and mental health than those who chose not to or cannot attend (Ferraro & Cobb).

Participation rates also seem to be greater for residents of suburbs and nonmetropolitan non-farm areas. One reason for this is the fact that more nonmetropolitan areas have more senior centers in relation to their population when compared to metropolitan areas (Krout, Cutler & Coward, 1990).

In their study, Ferraro & Cobb (1987) found that some older adults used senior center services on occasion while others attended almost daily. They also found that the degree of involvement in certain activities varied not only by individual but also by time of day and nature of each activity. The disadvantaged come frequently, especially at lunch, and are more service oriented in their use of the center; they are more likely to use health maintenance services. Overall, a center with programs based on the social agency model will probably attract and retain high-need older adults; while those centers based on the voluntary organizational model are likely to attract and retain socially active, independent older adults.

Behavioral model. Calsyn, Burger & Roades (1996) performed a study based on the behavioral model of service utilization, developed by Andersen, Kravitz, and Anderson (1975), to try and determine some differences that exist between users and nonusers of senior centers. The behavioral model is made up of four different variables; predisposing, enabling, need, and linkage to service system. Predisposing variables include demographics, attitudes and beliefs about the causes of problems, and efficacy of various treatment interventions. Enabling variables include individual resources such as income, education, transportation, and insurance coverage; community and family resources including social support. Assessments of health, functioning level, and morale make up the need variables. Lastly, the linkage to the service system states that those older adults, who were more aware of agencies that provided services to older adults and/or received services prior, would be more likely to have attended a senior center (Calsyn, Burger & Roades, 1996).

Calsyn, Burger & Roades (1996) had several findings regarding the behavioral model. First, they found that within the predisposing variables, females use senior centers more often than males and users are more likely to be widowed than nonusers are. Second, they found no difference between the users and non-users with regard to race. This is in agreement with findings from a study performed by Krout, Cutler, and Coward (1990) as well. However, this finding regarding race does not relate to findings from a study performed by Ralston (1984). Regarding enabling variables, users tend to have more income than non-users. However, this is in conflict with a study performed by Krout (1983) that found that users tend to have less income. Need variables show that senior center users have less need because they are in better health, and are less

functionally impaired than non-users. This shows that health is one of the most frequent reasons for ceasing senior center involvement. Finally, regarding linkage to service system, users are more socially active than non-users.

Mental health. A positive relationship exists between leisure activity and mental health in older women. However, participation in leisure activity can be obstructed by low self-esteem (Williams et al, 1998). One thing that many older adults seem to benefit from is participation in altruistic activities, or helping others. These activities benefit others through the performance of actions or tasks, without the intent of providing direct benefit to oneself. Even more importantly, the primary goal of aging individuals may be to continue seeking meaning through the helping of others, or participating in altruistic activity. Participants in a study performed by Williams et al (1998) reported a more positive experience while engaging in the altruistic activity than they did with the recreational activity. They also found that life satisfaction might be influenced more by individuals comparing themselves to the well-being and quality of life of others. With findings of this nature in the study performed by Williams et al, it is certainly beneficial then that some senior centers do offer opportunities for seniors to volunteer to help those who may have difficulty participating in the recreation programs offered at the centers (Monroe County Office of the Aging, 2002).

Participation among minorities. Senior center participation rates have increased in general over the years, however, rates for the poor and minority elderly adults have been consistently low for a number of reasons. First of all, participation rates have been low due to lack of access to senior centers because of isolation and scarcity of facilities within black neighborhoods. Also, many poor and minority senior citizens have a lack of

transportation. Other seniors are not motivated to attend senior centers due to the fact that ethnic and/or cultural considerations are not taken into account in programming and staff patterns. Lastly, the presence of informal helping networks within black families and communities may replace the need for the social support system found within senior centers. Lack of access to senior centers, lack of ethnic/cultural considerations in programming, and lack of need for programs due to informal helping networks are all traditional reasons given for low senior center participation by black elderly adults (Ralston, 1984).

Barriers to accessibility. One problem with senior centers is that they do not always accommodate those individuals with perceived physical limitations (Ferraro & Cobb, 1987). Accessibility problems have been identified by Krout, Cutler & Coward (1990) as primary barriers to service utilization among the elderly. Other measures of accessibility such as transportation and rural versus urban residence were not found to be related to attendance. Krout, Cutler & Coward also found that center use tends to decline for the oldest ages and for persons with a greater number of difficulties with activities of daily living and instrumental activities of daily living. Often times, senior centers tend to focus on the "well elderly" and may not be physically or programmatically designed or equipped to serve large numbers of frail individuals (Krout, Cutler & Coward).

Transportation. Research has shown that users of senior centers are socially and physically better off than nonusers and therefore are less likely to need as many community and in-home services (National Council on the Aging [NCOA], 1975). Nonparticipation has been related to factors such as lack of available transportation, living a great distance from the center, having other activities that keep one busy, and

unwillingness to participate in a center specifically for the aged (NCOA, 1975). However, Hanssen et al (1978) found that transportation does not distinguish center users from nonusers.

Regarding transportation, several studies have found that it is not an important predictor of senior center participation (Ferraro & Cobb, 1987; Hanssen et al, 1978). However, according to Searle and Jackson (1985), transportation is seen as a barrier to participation in leisure pursuits in general.

Obstacles the centers face. Senior centers face several obstacles. Many senior centers have no specific professional or paid staff to develop and run programs for the target populations. Also programs for target groups often require special facilities, larger and better trained staff, access services, and more financial resources than many centers currently have available. Some centers are located in areas where few minority or low-income seniors live; therefore, it is difficult to reach out to these populations in need. Finally, the development, growth, and survival of senior centers in America has been due to the fact that centers are seen as serving a majority of healthier individuals in many communities throughout the United States (Krout, Cutler & Coward, 1990).

Even with these obstacles and barriers, senior centers provide participants with a physically and socially safe and supportive environment among age peers with similar capabilities, interests, and experiences. They provide opportunities for social interaction, friendship, and the maintenance of dignity and feeling of self-worth to help counter the supposed disengagement and social isolation that can threaten the mental and physical health of older people (Krout, Cutler & Coward, 1990).

Promoting Independence in Leisure Choices

Leisure activities often include social interactions. For this reason leisure participation in social activities offered at senior centers may be particularly beneficial to the healthy elderly, especially since social involvement is considered such a key factor to successful aging (Losier, Bourque & Vallerand, 1992).

Many older adults hope that they will be able to maintain and exercise control over their lives. This has been found to be the pillar of human functioning and living. A sense of control and freedom becomes critical to both psychological and physical health in almost all individuals. The importance of personal control and freedom suggests therefore, that people want to be able to live their lives independently, or at least as independently as possible. A sense of lack of personal control and competence in turn undermines a person's desire of living independently (Searle et al, 1995).

Leisure education has been viewed by the field of Therapeutic Recreation (TR) as a modality that not only increases a person's awareness about the importance of leisure but also promotes a sense of personal control and competence to whatever degree is possible for that person. Often times, physical disability leads to erosion of a sense of personal control and competence in the elderly. However, varied leisure activities are one tool that can be used to enhance older adults' sense of control (Searle et al, 1995).

The motivational model of leisure, which is often used by TR specialists in treating patients, has several components. First, perceptions of leisure opportunities and perceptions of leisure constraints will both predict leisure motivation. Leisure opportunities are defined as perceptions concerning the choices of leisure activities available in a person's area (Losier, Bourque & Vallerand, 1992). On the other hand,

leisure constraints are defined as perceptions that there are factors limiting one's ability to choose among the leisure activities available in one's region. If one does not foresee an activity as providing many options or if he/she feels constrained in his/her choices then this individual's self-determined motivation is expected to be undermined (Losier, Bourque & Vallerand).

The second component states that leisure motivation will affect leisure satisfaction. Self-determined types of motivation, as opposed, to non-self-determined types of motivation, lead to numerous positive outcomes. Some of these include better mental health, higher self-esteem, and more satisfaction toward the activity and life in general. Finally, leisure satisfaction is a predictor of leisure participation. Greater leisure satisfaction will lead to greater leisure participation (Losier, Bourque & Vallerand, 1992). And for older adults, this often means more participation in senior center activities.

From their study, Losier, Bourque & Vallerand (1992) found that motivation is considered an integral part of leisure experiences and a central element in the study of leisure. They also found that motivation has been suggested as an important factor to consider when conducting research dealing with the elderly population. Leisure motivation was a determinant of both leisure satisfaction and leisure participation in elderly individuals.

Quality of Life

Quality of life is an umbrella concept encompassing health status as well as satisfaction with a broader range of domains such as environment, economic resources, relationships, work, and leisure time (Wikstrom, Isacsson & Jacobsson, 2001). It relates to individuals' perceptions of their position in life in the context of the culture and value

systems in which they live, and in their relation to their goals, expectations, standards, and concerns. It is defined through four dimensions: positive relationships, a sense of security and meaning in life, being able to care for oneself, and being independent (Wikstrom, Isacsson & Jacobsson).

