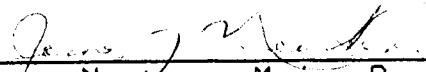
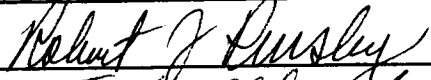
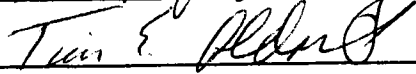


To the Graduate Council:

I am submitting herewith a dissertation written by James Frederick Blair entitled "An Instrument To Ascertain The Sociological Characteristics Of Mall Walking Clubs And Social Health Of Their Older Adult Members." I have examined the final copy of this dissertation for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Doctor of Education, with a major in Health Education.


James Neutens, Major Professor

We have read this dissertation
and recommend its acceptance:

Accepted for the Council:


Vice Provost and
Dean of the Graduate School

AN INSTRUMENT TO ASCERTAIN THE SOCIOLOGICAL
CHARACTERISTICS OF MALL WALKING CLUBS
AND SOCIAL HEALTH OF THEIR
OLDER ADULT MEMBERS

A Dissertation
Presented for the
Doctor of Education
Degree
The University of Tennessee, Knoxville

James Frederick Blair
December 1988

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DEDICATION

This dissertation is dedicated to my dear wife, Kathy, whose typing assistance and encouragement has made this project possible.

ACKNOWLEDGEMENTS

I take this opportunity to express my appreciation to those people who have contributed to this study. I am especially grateful to Dr. James Neutens, the chairman of my committee, for his insightful leadership and patience with me; Dr. Bill Wallace for his meaningful direction at my proposal meeting and helpful attitude; Dr. Jack Pursley for sharing his immense knowledge and for providing encouragement at timely moments; and Dr. Tim Aldrich for striving to direct me toward excellence.

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ABSTRACT

The purpose of this study was to develop an instrument capable of ascertaining the sociological characteristics of mall walking clubs and social health of members of mall walking clubs in Hamilton County, Tennessee. A face validity evaluation was determined by a jury of judges on the preliminary instrument which resulted in the first draft of the instrument. The first draft of the instrument was pilot tested resulting in a revised draft which was administered to the study population consisting of one hundred randomly selected members of two mall walking clubs in Hamilton County, Tennessee.

The data was gathered by the researcher through telephone interviews and was subject to computer assisted point biserial item analysis and Chronbach alpha. Statistical analyses rendered a two part instrument, A and B. Part A of the instrument is capable of collecting information concerning the homogeneity, network size, density, and geographic dispersion of mall walking clubs in Hamilton County. Part B of the instrument consists of four Likert subscales, strength of ties, reciprocity, multiplexity, and social health, capable of determining socioemotional aid among mall walking club members and the

social health of mall walking club members. The alpha coefficients of the four subscales ranged from .51 to .88. Part B of the instrument is also capable of determining the relationship between strength of ties, reciprocity, multiplexity and social health. Significant correlations were found between the subscales of strength of ties, reciprocity, multiplexity and social health.

Additional administrations need to be given to other samples of mall walking clubs to further test the reliability of the instrument of this study.

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CHAPTER I

INTRODUCTION

The population of the United States is becoming an older population. In 1900 the percentage of persons 65 years of age and older in the United States was approximately 4%. The percentage increased to 11.3% in 1980 (U.S. Senate, Special Committee on Aging, 1983) and in 1985 the percentage increased to 12% (U.S. Bureau of Census, 1987). The projected population percentage, in the United States, for persons 65 years of age and older by the year 2030 is 21.1% (U.S. Senate, Special Committee on Aging, 1983).

The expansion of older adults in the United States should alert health educators and related professionals to the need to give increased attention to older adults through the development of programs and continued research concerning the health aspects of gerontology. The health education focus should be on providing the older adult with a meaningful place in society. Understanding older adults and their complex needs is essential to health educators if they are to accomplish this task.

The average life expectancy at birth for individuals in industrialized countries around the world is approximately

73 years of age (Paxton, 1987). Increased knowledge about infectious diseases and how to combat them, improvements in sanitation, the development of healthy lifestyles, and improvements in medicine have helped to bring about an increase in longevity (Green and Anderson, 1986).

The increased United States life expectancy since the turn of the century, has been accompanied by different major disease problems associated with mortality. Having nearly eradicated infectious diseases through technology and sanitation measures, the people of the United States have developed a different set of problems. As in other industrialized countries, an increase in cardiovascular, as well as other diseases of lifestyle, has been the consequence. Inactivity, stress, improper dietary habits, smoking and excessive drinking of alcoholic beverages are some of the risk factors that have enabled cardiovascular disease to be the number one cause of death in the United States (Green, et al., 1986; Allsen, Harrison and Vance, 1984).

Older adults can be helped to combat the controllable factors leading to cardiovascular disease. Health educators can assist older adults by altering their environmental setting, presenting to them ideas on stress reduction and by intervening with exercise and weight management programs.

Because the older adult, like all individuals, is a multi-dimensional being, governmental officials, health

educators and related professionals need to give attention to program implementation and funding to health dimensions other than the biological/physiological. Older adults have physiological, psychological, emotional, sociological, and spiritual needs that continually need to be met. Ideally, older adults need to take part in beneficial activities that enhance the integration of the aforementioned dimensions (Phillips and Gaylord, 1985).

An attitude concerning successful aging should be developed by each older adult. Havinghurst (1961) defined successful aging when he stated the following:

A theory of successful aging is a statement of the conditions of individual and social life under which the individual person gets a maximum of satisfaction and happiness, and society maintains an appropriate balance among satisfactions for the various groups which make it up; old, middle-aged, and young, men and women

The intent of this study was to develop an instrument to ascertain characteristics related to one aspect of the multi-dimensional nature of older adults, the sociological.

Statement Of The Problem

The problem of this investigation was to develop an instrument to ascertain the sociological characteristics of mall walking clubs and social health of members of mall walking clubs in Hamilton County, Tennessee.

Research Questions

The study addressed the following questions:

- 1) What were the demographic characteristics of members of mall walking clubs in Hamilton County, Tennessee?
- 2) What was the relationship between each sociological characteristic, as measured by each subscale, and social health?
- 3) Was the instrument developed in this study valid and reliable?

Need For The Study

The increasing visibility in the media of the growing subculture of mall walkers prompted this investigation. With the potential in the United States of 3,000 mall walking cites, the mall walking phenomenon may sweep the country. Mall walking memberships of over 500 people have been indicated in some malls (Paris, 1988). The mall walking phenomenon is evidence of the desire of many adults to become involved in regular physical activity.

Reasons for advocating continued and regular physical activity include a prolongation of personal independence, an improvement of general lifestyle, favorable effects upon mood, and a lessened risk of certain medical disorders (Shephard, 1984). Though physical aging can not be stopped, its negative effect can be retarded through exercise (Dehn and Bruce, 1972; Drinkwater, Horvath and Wells, 1975). Herbert A. de Vries (1979) in a study of older women stated, "A sedentary life style may contribute as much to functional losses in the elderly as the aging process itself." His findings indicated that through carefully prescribed exercise programs, significant physiological improvements in older adults can be made.

A number of positive physiological effects resulting from exercise have been effectively indicated through research on older adults. Some of those effects being 1) a beneficial gain of maximal oxygen consumption and a faster recovery of the heart following submaximal exercise (Sidney and Shephard, 1977); 2) an improved physical work capacity, lower resting heart rate and weight reduction (de Vries, 1973); 3) gains in bone mineral composition (Smith and Reddan, 1977); and 4) a general slowing of the rate of decline due to aging in those who are physically active (Dehn, et al., 1972; Drinkwater, et al., 1975).

Walking has a number of physiological benefits for the older adult and has been indicated to be both a safe and tolerable means of exercise for older adults (deVries, 1979). But why walk in malls? Why not walk out-doors or get involved in some other form of exercise, in or out-of-doors? Reasons indicated to the researcher of this study ranged from ridiculous to actual. The following have been indicated: 1) inclement weather as well as other non-normal weather conditions produced make-up ruins as well as muffled hair, 2) expensive warm-up clothing was soiled due to outdoor exposure, and 3) the threat of unattended dogs presented a very surprising hazard. Wilson (1981) in a study of older adults and out-door walking indicated the following as realistic problems: 1) noise, especially from traffic; 2) traffic hazards, such as dangerous intersections; 3) physical deterrents, such as steep hills and dangerous paths; and 4) crime.

The threat of crime poses a very realistic problem concerning outdoor activity for the older adult. The fear of assault, producing psychological stress, may tend to neutralize the otherwise positive physiological effect that the older adult would acquire from walking. Conversely speaking, mall walking provides safety, controlled temperature and generally a pleasant environment. Other benefits of walking in the malls are that malls are built

without steep gradients and generally the flooring is designed especially for walking.

Since older adults are individuals with needs in various dimensions (psychological, physiological, sociological, etc.), the need for social activity and networking is essential. The integration of social engagement and physical exercise offers an appealing combination. Typically, mall walking combines both social engagement and physical exercise. The following quotes from individuals interviewed by Jay Paris, and reported in The Walking Magazine (1988), reinforce this point: "We help each other. We make sure nobody's lonely"; [they finished their cool-down exercises and gathered with a dozen comrades for coffee], "Now it's time to gab"; "I tried walking outside but I was a lazy walker. Here I walk with others. It's a different concept. Humans congregate into cultures that welcome them. Any walker here is welcome."

The research literature concerning life satisfaction has indicated positive relationships between social engagement and life satisfaction. In a particular study social engagement was shown to be a strong positive indicator of life satisfaction among older adults (Markides and Martin, 1979).

If older adults need to exercise and need engagement in social activity and mall walking provides an attractive option, then the sociological characteristics of mall

walking clubs and social health of older adult members of mall walking clubs, needed to be studied. An apparent lack of information in the literature indicated a need for data gathering concerning mall walking. To accomplish this a valid and reliable instrument needed to be developed.

Delimitations

The delimitations as they specifically related to this investigation were as follows:

- 1) The study population was delimited to two mall walking clubs in Hamilton County, Tennessee.
- 2) The study was delimited to persons 65 years of age and older.
- 3) The study was delimited to those older adults who were physically capable of mall walking.
- 4) The study was delimited to those older adults who could be reached by telephone.
- 5) The study was delimited to studying the following sociological characteristics: homogeneity, network size, density, geographic dispersion, strength of ties, reciprocity, and multiplexity.

Limitations

The limitations as they specifically related to this investigation were these:

- 1) Research variables were examined in retrospect.
- 2) The study was limited to those older adults in the study population who were willing to participate.

Assumptions

The following assumptions were made.

- 1) Study subjects responded truthfully and honestly to questions asked during the interview.
- 2) Subjects who were active enough to walk in the malls probably did not need substantial instrumental aid.

Definitions

The following terms are defined alphabetically as they were used in this particular study:

Formally organized mall walking club. A club consisting of individual members who have a common bond, mall walking, and is so determined based on the following criteria: 1) there was an initial membership fee and recurring dues; 2) some form of record keeping was evident (budget balance, payment of dues, etc.); 3) membership was somewhat restrictive; 4) periodic meetings were scheduled outside the mall; and 5) an officer managed the club funds.

Functional properties. The network indicators, socioemotional and instrumental aid (defined later).

Geographic dispersion. The degree of network confinement to, or independence of a particular locality (Minkler, 1981).

Homogeneity. Similarity on such dimensions as age, social class or sex, or the extent to which members share common experiences, e.g., hypertension (Minker, 1981).

Informally organized mall walking club. A club organized primarily on the basis of individual registrations at a kick-off program on a particular day or some recurring sign-up date, and that was deficient of the criteria determined for the formally organized mall walking club (see previously mentioned definition for formally organized mall walking club).

Instrumental aid. The kind of aid given to an individual which involves financial advice, help with family or work responsibilities, or some other type of physical assistance (Thoits, 1982).

Life satisfaction. The state of happiness and contentment which is accompanied by peace of mind and freedom from excessive worry or concern as measured by an appropriate instrument (e.g., the Life Satisfaction Index-Z Scale; Neugarten, Havinghurst and Tobin, 1961).

Mall walking. A form of exercise which is practiced inside of shopping malls. The participants walk the inside perimeters of the mall excluding the various stores, shops, etc.

Multiplexity of networks. The variety of types of exchanges that occur between members of a social network; e.g., seeking help, confiding a problem, providing material or emotional support (Minkler, 1981).

Network density. The extent of interconnectedness between members (e.g., member A to member B, member B to member C, etc.) of a given network (Minkler, 1981).

Network size. The number of persons involved in a given network (Minkler, 1981).

Older adults. Persons who were 65 years of age or older at the time of this study.

Reciprocity of networks. The direction of exchange (within networks) and the degree to which members participate both in giving and receiving (Minkler, 1981).

Social health. The state of social equilibrium or tranquility which is influenced by one's social network and system of social support, resulting in happiness, trustfulness and a feeling of well being, as measured through self report (Neugarten, Havinghurst, and Tobin 1961).

Social networks. The system of social relationships engaged in by any one individual.

Social support. That subset of persons in the individual's total social network upon whom he or she relies for socioemotional aid, instrumental aid, or both (Thoits, 1982).

Socialization - The constant process of living together with other individuals, developing relationships and adapting to the needs of others.

Sociological characteristics. The structural properties of one's social support system relative to the total social network using the network indicators of size, geographic dispersion, density, member homogeneity, and the functional properties of the network system as indicated by strength of ties, reciprocity and multiplexity.

Strength of ties. The intensity of emotional and other bonds between members and the degree of intimacy or confiding which transpires between them (Minkler, 1981).

Socioemotional aid. The kind of aid given to an individual that involves affection, sympathy, understanding, acceptance and esteem from significant others (Thoits, 1982).

Structural properties. The network indicators: homogeneity, network size, density and geographic dispersion.

Summary

The framework of this chapter established the need for examining the sociological characteristics of mall walking clubs and social health of older adult members of mall walking clubs in Hamilton County, Tennessee. The development of an instrument to ascertain the sociological characteristics and social health was the major purpose of this study. Delimitations were placed on the study to make it manageable and assumptions were made a priority regarding the participant's responses. Pertinent definitions were given to clarify to the reader the researcher's use of the terms.

Chapter II will outline the literature related to this study.

CHAPTER II

REVIEW OF THE LITERATURE

The review of literature for the purpose of this study focused on the topics of older adults and walking, and older adults and socialization. Walking as reported in this chapter included walking exercise both outside and within malls. Numerous references cited for information given in the section on walking originated in informational brochures. Instruments used to measure sociological characteristics or network properties and social health were addressed throughout the section on socialization as it related to each of those sub-sections. Two special sections on telephone survey and Hemphill's Index Of Group Dimensions were also included in this literature review.

Older Adults And Walking

Walking has been heralded as the exercise of the 80's (Rockport, 1984). Walking as a "fitness craze" may have received its biggest impetus in 1984 when a private citizen, Rob Sweetgall, successfully completed a highly publicized 50 state, 50 week promotional walk. The University of Massachusetts Medical School and Department of Exercise Science closely evaluated Mr. Sweetgall throughout the year-

long walk to determine the long-range effects of walking (Rockport 1987). Although he consumed approximately 4,500 calories per day he still lost 10 pounds and reduced his bodyfat level by 2% over the course of the 11,208 mile walk (Glove, 1985).

According to a National Park Services Survey (Rockport, 1987) 55 million Americans walk as their exercise choice. The number of walkers is expected to increase to 90 million by 1990. In the Dr. Scholl's Foot Health Study (1985), it was determined that 39% of people aged 50 and over exercise regularly. Among that age group walking was the leading form of exercise. Additionally, a national survey reported by The President's Council on Physical Fitness and Sports (PCOPFS, 1986) indicated the highest percentage of regular walkers (39.4%) for any gender or age group was found among men 65 years of age and older.

An interesting note for this particular study as reported by the Tennessee Department Of Health And Environment (1988), was that a recent 31 state survey conducted by the Centers for Disease Control found that people who live in the Southeast were the most inactive people in the nation. The state of Tennessee, one of the 31 states surveyed, was fourth in inactivity or sedentary lifestyle among all age groups surveyed. In Tennessee, fifty-one percent of males surveyed, age 65 and above, were found to be sedentary, while sixty-one percent of females

surveyed, age 65 and above, were found to be sedentary (Tennessee Department Of Health And Environment, 1988).

In a study of older men and women, deVries (1979) examined a study population (ages 68 to 72) for five years. He observed increases in oxygen transport and physical work capacities as well as decreases in skinfold dimensions and in diastolic and systolic blood pressure. The study's results indicated that cardiac effort increased least rapidly with increased work load in walking-type exercise. The conclusion was that the most effective training loads could be handled with the least cardiac effort by maximizing high activation levels of small muscle masses and static muscle contraction. The natural activities of walking and running seemed to best accomplish this. His findings indicated that through carefully prescribed exercise programs significant physiologic improvements in older subjects could be made (deVries, 1979).

Based on early research provided by Leake (1966) and White (1957) physical exercise was believed to be beneficial to the health of middle-aged and older adults. Since then other research has provided more conclusive evidence about the positive effect that exercise by means of walking has on the aged. Sidney and Shepard (1978) in a study of 14 men and 28 women volunteers from a pre-retirement exercise program at the University of Toronto, found similar beneficial gains of maximum oxygen uptake in their subjects

as would be expected to be found in younger individuals. Additional evidence determined through their study indicated a faster recovery of the heart following submaximal exercise and an increase in the distance covered in a 12 minute walk/run. Twenty of their subjects were involved in the training for 14 weeks while the remaining 22 continued for one year. The format for training included 15 minutes of stretching, and 30 minutes of brisk walking, interspersed with slower-paced recovery periods (Sidney, et al., 1978).

Adams and deVries (1973) in a study of the physiological effects of an exercise training regimen upon women ages 52 to 79 established statistically significant physiological differences ($p < .01$) between experimental and control subjects. Seventeen experimental subjects were involved in calisthenic exercises which lasted for 20 - 25 minutes followed by a jog-walk phase of no less than 15 minutes during which time each subject was trained to monitor their pulse. This phase was followed by five static stretching exercises. The control group did not participate in any organized activity. The experimental group showed significant improvement over the control group with regards to a lower resting heart rate, improved physical work capacity and weight reduction (Adams, et al., 1973).

Walking for the most part provides all the benefits that running does with only one-fifth of the pressure on the joints (Yanker, 1983). Walking has been endorsed as the

best exercise for the feet by the American Podiatric Medical Association (Rockport, 1987).

Though walking has been an exercise of choice for many people for sometime, mall walking has emerged more recently. According to Pat Carter, of the Eastgate Mall Merchants Association in Chattanooga, "It all started back in the 1970's when a lot of local cardiologists advised their patients to walk for exercise (Kennedy, 1987)." Another version of the origin of mall walking on the national level comes from Mike Weinberger, manager of Youngstown, Ohio's Southern Park Mall, one of the oldest in the country. He stated that

as malls replaced downtown stores, we saw a new gathering of people in here. In the morning they were mostly the elderly, who tend to rise and shop early. As they looked, they walked. We gave them a break and opened our corridors half an hour early. The window shopping became a kind of march. The march became laps. The word spread and we became even busier. Then we began opening the doors at 9 a.m., an action which brought in more serious walkers. One thing led to another, and before we knew it, we had a true and very active grass roots phenomenon (Paris, 1988).

Older Adults And Socialization

The sociological variables as they are related to older adults have been identified in the literature through investigations of three major headings: 1) Social support groups, 2) Social networks and support as related to health, and 3) Socialization and life satisfaction. This section of the literature review will focus on these sociological areas.

Social Support Groups

One of the major problems identified with the literature on this topic is the inadequate conceptualization and operationalization of social support (Thoits, 1982). Thoits defines social support as "that subset of persons in the individual's total social network upon whom he or she relies for socioemotional aid, instrumental aid, or both." According to Thoits (1982), attempts have been made to improve social support definitions and operationalization, but efforts to assess the validity and reliability of social support indicators are still noticeably lacking in the literature. Additionally, most of research on older adults, through the 1970's, investigated quantity (number, frequency, proximity) rather than the quality of relationships (Lowenthal and Robinson, 1976). A failure to make distinctions between quantity and quality of support, and between socioemotional aid and instrumental aid may have

confounded the conclusions of numerous studies on social support.

There appears to be two properties by which an investigator can measure social support: structural and functional. Structural properties relate primarily to the total social support network and utilize such indicators as: size, density, accessibility, kinship-reliance, frequency of contact and stability. Functional properties include the amount and adequacy of socioemotional and instrumental aid received by various support system members. Some examples are the efficacy of socioemotional aid received from kin, as compared to that received from friends, or the amount of instrumental aid obtained from primary as opposed to secondary group members (Thoits, 1982).

Influenced by the work of Thoits (1982), Preston and Grimes (1987) attempted to describe differences in the composition of the social support systems of elderly married and unmarried males, and married and unmarried females. Their results indicated that for married elderly and unmarried elderly, patterns of social support differed according to gender. Married males confided in their wives and relied on them significantly more for help than did married females on their husbands. The chief sources of socioemotional support for married females were family and friends rather than spouse. For unmarried elderly there were no gender differences in socioemotional support.

However, with regard to instrumental social support, females used family helpers, agency, and paid helpers more than did males (Preston, et al., 1987).

Data from a 1975 national survey (Shanas, 1979) of the noninstitutionalized, aged community clearly indicated that the immediate family of the elderly (e.g., husbands, wives, and children) were the major social support of the elderly in time of illness. Additionally, the extended family of the old person: children, siblings and other relatives, provided the major tie of the elderly to the community through face-to-face visits. It was not necessary for old people to have many visitors. What was important, was that they have regular and concerned visitors (Shanas, 1979).

As indicated by Weeks and Cuellar (1981), closer daily contact enhances the likelihood that family members will play crucial roles in the helping networks of older individuals. However, one's kin may remain a viable source of support if they learn to communicate and exchange services in other than face-to-face situations (Litwak and Szelenyi, 1969). Use of the telephone and written correspondence serve as viable alternatives to face-to-face situations. When these alternatives to face-to-face contact are not sufficient, then rapid transportation methods (e.g., airplanes) may provide the mode of making contact with the older adult.

Old people turn first to their families for support,

then to neighbors, and finally to bureaucratic replacements for families: social workers, ministers, community agencies, and others (Shanas, 1979). Older adults expect families to help in case of need (Shanas, 1979). Unger and Powell (1980) summarized numerous psychological and sociological studies with the indication that strong positive relationships exist between families under stress and their supporting roles. McFarlane, Neale, Norman, Roy and Streiner (1981), using the Social Relationship Scale (SRS), indicated that both sexes reported discussing the greatest number of content areas (work, home, and family) with their spouses first. Following spouse discussions, both sexes reported discussing work, home and family with close family members, friends, work-related people, professionals, other family members, neighbors and others, in descending order. The SRS was a scale developed to measure the role of social support in cushioning the effects of life stressors on health.

The discussion of social support groups just completed will be followed by a discussion on social networking and support as they relate to health in the continuing discussion of socialization and older adults.

Social Networks And Support As Related To Health

Cassel (1976) during a lecture in The Fourth Wade Hampton Frost Lecture Series pointed to the social

environment as a definite influencing factor in disease and its resulting consequences on health. He stated, "It is evident that any disease process, and in fact any process within the living organism, might be influenced by the reaction of the individual to his social environment or to other people." He contended that psychosocial processes acting as "conditional" stressors will alter the endocrine balance in the body, thus increasing the individuals' susceptibility to disease agents (Cassel, 1976).

Cobb (1976) felt social support facilitated coping with crisis and adaption to change. Through his research in social support he believed that support could protect people in crisis from a wide variety of pathological states: from low birth weight to death, from arthritis through tuberculosis to depression, alcoholism, and social breakdown syndrome. He felt social support may reduce the amount of medication required, accelerate recovery, and facilitate compliance with prescribed medical regimens (Cobb, 1976).

Maybe the most significant finding on the theme of social support and health was that by Berkman and Syme (1979). In a study of 6,900 adults randomly sampled in Alameda County, California, they found that those who lacked social and community ties were more likely to die in the nine year follow-up period than those with more extensive contact. All but 4% of the original sample were located for follow-up. A social index was constructed to measure social

ties and social involvement. The study's subjects with fewer ties were found to have mortality rates between two to five times higher than those with more social ties. This association was found to be true for both sexes, all ethnic groups, and all socioeconomic levels. In the study, people who were not married but had many friends and relatives were found to have mortality rates equal to those who were married but had fewer contacts with friends and relatives. It did not seem significant to the observed association whether contacts were among friends or relatives; it was only in the absence of either of these sources of contacts that there was a significant increase in the risk of death during the follow-up period. The network index used in this study indicated a relationship, in addition to mortality, to ischemic heart disease, cancer, cerebrovascular and circulatory diseases (Berkman, et al., 1979).

A similar index of social ties to the Berkman, et al., (1979) study was constructed by Hibbard (1985) for the purpose of measuring the effects of social ties on health status. The index included marital status, number and frequency of contact with close friends, number of relatives seen often, number of neighbors known well enough to drop in on, and involvement in social, civic, professional, or recreational groups or associations. The study utilized two measures of health status; a global self-assessment of general health status and the mean annual rate of doctor's

office visits for chronic conditions. The study population consisted of three age groups 50 years and less, 50-64, and 65 and older. The findings from the study indicated that having more social ties, being more trustful of others, and perceiving more control over life were all related to having better health (Hibbard, 1985).

Shoenbach, Kaplin, Fredman and Kleinbaum (1986) attempted to replicate the Berkman, et al., (1979) study of Alameda County. The researchers investigated the relationship between a social network index and survivorship from 1967 to 1980 in Evans County, Georgia. They constructed an index modeled after the Berkman Social Network Index and tested it on race and sex specific models for 2,059 subjects. Reduced survivorship among older subjects with few social ties was the most significant finding (Shoenbach, et al., 1986).

In the Tecumseh Community Health Study (House, Robbins and Mitzner, 1982), over a period of fourteen years, men and women ages 35-69 years of age (1967-1969) were examined for associations between social relationships and activities, and mortality. Though no association was observed between mortality and satisfaction with social relationships or activities, significant associations to health were indicated for those reporting high levels of social relationships. Both men and women were significantly less likely to die during their follow-up period (12 years) who

had high levels of social relationships (House, et al., 1982).

In other studies relating to social support and health Palmore (1976) found that the risk of institutionalization was greatest among persons living alone, who were never married or separated from their spouse, or who had no living children. Blazer (1982) hypothesized that social support may influence health in a variety of ways but always through the mechanism of perception of social support.

The affirmation of positive healthful effects resulting from social networking and social support is not, however, without controversy. Levitt, Antonucci, Clark, Rotton and Finley (1986) reported no differences in the number of health problems between their two samples, one a national representative sample of the elderly and the other a distressed elderly sample from South Miami. Few close relationships existed for the South Miami sample. In a study of 4251 men in Hawaii (Reed, McGee and Yano, 1984), social networks were found not to be associated with either the incidence of stroke, cancer, or other diseases examined in the study, with one exception, coronary heart disease. Other studies documenting a negative association between social support and symptoms of psychologic and physiologic nature were conducted by Billings and Moos (1981) and Miller and Ingham (1976).

One reason for conflicting findings among studies

regarding social support and health may be due to, as Ward (1985) puts it, "inadequate conceptualization and operationalization of social support." Lowenthal and Robinson (1976) state that "most research on the networks of older people has investigated quantity (number, frequency, proximity) rather than the quality of relationships." This point was amplified by a study previously mentioned (Levitt, et al., 1986). Ward (1985) further indicated that some research studies have "examined the association between social ties and and well-being without investigating in sufficient detail or depth the intervening mechanisms that link them." His suggestion is that an equally significant emphasis should be placed on the qualitative as well as the quantitative aspects of social networking. Kaplin, Cassel and Gore (1977) have also indicated that attempts at conceptualization have been inadequate. They indicated that attempts at conceptualization and measurement of social support and its role in health and illness have been inadequate, discipline bound, and unusually formulated for post-hoc interpretation of unexpected, but striking findings (Kaplin, et al., 1977).

Several key properties basic to network analysis have been identified by Minkler (1981) as a result of her gleaning of the literature. Future researchers and network analyzers would do well to examine these properties before conducting studies. They are as follows: 1) network size -

the number of persons involved in a given network; 2) geographic dispersion - the degree of network confinement to or independence of a particular locality; 3) density - the extent of interconnectedness between members of a given network; 4) member homogeneity - similarity on such dimensions as age, social class or sex, or the extent to which members share common experiences; 5) strength of ties - the intensity of emotional and other bonds between members and the degree of intimacy or confiding which transpires; 6) reciprocity - the direction of exchange and the degree to which members participate both in giving and receiving; and 7) multiplexity - the variety of types of exchanges that occur between members.

Once the conceptual problem is dealt with, the literature indicated that in most settings social networks and social support can have a positive influence on one's health. If this is true, it is the obligation of health educators to increase the networks of the elderly, as well as their ability to utilize the networks effectively. It is equally important to increase the adult's sense of control of their network (Hibbard, 1985).

The discussion just completed concerning social networking and support as related to health will be followed by a section on socialization as related to life satisfaction and health.

The section on socialization as related to life satisfaction and health will be part of the continuing discussion on socialization and older adults. Several instruments that measure life satisfaction will be discussed in detail in this section.

Socialization As Related To Life Satisfaction And Health

The means of measuring socialization and its effect on life satisfaction has been a point of varied interest. An early study by Tobin and Neugarten (1961) indicated that social interaction was positively associated with life satisfaction with their population which ranged from ages 50 to 80. This study also concluded that positive life satisfaction resulting from social interaction increased rather than decreased with age. The population of 187 adults was divided into two groups: those aged 50 to 69 and those aged 70 and over. The subject's social interaction was measured by three instruments: a) The Interaction Index- This is an intuitive judgement of the investigator, based on the amount of time each day the respondent spends in the kind of social interaction with others in which the hints, cues, and sanctions which govern and control behavior can be exchanged; b) The Social Life Space Measure- This represents the respondent's estimate of the number of interactions with different people he/she engages in per month; and c) Role

Count- This is the number of social roles in which the respondent interacts with others. In addition to measuring social interaction, the researchers aimed to measure psychological well-being and its relationship to disengagement (mutual withdrawal from society).

Psychological well-being was measured with The Life Satisfaction Rating (LSR), an instrument validated by Neugarten, et al., (1961). The LSR is a five-point rating which measures the extent to which the respondent:

- 1) takes pleasure from whatever the round of activities that constitute his everyday life, 2) regards his life as meaningful and accepts resolutely that which life has been, 3) feels he has succeeded in achieving his major goals, 4) holds a positive self-image, and 5) maintains happy and optimistic attitudes and moods. The five totals from the ratings of the LSR were summed to obtain an over-all rating with a possible range from 5 to 25. The LSR was then compared to the scores of the social interaction measures by setting up 2 x 2 tables and computing chi-square values. Where the confidence level warranted it ($p < .10$), the Wallis-Kruskal "H" value, a measurement of association, was computed (Wallis and Roberts, 1956). It was concluded that with advancing age, engagement was more closely associated with psychological well-being (Tobin, et al., 1961).