Health-related quality of life (HRQOL) includes the impact of a disease and its treatment on a person's perception of his/her ability to lead a full and productive life. Education level was found to have the most important association with quality of life among persons with arthritis. Individuals with less education seemed to have a poorer quality of life, most likely because they had less understanding of their condition and also because they tend to rely most on their physical labor as their form of employment (Ward, 1999; Kaplan, Alcaraz, Anderson & Weisman, 1996). In individuals with arthritis, pain and stiffness become considerable factors which in turn impact their quality of life. Arthritis may also cause disability and loss of income, and the stress associated with the loss of income may exacerbate the illness (Kaplan et al).

Overall, persons with arthritis have substantially worse HRQOL than persons without arthritis. According to a study reported in the Journal of the American Medical Association ("Health-Related Quality of Life," 2000), respondents with arthritis reported having fair or poor health approximately three times more often than respondents without arthritis did. Also, adults with arthritis had an average of 3.6 to 5.5 more unhealthy days than adults without arthritis. Among persons with arthritis depression seems to be common especially among those with rheumatoid arthritis (RA) ("Health-Related Quality of Life," 2000).

According to a study performed by Wikstrom, Isacsson & Jacobsson (2001), individuals with RA had to give up an average of two-thirds of their leisure activities since the onset of their disease. They also found that pain is an area causing significant problems for those with RA. It has been shown that greater pain results in less time spent at leisure tasks. Pain in RA is a consequence of inflammation, which leads to loss of muscle strength and fine dexterity, as well as fatigue and difficulty concentrating on an activity. Wikstrom, Isacsson & Jacobsson also found that morning stiffness, which often causes functional limitations, was significantly correlated to loss of leisure activities.

Leisure activities are important determinants of the quality of people's lives. Life cycle position, generally represented by age and marital status, is an important determinant of abilities, interest, and constraints on one's behaviors. Although leisure activities associated with high life satisfaction vary by age, leisure interests and activities appear to be stable across time (Jeffres & Dobos, 1993).

Social support has also been found to have a positive effect on adaptation and recovery from the onset of a chronic illness. In particular, it is especially important for women, who make up the largest segment of the arthritis population. There is a significant association between quality of social support and psychological functioning. For example, in a survey of British clinic outpatients, women without a confidant or casual friendships were found to be more likely to report symptoms of psychological and physical distress. Some factors that are seen as supportive for the chronically ill include task assistance, information and feedback, affirmation or ego support, physical affection, and the opportunity for confiding. Unfortunately, not all of these are available to those who are in need (Goodenow, Reisine & Grady, 1990).

Social support has been found to be a significant predictor of functioning. It is also important for both social and psychological functioning with chronic illness because it could potentially partially counterbalance some of the negative effects of physical dysfunction from chronic illness. Overall, the perceived quality of support is a key factor in slowing social and psychological dysfunction due to physical illness (Goodenow, Reisine & Grady, 1990).

Pain and joint destruction often threaten the independence of individuals with RA. This in turn can lead to psychological distress and social dysfunction. Also, those individuals who live their lives very independently and actively are more likely to report a fear of crippling from the disease process. Often individuals with systemic lupus erythematosus (SLE) and RA are satisfied with their quality of life. According to a study done by Archenholtz, Burckhardt & Segesten (1999), it was found that these individuals are satisfied with the exception of health and active recreation. Family and friends often times make it possible for these individuals to live an independent and active life as well as enhancing their sense of security. Having a family and/or friends is, for some people, what makes the difference between being dependent on social services and the possibility of staying independent with limited assistance from formal services when needed. Both groups of subjects from this study, those with SLE and RA, were most dissatisfied with their physical health because of symptoms from the diseases or functional limitation (Archenholtz, Burckhardt & Segesten).

Zautra, Hamilton & Yocum (2000) found that positive engagements and interactions helped to protect RA patients from increases in disease activity following stressful events. Positive life events may be particularly important for older people with

chronic illness because they enhance a sense of control and feelings of personal autonomy. For many older adults with chronic illness, the primary source of social contact revolves around their spouse or companion (Zautra, Hamilton & Yocum).

Constraints on Recreation Participation

There are those individuals who do not desire to participate in recreation activities, and there are those for whom some obstacle does, or is perceived to, exist which inhibits their recreation participation. Those individuals who have some obstacle that keeps them from participating are viewed as having an external constraint. An external constraint is one or more factors outside the individual, which serve as barriers to leisure behavior and enjoyment (Yiannakis, 1999). They include such factors as the absence of facilities, inadequate transportation systems, and cultural practices and values that deny opportunities to certain groups (Yiannakis). Other barriers to recreation include overcrowded recreational facilities, family commitments, shyness about participating in public, or being physically unable to participate (Searle & Jackson, 1985).

Of the numerous sociodemographic variables such as age, sex, education, income, and type of household, income was associated with the largest number of barriers followed by age and type of household. Among respondents aged 65 or older, the lack of a partner was the number one barrier to participation in leisure activities. Also as age increases so do the barriers of limited physical and artistic ability increase as well as the barrier of being physically unable. Lastly, respondents who reported having a family income of less than $10,000 per year were most severely affected by the previously mentioned barriers (Searle & Jackson, 1985).

Arthritis as a Barrier

Arthritis is a common chronic condition causing pain and progressive disability among millions of people worldwide. It is predicted that self-reported arthritis will rise from 15% (37.9 million people) in 1990 to about 18.2 percent (59.4 million) by 2020 in the United States (Barlow, Wright & Kroll, 2001). Arthritis is linked to increased rates of mortality and places a vast economic burden on the individual and society. This is not surprising with there being over 200 different conditions involving the joints and/or connective tissues, with osteoarthritis (OA) and RA being the most prevalent in adults. Most often disease onset occurs usually before the age of 50. Prognosis is uncertain and since there is no cure, treatment is ameliorative, aiming to reduce inflammation, relieve pain and maintain or improve function. Treatment is long term and complex, comprising of medication, exercises, and use of aids such as splints. Characteristic symptoms of pain, fatigue, and stiffness become a part of everyday life. Many individuals with arthritis express a sense of loss of control. Cycles of helplessness, depression, and anxiety become part of the disease experience as well (Barlow, Wright & Kroll).

There are many different types of arthritis. The Arthritis Foundation estimates that 97% of those over the age of 60 years have enough arthritis to show up on X-rays. This condition affects more people than any other condition, including heart disease. Approximately 37 million people have some form of the disease, which may be caused by damage from normal wear and tear, disease, injury, metabolic disorders, or infection. (Vierck, 1991).

People with arthritis face a number of attitudinal, environmental and organizational barriers in society. Access to transportation and restricted access to

buildings can prove to be major barriers to those with arthritis in their attempt to enter or maintain employment (Barlow, Wright & Kroll, 2001). Functional limitations were more significant and troublesome because they significantly related to depression as well as other psychological adjustment variables, such as anxiety and satisfaction with life (MacKinnon, Avison & McCain, 1994).

Often with the onset and progression of arthritis, recreational activities that were once a source of pleasure lose their appeal. This is due to the behavioral changes that come about from the physical distress of the disease. Many times those with arthritis must learn to pace activities and also give up some of the activities that they once enjoyed because they are physically unable to participate in them any longer. Individuals with arthritis must learn coping mechanisms that help them deal with their losses. Coping is defined as cognitive and behavioral efforts to manage situations that are appraised as taxing or exceeding the resources of the individual (Giorgino, Blalock, DeVellis, DeVellis, Keefe & Jordan, 1994).

The biggest barrier for arthritis sufferers is probably pain, because it affects all activities in some way. Although, it is not a problem in and of itself, it does interfere with leisure and household activities. One can avoid a particular activity that is difficult to perform but he/she cannot walk away from pain. Individuals with RA often appraise pain as more stressful than problems in other areas. Past research shows that pain is a significant contributor to the health status and health behavior of individuals with chronic RA and other rheumatic diseases (Giorgino et al, 1994).

Participants from a study performed by Giorgino et al (1994) perceived greater ability and satisfaction regarding leisure activities due to the flexibility to choose and

adapt leisure activities according to perceived ability. For example if a person enjoys playing tennis, but can no longer do so, then he/she can now watch tennis matches on television.

Learned helplessness. The psychological construct of "learned helplessness" may be used as a model to better understand the psychological and behavioral disabilities associated with RA and to help predict those who are likely to suffer the most severe or excessive disabilities. Learned helplessness is defined as a behavior pattern characterized by emotional, motivational, and cognitive deficits in coping with stressful situations. Those who suffer from learned helplessness tend to behave in a helpless manner characterized by three important deficits. The first is a retarded initiation of voluntary behavior, or passivity. Also, there are cognitive deficits such as impaired learning of new responses that might reinstate control over stressful events. Last, emotional deficits such as anxiety and depressed affect and behavior indicative of depression often exist (Bradley, 1986).

Patients with certain chronic diseases are likely to show the deficits associated with learned helplessness due to the uncertainties associated with their illnesses like RA or OA. In particular, individuals with RA are likely to develop the belief that their disease is beyond their effective control because the cause and cure for the disease are unknown, the pathogenesis is not fully understood, and the course and final outcome of the disease are unpredictable. Often times, they perceive that regardless of the number or nature of coping resources they employ, they will not be able to reduce substantially the pain and/or disabilities of RA (Bradley, 1986). In this study, helplessness was found to be associated with high levels of pain, anxiety, depression, and low self-esteem. Also,

Bradley found that prompt attention to negative changes in patients' attitudes may help prevent or reduce the development of excessive disabilities.

Rheumatoid arthritis. Rheumatoid arthritis is an autoimmune disease in which a person's own antibodies attack the connective tissues in the body (Kart, Metress & Metress, 1992). Approximately 2-3 million Americans have some form of RA (1.5 million women and 600,000 men). RA tends to affect women in their forties more often than any other population, however it can affect any age group from children to the elderly. It is also one of the most common types of arthritis (Brewer & Angel, 2000). Because of the pain that develops from the inflammation of tendons, muscles, and tissues around the joints, a person often has to make changes to his/her lifestyle due to a reduced level of functioning (Brewer & Angel).

Rheumatoid arthritis is a chronic, systemic disease. To be more specific, RA is an ongoing process that often lasts for many years. Unlike other forms of arthritis, it does not only affect the joints; it also affects the entire body by way of the connective tissues (Kart, Metress & Metress, 1992). RA is also a symmetrical disease because it usually involves the same joints on each side of the body (i.e. both wrists or both knees). This is one of the factors of RA that distinguishes it from all the other types of arthritis. Most often the joints that are affected tend to swell, and also exhibit redness, tenderness, and pain. Stiffness also occurs after long periods of inactivity. RA can also affect the heart, lungs, and eyes of some individuals with the disease in combination with the joints (Brewer & Angel, 2000). Overall, it is important for anyone suffering from RA to try to live as normal a life as possible (Brewer & Angel).

Osteoarthritis. Osteoarthritis, the most common joint disease (Kart, Metress & Metress, 1992), is a disease of the cartilage, which in turn leads to injury of the joints that it surrounds (Brewer & Angel, 2000). There are two types of OA. Joint degeneration that occurs in the absence of a known cause is called primary or idiopathic OA. The other type of osteoarthritis is referred to as secondary OA and it usually occurs in joints that have been previously injured or that are affected by disease (Kart, Metress & Metress; Brewer & Angel). Most often the fingers, hip, knee, and spine are affected (Brewer & Angel).

Approximately 40 million Americans are affected by osteoarthritis (Brewer & Angel, 2000). However, there are many more older adults who show signs of the disease but do not exhibit any symptoms from the condition. Eighty-five percent of adults over the age of 85 actually show signs of OA when their joints such as the knees and hips are X-rayed, but only 30 percent of these individuals have any symptoms from the damage (Kart, Metress & Metress, 1992). The best way for individuals diagnosed with OA to relieve their symptoms is to combine the proper amounts of physical activity, moist heat, and pain relievers. One way they can do this is to attend exercise groups offered at senior centers (Kart, Metress & Metress).

Summary

Many factors influence an older person's ability and desire to participate in senior center activities and programs. Two of the major factors that are studied are perceived degree of arthritis and perceived quality of life. Other factors such as age, gender, race, marital status, living arrangements, available transportation, education, and income are also hypothesized to influence a person's participation in these activities.

Chapter Three: Methods

Purpose

This research project studied older adults who live in the community and attend one of three community senior centers in Monroe County, New York. The purpose of this study was to examine the constraints that exist regarding reported level of participation in senior center activities. The two major constraints that were looked at are perceived quality of life and also perceived degree of arthritis. Other constraints included age, gender, race, household income, education, living arrangements, marital status, and method of transportation to and from the senior center. Chapter Three presents the methodology of this study and discusses the study design, sample selection and settings, permissions and human subjects' approval, materials, operationalization of the survey, the procedure, and the data-analysis plan.

Study Design

This was an applied research and field study. The hypotheses were researched by distributing a short questionnaire to each willing participant in this study.

Sample Selection and Settings

This study had a sample which consisted of 109 participants, aged 55 or older, who reside in Monroe County. All participants were also clients at one of three local senior centers in Monroe County. If a particular individual happened to participate in activities at more than one of the selected centers, he/she was only allowed to complete the survey one time, at one center. Approximately 35-40 of each center's clients participated in this study.

This particular age group was chosen for several reasons. First of all, since the individuals who attend senior centers are usually 60 years of age or older, it is likely that many of them have a diagnosis of arthritis. Also, this setting was selected because the majority of the adults attending these centers are capable of making independent decisions.

Permissions and Human Subjects' Approval

Each facility that gave verbal permission to this writer regarding the use of their facility, also prepared a written letter on facility letterhead stating that permission was granted to distribute this survey to their clients (Appendix A). In order to protect the privacy of the subjects, each survey was filled out confidentially and anonymously. This writer was available to answer any questions the subjects had at the time of survey completion. In the instance when a client was severely visually impaired, illiterate, had a shaking hand, etc, this writer (or a staff member from the senior center) interacted on a one-to-one basis with that client. Researcher-subject interaction also occurred at the time when the consent form was distributed and explained to each potential subject of this study. Also, this writer and the study advisor completed the necessary Institutional Review Board (IRB) requirements for approval of this research study proposal (Appendix B).

Materials

Because no survey was found in the literature review focusing on constraints on senior center participation, the primary researcher and committee members decided the best way to collect data for this study would be to develop a survey to distribute to the study sample. The survey for this study consisted of four subsections (Appendix C). The

first section of the questionnaire referred to senior center participation. Some of the questions asked for information about preferred programs, and average attendance. The next part of the survey asked questions which related to arthritis, its severity, and mobility. The third part of the survey dealt with quality of life. Finally, the questionnaire concluded with questions regarding demographic information such as age, gender, household income, education, race, living arrangements, and marital status.

The primary researcher tested the readability of this survey by using the SMOG Readability Formula (Snider, 2001). This formula, which consists of three steps, is a recommended and tested method for determining the readability of written materials. First, the researcher counted off 10 consecutive sentences near the beginning, the middle, and end of the questionnaire. Since this survey and its instructions consisted of 55 sentences, about half of the sentences/questions within the questionnaire were used to complete this part of the formula. The second step required the primary researcher to count the number of words containing three or more syllables, including repetitions of the same word. After a total was obtained, the researcher looked up the approximate grade level on a SMOG conversion table as provided by Snider (2001). This survey was determined to have a ninth-grade reading level.

Operationalization of the Survey

This study examined the relationship between level of participation in senior center activities and constraints on this participation including perceived degree of arthritis and older adults' perceived quality of life. The questionnaire itself examined four main areas: senior center participation, arthritis, quality of life, and demographic information.

Section 1 of the survey focused on senior center data by asking four questions. Question 1 asked participants "what form of transportation do you most often use to get to and from the senior center?" and answer choices included "drive your own car," "driven by a relative or friend," or "public transportation." Next, participants were asked to state the average number of days they come to the senior center each week. Question 3 wanted to know "what is your most important reason for coming to the senior center?" Finally, the last question in this section asked participants to choose the activity they normally participate in while attending the center.

Section 2 of the Senior Center Participation Survey focused on the subjects' perceived degree of arthritis. First, in question 5, participants were asked if they have arthritis. If so, they were then asked to rate the severity of arthritis as either mild, moderate, or severe. Next, question 7 asked "do you use any equipment on a daily basis to help with getting around?" and if they answered yes to this question, then they were asked what type of equipment they use, including a cane, walker, wheelchair, or other assistive device. The final two questions pertaining to arthritis had to do with independent mobility. Question 9 required the subject to answer yes or no to the question, "Are you able to get around by yourself on most days?." If he/she responded with an answer of no, then he/she will respond to question 10 which asked "How much help do you require on most days?."

The third section of the survey collected information about perceived quality of life of the subjects by asking six questions. Question 11 asked participants "to what extent are you able to manage your household?" Next, question 12 sought information about individuals' ability to take part in leisure activities while question 13 asked, "to

what extent are you able to perform daily activities such as eating, washing, and dressing?." All answer choices to these three questions were similar, and included not able, able with help, or able to do the activity independently. Perceived state of health was assessed in the next question. Answer choices for this question included feel very ill or lousy most of the time, lack energy or only feel up to par some of the time, or feel well most of the time. In question 15, participants were asked to state whether they receive strong support, limited support, or no support or support only when it is needed from relatives and friends. The last question assessed the level of control that individuals have over their lives. Answer choices included "I feel confused about life in general," "there are times when I do not feel fully in control of my personal life," or "I am able to make my own choices about my life."