In a study of elderly persons residing in low-income

areas, Markides and Martin (1979) investigated social activity, as an intervening variable between health and socioeconomic status, and its correlation to life satisfaction. Controlling the factors of health and socioeconomics, social activity was shown to be a strong positive indicator of life satisfaction. In another study related to social activity and life satisfaction of middle-aged adults aged 46-71, Palmore and Luikart (1972) found the amount of organizational activities of their subjects to be the second most important variable related to life satisfaction. Organizational activity was second to self-rated health as the dominant variable related to life satisfaction (Palmore, et al., 1972). Palmore, et al., (1972) used Cantril's Ladder (1965) to measure life satisfaction. With Cantril's Ladder the respondent was asked to describe his "wishes and hopes for your future" and then to describe "what would be the most unhappy life for you." He was then presented with a picture of a ladder numbered from zero on the bottom rung to nine on the top rung. The respondent was asked to suppose "that the top of the ladder represents the best possible life for you and the bottom represents the worst possible life for you." Then the subject was asked, "where on the ladder do you feel you stand at the present time?" (Cantril, 1965).

While exploring the activity theory of aging, Lemon, Bengston and Peterson (1972) tried to determine if

different types of social activity (formal/informal) resulted in life satisfaction among 411 subjects of in-movers to the Laguna Hills Leisure World Retirement Center. The Life Satisfaction Index Scale B (LSI-B) devised by Neugarten, et al., (1961) was used to measure life satisfaction, the major dependent variable. The major independent variables of the study (informal, formal, and solitary activity types) were measured by computing the frequency of interaction with close friends, neighbors and relatives; number of membership and degree of participation in formal organizations; and frequency of involvement with solitary activities. Of the seven hypotheses Lemon, et al., (1972) measured, only two achieved any statistical significance. Informal activity was found to be directly associated with life satisfaction and informal activity was more highly associated with life satisfaction than was formal activity (Lemon, et al., 1972).

The LSI-B mentioned in the previous study is the result of modification of the Life Satisfaction Rating (LSR). LSI-B is a combination of 6 open-ended questions and 6 check-list items which are scored on a three-point scale from 0-2. The Life Satisfaction Index-A (LSI-A) is similar to LSI-B in that it is a modification of LSR. LSI-A is an attitude scale of 20 items selected from existing scales or invented so as to get 4 or 5 items representing each of the 5 components. The correlation coefficient between forms A

and B is .73 for 90 cases. Their combined score had a correlation of .62 with the LSR (Havinghurst, 1961).

Other studies, concerning the continuing discussion of socialization as related to life satisfaction and health, have indicated that activity or socialization play an important role in life satisfaction. Burgess (1954) and Lebo (1964) reported a greater amount of time in social and voluntary organizations to be characteristic of subjects with high personal adjustment. Maddox (1963) in a longitudinal study concluded that both interpersonal activity and noninterpersonal activity were significantly related to morale. Reichard, Livson and Peterson (1962) presented evidence that indicated a direct relationship between high levels of activity and high degrees of morale. Wylie (1970) in a two year social activity program of 131 subjects concluded that social activity was positively related to life satisfaction. This position was also supported by the evidence of a study by Roscow (1967).

MacDonald and Butler (1974), after helping two wheelchair subjects reverse helplessness by learning to walk, concluded their study by saying: "One of the more consistent findings in the nursing home literature had been that activity is a crucial factor in maintaining morale, life satisfaction, and a sense of purposefulness."

Activity and its positive contribution to life satisfaction has been contraindicated by a study of senior

citizens by Toseland and Sykes (1977). They mailed out questionnaires to 400 persons age 55 and older who were members of the Colonial Club. One hundred thirty-seven completed questionnaires were returned for a response rate of 34.3 percent. Due to the small sample size, the researchers issued a word of caution to the reader that "interpretation and generalization of the survey results to older persons in the general population should be exercised" (Toseland, et al., 1977). They found that participants and nonparticipants in the Colonial Club's facility did not differ in terms of their life satisfaction (Toseland, et al., 1977). Life satisfaction was measured by the Life Satisfaction Index-Z Scale (LSI-Z).

LSI-Z (Neugarten, et al., 1961) is a 13 item test which yields a score on each item from 0 to 2 for a total from 0 to 26 for the 13 items. Scores from 1 to 12 indicates a low life satisfaction score, 13 to 19 indicates a medium life satisfaction score, and 20 to 26 indicates a high life satisfaction score (Wood, Wylie and Sheafer, 1969).

The discussion just completed concerning socialization as related to life satisfaction and health ends the major section on socialization and older adults.

The section to follow on telephone survey will discuss the literature related to this method of data gathering. An effective method for data gathering is sought for this study.

Telephone Survey

In the history of survey research only the computer has made as significant an impact on data gathering as the telephone. Rising costs and declining response rates experienced by the face-to-face survey have prompted a shift in procedures toward telephone interviews (Frey, 1983).

The telephone researcher has the advantage of normative telephone behavior which holds that it is the "initiator of the call who shall terminate that call (Ball, 1968)." Hanging up is very difficult since it represents what Ball (1968) has called "interactional homicide." Surveyors can take advantage of the fact that respondents are not likely to thwart their appeal by a deliberate cut off; then by skillful interviewing, they can negotiate access to a respondent who is not inclined to participate (Frey, 1983).

Earlier impressions of telephone surveys may not have been favorable. Misleading projections resulting from a telephone survey in the 1936 presidential election created controversy concerning the reliability of telephone surveys. The error of that survey was due to a large percentage of the population of the United States not having a telephone in their home; thus a random sample was not obtained. The percentage of United States residents who reported having a telephone in 1976 was ninety-four percent (U.S. Bureau of the Census, 1975). Since the error of 1936 the problem of

social class bias stemming from the availability of phones has greatly diminished (Dillman, 1978).

Economy of time may be one of the greatest advantages of telephone surveys over face-to-face interviews. In telephone survey reports, Groves and Kahn (1979) indicated that 3.3 hours of work were devoted to each completed telephone interview as compared to 8.7 hours for each face-to-face interview.

Another advantage of telephone interviews is monetary. The expense of paying postage as opposed to making telephone calls is far greater.

This completed discussion of telephone survey will be followed by a detailed discussion of Hemphill's Index Of Group Dimensions (1956), an instrument developed for the purpose of measuring the characteristics of groups.

Hemphill's Index Of Group Dimensions

Hemphill's Index Of Group Dimensions (1956) is an index which was built upon 13 comparatively independent group dimensions: autonomy, control, flexibility, hedonic tone, homogeneity, intimacy, participation, permeability, polarization, potency, stability, stratification, and viscosity. The index consists of 150 items answered on a five-point scale (Miller, 1964). The dimensions were selected from a list of group adjectives used by authorities and were based upon the following criteria: (a) each

characteristic should be meaningful within a sociological or psychological framework, (b) each characteristic should be conceived as a continuum varying from the lowest degree to be highest degree, (c) each characteristic should refer to a relatively molar rather than a molecular property of a group, and (d) each characteristic should be relatively orthogonal or independent of all other characteristics in the descriptive system (Hemphill and Westie, 1950).

The final 150 items of the index were the result of an extensive refinement process. A preliminary free response questionnaire was administered to more than 500 individuals and their reponses resulted in aproximately 1,100 items (Hemphill, et al., 1950). Five judges were used to screen these items for relevance to a single dimension. Items which definitely applied to the dimension were placed in one category. Items about which the judge was undecided were placed in a second. Items which definitely did not apply to the dimension were placed in a third category. An index of homogeneity of placement was computed for each item on which at least three of the five judges agreed that the item pertained to the same dimension. This index was adopted to give a single numerical evaluation of each item with respect to its homogeneity. Agreement among judges that the item applied to a dimension and agreement that it did not apply to other dimensions in the description system were given approximately equal weight in the value of this index. An

arbitrary value of the index was selected as a cutting point for the elimination of items from further consideration. Three hundred and fifty-five items were then edited and placed in a preliminary composite instrument. The final revision resulted in a 150 item instrument which consisted of 14 sub-scales (Hemphill, et al., 1950).

The scale has adequate reliability yield scores. The scale has a high degree of agreement between respondents describing the same group, and with a few exceptions has low intercorrelations. Split-half reliabilities ranged from .59 to .87 (Miller, 1964).

It was suggested that Hemphill's Index Of Group Dimensions may serve as a tool for the objective study of variation found among social groups (Hemphill, et al., 1950; Miller, 1964).

Summary

This chapter indicated that walking has been shown to be both a safe and tolerable form of exercise for older adults. A large number of adults aged 50 and above exercise regularly with walking being their number one choice of exercise. Mall walking has emerged as one form of walking exercise within the last two decades.

An inadequate conceptualization and operationalization of the concept social support, was reported (Thoits 1982). Two properties seem to best measure social support;

structural and functional.

The basic unit of social support for older adults is family. It was indicated that the quality of social support appeared to be more important than the quantity of support.

Instruments to measure the effects of social ties on health status have been developed (Berkman, et al., 1979; Hibbard, 1985). Results of the data gathering of these instruments indicated that in the absence of social contact, older adults ran a greater risk of early death than those with greater social contact.

Key properties of network analysis were identified by Minkler (1981): network size, geographic dispersion, density, member homogeneity, strength of ties, reciprocity and multiplexity.

Social activity was indicated in numerous studies which play a significant role in affecting the life satisfaction of older adults. Next to self-reported health status, organizational activity was indicated second as the dominant variable related to life satisfaction (Palmore et al., 1972).

The monetary savings of telephone interview, as opposed to mailing, and the economy of time were indicated as advantages of this technique of data gathering. A large percentage of people living in the United States now have telephones in their homes.

The development of Hemphill's Index Of Group Dimensions

was reported. It was suggested that this scale could serve as a tool to measure the variation found among social groups (Hemphill, et al., 1950; Miller, 1964). The scale was described as being both valid and reliable.

Chapter III will present an outline of the methodology of this study.

CHAPTER III

METHODOLOGY

The major purpose of this chapter was to describe the procedure used in the development of an instrument for this study. This study developed an instrument to ascertain the sociological characteristics of mall walking clubs and social health of older adult members of mall walking clubs in Hamilton County, Tennessee.

Instrument Development

The literature indicated an absence of research and data collection regarding mall walking clubs. The researcher believed that it was necessary to develop an instrument so that data could be gathered regarding the sociological characteristics of mall walking clubs and social health of their members. The intent was to develop an instrument which would consist of two parts: 1) a section which would gather demographic information of mall walking members and determine member homogeneity, and 2) a section which would measure the sociological characteristics of mall walking clubs and social health of members of mall walking clubs, as determined by a Likert scale. What follows in this section on instrument development is a detailed

description of the procedure that was followed.

The development of the instrument of this study was based on the following pattern (Long, 1985): 1) domain definition-operationally defining the characteristics of interest and constructing a set of objectives; 2) item pooling-developing a set of potential items (Demographic questions and Likert statements); 3) face validity-checking the face validity of the item pool by having subject-matter experts rate the appropriateness, favorableness and understandableness of the items; 4) pilot test-the items will be administered to a sample of 15 older adult mall walkers; 5) study population administration - the instrument was administered to 50 members of the Old Timers Club (OTC) of Eastgate Mall and 50 members of the Hamilton Place Mall Walkers Club (HPMC) of Chattanooga, Tennessee; and 6) reliability analysis of the items - the items were tested by point biserial item analysis and Chronbach alpha (Chronbach, 1951).

Domain Definition

After studying the literature, it was determined that the sociological characteristics (sometimes in the literature called network properties) of interest in this study were those summarized by Minkler (1981): 1) network size, or the number of persons involved in a given network; 2) geographic dispersion, or the degree of network

confinement to or independence of a particular locality; 3) density, or the extent of interconnectedness between members of a given network; 4) member homogeneity, or similarity on such dimensions as age, social class or sex, or the extent to which members share common experiences (e.g., bereavement, hypertension or alcoholism); 5) strength of ties, or the intensity of emotional and other bonds between members and the degree of intimacy or confiding which transpires; 6) reciprocity, or the direction of exchange and the degree to which members participate both in giving and receiving; and 7) multiplexity, or the variety of types of exchanges that occur between members (e.g., seeking help, confiding a problem, providing material or emotional support). In addition to the sociological characteristics, a definition for social health was developed: the state of social equilibrium or tranquility which is influenced by one's social network and system of social support, resulting in happiness, trustfulness and a feeling of well being.

The objectives of this study were as follows: 1) To develop a valid and reliable instrument to ascertain the sociological characteristics of mall walking clubs and social health of older adult members of mall walking clubs in Hamilton County, Tennessee; 2) To determine the demographic characteristics of members of mall walking clubs (to be addressed in Part A of the instrument and used to determine member homogeneity); and, 3) To determine the

relationship between each sociological characteristic (network size, density, geographic dispersion, strength of ties, reciprocity and multiplexity), as measured by each subscale, and social health of mall walking club members (to be addressed in Part B of the instrument).

Item Pooling

Item pooling of the demographic section of the instrument (Part A) consisted of pooling various categorical areas (e.g., race and religious orientation) regarding individuals and their social environments. Demographic categories were developed as a result of reviewing the literature and obtaining the opinion of experts. Refinement and clarification of these categories enabled the researcher to develop questions, which related to the categories, to ascertain pertinent demographic information for the purpose of determining member homogeneity.

Item pooling of potential Likert scale items (Part B) of the instrument were developed and recorded on 3"x5" index cards. These items were stored in a file box and subject to continuous editing. Editing consisted of examination for category appropriateness (network size, density, geographic dispersion, strength of ties, reciprocity, multiplexity, and social health), item applicability (is the item applicable to the study), and item simplicity. The Likert scale items were developed as a result of reviewing the literature and

obtaining the opinion of experts. A total of at least 60 potential items was developed. Each of the sociological characteristics and social health categories represented separate subscales.

After demographic questions and Likert items were refined, the first draft of the instrument was developed. Instrument instructions were given at the beginning of Part A and Part B, explaining the purpose of each section. A series of questions was asked in Part A concerning demographic information. The intent was that Part B would consist of seven subscales, with the items numerically ordered from the first item to the last. The sociological characteristics and social health subscales were placed in the following order: network size, density, geographic dispersion, strength of ties, reciprocity, multiplexity and social health. Three possible answers were listed to the left of each item (agree, no answer, disagree). The answer given by the respondent was circled by the researcher. A space called "total subscale score" was indicated at the end of each subscale.

Face Validity

Face validity of the first draft of Part B of the instrument was determined by a panel of thirteen subject-matter experts (jury of judges). The experts were given or mailed a copy of a Q-scale which was developed by

the researcher for the purpose of evaluating the instrument. The Q-scale consisted of an introductory section explaining the purpose of the study, the responsibility of the judge, and how terms were used in the instrument. Following the introductory section, Part B of the first draft of the instrument was presented. Ample space was provided between each scale item followed by rating check points (appropriate/nonappropriate, favorable/nonfavorable, understandable/nonunderstandable). It was the responsibility of the experts to rate the appropriateness, favorableness and understandableness of each item on the Q-scale. Appropriateness, as defined by the researcher, was the extent to which the item accurately reflected the sociological category (network size, density, geographic dispersion, strength of ties, reciprocity, multiplexity) to which it was assigned. Favorableness, as defined by the researcher, was the extent to which the item was a positive or negative (agree, disagree) response toward mall walking clubs. This definition aided in the scoring of responses. Understandableness, as defined by the researcher, was the extent to which each item was clear and understandable to the reader. Items that were not appropriate, favorable or understandable were discarded or revised until all items to be included were determined to be appropriate, favorable and understandable. A majority agreement was sought for each item by the experts (jury of judges).