Finally, in section 4, demographic information such as age, gender, race, income, education, living arrangements, and marital status was collected. In Question 17, participants were asked to state their age as of their last birthday. Participants then selected their gender in question 18 with answer choices of male or female. In question 19, subjects were asked to respond with their race by circling White, Black, Hispanic, Asian, American Indian, Pacific Islander, or Other. Then in question 20, the subjects' living arrangements were assessed by asking participants if they live alone or live with someone else. The next question of this survey asked for participants' marital status by offering choices of single, married, widowed, or divorced. Question 22 asked, "What is the highest level of education that you have completed?, and offered the choices less than 9^{th} grade; 9^{th} to 12^{th} grade, no diploma; high school graduate; associate degree; bachelor's degree; or graduate or professional degree. In the final question, individuals were asked

to select what their household income was in 2001 by choosing either 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 to 99,999; or $100,000 or greater.

Procedure

The administration of this survey took place at three local Monroe County Senior Centers in western New York State. Clients of these centers were given the opportunity to first read and sign a consent form (Appendix D) before participating in the study. For those clients with vision impairments, they were given the option of independently completing a large-print copy of the survey or having the survey read to them on a one-to-one basis in a location that allowed for privacy. Other clients who were able to independently complete their own survey were allowed sufficient time to complete it. They were also given the opportunity to ask any questions to the researcher or recreation director of their respective center. The directors of all three senior centers were provided with the necessary information to answer any questions that clients might have regarding this survey in the instance that the primary researcher was assisting another study participant.

This writer administered these surveys on one visit to each center and had no need to return to the centers for a second visit as was previously anticipated. All subjects were given the opportunity to read and sign the informed consent form upon agreeing to participate in this study. Since some of the surveys were not completed while this writer was in attendance at the senior center, this writer returned to the center at a later date to pick-up the remainder of the now completed surveys. Until this writer was able to return

to the centers, the recreation director of each facility had the surveys in his/her secure possession.

Data-Analysis Plan

In order to analyze data obtained from the completed surveys, this writer used the statistical computer program entitled, SPSS 11.0. Multiple regression statistics were used to analyze the data for hypotheses one and three. A Pearson's r analysis was used for hypothesis two. The dependent variable for hypothesis one was reported level of senior center participation and the independent variables were all factors which contribute to determining perceived quality of life. For hypothesis two, the dependent variable was once again reported level of participation. The independent variable was perceived degree of arthritis. Finally, for the third hypothesis, this writer used the dependent variable of reported level of participation and independent variables of age, gender, race, education, income, marital status, whether a person lives alone or with others, and method of transportation.

Summary

Chapter three looked at the purpose, study design, sample selection and setting, permissions and human subjects' approval, materials, operationalization of the survey, procedure, and data-analysis plan. Next, Chapter four will review the results of the data-analysis of the completed surveys.

Chapter Four: Results

Introduction

This survey examined factors that hinder reported levels of senior center participation. Some of the factors include perceived quality of life, perceived degree of arthritis, and demographic variables such as age, gender, race, living arrangements, marital status, level of education, and household income. The degree to which these factors effect reported level of senior center participation were analyzed using the SPSS 11.0 statistical analysis software (see Codebook, Appendix E). All of the older adults surveyed for this study attended one of three selected Monroe County senior centers. This particular chapter will report the results and findings of the survey that was distributed at these three senior centers. The first part of the chapter will discuss the findings from the frequency analyses of the data (see Frequency Analysis, Appendix F). They will be presented in the order as follows: quality of life data, arthritis data, senior center participation data, and demographic data. Then, in the second part of this chapter, the statistical analyses of all three hypotheses will be examined by discussing the results of the multiple regression and Pearson's r statistical tests.

Findings

Quality of life data. Many of the respondents seem to have a relatively high perceived quality of life. Approximately 80 percent of those individuals who chose to answer the quality of life questions stated that they are able to independently manage their household. Eighty-five percent (n=88) are able to independently participate in leisure activities at the senior centers, and 98 percent (n=102) are able to perform their activities of daily living without help. Regarding the question which asks how you feel

most days, many of the respondents (approximately 81%; n=83) chose the response that they feel well most of the time. When it comes to family support, there were a variety of responses. About 41 percent (n=41) said that they receive strong family support, while another 42 percent (n=42) stated that they receive little to no family support. The remaining 17 percent (n=16) seem to receive limited family support. The final quality of life question asks about the level of control a person has over his/her life. Many of the respondents (91%; n=94) stated that they have good control over their lives and that they are able to make their own decisions. Of the remaining nine percent, 1 percent (n=1) feel confused all the time and the other 8 percent (n=8) feel to only be in control at times.

Arthritis data. Approximately 70 percent (n=75) of the individuals surveyed for this research stated that they have arthritis. Of this 70 percent, about 41 percent (n=31) felt they have mild arthritis while another 44 percent (n=33) rate their arthritis as moderate. The remaining 15 percent (n=11) said they have severe arthritis. However, of all those individuals who have arthritis, only about 14 percent (n=15) use any adaptive equipment such as a cane, walker, or wheelchair to get around on a regular basis. Also, all but one individual surveyed actually stated that they are able to get around on a regular basis without help from another person. The one person who did state that (s)he needs help said that (s)he needs a "very little" amount of help.

Senior center data. Of the 109 individuals who responded to this survey, 34 attend the Chili Senior Center, 35 attend the Henrietta Senior Center, and the remaining 40 respondents participate in activities at the Sweden Senior Center. Over half of those surveyed (56.6%; n=60) stated that they attend their respective senior center two or three days per week. The primary method that all these individuals use to get to and from their

respect senior center is by driving their own automobile. In fact, 82 percent (n=88) of the respondents stated that they use this particular method of transportation. The remaining 18 percent (n=19) of respondents are either driven by a friend or relative, use public transportation, or walk.

The next question asked regarding senior center participation dealt with the respondents' reasons for coming to the senior center, followed by the activity in which they most enjoy participating. Many of the respondents to this survey chose to circle more than one answer for both these questions. The statistics that follow are from an analysis of all surveys including those that individuals circled more than one answer to the aforementioned questions.

Just over two-thirds (68.8%; n=75) of the seniors who were surveyed seem to prefer coming for the purpose of socializing with their friends (Appendix G, Table 1). Of all the possible choices for the question "what is your most important reason for coming to the senior center" this is the most popular choice. Regarding the question which asks, "what activity do you normally participate in when at the senior center," the most common response is "to eat meals" with just under two-thirds (62.4%; n=68) of the respondents choosing this answer (Appendix G, Table 2).

When these same two questions are analyzed for individuals who chose only one answer choice, the results change only slightly. Approximately 43 percent (n=47) of the respondents answered the question "what is your reason for attending the senior center?" by selecting only one answer choice. The most common response to that question is still to "socialize" with 18.3 percent (n=20). Regarding the question asking, "what activity do you participate in most often?," 40 percent (n=44) of the respondents answered the

question by selecting only one answer choice. The most common response is "to exercise" with 17.3 percent (n=19), followed by "to eat meals" with approximately 11 percent (n=12).

Demographic data. After analysis of the demographic information, the actual results were similar to those that were anticipated to occur from this research. Reported ages of participants range from 55 years of age to 88 years of age. The mean age of the respondents is 74.7 years. The ratio of female to male respondents is approximately 2.3:1.0. Regarding ethnicity, 98 percent (n=102) of the respondents selected "White," while one percent each chose "Hispanic" or "Other" as their race. The average highest level of completed education is high school diploma with 46.2 percent (n=48) of the respondents selecting this answer. Of the remaining 53.8 percent (n=56), approximately twenty percent (n=20) did not graduate high school and the other 34 percent (n=36) have an associates degree or higher level of education. Approximately 72 percent (n=55) of those who responded have an average income of less than $24,999; however, about 30 percent (n=33) of those surveyed chose to not disclose their average household income.

Regarding marital status, just fewer than 34 percent (n=34) of the seniors surveyed said that they are married, while approximately 51 percent (n=52) are widowed. Of the remaining 15 percent (n=15) of respondents, approximately eight percent (n=8) chose single and seven percent (n=7) selected divorced as their marital status. Even though only 34 percent of the respondents said that they are married, approximately 46 percent (n=48) answered that they share their household with at least one other person.

Statistical Analyses

In order to determine if there are any significant findings from the results of this survey, each hypothesis is analyzed using one of two statistical tests. The relationship between the variables in hypotheses one and three are determined using multiple regression tests. A multiple regression test is a technique that breaks down the separate effects of the independent variables on the dependent variable in order to determine if there is a significant relationship between any of the independent variables and the dependent variable (Healey, 1999). Hypothesis two is analyzed using the Pearson's r statistical test. Pearson's r is a measure of association that determines if there is any correlation or relationship between two variables (Healey, 1999). Here the hypotheses are restated:

1. H_0: There is no relationship between an older adult's reported level of participation in senior center programs and his/her quality of life.