The judges were encouraged to add written comments above scale items if they believed points of clarification needed to be made. Judges were also instructed to write additional scale items after each subscale in a space entitled "Additional comments," if they chose.

Pilot Test

The purpose of the pilot test was to determine the instrument's ease of administration and length of administration time.

Following the evaluation by the jury of judges, the instrument was administered to fifteen older adults who were members of the West Town Mall Walking Club. This club walks in the West Town Mall located in Knoxville, Tennessee. This program was organized and sponsored by The Division of Health Promotion, Fort Sanders Regional Medical Center. Permission to use the list of club members for telephone interviews was obtained by contacting the Marketing Director of West Town Mall.

The mall walking club at West Town Mall had a membership of 416 persons. The names were assigned to a table of random digits (Tashman, 1979). Telephone calls were made until fifteen older adult members were randomly contacted. The researcher introduced himself and explained the purpose of the study and of the pilot test. The respondent was assured that the results of the study were

used without revealing their identity. The subject was then asked if he or she would participate in the pilot test. If the respondent consented to participate, the instrument was administered.

Study Population Administration

Following the administration of the pilot test, the instrument was administered, by telephone interview, to members of the study population of mall walking club members at Eastgate and Hamilton Place Malls, in Chattanooga, Tennessee.

All of the survey interviews were conducted by the researcher to eliminate potential interview bias. The introduction preceeding the instrument, explaining the purpose of the instrument and its directions, was read to the randomly selected subject before administration. After assuring the adult that the information given would be used in the study without revealing their identity, they were asked if they would participate in the study.

The purpose of adminstration of the instrument to the study population was to gather data so that the reliability of the instrument could be determined.

The study population will be discussed in detail in a section to follow.

Reliability Analysis

The statistics used for determining the reliability of Part B of the instrument were: 1) point biserial item analysis and 2) Chronbach alpha (Cronbach, 1951).

Point biserial item analysis is a measure of each item's ability to relate to all other items within its subscale. Correlations were computed between each item and its total subscale score. That is, item one of network size was compared with the total subscale score for network size. Item two of network size was compared with the total subscale for network size until each item within the seven subscales was compared to its own total subscale score. A correlation of .25 or greater was sought for each item (Edwards 1962; Garrett, 1965; Long, 1985). Items that had correlations below .25 were rejected.

Computer assisted Cronbach alpha (Chronbach, 1951) gave an estimation of the internal consistency of the instrument. This method is a general form of Kuder-Richardson (K-R) formula 20 considered by many educational measurement experts as the most satisfactory method of determining reliability (Borg, 1983). Another method of reliability the split-half (Spearman-Brown formula) procedure is the most widely used method of estimating internal consistency (Torabi, 1988). After administering a test to a prospective participant, the test is split into two subsets. For each individual, the scores of the two subsets are computed and

then correlated. However, unlike the split-half procedure, items are matched in every possible combination with the Chronbach alpha procedure (Torabi, 1988). Cronbach alpha yielded useful information concerning the proportion of subscale variance within the instrument.

Study Population

The study population consisted of the members of two mall walking clubs. The first group consisted of members of the Old Timer's Club (OTC) of Eastgate Mall in Hamilton County, Tennessee. The OTC had a membership of one hundred-seventy three adults. Permission to use the club membership list was obtained by contacting the secretary of the club.

The OTC began in December of 1981 with a membership of nineteen. There is not a formally elected set of officers or a formally written set of rules for the club.

A large portion of the club's membership meets regularly for breakfast outside of the mall. Other than this, most member contact seems to be in connection with walking in the mall or gathering for conversation after mall walking.

The second mall walking club is the Hamilton Place Mall Walkers Club (HPMC) located in Hamilton County, Tennessee. The HPMC was organized on November 7, 1987, by Memorial Hospital of Chattanooga; Memorial Hospital staff provided blood pressure checks, a fitness challenge, leadership of

stretching exercises, a walk, t-shirts, free subscriptions to Walking Magazine and nourishing refreshments.

Permission to use the list of club members was obtained by contacting the cardiac representative at Memorial Hospital.

Every second Monday of the month the cardiac representative of Memorial Hospital signs up new members and checks the blood pressure and weight of other members. Every fourth Monday Memorial sponsors a speaker at the mall and provides refreshments. Free subscriptions to the Walking Magazine are offered to new members.

For the purpose of this study, the HPMC was considered to be an informally organized mall walking club. Based on the following criteria, the OTC was considered to be a formally organized mall walking club: 1) there was an initial membership fee and recurring dues; 2) some form of record keeping was evident (budget balance, payment of dues, etc.); 3) membership was somewhat restrictive; 4) periodically scheduled meetings outside the mall were made (breakfast once a month); and 5) an officer collected club funds.

Formally and informally organized mall walking clubs were examined in order that the researcher could obtain a representative sample of members of mall walking clubs in Hamilton County, Tennessee.

Study Population Sampling

The sampling technique used, with the study population, varied slightly for the two clubs examined. The OTC sample was determined by taking an alphabetized listing of the members, including addresses and telephone numbers. The members were assigned numbers and 50 OTC members were randomly chosen to be a part of the study population.

The HPMC membership list consisted of an alphabetized list of members names and addresses. Part of the responsibility of the researcher was to determine the telephone numbers of the members by use of the South Central Bell telephone book for the Chattanooga area. Once telephone numbers were determined, the entire eligible membership of three hundred and seventy-two were assigned numbers from 1 to 372. A table of random digits (Tashman, 1979) was entered and telephone interviews conducted until data of 50 older adults were collected. Since birth dates were unknown, the question, "What is your date of birth," was asked at the beginning of the interview. Those born in 1923 or earlier were considered older adults in this study.

Statistical Analyses Of Data

The statistical analyses chosen for this study were, measures of central tendency and variability, and Pearson Product Moment Correlation Coefficient.

Measures of central tendency and measures of

variability were determined for the data gathered concerning the OTC and the HPMC as indicated by Part A (demographic information) of the instrument. This analysis provided the findings that address research question number one: What were the demographic characteristics of members of mall walking clubs in Hamilton County, Tennessee? Frequency distributions were developed to organize this information.

Pearson Product Moment Correlation Coefficient was the statistic chosen to address research question number two: What was the relationship between each sociological characteristic, as measured by each subscale, and social health? The total score of each subscale concerning the sociological characteristics was compared with the total score of the social health subscale. For example, the total score of network size was compared with the total score of social health, the total score of density was compared with the total score of social health, etc., until each of the subscales representing sociological characteristics were compared with the subscale of social health.

Summary

This chapter reported the research design concerning the development of the instrument of this study. The development of the instrument was based on 1) domain definition, 2) item pooling, 3) face validity, 4) pilot test, 5) study population administration, and 6) reliability

testing. Point biserial item analysis and Cronbach alpha were the statistics chosen for reliability analyses of the instrument. Members of the West Town Mall Walkers Club were randomly chosen to assist in pilot testing of the instrument. Members, of the OTC and the HPMC were randomly chosen to be subjects of the study population for administration of the instrument.

Pearson Product Moment Correlation Coefficient was the statistic chosen to determine the relationship between each sociological characteristic, as measured by each subscale, and social health.

Chapter IV will present a description of the evaluation of the instrument, a summary of the pilot test and study population analyses and interpretation of the respective data.

CHAPTER IV

ANALYSIS OF DATA

This chapter presents the results of the development of the instrument proposed for this study. First, a preliminary draft of the instrument was developed. Second, face validity was performed on the preliminary instrument by a jury of judges. Third, the first draft of the instrument was pilot tested in Knoxville, Tennessee. Fourth, the revised draft of the instrument was administered to the study population. Fifth, an analysis was made of the demographic information of the revised draft of the instrument after the study population administration. Sixth, reliability analysis was performed on the attitude scale section of the revised draft of the instrument after the study population administration. Seventh, relationships were determined between the sociological characteristics of the attitude scale and social health. Eighth, the final instrument was developed. Finally, a summary of this chapter was given.

Preliminary Instrument Development

The development of the preliminary draft of the instrument of this study was accomplished in two phases.

The first phase involved pooling potential categorical areas regarding demographic information of mall walking club members. The demographic categories were developed as a result of reviewing the literature and obtaining the opinion of experts. The book Social Facts: Introductory Readings (Price, 1969) was particularly useful in determining which demographic categories were appropriate for the study. After the demographic categories were determined, questions were developed to aid the researcher in retrieving the appropriate information during telephone interviews (see Appendix A).

Phase two involved pooling and developing Likert scale items for Part B of the preliminary draft of the instrument.

Items were recorded on 3"x5" index cards and stored in a file box. The items were subject to periodic editing. The editing process consisted of examination and revision for item appropriateness and understandableness. A total of 67 items was developed (see Appendix A). Hemphill's Index Of Group Dimensions (1956), found in the Handbook Of Research Design And Social Measurement (Miller, 1964), aided the researcher in the development of Part B of the preliminary draft of the instrument.

The 67 items in Part B of the preliminary draft of the instrument were separated into seven subscales ordered respectively; network size, density, geographic dispersion, strength of ties, reciprocity, multiplexity and social

health. Six of the subscales (network size, density, geographic dispersion, strength of ties, reciprocity, multiplexity) consisted of statements which reflected characteristics of groups. Eight items were assigned to network size, eight to density, eight to geographic dispersion, nine to strength of ties, eight to reciprocity and nine to multiplexity. The subscale on social health consisted of statements which reflected the status of individuals and social health. Seventeen items were assigned to social health.

Three possible answers for the respondent were listed to the left of each item. Following the response of the respondent (during the pilot test), the researcher circled the indicated response (agree, no answer, disagree). In addition to the answer indicators, a blank space and the subscale name (e.g. _____ Total score for network size) was indicated at the end of each subscale for the purpose of scoring that individual subscale.

Instructions were developed and indicated at the beginning of Part A and Part B. The instructions at the beginning of Part A indicated the purpose of that part and the intent of the researcher to keep the information confidential. The purpose of Part A was to gather demographic information of members of mall walking clubs. The instructions at the beginning of Part B indicated the purpose of that section. The purpose of Part B was to

gather information about mall walking clubs through responses to simple descriptive statements about groups and to gather information about the social health of members of mall walking clubs through responses to simple descriptive statements about individuals.

Face Validity Of Preliminary Instrument

The preliminary draft of Part B of the instrument was placed in the form of a Q-scale (see Appendix B) and mailed or delivered in person to thirteen subject-matter experts who served as judges (see Appendix C) of the 67 items. The judges selected were primarily sociologists and health educators. Four of the judges were sociologists, six were health educators, and one was an educator in general. It was believed that sociologists and health educators would render the best perspective of mall walking clubs and of social health.

The responsibility of the judges was to determine the appropriateness, favorableness and understandableness of each of the 67 items of Part B of the preliminary draft of the instrument. The judges also had the responsibility to make revisions of the items if they felt they were necessary and to suggest additional items that could be included in the scale.

Eleven of the thirteen judges completed the task. Other obligations forced two of the judges to make last

moment decisions not to evaluate the instrument. One of the eleven judges who evaluated the instrument partially completed the task because other priorities.

Though the instructions to the judges indicated that each item should be rated according to appropriateness, favorableness and understandableness, several judges chose not to rate certain items or certain categories. In several cases, question marks ("?",) were indicated by the judges instead of check marks. The question marks, in the cases of appropriate or nonappropriate and understandable or nonunderstandable ratings, were interpreted by the researcher as nonappropriate and nonunderstandable. Appendix D indicates the responses of the judges to each scale item.

The primary criteria for exclusion of any one item from the instrument was the item's inability to receive a majority agreement from the judges on appropriateness, favorableness and understandableness. Additionally, some items were eliminated because of redundancy of an idea, as indicated by the judges. In total, sixteen items were eliminated from the preliminary draft of the instrument. Items 7, 10, 8, 19, 22 and 23 lacked majority agreement among the judges concerning appropriateness and/or, favorableness and/or, understandableness. Items 2, 8, 15, 32, 34, 39, 48, 56, 58 and 63 were eliminated due to redundancy.

The discovery of two judges was that there was an inconsistent use of personal pronouns in all the subscales except that involving social health. Since the purpose of most of Part B of the instrument was to measure characteristics of groups, appropriate corrections regarding personal pronouns were made. Items 21, 22, 23, 24, 31, 32, 33, 40, 41, 48, 49, and 50 reflect pronoun changes (see Appendix E).

Since the social health subscale reflected personal feelings, a brief statement of clarification was included at the beginning of that subscale to indicate to the respondent a change of thought pattern (from giving an opinion concerning a group to giving an opinion concerning themselves). All additions, revisions and deletions are indicated in the first draft of the instrument displayed in Appendix E.

Pilot Test Of First Draft Of Instrument

The purpose of the pilot test was to determine the instrument's ease of administration and length of administration time.

The first draft of the instrument was administered to fifteen older adults who were members of the West Town Walking Club in Knoxville, Tennessee. The subjects were selected randomly from a membership list of four hundred and sixteen members. Permission to obtain the membership list

and contact members of the club was granted by the Marketing Director of West Town Mall (see Appendix F).

The purpose of the pilot test was indicated to each respondent at the beginning of the telephone interview. The respondent was assured that the information given would be used in the study, but their name would not be associated with the information given. After this assurance was made, the subject was asked if they would like to participate.

A stop watch was used during the interviews to determine the length of administration time. The length of administration time ranged from eight minutes and thirteen seconds to twenty-three minutes and thirty seconds per interview, with the average time being approximately sixteen minutes. Several of the respondents felt the instrument was too long.

Findings of the pilot test indicated that two categories (social class and political orientation) and their associated questions in Part A of the first draft of the instrument were very difficult to administer. Respondents were uneasy about identifying themselves with a particular social class. Respondents also had a difficult time understanding the political terms that were indicated (conservative, liberal and moderate). For these reasons the categories concerning social class and political orientation were eliminated (see Appendix G).

Since date of birth is sometimes difficult to obtain,

and since age was a delimiting factor, it was determined by the researcher that the questions on mall walking participation and distance of residence from the mall should be asked before the respondent was asked about their date of birth. The intent of this revision was to help place the respondent at ease before more personal questions were asked (see Appendix G).

It was also determined that when asking the respondent about religious affiliation, it would be better to use the categories Protestant, Catholic, other and none (see Appendix G).

Other additions to Part A included adding the category "single" to the check list under marital status and adding the category "none" under chronic medical conditions.

Findings of the pilot study concerning Part B of the first draft of the instrument were that three of the items needed to be revised. The three items that were revised were items 11, 34 and 35 (see Appendix E and G).

Revised Instrument Administration

The revised instrument (see appendix G), resulting from corrections made after the pilot test, was administered to the study population. The purpose of administering the revised draft of the instrument to the study population was to gather data so that the reliability of the instrument would be determined. The revised instrument is discussed in

the following two sections; the study population and the telephone interview.

Study Population

The study population consisted of a random sample of 50 subjects each from two mall walking clubs in Hamilton County, Tennessee. The two clubs sampled were the Old Timers' Club (OTC) of Eastgate Mall and the Hamilton Place Mall Walkers Club (HPMC) of Hamilton Place Mall, both in Chattanooga, Tennessee.

The membership list of the OTC consisted of one hundred and seventy-three adults. Of the one hundred and seventy-three members of the club, seven were excluded because they failed to qualify for the 65-year-old age delimitation of this study. Additionally, twenty-six members of the OTC were exempted from the study due to non-ambulatory conditions restricting them from access to the mall. In total, of the one hundred and seventy-three members of the club, one hundred and forty were eligible for the purpose of this study.

The researcher obtained the OTC membership list and permission to use the list by contacting the secretary of the OTC (see Appendix H). The membership list included the names of club members, their address, their date of birth and telephone number.

The HPMC membership list consisted of four hundred and

thirty-five members. The membership list included the name of the member and their address. Twenty-nine members were eliminated because they did not live in Hamilton County, Tennessee. The remaining membership was numerically coded from one to three hundred and six. Randomly selected subjects telephone numbers were found in the South Central Bell telephone directory for the Chattanooga area.

Since date of birth was unknown, a total of one hundred and twenty-seven of the HPMC members was contacted before fifty members, 65 years of age and older were identified. The instrument was administered to each of the fifty older adults. Permission to use the membership list and to contact members of the HPMC was granted by the Cardiac Representative of Memorial Hospital, the club sponsor (see Appendix I).

Telephone Interview

The telephone interview consisted of an introduction of the researcher, an explanation of the purpose of the study, an invitation to the respondent to take part in the study, consent of the respondent to participate in the study and the administration of the instrument. All telephone interviews were conducted by the researcher to eliminate administration differences that may occur with multiple administrators.

The introduction of the researcher and an explanation

of the purpose of the study were briefly and consisely stated. A deliberate attempt was made to assure the club member that the study was educational in nature and that proper channels were taken in securing permissions to conduct the study. This attempt was made in an effort to assure the respondent that the call was not being made by a prankster or salesman.

Following the introduction of the researcher and explanation of the purpose of the study, an assurance was given the respondent that the information given by the respondent would be used in the study but the respondent's name would not be associated with the information. An invitation was then given to the respondent to take part in the study. Upon acceptance of the invitation, the protocol at the beginning of the instrument was read, and then the instrument was administered.

Parts A and B of the revised draft of the instrument were stapled separately. Demographic information (Part A) was gathered on each respondent interviewed to determine their date of birth. If the respondent met the age criteria determined for the study, then the Likert scale (Part B) was administered to the respondent. Following the interview, the two sections were stapled together and coded at the top of the first page so that interviews with the subjects that met the age criteria for the study were distinguished from those not meeting the criteria.

Demographic Analysis

The purpose of analyzing the demographic information gathered by Part A of the revised draft of the instrument was to determine mall walking club member homogeneity or lack of homogeneity and to answer research question number one: What were the demographic characteristics of members of mall walking clubs in Hamilton County, Tennessee?

Gender

Table I indicates that sixty percent of all subjects in the study population were male and forty percent were female. The OTC had a considerably greater percentage (82 percent) of males who were interviewed than did the HPMC (38 percent).

Race

Minorities comprised only a small percentage (6 percent) of the total study population. The study population was overwhelmingly Caucasian (94 percent) as indicated in Table I.

Marital Status

Eighty-two percent of the study population were married (Table I). Fourteen subjects were either a widow or widower, ten of which were from the HPMC. Three subjects

TABLE I

Distribution Of Gender, Race And Marital Status
 Characteristics Of The Old Timers' Club And
 The Hamilton Place Mall Walkers Club

Characteristic	<u>Total</u>	<u>OTC</u>		<u>HPMC</u>	
	N	N	%	N	%
<u>Gender</u>					
Male	60	41	82	19	38
Female	40	9	18	31	62
<u>Race</u>					
Caucasian	94	48	96	46	92
Black	3	0	0	3	6
Hispanic	0	0	0	0	0
Other	3	2	4	1	2
<u>Marital Status*</u>					
Married	82	44	88	38	76
Divorced	3	2	4	1	2
Widow/Widower	14	4	8	10	20

* One case of marital status not reported.

reported divorced relationships, and no one reported to be separated from their spouse or single.

Mall Walking Participation

A greater percentage (56% OTC and 64% HPMC) of mall walkers reported that they walk in the mall three days or more per week as opposed to less than three days per week (Table II).

Distance Of Residence From The Mall

Table II indicates that over seventy percent of the study population live within five miles of the mall. Only a small percentage of the study population (8 percent) live more than 10 miles from the mall.

Age

The age of the study population ranged from 65 years of age to 88 years of age (Table III). The mean age of subjects sampled of the combined clubs was 71.22, and the median age was 70. The most frequently occurring age among both clubs was 65.

Education

The frequency and percentage distributions of education characteristics are presented in Table IV. Nearly one-half (N = 23) of the club members sampled from the HPMC indicated

TABLE II

Distribution Of Mall Walking Participation And Distance
Of Residence From The Mall Of The Old Timers' Club
And The Hamilton Place Mall Walkers Club

Characteristic	<u>Total</u>	<u>OTC</u>		<u>HPMC</u>	
	N	N	%	N	%
<u>Mall Walking</u>					
<u>Participation</u>					
3 day or more	60	28	56	32	64
per week					
less than 3	40	22	44	18	36
days a week					
<u>Distance Of Residence</u>					
<u>From The Mall</u>					
less than 1 mile	16	4	8	12	24
2-3 miles	40	28	56	12	24
3-5 miles	15	5	10	10	20
6-10 miles	21	8	16	13	26
more than 10 miles	8	5	10	3	6

TABLE III

Distribution Of Age Of The Old Timers' Club
And The Hamilton Place Mall Walkers Club

Characteristic	<u>Total</u>	<u>OTC</u>		<u>HPMC</u>	
	N	N	%	N	%
<u>Age</u>					
65	15	3	6	12	24
66	6	0	0	6	12
67	9	4	8	5	10
68	4	2	4	2	4
69	11	4	8	7	14
70	10	8	16	2	4
71	7	2	4	5	10
72	3	2	4	1	2
73	5	3	6	2	4
74	5	3	6	2	4
75	5	3	6	2	4
76	5	4	8	1	2
77	3	2	4	1	2
79	4	2	4	2	4

TABLE III (continued)

Characteristic	<u>Total</u>	<u>OTC</u>		<u>HPMC</u>	
	N	N	%	N	%
80	1	1	2	0	0
81	1	1	2	0	0
82	3	3	6	0	0
85	1	1	2	0	0
87	1	1	2	0	0
88	1	1	2	0	0

OTC/HPMC median = 70

Total mean = 71.22

 mode = 65

 s.d. = 5.36

TABLE IV

Distribution Of Education, Religion And Occupation
 Characteristics Of The Old Timers' Club And
 The Hamilton Place Mall Walkers Club

Characteristic	<u>Total</u>	<u>OTC</u>		<u>HPMC</u>	
	N	N	%	N	%
<u>Education</u>					
No degree	20	12	24	8	16
High School degree	45	26	52	19	38
College degree	30	9	18	21	42
Master's degree	3	2	4	1	2
Doctoral degree	2	1	2	1	2
<u>Religion</u>					
Protestant	90	44	88	46	92
Catholic	2	1	2	1	2
Other	4	3	6	1	2
None	4	2	4	2	4
<u>Occupation</u>					
Retired	87	43	86	44	88
Not Retired	7	2	4	5	10
Retired-working	6	5	10	1	2

having either a college degree or higher, as compared to members of the OTC (N = 12). Twenty percent of the study population (Total) indicated having no degree.

Religion

Table IV indicates overwhelmingly that the religious persuasion of the study population was Protestant. Of the one hundred subjects interviewed ninety were Protestant, two indicated Roman Catholicism as their choice of religion, two indicated a religious persuasion other than Protestant or Catholic, and four subjects indicated no religious persuasion at all.

Occupation

The frequency and percentage distributions of occupation characteristics are presented in Table IV. Eighty-seven percent of subjects of both clubs (Total) were retired, six percent of subjects of both clubs were retired but working and seven percent of subjects of both clubs were not retired.

Income

Approximately seventy-five percent of the study population were willing to report income. Reporting income was a sensitive issue for members of the OTC and became a

deterant to other data gathering. Following a discussion with the secretary of the OTC, it was decided not to formally report income data in this study.

Chronic Medical Conditions

Table V presents the frequency distribution of chronic medical conditions among members of the OTC and the HPMC. Of the fifty subjects interviewed from each club, twenty-two indicated having no chronic medical conditions. Ten subjects, five from each club, indicated that they had multiple chronic conditions. Among both clubs the medical condition occuring most frequently was heart disease.

Reliability Analysis

The data gathered through administration of Part B of the revised draft of the instrument to the study population were subject to reliability analysis. The purpose of the reliability analysis was to address research question number three of this study: Was the instrument developed in this study reliable? Item coding and weighting and analysis of each of the subscales of Part B of the instrument are reported in this section on reliability analysis.

Item Coding/Weighting

Each item within Part B of the instrument was weighted and coded (3, 2, or 1) for scoring purposes. The coding of

TABLE V

Frequency Distribution Of Chronic Medical
 Condition Characteristics Of The Old
 Timers' Club And The Hamilton
 Place Mall Walkers Club

	<u>Total</u>	<u>OTC</u>	<u>HPMC</u>
Characteristic	N*	N*	N*
Heart disease	21	12	9
Stroke	2	1	1
Cancer	2	1	1
Diabetes	8	5	3
High blood pressure	12	7	5
Arthritis	8	2	6
Other	15	7	8
None	44	22	22
Multiple conditions	10	5	5

* No percentages are reported because some subjects
 reported more than one chronic medical condition.

items was based on the overall response of the judges (see Appendix D) concerning favorableness and nonfavorableness of items. A majority consensus among the judges concerning favorableness of an item was given a code of three. If the respondent agreed with an item that was coded as a favorable item by the judges, they received three points toward the total score of the subscale of that particular item. If the subject disagreed concerning an item determined by the judges to be favorable, they would receive one point toward the total score of the subscale of that particular item. If the subject had no answer concerning an item determined by the judges to be favorable they were given two points toward the total subscale score of that particular item. For example, item 16 (see Appendix G), in the subscale entitled strength of ties, was determined by the judges (see Appendix D) to be a favorable item and was coded as a three point item following an agree response. If the respondent indicated that they agreed with item 16, three points were credited toward their total score for the strength of ties subscale. Conversely speaking, item 25 (see Appendix G) in the subscale entitled reciprocity was determined by the judges (see Appendix D) to be a nonfavorable item, and three points were credited a subject concerning the reciprocity subscale total score. If the respondent disagreed with item 25 they were credited with three points toward the reciprocity total subscale score. If the respondent agreed

with item 25, they were credited with only one point toward the reciprocity total subscale score.

Two items in Part B of the revised draft of the instrument (see Appendix G) were questioned by the researcher as to their proper coding. They were items 4 (network size) and 17 (strength of ties). The researcher had originally worded each of these items so that they would reflect a disagree response; however, the consensus of the judges was that these items should reflect an agree response.

Item 4 was brought into question because the original statement, "Members are constantly dropping out of the mall walking club but new members replace them" was substantially revised. Several judges expressed the opinion that there were two ideas expressed in the original statement which would make it difficult to respond to. Additionally, several judges questioned the word "constantly" within item 4. As a result the researcher revised item 4 to state, "There is a consistent turnover in the mall walking club membership." This revision may have altered the judges decision concerning a favorable/nonfavorable rating of item 4 if they were to rate the item again. Item 4 had an item-total correlation of $-.32$. According to Likert (1932), "If a negative correlation coefficient is obtained, it indicates that the numerical values are not properly assigned and that the one and five ends should be reversed."

A decision was made to change the coding of item 4 from agree to disagree (Table VI).

Item 17 had an item-total correlation of $-.38$ (Table VI). A decision was made to change the coding of item 17 from agree to disagree (Likert, 1932).

Subscale Analysis

The data gathered from administration of Part B of the revised draft of the instrument to the study population was entered into the computer. Computer assisted point biserial item analysis was determined for each of the 51 items in Part B of the revised draft of the instrument. Items which did not meet the $.25$ point biserial item analysis criteria determined for the study are indicated in Table VII.

Chronbach alpha was determined for each of the seven subscales within the revised draft of the instrument. Table VIII indicates the alpha with all items included in each subscale.

Network Size. Item 1, 2, and 5 of the subscale network size were rejected by the point biserial item analysis criteria determined for this study (Table VII). Keeping items 3 and 4 did considerably improved the alpha of the network size subscale (Table VIII).

Several of the judges of the preliminary instrument indicated they thought it would be very difficult to measure

TABLE VI

Judges Responses, Item-Total Correlations
And Coding Decisions Concerning
Questionable Subscale Items

Item #	Judges responses agree/disagree	Item-total correlation	Coding decision
4	8/1	-.32	disagree
17	6/3	-.38	disagree

TABLE VII

Rejected Items By Subscale Following
Point Biserial Item Analysis And
Their Item-Total Correlations

Subscale	Item #	Item-Total Correlation*
<u>Network size</u>		
	1	-.05
	2	-.05
	5	.09
<u>Density</u>		
	7	.20
	8	-.20
	9	.16
	11	.08
<u>Geographic Dispersion</u>		
	12	.15
	13	.16
	14	.24
	15	.07

TABLE VII (continued)

Subscale	Item #	Item-Total Correlation*
<u>Strength of Ties</u>		
	21	.22
<u>Reciprocity</u>		
	24	.22
	25	.20
	26	.18
<u>Multiplexity</u>		
	30	- .08
	31	.20
	35	.24
<u>Social Health</u>		
	50	.22
	51	.17

* The criteria of rejection for point biserial item analysis of this study was .25.

TABLE VIII

Reliability Analysis Of Subscales
Of Part B Of The Revised Draft
Of The Instrument

Subscale	Alpha- all items included	Alpha- after items elim. by point biseral item analysis	Alpha- highest possible
Network size	.26	.70	.70
Density	.38	.51	.51*
Geographic dispersion	.30	.00	.33*
Strength of ties	.53	.51	.73
Reciprocity	.51	.47	.52*
Multipexity	.59	.69	.69
Social health	.87	.88	.88

* Includes keeping certain items rejected at .25 by the point biseral item analysis criteria.

network size with an attitude scale. As one judge stated, "What you have are attitudes toward growth," not network size. Another judge indicated that she thought network size would be better dealt with in Part A of the instrument, demographic information.

Density. Items 7, 8, 9, and 11 did not meet the point biserial item analysis criteria (Table VII). Keeping items 6 and 10 (see Appendix G) improved the alpha of the density subscale from .38 to .51.

Several of the judges indicated they believed that information about density would be obtained more effectively in the demographic section. They believed density questions were quantitative and not qualitative in nature.

Geographic Dispersion. All items regarding the geographic dispersion subscale were rejected by the point biserial item analysis criteria (Table VIII).

Again, several of the judges indicated that geographic dispersion would be obtained more effectively in the demographic section. As was the case with the network size and density subscales, geographic dispersion is quantitative in nature and can not be easily measured with an attitude scale. The researcher had seriously considered the comments of a minority of the judges concerning the manageability of the subscales of network size, density, and geographic

dispersion in the attitude section of the instrument during the recording of the judges' responses. As it turned out, the statistical analysis supported the minority position.

Strength Of Ties. The strength of ties subscale without any items deleted had an alpha of .53. After eliminating item 21 (.22), the alpha of the strength of ties subscale decreased to .51. Elimination of item 21 left seven items within the strength of ties subscale (see Appendix G). The remaining items had item-total correlations ranging from .34 to .59.

Reciprocity. Items 24, 25 and 26 (see Appendix G) of the reciprocity subscale did not meet the point biserial item analysis criteria of .25 (Table VII). However, by eliminating these three items from the subscale the alpha decreased from .51 to .47. Further examination of the data revealed that by eliminating item 26 alone, the highest possible alpha level would be obtained for the reciprocity subscale (.51). Elimination of items 24, 25 and 26 would leave three items in the reciprocity subscale with item-total correlations ranging from .25 to .37.