   H_1: There is a relationship between an older adult's reported level of participation in senior center programs and his/her quality of life.

2. H_0: There is no relationship between an older adult's reported level of participation in senior center programs and his/her perceived degree of arthritis.

   H_1: There is a relationship between an older adult's reported level of participation in senior center programs and his/her perceived degree of arthritis.

3. H_0: Demographic variables such as age, gender, race, education, income, living arrangements, marital status, and method of transportation have no

relationship to the participants' reported level of participation in senior center programs.

H_1: Demographic variables such as age, gender, race, education, income, living arrangements, marital status, and method of transportation have a relationship to the participants' reported level of participation in senior center programs.

Regression analyses, using number of days at the senior center as the dependent variable, were performed for all three hypotheses. For hypothesis one, level of control over your life, ability to participate in leisure activities, how well you feel, how much support you get, ability to manage your own household, and ability to perform activities of daily living were entered as independent variables. All these independent variables are factors that are thought to determine the respondents' quality of life. From the model generated, the most significant relationship between quality of life variables and the dependent variable is seen with level of support received in relation to reported level of participation at the senior centers (Appendix G, Table 3).

For hypothesis two, a Pearson's r analysis is used to determine if there in fact is a relationship between the independent variable of arthritis and the dependent variable of reported level of participation at senior centers. This analysis shows that there is no relationship between these two variables (Appendix G, Table 4).

In order to analyze the third hypothesis, all of the demographic variables are entered in as independent variables, including household income, age at last birthday, highest completed education, gender, ethnicity, marital status, living arrangements, and method of transportation. All of these variables are then compared to the dependent

variable, reported level of participation, in order to run a multiple regression analysis. From the model generated, the most significant relationship is seen between gender and reported level of senior center participation (Appendix G, Table 5). Living arrangements and approximate income also are found to have significant relationships regarding participation at the senior centers.

Summary

This chapter included the findings of the analysis of data from the 109 surveys collected from the three senior centers. Each of the four subsections of the survey, quality of life, arthritis, senior center data, and demographics were discussed. It also discussed the regression analyses for hypotheses one and three as well as the Pearson's r analysis performed for hypothesis two.

Chapter Five will present an interpretation of the data analysis and the implications of these findings. It will also present the application of these findings to practice and suggestions for future research.

Chapter Five: Discussion and Conclusion

Introduction

This chapter begins by restating the purpose of this study. A discussion of the findings from the frequency and statistical analyses will follow. Then, limitations that were faced while this researcher collected data will be discussed. Finally, this chapter will conclude with recommendations for future research and a summary of the entire research study.

Purpose of the Study

The purpose of this research project was to examine the leisure constraints on older adults' level of participation at senior centers. In particular this study assessed older adults' perceived quality of life and also their perceived degree of arthritis and how these factors impacted their reported levels of participation. Other constraints that were examined include age, gender, race, living arrangements, marital status, degree of education, household income, and method of transportation.

Discussion of Findings

Quality of life. Approximately 80 percent (n=83) of those surveyed for the current study stated that they feel well most of the time, while only one percent stated that they feel ill or lousy most of the time. Again, these findings are in accordance with Hanssen, Meima, Buckspan, Henderson, Helbig & Zarit (1978) who found that individuals in good health tend to participate in senior center activities more often. However, that same study also found that individuals with strong social supports tend to participate in senior activities more often, which does not agree with the findings of this current study. Only about 41 percent (n=41) of the individuals who completed the survey for this study stated

that they receive strong social support, while the remaining 59 percent (n=58) received only limited or no support from family and friends.

Arthritis. From the results of the statistical analyses performed in this study, it appears as if there is only a weak correlation between degree of arthritis and level of participation at the senior centers. This is likely due to the fact that the number of individuals who are able to attend the senior centers perceive themselves to have a lesser severity of arthritis if they in fact do have arthritis. In fact, of the 70 percent (n=75) of individuals that perceive they have arthritis, only about 15 percent (n=11) of them felt that they had a more severe degree of arthritis.

Senior center data. All of the senior centers used in this study made use of a combination of the voluntary attendance and social agency model as discussed in Ferraro & Cobb (1987). They provided an opportunity for seniors to come to the centers each day for social interaction, meals, and fitness activities. Also included in their daily programming were informational sessions for their clients. The services offered ranged from guest speakers to individuals who just handed out information to the seniors while they enjoyed the regularly scheduled activities. This combination of models seemed to work well for all three of the centers.

The descriptive analyses of the senior center data produced results similar to those of study performed by Bevil, O'Connor & Mattoon (1993) who found that community-dwelling older adults enjoy visiting with family and friends, reminiscing, exercising, and playing cards. Many of the individuals surveyed in this current study stated that they enjoy socializing, exercising, and playing cards or other games. A large number of

individuals also prefer to attend the centers for the low-cost nutritious meals that are offered anywhere from three to five times per week depending on the center.

Also, the participants surveyed for this study did not see transportation to and from the senior centers as a barrier. This is likely due to the fact that the majority of these individuals were still able to drive their own vehicles. The remainder of them had a friend or relative drive them to the centers or they used the bus that the senior center provides for those in need of transportation. These findings are in agreement with those from Hanssen et al (1978).

Few minority individuals participated in the activities offered at the senior centers the days that this researcher visited to distribute the surveys. The most likely explanation of this finding could be that few minority individuals reside in the area that surveys were distributed. Another possible reason could be that the minority individuals that do reside in these areas of Monroe County New York are unaware of the senior centers and the services that they offer. One final potential explanation of the low attendance rates for minority individuals is that these individuals have very strong family and friend networks that they are not in need of senior center services and activities. All of these potential explanations can be related to findings in a study performed by Ralston (1984).

Demographic variables. Although this study only surveyed individuals who are able to attend the senior centers, a correlation was found to exist between demographic variables and level of participation at the senior centers, which is in accordance with the study performed by Krout (1983). The current study found that women (70.5% or n=74 of those who responded to this survey) and those individuals with less income (72.4% or n=55 of those who responded to the survey earn less than $25,000 per year) are more

likely to attend the senior centers when compared to individuals who are male and have a higher income. However, findings relating to level of education do not agree with those of Krout, who found that individuals with fewer years of education tend to attend the senior centers more often. The current study found just the opposite from the analysis of the results of this survey. Almost three-quarters (74.5%; n=84) of the individuals surveyed, stated that they had a high school diploma or some type of college degree, either an associate's, bachelor's, or professional/graduate degree.

Discussion of Limitations

Although 109 out of 120 surveys were collected for analysis, the majority of the individuals surveyed were of the same race, white. However, there was a potential for more participants in this study to be of another ethnicity. At each of the senior centers where surveys were distributed, there were individuals of another race who refused to either complete this survey or to answer the question asking for their ethnicity. One possible explanation for this includes the fact that this question may be viewed as offensive. Another potential explanation is that there could be a language barrier for individuals of another race especially if they have not lived here long.

Another limitation of this study is that a large number of participants did not complete all the questions asked on the survey. Again, just like with the racial limitations, it is possible that some of the participants found certain questions to be offensive. It is also possible that some of the participants did not understand one or more of the questions and, because of issues with pride or dignity, they did not feel comfortable asking questions about something they did not understand.

This researcher also noticed that some individuals, who were willing to complete the survey, left an entire page blank. Possibly, the pages of the survey were sticking together and the individuals completing them did not have the dexterity to separate the two pages that may have been stuck together. In the future, it would be beneficial to mention to the participants of the study that they should be aware of the fact that this survey is five pages in length. Another possible to solution to having pages sticking together would be to make each page of the survey a slightly different size so that it would be easier to turn the pages.

One final problem that developed when distributing this survey for research purposes relates to questions three and four of the survey, which state "what is your most important reason for attending the senior center?" and "what activity do you normally participate in most when you attend the center?" respectively. For each of these questions the participants were expected to circle only one of the answer choices; however, many individuals circled multiple answers. In turn, these multiple answers resulted in an altered data-analysis plan. It is possible that these seniors feel that they come to the senior centers for several equally important reasons and also enjoy participating in several activities to a similar degree each week that they attend.

To summarize, a total of 109 surveys were collected for analysis out of a possible 120 surveys. Although not all of these surveys were completed in entirety, they were complete enough for analysis purposes. Many subjects chose to leave questions blank, which could have happened for numerous reasons. The most likely reasons are that they either felt the question was not applicable to them or that they did not fully understand

the question and may have felt embarrassed to ask for further explanation from this writer.

Recommendations for Future Research

This current study was done in the hope of shedding some light on the status of senior center participation in the twenty-first century. In the future, it would be beneficial for more research to be done on all aspects regarding senior centers. Some of the most thorough studies performed regarding participation at senior centers were done approximately 20 years ago. Also, little research has been done in the past five years relating to barriers that may hinder participation at the centers such as arthritis, household income, gender, highest level of completed education, method of transportation to and from the senior centers, and other demographic variables.