Multiplexity. Items 30, 31 and 35 (see Appendix G) did not meet the point biserial item analysis criteria of .25 (Table VII). The alpha of the multiplexity subscale

increased from .59 to .69 with the elimination of items 30, 31 and 35. Eliminating items 30, 31 and 35 leaves five items in the multiplexity subscale with item-total correlations ranging from .32 to .59.

Social Health. The social health subscale had by far the most impressive initial alpha level of the seven subscales, .87. Items 50 and 51 (see Appendix G) did not meet the point biserial item analysis criteria (.22 and .17 respectively) and were eliminated, leaving the scale with 12 items and an improved alpha level of .88. The remaining items in the social health subscale have item-total correlations ranging from .25 to .75.

Relationships Between Sociological Characteristics And Social Health

Determining the relationships between each sociological characteristic and social health provided an answer to research question number two: What was the relationship between each sociological characteristic and social health? Table IX indicates the correlation between the total score of each sociological characteristic and social health.

Pearson Product Moment Correlation Coefficients indicated significant ($p = .01$) relationships between the total subscale scores of social health and density, strength of ties, reciprocity and multiplexity. The total subscale

TABLE IX

Correlations Between Sociological Characteristics
And Social Health Total Scores After Point
Biserial Item Analysis Deletions

Sociological Characteristic	Correlation with social health after point biserial item analysis deletions
Network size	-.12
Density	.30*
Geographic dispersion	.00
Strength of ties	.42*
Reciprocity	.55*
Multiplexity	.60*

* Significant at $p = .01$.

scores of network size and geographic dispersion failed to produce a significant ($p = .01$) relationship with the total subscale score of social health. The failure of network size and geographic dispersion to produce a significant relationship with social health could be the result of their structural nature, that is to say, network size and geographic dispersion are quantitative in nature and were correlated to a qualitative property.

The subscales of strength of ties, reciprocity and multiplexity had high correlations with the social health subscale (.42, .55 and .60, respectively) after items were deleted by the point biserial item analysis criteria. This indicates that there is a significant relationship between agreement of favorably coded items on the total subscale scores of strength of ties, reciprocity and multiplexity and the total subscale score of social health. As people disagree with favorably coded items in the subscales of strength of ties, reciprocity, and multiplexity, they tend to also respond negatively to favorably coded items in the social health subscale.

The Final Instrument

Appendix J presents the final instrument. The subscales of network size, geographic dispersion and density were withdrawn from the final instrument of this study. All items of the subscale of geographic dispersion were

eliminated because they did not meet the criteria established by the point biserial item analysis. Two items each were left in both the network size and density subscales. All other items in network size and density were eliminated because of failure to meet the biserial criteria.

Statements by several of the judges significantly influenced the decision to drop the network size, density and geographic dispersion subscales. Though the initial intention to measure network size, density and geographic dispersion was genuine, the researcher concluded that it is difficult, if not impossible, to consistently measure these properties with an attitude scale.

As defined earlier in this document, the sociological characteristics of interest in this study were the structural properties of one's social support system relative to the total social network using the network indicators of size, density, geographic dispersion and homogeneity. This study was also interested in the functional properties of the network system as indicated by strength of ties, reciprocity and multiplexity. The structural properties can be more accurately addressed through the demographic section (Part A) of the instrument of this study. Member homogeneity was already addressed in Part A of the instrument and network size, density and geographic dispersion were easily adapted into Part A of the final instrument (see Appendix J).

Advice from insightful judges kept this researcher from making the mistake of other researchers in failing to make distinctions between quantity (number, frequency, proximity) and quality of relationships (Lowenthal, et al., 1976; Thoits, 1982). The subscales of strength of ties, reciprocity and multiplexity accurately reflect quality of relationships.

Another reason supporting the decision to eliminate the subscales of network size and geographic dispersion from Part B of the instrument was that each failed to correlate significantly with the area of social health (Table IX).

In addition to the items deleted in network size , density and geographic dispersion, seven other items were deleted from the instrument: two from strength of ties, three from multiplexity and two from social health (see Appendix G and J).

A decision to eliminate item 17 from the strength of ties subscale was made by the researcher. Item 17 did meet the point biserial item analysis criteria determined for this study, but by its elimination the alpha of the strength of ties subscale increased by .22 percent (from .51 to .73). According to Levitt (1961), coefficients ranging from .60 to .70 are perfectly acceptable if the investigator is interested only in group data.

Based on the decision to focus the attention of Part B of the instrument on measuring quality of relationships, and

their relationship to social health, all items in the reciprocity section were retained. Three items in reciprocity did not meet the point biserial item analysis criteria. One item not meeting the criteria, item 24 (see Appendix G), was a difficult statement for HPMC members to respond to because of the size of their club (435 members) and the age of the club (6 months). Item 25 (see Appendix G), also eliminated by point biserial item analysis could also have been difficult to respond to because of the age of the HPMC club. Item 26 (see Appendix G) had the lowest item-total correlation (.18) but if dropped it would only raise the alpha level of the reciprocity subscale .005 of a percent. If items 24, 25 and 26 of reciprocity were all eliminated then the alpha of the remaining three items (27, 28 and 29) in reciprocity would decrease to .47. By eliminating three items a lower reliability level would be created.

Part A of the final instrument consists of a section on homogeneity, geographic dispersion and density. Questions to determine frequencies and percentages were added to the sections on density and geographic dispersion (Table X). One question was added before Part A of the instrument concerning network size. The question on network size should be asked of mall walking club officials only (see Appendix A).

TABLE X

Subscales And Questions Added To
Part A Of The Final Instrument

Subscales

Questions

Network size

Question for mall walking club officials only:

What was the size of the _____ mall walkers club:

1 year ago _____ 2 years ago _____ 3 years ago _____

Geographic dispersion

Mall walking Participation:

a) Do you walk in the mall...

3 days or more a week _____

less than 3 days a week _____

b) Please fill in the following blank:

Mall walking is _____ % of my exercise program.

TABLE X (continued)

Subscales	Questions
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Density

a) Besides mall walking, what kinds of activities do you share with mall walking club members?

1. _____ 2. _____ 3. _____

b) Name the members in the mall walking club you are closest to:

1. _____ 2. _____ 3. _____

4. _____ 5. _____

Part B of the final instrument consists of four subscales (strength of ties, reciprocity, multiplexity and social health). Part B contains a total of 29 items: a) 6 items in strength of ties; b) 6 items in reciprocity; c) 5 items in multiplexity; and, d) 12 items in social health.

Summary

The results of this chapter were based on the procedure that was followed in the development of the instrument of this study. The following is a summary of the results of the procedure that was followed in the development of the instrument:

- 1) The preliminary draft of the instrument was developed in two phases. Phase one involved development of Part A (demographic information) of the preliminary draft of the instrument. Phase two involved development of the seven subscales of Part B (Likert scale) of the preliminary draft of the instrument.
- 2) Part B of the preliminary instrument was placed in the form of a Q-scale and evaluated by a jury of judges. Their evaluation resulted in elimination of sixteen items from Part B of the preliminary draft of the instrument. The first draft of the instrument resulted from the evaluation of the jury of judges of Part B of the preliminary draft of the instrument.
- 3) The first draft of the instrument was pilot tested with

fifteen members of the West Town Walking Club in Knoxville, Tennessee. It was found that administration of the instrument took approximately sixteen minutes. Several categories in Part A (demographic information) of the first draft of the instrument were revised. In addition, three items of Part B (Likert scale) of the first draft of the instrument were revised. The revisions of Part A and Part B of the first draft of the instrument resulted in the revised draft of the instrument.

4) The revised instrument was administered to members of the study population. The study population consisted of fifty members from the OTC and HPMC in Chattanooga, Tennessee. The revised instrument was administered by telephone interview.

5) The data gathered through the administration of Part A of the revised instrument was analyzed. The following demographic characteristics were examined: gender, marital status, mall walking participation, distance of residence from the mall, age, education, religion, occupation, and chronic medical conditions.

6) The data gathered through administration of Part B of the revised instrument was analyzed. Point biserial item analysis and Chronbach alpha were used in the analysis process. The analysis resulted in the elimination of the subscales network size, density, and geographic dispersion from Part B of the instrument. Network size, density, and

geographic dispersion were moved to Part A of the final draft of the instrument. A few of the items of the subscales of strength of ties, multiplexity and social health were eliminated to strengthen the alpha coefficient of each of those subscales. All items of the reciprocity subscale were kept in order to retain a respectable alpha coefficient.

7) Relationships between the subscales of strength of ties, reciprocity, multiplexity and social health were examined. The subscale total scores of strength of ties, reciprocity and multiplexity had high correlations with the social health subscale total score after items were deleted by the point biserial item analysis criteria.

8) Following the analysis of the data the instrument was placed in its final form. Part A of the final instrument consists of questions regarding member homogeneity, network size, density and geographic dispersion. Part B of the final instrument consists of four subscales: strength of ties, reciprocity, multiplexity, and social health. Part B contains a total of 29 items.

The analysis of the data in this chapter will provide the basis for reporting chapter V. Chapter V will present a summary of this study and the findings, conclusions and recommendations of this study.

CHAPTER V

SUMMARY, FINDINGS, CONCLUSIONS
AND RECOMMENDATIONS

This chapter is comprised of four sections. The first section contains a summary of this study; the second section contains the findings; the third section contains the conclusions; and, the final section contains the recommendations resulting from the study.

Summary

The problem of this study was to develop a valid and reliable instrument that would ascertain the sociological characteristics of mall walking clubs and social health of members of mall walking clubs in Hamilton County, Tennessee.

Permission was requested and granted (see Appendices F, H, and I) to obtain the membership lists and contact members of the following mall walking clubs: 1) the West Town Mall Walking Club of Knoxville, Tennessee (pilot study); 2) the Old Timers' Club of Chattanooga, Tennessee (study population); and, 3) the Hamilton Place Mall Walkers Club of Chattanooga, Tennessee (study population).

After permissions were secured to work with the pilot test population and the study population, the following

procedures of test construction were followed:

1. selecting and defining the sociological characteristics of interest in this study;
2. defining social health;
3. determining categorical areas appropriate for Part A (Demographic Section) of the intended instrument and collecting and refining potential items in each of the sociological characteristic domains for use in Part B (Likert scale) of the intended instrument;
4. developing a preliminary instrument of which Part B of the preliminary instrument was placed in the form of a Q-scale for expert feedback;
5. selecting a panel of subject matter experts to rate each item in Part B of the preliminary instrument for appropriateness, favorableness and understandableness;
6. delivering the instrument to each judge and reviewing their evaluations and opinions;
7. developing the first draft of the instrument based on the judges' evaluations and opinions;
8. pilot testing the first draft of the instrument with fifteen subjects of the West Town Mall Walkers Club in Knoxville, Tennessee;
9. revising the instrument following the pilot test;
10. administering the revised draft of the instrument by telephone interview to the study population (members of the OTC and HPMC);

11. loading the data gathered from administration of the instrument to the study population into the computer for reliability analysis;

12. computing a point biserial item analysis for each item within Part B of the instrument;

13. computing a Chronbach alpha reliability coefficient for each of the seven subscales;

14. making decisions on which items to retain and delete;

15. developing the final instrument.

The final draft instrument consisted of two parts, A and B. Part A of the instrument is demographic in nature and is designed to collect information concerning member homogeneity, density and geographic dispersion. Part B of the instrument is in the form of an attitude scale and consists of four separate subscales; strength of ties, reciprocity, multiplexity and social health. The strength of ties subscale contains 6 items, the reciprocity subscale contains 6 items, the multiplexity subscale contains 5 items and the social health subscale contains 12 items. A question to determine network size is positioned after the title of the instrument and just before Part A of the instrument and is to be answered by mall walking club officials only.

Face validity of the instrument was determined by a jury of judges and by revisions by the researcher following

the pilot testing of the preliminary draft of the instrument. Each item in Part B of the instrument was subject to analysis through point biserial item analysis. Chronbach alpha was computed to determine a reliability coefficient for each subscale in Part B.

Findings

Based on the analysis of data, the findings of this study were the following:

Demographic (Part A of the instrument)

1. There was a greater percentage of male club members interviewed in the OTC (82 percent) than in the HPMC (38 percent). The combined group total of male and female subjects was sixty percent male and forty percent female.

2. Subjects in the study population were predominantly married Caucasians. Ninety-four percent of the total study population was Caucasian and eighty-two percent of the study population was married. Fourteen percent of the study population was widowed.

3. A majority (60 percent) of the study population walk in the mall more than three days a week. The distance of residence from the mall of the study population varied, but most (56 percent, Total) lived within five miles of the mall in which they were club members.

4. The mean age of the study population was 70 years

and the median age was 70.99. The age of the study population ranged from 65 to 88.

5. The majority (90 percent) of the study population indicated their religious preference to be Protestant. Most subjects (87 percent, Total) were retired and possessed a high school degree or less (65 percent, Total). The number of subjects having a college degree or higher degree differed between the two clubs: OTC = 12 and HPMC = 23.

6. The most frequently occurring chronic medical condition reported among the study population was heart disease (twenty-one subjects). Forty-four subjects reported they were not hindered by any chronic medical condition and ten subjects reported multiple conditions (2 or more chronic medical conditions).

Scale Development (Part B of the instrument)

1. Two items (Table VI) were questionable items with regards to agree/disagree coding. The coding of the two items under question were changed from agree items to disagree items based on a significant negative coefficient determined through point biserial item analysis (Table VI).

2. Of the fifty-one items administered to the study population, twenty were subject to elimination because they did not meet the point biserial item analysis criteria of .25 (Table VII). Of the twenty items subject to elimination, three were retained to maintain strength in the

reciprocity subscale.

3. Three of the seven original subscales were removed from Part B of the final instrument and presented in a different format in Part A of the final instrument (demographic information). It was determined that network size, density and geographic dispersion would be better measured quantitatively in the demographic section of the instrument rather than qualitatively in the attitude scale section of the instrument.

4. The Chronbach alpha reliability coefficients of the four subscales that remained in Part B of the final instrument were Strength of ties, .72; Reciprocity, .51; Multiplexity, .69; and, Social health, .89.

5. There were significant ($p = .01$) correlations between the social health subscale total score and the subscale total scores of strength of ties, reciprocity and multiplexity. The following coefficients indicate the correlation between the social health subscale total score and the other subscale total scores in Part B of the final draft of the instrument: Strength of ties, .42; Reciprocity, .55; and Multiplexity, .60.

Conclusions

The following conclusions were drawn from the study:

1. A valid instrument capable of ascertaining the sociological characteristics of mall walking clubs in

Hamilton County, Tennessee was developed.

2. A reliable instrument capable of ascertaining the sociological characteristics of mall walking clubs in Hamilton County, Tennessee was developed.

3. The Mall Walkers Social Health and Social Relationship Indicator provides health educators an evaluation tool that can adequately make determinations about the sociological characteristics of mall walking clubs and social health of members of mall walking clubs.

4. The Mall Walkers Social Health and Social Relationship Indicator provides health educators an evaluation tool that can determine the relationships between the sociological characteristics of strength of ties, reciprocity, multiplexity and social health of mall walking clubs and their members.

5. The Mall Walkers Social Health and Social Relationship Indicator provides health educators with an evaluation tool that has considerable flexibility. The demographic section (Part A) of the instrument can be used separately to measure the structural properties of mall walking club members social network (homogeneity, density and geographic dispersion). Three of the subscales (strength of ties, reciprocity and multiplexity) in Part B of the final instrument can be used separate from the rest of the instrument to measure the functional properties of mall walking club members social networks. The social

health subscale can be easily adapted and used to measure the social health of members of other groups, or the social health subscale can be used in combination with the other three subscales in Part B of the Mall Walkers Social Health and Social Relationship Indicator to determine the relationship that each subscale has on the other.

Recommendations

The following recommendations are made based on the results of this study:

1. Further examination of the mall walking phenomenon needs to take place. Additional testing of the Mall Walkers Social Health and Social Relationship Indicator needs to be done to determine if the reliability of the instrument increases or decreases.
2. The reciprocity subscale of the instrument of this study needs to be improved. Additional items should be tested and then added to the reciprocity subscale section in an attempt to increase its alpha coefficient.
3. Additional administration of the instrument of this study should be given separately to formally organized and informally organized mall walking clubs to determine if there are significant differences in the responses.

CHAPTER VI

EPILOGUE

While pursuing the goal of developing a valid and reliable instrument in this study, the researcher came in contact with an interesting and enjoyable group of people, mall walkers. It was a pleasure to interview many of the older adults who took part in the study. The excitement that many of the mall walkers expressed would be challenging to those looking forward to life as an older adult. Many were content and living life to its "fullest." So as there were those who were enjoying life, there were also those who seemed to be nearly pleading with the researcher to do more with regards to programming. There are needy people that are reaching out everyday for someone. Yes, physical activity is important for older adults, but they need more than activity. Many older adults are longing for social relations with other people, and mall walking clubs, like any other club, are avenues for longing individuals to search for such companionship. Health educators need to be aware of the various means by which they can encourage individuals to pursue healthy lifestyles. Health educators would do well to encourage older adults to walk in the mall for physical maintenance and for relationship enhancement.

There appeared to be two types of individuals who walked at the mall. The first group of individuals were those who go to the mall to walk by themselves, give an occasional nod of the head to another walker in passing, and then go directly home. This group seems not to be particularly concerned with developing social relationships.

Second, there were the individuals who walked in the mall with friends, were about half-way concerned about how fast they walked and a little more concerned about the people they walked with. Future researchers of the mall walking phenomenon might bear this in mind and hope they do not get a skewed sample of the first group.

Regarding the development of the instrument, this researcher must say that it was a very challenging experience. If this study were to be duplicated, this researcher might be tempted to train several interviewers rather than accomplish the task single handed. However, then the pleasure of contacting vibrant and vigorous older adults would have been missed.

The judges of the instrument of this study did a tremendous job in directing the researcher toward the development of the instrument. A word to future researchers is, "Choose your judges carefully."

The researcher was caught off guard during the interview process by some adults who were offended when personal questions about income, marital status and age were

asked. To those offended, an apology is in order.

The high reliability coefficient of the social health subscale was a very pleasant surprise for the researcher, in that originally the social health subscale was not in the instrument but originated as a result of this study's proposal meeting. The lower reliability coefficient of the reciprocity subscale was disappointing, but its potential was somewhat reassuring.

The length of the final instrument of this study should be considerably more manageable. A number of the subjects in the study became weary with the length of the instrument before it was analyzed for reliability. Placing the sociological characteristics of network size, density and geographic dispersion in the demographic section of the instrument was a valuable adjustment. It also strengthened the attitude scale section of the instrument and reduced the number of items in the attitude scale from fifty-one to thirty-two. The instrument in its final form should now be completed in less than ten minutes.

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APPENDIXES

APPENDIX A
PRELIMINARY DRAFT OF THE INSTRUMENT

PART A

Demographic Information (Member Homogeneity)

There are two parts to this survey (Part A and B). This section of the survey, Part A, will seek to determine basic information about you, the mall walking club member.

Information given will be used in the study but your name will be known only by the researcher. Confidentiality of the information given to the researcher will be upheld. Please answer each item as honestly as you can.

Name: _____ Mall walking club: OTC or HPMC

Gender: M _____ F _____ Date of Birth: _____

Race: Caucasian _____ Black _____

Hispanic _____ Other _____

Level of Education: What is your level of education?

High school degree _____ College degree _____

Master degree _____ Doctoral degree _____

No Degree _____

Social Class: How would you classify your social status?

Upper class _____ Upper middle class _____

lower middle class _____ lower class _____

Occupation: Are you...

Retired_____ Other_____

Total Income of Household: What is the total annual income of your household?

under \$10,000_____ \$10,000-\$19,999_____

\$20,000-\$29,999_____ \$30,000 and over_____

Religious Affiliation: What is your religious affiliation?

Baptist_____ Methodist_____

Presbyterian_____ Catholic_____

Luthern_____ Episcopalian_____

Other_____

Political Orientation: Would you consider yourself to be...

conservative___ liberal___ moderate___

Personality Type: Would you classify your personality as...

Type A___ Type B___

Marital status: What is your marital status?

married___ divorced___ separated___

widow, widower___

Chronic Medical Conditions: Do you have any chronic medical

conditions?

Heart disease___ Stroke___ Cancer___

Diabetes___ High blood pressure___

Arthritis___ Other_____

Mall Walking Participation: Do you walk in the mall...

3 days or more a week_____

less than 3 days a week_____

Distance Of Residence From The Mall: How far from the mall
do you live?

less than 1 mile___ 1-3 miles___

3-5 miles___ 5-10___ 10 or more___

PART B

Likert scale (network size, density, geographic
dispersion, strength of ties, reciprocity, multiplexity,
social health)

The questions of Part B that follow make it possible to describe objectively certain characteristics about mall walking clubs. The items simply describe characteristics of groups; they do not judge whether the characteristic is desirable or undesirable. Therefore in no way are the questions to be considered a "test" either of the groups or

of the person answering the questions. A simple objective description of what the group is like is sought.

Your choices of answers are agree, disagree or no answer.

Please answer each question as honestly as possible.

Network size

- | | | | |
|-------|-----------|----------|---|
| Agree | No Answer | Disagree | 1) The mall walking club is rapidly increasing in size. |
| Agree | No Answer | Disagree | 2) Members are constantly leaving the mall walking club. |
| Agree | No Answer | Disagree | 3) New members are welcomed to the mall walking club on the basis "the more the merrier". |
| Agree | No Answer | Disagree | 4) The mall walking club engages in membership drives. |
| Agree | No Answer | Disagree | 5) Members are constantly dropping out of the mall walking club but new members replace them. |
| Agree | No Answer | Disagree | 6) Anyone desiring to enter club membership is welcome. |
| Agree | No Answer | Disagree | 7) Prospective members are carefully examined before they enter the group. |

Agree No Answer Disagree 8) All members know each other well.

_____Total Score for Network Size

Density

Agree No Answer Disagree 9) The mall walking club has well understood but unwritten rules that apply to all members.

Agree No Answer Disagree 10) The club has one main purpose for its members.

Agree No Answer Disagree 11) Members of the mall walking club gain a feeling of being honored by being recognized as one of the group.

Agree No Answer Disagree 12) No explanation need be given by a member who is absent from walking.

Agree No Answer Disagree 13) Mall walking club members are working toward many different goals.

Agree No Answer Disagree 14) Club members are aware of the benefits available through mall walking.

Agree No Answer Disagree 15) The club is made up of

members who do not know each other well.

Agree No Answer Disagree 16) Club members do things together that are not related to the club's main purpose.

_____Total Score for Density

Geographic Dispersion

Agree No Answer Disagree 17) The mall walking club is totally dependent on the mall facility.

Agree No Answer Disagree 18) Club members are in constant contact with each other outside the mall.

Agree No Answer Disagree 19) The activities of the mall walking club take up over one-fourth the time each member is awake.

Agree No Answer Disagree 20) Many of the mall walking club members walk outdoors.

Agree No Answer Disagree 21) Mall walking is only a small part of my exercise program.

Agree No Answer Disagree 22) I hardly ever see mall walking friends outside of the mall.

Agree No Answer Disagree 23) I spend less than ten hours
a week with mall walking club
preparations and activities.

Agree No Answer Disagree 24) I eat with club members
outside of the mall.

_____Total Score for Geographic Dispersion

Strength of Ties

Agree No Answer Disagree 25) Facts about club members
personal lives are known by
other members.

Agree No Answer Disagree 26) Club members are not in close
enough contact to develop
likes or dislikes for one
another.

Agree No Answer Disagree 27) Club members address each
other by their first name.

Agree No Answer Disagree 28) Mall walking club members are
personal friends.

Agree No Answer Disagree 29) Members of the club know the
family backgrounds of other
members of the club.

Agree No Answer Disagree 30) Members of the mall walking
club often walk together.

Agree No Answer Disagree 31) I can talk to mall walking

friends about personal
problems.

Agree No Answer Disagree 32) Members of the mall walking
club know the names of my
children or grandchildren.

Agree No Answer Disagree 33) I attend functions other than
walking with club members.

_____Total Score for Strength of Ties

Reciprocity

Agree No Answer Disagree 34) Certain members discuss
personal problems or
situations among themselves.

Agree No Answer Disagree 35) A club member has the chance
to get to know all other
members of the club.

Agree No Answer Disagree 36) The mall walking club is
controlled by the actions of
a few members.

Agree No Answer Disagree 37) Every member of the club
has equal freedom of
expression.

Agree No Answer Disagree 38) Club members know that each
one looks out for the other
one as well as for themself.

Agree No Answer Disagree 39) The opinions of all club
members are considered equal.

Agree No Answer Disagree 40) I would rather not talk when
I walk in the mall.

Agree No Answer Disagree 41) I enjoy listening to club
members plans.

_____Total Score for Reciprocity

Multiplexity

Agree No Answer Disagree 42) Only certain kinds of ideas
may be expressed freely among
club members.

Agree No Answer Disagree 43) Members of the mall walking
club provide other members
with emotional support.

Agree No Answer Disagree 44) Members of the club feel free
to discuss problems with each
other.

Agree No Answer Disagree 45) Members of the club do small
favours for one another.

Agree No Answer Disagree 46) Club members feel
uncomfortable about seeking
help from other members of
the group.

Agree No Answer Disagree 47) Members of the mall walking

club lend each other money or
things.

Agree No Answer Disagree 48) I do not feel comfortable
seeking help from mall
walking friends.

Agree No Answer Disagree 49) I help mall walking club
friends with different
projects.

Agree No Answer Disagree 50) I feel free to borrow things
from club members.

_____Total Score for Multiplexity

Social Health

Agree No Answer Disagree 51) I cope better with crises
because of the encouragement
I get from club members.

Agree No Answer Disagree 52) Mall walking friendships help
me to be more satisfied with
life.

Agree No Answer Disagree 53) I have feelings of
disappointment when I do not
have contact with mall
walking friends.

Agree No Answer Disagree 54) Mall walking club membership
gives me a greater sense of

identity and self control.

Agree No Answer Disagree 55) Due to mall walking

friendships I am a more
trusting person.

Agree No Answer Disagree 56) I cope better with life's

problems when I am with mall
walking friends.

Agree No Answer Disagree 57) Being able to share problems

with mall walking friends
increases my sense of well
being.

Agree No Answer Disagree 58) My overall health is

influenced by my mall walking
friendships.

Agree No Answer Disagree 59) I feel as comfortable

discussing problems with
mall walking friends as with
family.

Agree No Answer Disagree 60) My overall health is

influenced by mall walking
contacts.

Agree No Answer Disagree 61) Contact with club members

makes my day go better.

Agree No Answer Disagree 62) I prefer to walk in the malls

alone.

Agree No Answer Disagree 63) I prefer to walk with club

members.

Agree No Answer Disagree 64) Joining the mall walking club
is one of the best decisions
I have made.

Agree No Answer Disagree 65) Mall walking membership has
strengthened my relationship
with other people.

Agree No Answer Disagree 66) I am encouraged to exercise
more frequently because of
the example of other club
members.

Agree No Answer Disagree 67) I would not walk in the mall
unless my friends did.

* Developed in part from Hemphill's Index Of Group
Dimensions (1956).

APPENDIX B
JUDGES' Q-SCALE

MALL WALKER'S SOCIALIZATION INDICATOR:

Q-scale for judges

Instruction for judges:

Thank-you for volunteering to participate in the judgement of items in Part B of the Mall Walker's Socialization Indicator. Your expert opinion is greatly appreciated.

The purpose of this study is to develop an instrument that will ascertain the network properties of mall walking clubs and social health of members of mall walking clubs. The study population will be delimited to adults 65 years of age and older. You will be judging key properties which appear basic to network analysis as summarized by Minkler (1981) and, a section on social health. The properties in this study are referred to as sociological characteristics.

Six sociological characteristics (network size, density, geographic dispersion, strength of ties, reciprocity, multiplexity), and the section designed to measure social health, were chosen and represent separate subscales for analyses in this study. The following are definitions of the sociological characteristics and of social health used in this study (they will also be repeated at the beginning of each subscale):

Network size - the number of persons involved in a given network.

Density - the extent of interconnectedness between members of a given network.

Geographic dispersion - the degree of network confinement to or independence of a particular locality.

Strength of ties - the intensity of emotional and other bonds between members and the degree of intimacy or confiding which transpires.

Reciprocity - the direction of exchange and the degree to which members participate both in giving and receiving.

Multiplexity - the variety of types of exchanges that occur between members (e.g. seeking help, confiding a problem, providing material or emotional support).

Social health - the state of social equilibrium or tranquility which is influenced by one's social network and system of social support, resulting in happiness, trustfulness and a feeling of well being.

Your responsibility is to judge each item within the scale on the basis of the following criteria: 1) appropriateness - the extent to which the item accurately reflects the sociological characteristic to which it is assigned; 2) favorableness - the extent to which the item is a positive or negative (agree, disagree) response toward mall walking clubs. This definition will aid the researcher in scoring responses; and, 3) understandableness - the

extent to which each item is clear and understandable to the reader. These definitions will appear on a separate sheet of paper at the end of this document. You are encouraged to place it alongside the scale as you make your judgements. The protocol, as it will be presented to the respondent, is given with the scale following it. Check the appropriate categories according to your judgement under each scale item. Feel free to make additional markings above the scale item if you feel it is necessary to add or delete words.

If you feel that a new item is needed and you have a suggestion, please indicate your suggestion within the space provided at the end of each subscale entitled, "additional suggestions".

The title of the instrument is only temporary. If you have a suggestion please indicate your idea above the present title at the beginning of this Q-scale.

If you need to contact me please feel free to call collect at 615-624-5024.

PART B

Likert scale (network size, density, geographic dispersion, strength of ties, reciprocity, multiplexity, social health).

The questions of Part B that follow make it possible to describe objectively certain characteristics about mall walking clubs. The items simply describe characteristics of groups; they do not judge whether the characteristic is desirable or undesirable. Therefore in no way are the questions to be considered a "test" either of the groups or of the person answering the questions. A simple objective description of what the group is like is sought.

Your choices of answers are agree, disagree or no answer.

Please answer each question as honestly as possible.

Network size - the numbers of persons involved in a given network.

Agree No Answer Disagree 1) The mall walking club is
rapidly increasing in size.

☐ Appropriate	☐ Favorable
☐ Nonappropriate	☐ Nonfavorable
☐ Understandable	
☐ Nonunderstandable	

Agree No Answer Disagree 2) Members are constantly
leaving the mall walking
club.

☐ Appropriate	☐ Favorable
☐ Nonappropriate	☐ Nonfavorable

___ Understandable
 ___ Nonunderstandable

Agree No Answer Disagree 3) New members are welcomed to
 the mall walking club on the
 basis, "the more the
 merrier".

___ Appropriate ___ Favorable
 ___ Nonappropriate ___ Nonfavorable
 ___ Understandable
 ___ Nonunderstandable

Agree No Answer Disagree 4) The mall walking club engages
 in membership drives.

___ Appropriate ___ Favorable
 ___ Nonappropriate ___ Nonfavorable
 ___ Understandable
 ___ Nonunderstandable

Agree No Answer Disagree 5) Members are constantly
 dropping out of the mall
 walking club but new members
 replace them.