The adults who are able to attend the senior centers used in this study seem to be those individuals who are still able to independently drive their own vehicles as a primary form of transportation. It is unknown how many individuals would like to attend the center but are unable because they do not have a form of transportation to get them to and from the center each week. It would be beneficial in the future for research to be done in the area of transportation to determine a more accurate account of the number of individuals who are homebound. One way for future researchers to handle this type of research would be to distribute surveys to individuals who are not able or who choose not to attend the senior centers. If a researcher could acquire enough staff to assist with the study, either phone surveys or door-to-door surveys could be distributed. If enough staff were not available to assist the researcher, another method that could be used to survey these individuals would be to mail a survey out to each person's home in a particular

community. The difficulty with this method, however, is that many people will likely choose not to return the surveys and the cost of doing a second mailing could be quite pricey if there are also limited funds available for research purposes.

Conclusion

Overall, this study has looked at senior center participation levels and the factors that act as constraints on participation. Many older adults attend senior centers on a fairly regular basis, with a particular focus on eating meals and socializing with friends. These individuals are quite often able to provide their own transportation to and from the center. Other individuals either have a friend or relative provide transportation or make use of their senior center's van. Also, the individuals who are able to attend the senior centers are relatively high in functional ability. Even though over half the participants of this study perceive themselves as having arthritis, only a small percentage of those individuals stated that they need help with personal and household activities on a regular basis. In summary, most individuals who attend senior center perceive themselves as being independent in most if not all aspects of life.

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Appendix A

Letters of Permission

1. Chili Senior Center
2. Don W. Cook (Henrietta) Senior Center
3. Sweden Senior Center

TOWN OF CHILI

3333 Chili Avenue Rochester, New York 14624-5356
(585) 889-3550 FAX: (585) 889-8710 Email: Info@townofchili.org
www.townofchili.org

Stephen W. Hendershott
Supervisor

Richard J. Brongo
Town Clerk

Carol O'Connor
James J. Powers
Michael S. Slattery
Mary C. Sperr
Council Members

Fax to: [redacted]

January 18, 2002

Ms. Carrie Toon
[redacted]

Dear Ms. Toon:

Per our conversation today, I am interested in having you distribute your survey to senior citizens at the Chili Senior Center. I understand that the short survey (15-20 questions) will ask arthritis sufferers how their arthritis affects their lives.

Please contact me at [redacted] to discuss a date for your visit.

Sincerely,

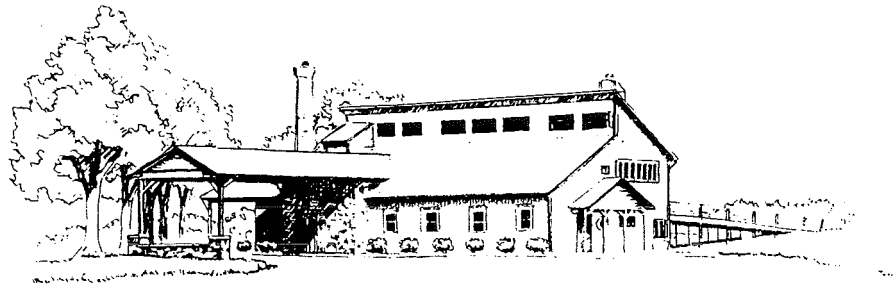
Tricia Schirmer
Senior Center Director

Don W. Cook Senior Center
Town of Henrietta
515 Calkins Road, Henrietta, NY 14467
Phone: (716) 334-4030
Fax: (716) 359-7002

January 16, 2002

Today I spoke with Carrie Toon about surveying the seniors of Henrietta regarding arthritis for academic purposes. I have agreed to participate with this as long as all of the information is confidental.

Shelly Gorino
coordinator



Sweden Senior Center

133 State Street
Brockport, N.Y. 14420

637-8161
637-8162

1-25-02

Dear Carrie,

The Sweden Senior Center received your request desiring to offer a survey to the participants at out facility.

From our understanding, the questionnaire would contain inquires of what their level of participation were, types of program interest, quality of life, etc.

Carrie, you do have our consent to come and present the survey to our senior population. Please call to set up a time to meet and tour our facility. Also, leave a copy of the survey for our office records, and set a date to conduct the survey.

We have many students from various schools come to our agency with "intergenerational learning" projects. We hope this endeavor proves beneficial to you. Call if you have questions [redacted].

Sincerely,

Nancy

Nancy Duff
Director

Appendix B

Approval from the State University of New York, College at Brockport Human Subjects Institutional Review Board

SUNY BROCKPORT
Grants Development Director

Date: April 3, 2002

To: Carrie Toon

From: Colleen Donaldson for
Institutional Review Board

Re: **Project IRB #2001-235**

Your proposal "Leisure constraints on senior center participants" has been approved. If you wish to continue this project beyond one year, federal guidelines require that the information below (items 1-6) will need to be provided to the IRB before the project can be approved for a second year. Please note also that if the project initially required a full meeting of the IRB (Category III proposal) for the first review, then continuation of the project after one year will again require full IRB review.

Information required by the IRB for continuation of the project past the first year includes the following:

1. number of subjects involved in year one a description of any; adverse events or unanticipated problems involving risks to subjects or other, withdrawal of subjects from the research or complaints about the research during the previous year
2. a summary of any recent literature, findings, or new information about any risks associated with the research
3. a copy of the current informed consent document
4. a general summary of research findings from year one
5. reason why project needs to be continued into a second year or more.

Please contact Colleen Donaldson, Office of Academic Affairs, immediately if:

- the project changes substantially,
- a subject is injured,
- the level of risk increases.

A final report of less than one page that focuses on human subjects participation in the process is due on or before April 3, 2003.

CD:mlm

State University of New York • College at Brockport • 350 New Campus Drive • Brockport, New York 14420-2919
(716) 395-2523 • FAX (716) 395-2006 • www.brockport.edu

SUNY BROCKPORT INSTITUTIONAL REVIEW BOARD
Human Subjects Research Review Form

Directions: Please type or neatly print. #

TO: Colleen Donaldson, IRB Administrator, Academic Affairs, 6th Floor Allen, SUNY Brockport, 350 New Campus Drive, Brockport, N.Y. 14420-2919 (716) 395-5118.

FROM: Investigator(s) name(s) Carrie L Toon

Department Recreation and Leisure [redacted]

(where you can be reached during the day – so we can call with questions)

Project Title: Leisure Constraints on Senior Center Participation

1. **College Status** (for each investigator):
   Faculty/Staff Dr Edward Odd
   Undergraduate Student _____
   Graduate Student Carrie L. Toon

2. **If the principal investigator is a student, list name, department, and local telephone number of faculty supervisor. Please note that the Faculty/Staff Supervisor must indicate knowledge and approval of this proposal by signing this form.**
   Faculty /Staff Supervisor's name: Dr. Edward Odd
   Department and phone number: Dept of Recreation and Leisure [redacted]

3. **Check appropriate category of research project (complete after reviewing guidelines):**
   Category 1 (Exempt Review) ____; Category II (Expedited Review) X
   Category III (Full Review) _____

4. **The Principal Investigator must sign this form.** (If the P.I. is a student, their faculty/staff supervisor must also sign this form).
   I certify that: a) the information provided for this project is accurate; b) no other procedures will be used in this project; c) any modifications in this project will be submitted for approval prior to use.

Carrie L. Toon — 3/13/02
1. Signature of Investigator **Date**

I certify that this project is under my direct supervision and that I am responsible for insuring that all provisions of approval are complied with by the investigator.

Edward Odd — 3/13/02
2. Signature of Faculty/Staff Supervisor **Date**

Edward Odd — 3/13/02
3. Signature of Department Head or Designee **Date**

Carrie L. Toon [redacted]

Responses to Questions 1-11 as required for Category II Review by IRB

1. Project description: This project will consist of distributing a 23-question survey to clients at three local Monroe county senior centers. By distributing this survey, the primary researcher will be able to collect information regarding arthritis, quality of life, and perceived level of participation in activities at the senior centers. The information collected will then be used to try and determine whether or not perceived quality of life and perceived severity of arthritis are constraints on the subjects' reported level of senior center participation.
2. Number and relevant characteristics of subjects: Approximately 60-80 individuals will be selected to participate in this study. All must be clients of at least one of the three selected senior centers. They must also be 60 years of age or older.
3. Subject selection: Subjects will be chosen from clients that are attending the senior center on the day the primary researcher comes to distribute the consent forms and surveys. Subjects will receive no benefits from participating in this study.
4. Research assistants: If necessary, research assistants will consist of staff members of the senior centers. The primary researcher will provide all staff members involved in the distribution of the surveys with any necessary information and training needed to do so.
5. Source of funding: No outside funding is needed for this project. Either the primary researcher or the faculty advisor will provide all necessary supplies.

6. Expected start and completion dates: The anticipated start date for this research is March 18, 2002. The tentative completion date is May 15, 2002, although the study is likely to terminate prior to this date.
7. See attached questionnaire.
8. Steps taken to guard anonymity of subjects and/or confidentiality of their responses: In order to protect the identity of the subjects in this study, the primary researcher will not place any identifying information from the consent form onto the survey/questionnaire. All information will be kept in a locked drawer in the primary researcher's home until completion of this project. Upon completion of this master's thesis project, all surveys and consent forms will be destroyed.
9. How subjects will be informed of elements of consent: All basic elements of informed consent will be provided to potential subjects from the informed consent form. Also, the primary researcher will answer any questions that potential/actual study participants may have.
10. See attached letters of permission from the Chili Senior Center, the Don W. Cook Senior Center (Henrietta), and the Sweden Senior Center.
11. Not applicable

To: Carrie L. Toon

Your thesis proposal entitled "Constraints on Senior Center Participation" has been accepted by your advisor and readers. Please contact your advisor for further guidance.

Advisor — Date 3/13/02

Committee Member — Date 3/13/02

Committee Member — Date 3/7/02

xc: Departmental Graduate File, Advisor's File

State University of New York

College at Brockport

Certificate of Completion

awarded to:

Carrie Toon

by the
Office of Academic Affairs
At SUNY College at Brockport
For Completion of the computer-based training course offered by CITI on the Protection of Human Research Subjects

Colleen Donaldson
IRB Administrator

December 2001
Date

State University of New York
College at Brockport

Certificate of Completion

awarded to:

Edward Udd

by the
Office of Academic Affairs
At SUNY College at Brockport
For Completion of the computer-based training course offered by CITI on the Protection of Human Research Subjects

Colleen Donaldson
IRB Administrator

February 2002
Date

Appendix C

Senior Center Participation Survey

Senior Center Participation Survey

As a graduate student at SUNY Brockport, I am given the option to write a Master's thesis. This survey has been developed in order to help complete this thesis and also to fulfill part of a requirement for completing my Master's degree.

The purpose of this research study is to examine the possible constraints on senior center participation in adults aged 60 years and older. Your participation in this study is entirely voluntary. You will not be penalized in any way for refusing to participate or for not completing a questionnaire. If you do agree to participate, please answer all questions.

Do not write your name on this questionnaire. Whether you complete the questionnaire by yourself or with the help of the primary researcher, your answers will be kept completely confidential. Please answer all questions as honestly as possible.

Please circle your answer to each question unless instructed otherwise. This questionnaire should take approximately 15-20 minutes to complete.

ONCE AGAIN, DO NOT PUT YOUR NAME ANYWHERE ON THE QUESTIONNAIRE.

Thank you for choosing to participate in this research study. Your time and help is greatly appreciated.

The survey begins here.

Section 1: Senior Center:

1. What form of transportation do you most often use to get to and from the senior center?
   a. Drive your own car
   b. Driven by a relative or friend
   c. Public transportation

2. How many days, on average, do you go to the senior center each week?

   a. 1 day b. 2 days c. 3 days d. 4 days e. 5 days f. 6 days

3. What is your most important reason for coming to the Senior Center?

   a. To socialize with friends
   b. To meet new people
   c. To eat meals
   d. To have fun
   e. To learn something new
   f. Other:_____

4. What activity do you normally participate in most when you attend the center?

   a. Meals
   b. Bingo and other games
   c. Exercise groups
   d. Crafts
   e. Scheduled bus trips
   f. Other:_____

Section 2: Arthritis:

5. Do you have arthritis?

   Yes_____ No_____

6. If you answered yes to number 5, how would you rate the severity of your arthritis?

   a. Mild
   b. Moderate
   c. Severe

7. Do you use any equipment on a daily basis to help with getting around?

   Yes_____ No_____

8. If you answered yes to number 7, which of these pieces of equipment do you use?
    a. Cane
    b. Walker
    c. Wheelchair
    d. Other:_____

9. Are you able to get around by yourself on most days?
    Yes_____ No_____

10. If you answered no to number 9, how much help do you require?
    a. Very little
    b. Little
    c. A lot

Section 3: Quality of Life:

11. To what extent are you able to manage your own household?
    a. I am not able to manage my own household.
    b. I am able to manage my own household, but I need help to do so.
    c. I am able to manage my own household.

12. To what extent are you able to take part in leisure activities?
    a. I am not able to take part in leisure activities.
    b. I am able to take part in leisure activities, but I need help to do so.
    c. I am able to participate in leisure activities.

13. To what extent are you able to perform daily activities such as eating washing and dressing?
    a. I am not able to perform daily activities at all.
    b. I am able to perform daily activities, but I need help to do so.
    c. I am able to perform daily activities without help.

14. What is your state of health?
    a. I feel very ill or "lousy" most of the time.
    b. I lack energy or only feel "up to par" some of the time.
    c. I feel well most of the time.

15. What level of support do you receive from relatives and friends?
    a. I receive strong support from relatives and friends.
    b. I receive limited support from relatives and friends.
    c. I receive no support from relatives and friends or support only when it is needed.

16. How much control do you feel you have over your life?
    a. I feel confused about life in general.
    b. There are times when I do not feel fully in control of my personal life.
    c. I am able to make my own choices about my life.

Section 4: Background Information:

17. How old were you on your last birthday? _____years

18. Gender (Please Circle):
    Male Female

19. Race (Please Circle):
    White Black Hispanic Asian American Indian
    Pacific Islander Other

20. Do you...
    a. Live alone.
    b. Live with someone else.

21. Are you...
    a. Single
    b. Married
    c. Widowed
    d. Divorced

22. What is the highest level of education that you have completed?
    a. Less than 9^{th} grade
    b. 9^{th} to 12^{th} grade, no diploma
    c. High school graduate
    d. Associate degree
    e. Bachelor's degree
    f. Graduate or professional degree

23. What was your household income in 2001?
    a. Less than $10,000
    b. $10,000 to $14,999
    c. $15,000 to $24,999
    d. $25,000 to $34,999
    e. $35,000 to $49,999
    f. $50,000 to $74,999
    g. $75,000 to $99,999
    h. $100,000 or greater

You have completed the questionnaire. Thank you for your participation in this study

Appendix D

Statement of Informed Consent

Statement of Informed Consent

The purpose of this research project is to examine some of the ways arthritis affects adults, age 60 and older. Two areas will be studied: quality of life and level of participation in senior center activities. This research project is being conducted in order for me to complete my master's thesis for the Department of Recreation and Leisure at the State University of New York, College at Brockport.

In order to participate in this study, your informed consent is required. You are being asked to make a decision whether or not to participate in this project. If you do want to participate in the project, and agree with the statements below, please sign your name in the space provided at the end of this form. At any point, before or during this study, you may change your mind and leave the study without penalty.

I understand that:

1. My participation is voluntary and I have the right to refuse to answer any questions.
2. My confidentiality is guaranteed. My name will not be written on the survey. There will be no way to connect me to my written survey. If any publication results from this research, I would not be identified by name.
3. There will be no personal risks or benefits from my participation in this study.
4. My participation involves reading a written survey of approximately 20 questions and answering those questions in writing. It is estimated that it will take 10-20 minutes to complete the survey.
5. Approximately 100 people will take part in this study. The results will be used for the completion of a master's thesis by the primary researcher.

6. When the thesis has been accepted and approved, all consent forms will be destroyed.

I am 18 years of age or older. I have read (or have had read to me) and understand the above statements. All my questions about my participation in this study have been answered to my satisfaction. I agree to participate in the study realizing that I may withdraw without penalty at any time during the survey process. If you have any questions you may contact:

Primary researcher

Carrie L. Toon

[redacted]

Faculty Advisor

Edward Udd, Ph.D.

Department of Recreation and Leisure

[redacted]

Please print your name: _____

Signature: _____ Date _____

Appendix E

Codebook for Senior Center Survey Data

CODEBOOK FOR SENIOR CENTER DATA

Variable Name	Value Label	Value
ID		###
senior	Chili	1
	Henrietta	2
	Sweden	3
transpor	own car	1
	relative/friend	2
	public transportation	3
	other	4
	missing value	9
nodays	1 day	1
	2 days	2
	3 days	3
	4 days	4
	5 days	5
	6 days	6
	other	7
	missing value	9
reason	socialize	1
	meet new people	2
	eat	3
	fun	4
	learn	5
	other	6
	missing value	9
activity	meals	1
	bingo/games	2
	exercise	3
	crafts	4
	bus trips	5
	other	6
	missing value	9
arthriti	yes	1
	no	2
	missing value	9

severity	mild	1
	moderate	2
	severe	3
	skip to next question	8
	missing value	9
equipmen	yes	1
	no	2
	missing value	9
pieces	cane	1
	walker	2
	wheelchair	3
	other	4
	more than one item	5
	skip to next question	8
	missing value	9
getaroun	yes	1
	no	2
	missing value	9
amthelp	very little	1
	little	2
	a lot	3
	skip to next question	8
	missing value	9
househol	not able to manage	1
	able with help	2
	able	3
	missing value	9
leisure	not able	1
	able with help	2
	able	3
	missing value	9
adls	not able	1
	able with help	2
	able	3
	missing value	9
health	ill/lousy	1
	lack energy	2
	well	3

	missing value	9
support	strong	1
	limited	2
	no support	3
	missing value	9
control	confused	1
	not fully in control at times	2
	make own choices	3
	missing value	9
age	years	##
	missing value	99
gender	male	1
	female	2
	missing value	9
race	white	1
	black	2
	hispanic	3
	asian	4
	american indian	5
	pacific islander	6
	other	7
	missing value	9
living	alone	1
	with someone	2
	missing value	9
marital	single	1
	married	2
	widowed	3
	divorced	4
	missing value	9
educatio	less than 9^{th} grade	1
	9^{th}-12^{th} grade, no diploma	2
	diploma	3
	associates	4
	bachelors	5
	graduate/professional	6
	missing value	9

income	less than 10000	1
	10000-14999	2
	15000-24999	3
	25000-34999	4
	35000-49999	5
	50000-74999	6
	75000-99999	7
	100000 and up	8
	missing value	9
social	yes	1
	no	2
	missing value	9
newpeopl	yes	1
	no	2
	missing value	9
eatmeals	yes	1
	no	2
	missing value	9
fun	yes	1
	no	2
	missing value	9
learn	yes	1
	no	2
	missing value	9
other	yes	1
	no	2
	missing value	9
meals	yes	1
	no	2
	missing value	9
bingo	yes	1
	no	2
	missing value	9
exercise	yes	1
	no	2
	missing value	9

crafts	yes	1
	no	2
	missing value	9
bustrips	yes	1
	no	2
	missing value	9
otheract	yes	1
	no	2
	missing value	9

Appendix F

Frequency Analysis of Survey Questions

1. What form of transportation do you most often use to get to and from the senior center?

	Frequency
Drive your own car	88
Driven by a relative or friend	11
Public transportation	7
Other	1
Total Valid Cases	107
Missing Cases	2

2. How many days, on average, do you go to the senior center each week?

	Frequency
1 day	19
2 days	25
3 days	35
4 days	12
5 days	14
6 days	0
Other	1
Total Valid Cases	106
Missing Cases	3

3. What is your most important reason for coming to the Senior Center?

	Frequency
To socialize with friends	20
To meet new people	4
To eat meals	6
To have fun	4
To learn something new	1
Other	12
Total Valid Cases	47
Missing Cases	62

4. What activity do you normally participate in most when you attend the center?

	Frequency
Meals	12
Bingo and other games	4
Exercise groups	19
Crafts	0
Scheduled bus trips	2
Other	7
Total Valid Cases	44
Missing Cases	65

5. Do you have arthritis?

	Frequency

Yes	75
No	33
Total Valid Cases	108
Missing Cases	1

6. If you answered yes to number 5, how would you rate the severity of your arthritis?

	Frequency
Mild	31
Moderate	33
Severe	11
Total Valid Cases	75
Skip to next question	33
Missing Cases	1

7. Do you use any equipment on a daily basis to help with getting around?

	Frequency
Yes	15
No	91
Total Valid Cases	106
Missing Cases	3

8. If you answered yes to number 7, which of these pieces of equipment do you use?

	Frequency

Cane	13
Walker	0
Wheelchair	0
Other	0
More than one type of equipment	1
Total Valid Cases	14
Skip to next question	91
Missing Cases	4

9. Are you able to get around by yourself on most days?

	Frequency
Yes	103
No	1
Total Valid Cases	104
Missing Cases	5

10. If you answered no to number 9, how much help do you require?

	Frequency
Very little	1
Little	0
A lot	0
Total Valid Cases	1
Skip to next question	103

Missing Cases	5

11. To what extent are you able to manage your own household?

	Frequency
Not able to manage my own household	7
Able to manage my own household with help	14
Able to manage my own household	81
Total Valid Cases	102
Missing Cases	7

12. To what extent are you able to take part in leisure activities?

	Frequency
Not able to take part in leisure activities	7
Able to take part in leisure activities with help	8
Able to participate in leisure activities	88
Total Valid Cases	103
Missing Cases	6

13. To what extent are you able to perform daily activities such as eating washing and dressing?

	Frequency
Not able to perform daily activities at all	2
Able to perform daily activities with help	0

Able to perform daily activities without help	102
Total Valid Cases	104
Missing Cases	5

14. What is your state of health?

	Frequency
Feel very ill or "lousy" most of the time	1
Lack energy or feel "up to par" some of the time	19
Feel well most of the time	83
Total Valid Cases	103
Missing Cases	6

15. What level of support do you receive from relatives and friends?

	Frequency
Receive strong support from relatives and friends	41
Receive limited support from relatives and friends	16
Receive no support from relatives and friends or support only when it is needed	42
Total Valid Cases	99
Missing Cases	10

16. How much control do you feel you have over your life?

Frequency

I feel confused about life in general	1
There are times when I do not feel fully in control of my personal life	8
I am able to make my own choices about my life	94
Total Valid Cases	103
Missing Cases	6

17. How old were you on your last birthday?

	Frequency
55-59	3
60-64	7
65-69	13
70-74	24
75-79	22
80-84	25
85-89	9
Total Valid Cases	103
Missing Cases	6

18. Gender

	Frequency
Male	31
Female	74
Total Valid Cases	105
Missing Cases	4

19. Race

	Frequency
White	102

Black	0
Hispanic	1
Asian	0
American Indian	0
Pacific Islander	0
Other	1
Total Valid Cases	104
Missing Cases	5

20. Living arrangements

	Frequency
Live alone	57
Live with someone else	48
Total Valid Cases	105
Missing Cases	4

21. Marital status

	Frequency
Single	8
Married	34
Widowed	52
Divorced	7
Total Valid Cases	101
Missing Cases	8

22. What is the highest level of education that you have completed?

	Frequency
Less than 9^{th} grade	6
9^{th} to 12^{th} grade, no diploma	14
High school graduate	48
Associate degree	12

Bachelor's degree	12
Graduate or professional degree	12
Total Valid Cases	104
Missing Cases	5

23. What was your household income in 2001?

	Frequency
Less than $10,000	6
$10,000 to $14,999	21
$15,000 to $24,999	28
$25,000 to $34,999	7
$35,000 to $49,999	6
$50,000 to $74,999	7
$75,000 to $99,999	0
$100,000 or greater	1
Total Valid Cases	76
Missing Cases	33

Appendix G

Tables of Data Analysis

Table 1

Frequency Analysis of Reason for Coming to the Senior Center

Variable	Yes	Percent	No	Percent
Socialize with Friends	75	68.8	31	28.4
Meet New People	28	25.7	78	71.6
Eat Meals	52	47.7	54	49.5
Have Fun	36	33	70	64.2
Learn Something New	28	25.7	78	71.6
Other Reason	27	24.8	79	72.5

Total Valid Cases = 106
Missing Cases = 3

Table 2

Frequency Analysis of Activity Most Often Participated in while at the Senior Center

Variable	Yes	Percent	No	Percent
Meals	68	62.4	39	35.8
Bingo and Other Games	44	40.4	63	57.8
Exercise Groups	46	42.2	61	56
Crafts	13	11.9	94	86.2
Scheduled Bus Trips	44	40.4	63	57.8
Other Activity	12	11	95	87.2

Total Valid Cases = 107
Missing Cases = 2

Table 3

Statistical Regressions for Hypothesis 1

Dependent Variable	Independent Variable	R	R Square	Beta	t	Sig
No. of Days at Senior Center	Level of Control Over Your Life			-0.027	-0.237	0.813
	Ability to Participate in Leisure Activities			0.106	0.888	0.377
	How Do You Feel			0.141	1.307	0.195
	Level of Support Received			0.29	2.74	0.008
	Ability to Manage Household			0.066	0.573	0.568
	Ability to Perform ADL's	0.394	0.155	-0.022	-0.179	0.858

Table 4

Statistical Analysis for Hypothesis 2

Dependent Variable	Independent Variable	R	R Square	t	Sig
No of Days at Senior Center	Do You Have Arthritis	0.121	0.015	1.248	0.215

Table 5

Statistical Regression for Hypothesis 3

Dependent Variable	Independent Variable	R	R Square	Beta	t	Sig
No. of Days at Senior Center	Method of Transportation			0.063	0.485	0.629
	Age at Last Birthday			-0.058	-0.485	0.629
	Gender			-0.345	-2.786	0.007
	Ethnicity			0.02	0.163	0.871
	Living Arrangements			-0.249	-1.929	0.059
	Marital Status			-0.021	-0.159	0.875
	Highest Completed Education			0.194	1.61	0.113
	Approximate Income	0.489	0.239	-0.281	-2.034	0.046