___ Appropriate ___ Favorable
 ___ Nonappropriate ___ Nonfavorable
 ___ Understandable

___Nonunderstandable

Agree No Answer Disagree 6) Anyone desiring to enter club
membership is welcome.

___Appropriate

___Favorable

___Nonappropriate

___Nonfavorable

___Understandable

___Nonunderstandable

Agree No Answer Disagree 7) Prospective members are
carefully examined before
they enter the group.

___Appropriate

___Favorable

___Nonappropriate

___Nonfavorable

___Understandable

___Nonunderstandable

Agree No Answer Disagree 8) All members know each other
well.

___Appropriate

___Favorable

___Nonappropriate

___Nonfavorable

___Understandable

___Nonunderstandable

Additional suggestions:

Density - the extent of interconnectedness between members of a given network.

Agree No Answer Disagree 9) The mall walking club has well understood but unwritten rules that apply to all members.

___Appropriate

___Favorable

___Nonappropriate

___Nonfavorable

___Understandable

___Nonunderstandable

Agree No Answer Disagree 10) The club has one main purpose for its members.

___Appropriate

___Favorable

___Nonappropriate

___Nonfavorable

___Understandable

Nonunderstandable

Agree No Answer Disagree 11) Members of the mall walking club gain a feeling of being honored by being recognized as one of the group.

___Appropriate

___Favorable

☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 12) No explanation need be given
 by a member who is absent
 from walking.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 13) Mall walking club members are
 working toward many different
 goals.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 14) Club members are aware of
 the benefits available
 through mall walking.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable

___Nonunderstandable

Agree No Answer Disagree 15) The club is made up of
members who do not know
each other well.

___Appropriate

___Favorable

___Nonappropriate

___Nonfavorable

___Understandable

___Nonunderstandable

Agree No Answer Disagree 16) Club members do things
together that are not related
to the club's main purpose.

___Appropriate

___Favorable

___Nonappropriate

___Nonfavorable

___Understandable

___Nonunderstandable

Additional suggestions:

Geographic Dispersion - the degree of network
confinement to or independence of a particular locality.

Agree No Answer Disagree 17) The mall walking club is

totally dependent on the
facility.

☐ Appropriate	☐ Favorable
☐ Nonappropriate	☐ Nonfavorable
☐ Understandable	
☐ Nonunderstandable	

Agree No Answer Disagree 18) Club members are in constant
contact with each other
outside the mall.

☐ Appropriate	☐ Favorable
☐ Nonappropriate	☐ Nonfavorable
☐ Understandable	
☐ Nonunderstandable	

Agree No Answer Disagree 19) The activities of the mall
walking club take up over
one-fourth the time each
member is awake.

☐ Appropriate	☐ Favorable
☐ Nonappropriate	☐ Nonfavorable
☐ Understandable	
☐ Nonunderstandable	

Agree No Answer Disagree 20) Many of the mall walking club
members walk outdoors.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 21) Mall walking is only a small
part of my exercise program.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 22) I hardly ever see mall
walking friends outside of
the mall.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 23) I spend less than ten hours
a week with mall walking
club preparations and
activities.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable

☐ Understandable☐ Nonunderstandable

Agree No Answer Disagree 24) I eat with club members
outside of the mall.

☐ Appropriate☐ Favorable☐ Nonappropriate☐ Nonfavorable☐ Understandable☐ Nonunderstandable

Additional suggestions:

Strength of Ties - the intensity of emotional and other
bonds between members and the degree of intimacy or
confiding which transpires.

Agree No Answer Disagree 25) Facts about club members
personal lives are known by
other members.

☐ Appropriate☐ Favorable☐ Nonappropriate☐ Nonfavorable☐ Understandable☐ Nonunderstandable

Agree No Answer Disagree 26) Club members are not in close
 enough contact to develop
 likes or dislikes for one
 another.

___Appropriate ___Favorable
 ___Nonappropriate ___Nonfavorable
 ___Understandable
 ___Nonunderstandable

Agree No Answer Disagree 27) Club members address each
 other by their first name.

___Appropriate ___Favorable
 ___Nonappropriate ___Nonfavorable
 ___Understandable
 ___Nonunderstandable

Agree No Answer Disagree 28) Mall walking club members are
 personal friends.

___Appropriate ___Favorable
 ___Nonappropriate ___Nonfavorable
 ___Understandable
 ___Nonunderstandable

Agree No Answer Disagree 29) Members of the club know the
 family backgrounds of other
 members of the club.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 30) Members of the mall walking
club often walk together.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 31) I can talk to mall walking
friends about personal
problems.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 32) Members of the mall walking
club know the names of my
children or grandchildren.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable

___Nonunderstandable

Agree No Answer Disagree 33) I attend functions other
than walking with club
members.

___Appropriate

___Favorable

___Nonappropriate

___Nonfavorable

___Understandable

___Nonunderstandable

Additional suggestions:

Reciprocity - the direction or exchange and the degree
to which members participate both in giving and receiving.

Agree No Answer Disagree 34) Certain members discuss
personal problems or
situations among themselves.

___Appropriate

___Favorable

___Nonappropriate

___Nonfavorable

___Understandable

___Nonunderstandable

Agree No Answer Disagree 35) A club member has the chance

to get to know all other
members of the club.

___Appropriate

___Favorable

___Nonappropriate

___Nonfavorable

___Understandable

___Nonunderstandable

Agree No Answer Disagree 36) The mall walking club is
controlled by the actions of
a few members.

___Appropriate

___Favorable

___Nonappropriate

___Nonfavorable

___Understandable

___Nonunderstandable

Agree No Answer Disagree 37) Every member of the club
has equal freedom of
expression.

___Appropriate

___Favorable

___Nonappropriate

___Nonfavorable

___Understandable

___Nonunderstandable

Agree No Answer Disagree 38) Club members know that each
one looks out for the other
one as well as for themself.

Appropriate

Favorable

Nonappropriate

Nonfavorable

Understandable

Nonunderstandable

Agree No Answer Disagree 39) The opinions of all club members are considered equal.

Appropriate

Favorable

Nonappropriate

Nonfavorable

Understandable

Nonunderstandable

Agree No Answer Disagree 40) I would rather not talk when
I walk in the mall.

Appropriate

Favorable

Nonappropriate

Nonfavorable

Understandable

Nonunderstandable

Agree No Answer Disagree 41) I enjoy listening to club
members plans.

Appropriate

Favorable

Nonappropriate

Nonfavorable

Understandable

Nonunderstandable

Additional suggestions:

Multiplexity - the variety of types of exchanges that occur between members (e.g. seeking help, confiding a problem, providing material or emotional support).

Agree No Answer Disagree 42) Only certain kinds of ideas may be expressed freely among club members.

☐ Appropriate	☐ Favorable
☐ Nonappropriate	☐ Nonfavorable
☐ Understandable	
☐ Nonunderstandable	

Agree No Answer Disagree 43) Members of the mall walking club provide other members with emotional support.

☐ Appropriate	☐ Favorable
☐ Nonappropriate	☐ Nonfavorable
☐ Understandable	
☐ Nonunderstandable	

Agree No Answer Disagree 44) Members of the club feel free to discuss problems with each

other.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 45) Members of the club do small favors for one another.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 46) Club members feel uncomfortable about seeking help from other members of the club.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 47) Members of the mall walking club lend each other money or things.

☐ Appropriate ☐ Favorable

☐ Nonappropriate☐ Nonfavorable☐ Understandable☐ Nonunderstandable

Agree No Answer Disagree 48) I do not feel comfortable
 seeking help from mall
 walking friends.

☐ Appropriate☐ Favorable☐ Nonappropriate☐ Nonfavorable☐ Understandable☐ Nonunderstandable

Agree No Answer Disagree 49) I help mall walking club
 friends with different
 projects.

☐ Appropriate☐ Favorable☐ Nonappropriate☐ Nonfavorable☐ Understandable☐ Nonunderstandable

Agree No Answer Disagree 50) I feel free to borrow
things from club members.

___Appropriate ___Favorable
___Nonappropriate ___Nonfavorable
___Understandable
___Nonunderstandable

Additional suggestions:

Social Health - The state of social equilibrium or
tranquility which is influenced by one's social network and
system of social support, resulting in happiness,
trustfulness and a feeling of well being.

Agree No Answer Disagree 51) I cope better with crises
because of the club members.

___Appropriate ___Favorable
___Nonappropriate ___Nonfavorable
___Understandable
___Nonunderstandable

Agree No Answer Disagree 52) Mall walking friendships help
me to be more satisfied with
life.

___Appropriate ___Favorable

Nonappropriate

Nonfavorable

Understandable

Nonunderstandable

Agree No Answer Disagree 53) I have feelings of

disappointment when I do not

have contact with mall

walking friends.

Appropriate

Favorable

Nonappropriate

Nonfavorable

Understandable

Nonunderstandable

Agree No Answer Disagree 54) Mall walking club membership

gives me a greater sense of

identity and self control.

Appropriate

Favorable

Nonappropriate

Nonfavorable

Understandable

Nonunderstandable

Agree No Answer Disagree 55) Due to mall walking

friendships I am a more

trusting person.

Appropriate

____ Favorable

Nonappropriate

Nonfavorable

☐ Understandable☐ Nonunderstandable

Agree No Answer Disagree 56) I cope better with life's
 problems when I talk with
 mall walking friends.

☐ Appropriate☐ Favorable☐ Nonappropriate☐ Nonfavorable☐ Understandable☐ Nonunderstandable

Agree No Answer Disagree 57) Being able to share problems
 with mall walking friends
 increases my sense of well
 being.

☐ Appropriate☐ Favorable☐ Nonappropriate☐ Nonfavorable☐ Understandable☐ Nonunderstandable

Agree No Answer Disagree 58) My overall health is
 influenced by my mall
 walking friendships.

☐ Appropriate☐ Favorable☐ Nonappropriate☐ Nonfavorable☐ Understandable

___Nonunderstandable

Agree No Answer Disagree 59) I feel as comfortable
discussing problems with
mall walking friends as with
family.

___Appropriate ___Favorable
___Nonappropriate ___Nonfavorable
___Understandable
___Nonunderstandable

Agree No Answer Disagree 60) My overall health is
influenced by mall walking
contacts.

___Appropriate ___Favorable
___Nonappropriate ___Nonfavorable
___Understandable
___Nonunderstandable

Agree No Answer Disagree 61) Contact with club members
makes my day go better.

___Appropriate ___Favorable
___Nonappropriate ___Nonfavorable
___Understandable
___Nonunderstandable

Agree No Answer Disagree 62) I prefer to walk in the malls
alone.

___Appropriate ___Favorable
___Nonappropriate ___Nonfavorable
___Understandable
___Nonunderstandable

Agree No Answer Disagree 63) I prefer to walk with club
members.

___Appropriate ___Favorable
___Nonappropriate ___Nonfavorable
___Understandable
___Nonunderstandable

Agree No Answer Disagree 64) Joining the mall walking club
is one of the best decisions
I've made.

___Appropriate ___Favorable
___Nonappropriate ___Nonfavorable
___Understandable
___Nonunderstandable

Agree No Answer Disagree 65) Mall walking membership has
strengthened my relationship
with other people.

___Appropriate ___Favorable

☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 66) I am encouraged to exercise
 more frequently because of
 the example of other club
 members.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Agree No Answer Disagree 67) I would not walk in the mall
 unless my friends did.

☐ Appropriate ☐ Favorable
☐ Nonappropriate ☐ Nonfavorable
 ☐ Understandable
 ☐ Nonunderstandable

Additional suggestions:

* Adapted in part from Hemphill's Index of Group Dimensions
 (1956).

Definition of Terms

Appropriateness - the extent to which the item accurately reflects the sociological characteristic to which it is assigned.

Favorableness - the extent to which the item is a positive or negative (agree, disagree) response toward mall walking clubs.

Understandableness - the extent to which each item is clear and understandable to the reader.

APPENDIX C
JURY OF JUDGES

Name	Title and Location
David Anspaugh, Ed.D.	Professor of Health Science Memphis State University Memphis, Tennessee
Edward Cahill, Ph.D.	Head, Department of Sociology and Anthropology University of Tennessee, Chattanooga Chattanooga, Tennessee
Joy DeSensi, Ed.D.	Assistant Professor of Physical Education University of Tennessee, Knoxville Knoxville, Tennessee
Gene Ezell, Ed.D.	Professor of Health Education University of Tennessee, Chattanooga Chattanooga, Tennessee
Leroy Fanning, Ed.D.	Professor of Health and Physical Education University of Tennessee, Chattanooga Chattanooga, Tennessee

Meredith Minkler, D.P.H.

Associate Professor of
Health Education
University of California,
Berkeley
Berkeley, California

Chuck Murphy, Ph.D.

Associate Professor of
Sociology
Tennessee Temple University
Chattanooga, Tennessee

Donald Ploch, Ph.D.

Professor of Sociology
University of Tennessee,
Knoxville
Knoxville, Tennessee

Will Stearn, M.S.

Adjunct Professor of
Health and Physical
Education
University of Tennessee,
Chattanooga

Roger Stiles, Ed.D.

Chattanooga, Tennessee
Head, Department of
Education
Tennessee Temple University
Chattanooga, Tennessee

Leland Robinson, Ph.D.

Associate Professor of
Sociology
University of Tennessee,
Chattanooga
Chattanooga, Tennessee

APPENDIX D
RESPONSES OF JUDGES

Item	appropriate		understandable
	nonapprop.		nonunderstand.
		favorable	
		nonfavorable	

Network size

1) The mall walking club is rapidly increasing in size.	10	11	10
	0	0	1
2) Members are constantly leaving the mall walking club.	9	4	10
	2	6	1
3) New members are welcomed to the mall walking club on the basis "the more the merrier."	10	9	8
	1	1	3
4) The mall walking club engages in membership drives.	9	7	11
	1	3	0
5) Members are constantly dropping out of the mall walking club but new members replace them.	9	8	9
	2	1	2
6) Anyone desiring to enter club membership is welcome.	10	9	10
	1	0	1

7) Prospective members are	4	6	7
carefully examined before	5	3	3
they enter the group.			
8) All members know each	9	9	7
other well.	3	1	4

Density

9) The mall walking club has	8	9	10
well understood but	2	1	1
unwritten rules that apply			
to all members.			
10) The club has one main	5	10	6
purpose for its members.	5	0	4
11) Members of the mall			
walking club gain a	5	10	6
feeling of being honored	5	0	4
by being recognized			
as one of the group.			
12) No explanation need be	7	7	8
given by a member who is	4	0	2
absent from walking.			
13) Mall walking club members	8	7	7
are working toward many	3	0	3
different goals.			
14) Club members are aware of	8	8	8
the benefits available	2	0	2
through mall walking.			

15) The club is made up of	10	4	9
members who do not know	1	6	1
each other well.			
16) Club members do things	8	6	8
together that are not	0	2	0
related to the club's			
main purpose.			

Geographic Dispersion

17) The mall walking club	9	4	8
is totally dependent	1	3	1
on the mall facility.			
18) Club members are in	5	5	6
constant contact with	5	2	2
each other outside the			
mall.			
19) The activities of the	5	5	7
mall walking club take up	5	2	2
over one-fourth the time			
each member is awake.			
20) Many of the mall walking	7	6	7
club members walk	2	2	3
outdoors.			
21) Mall walking is only a	7	5	7
small part of my	3	2	3
exercise program.			
22) I hardly ever see mall	6	4	7

walking friends outside of the mall.	4	4	3
23) I spend less than ten hours a week with mall walking club preparations and activities.	5	4	6
	5	2	3
24) I eat with club members outside of the mall.	6	1	3
	5	1	3

Strength of Ties

25) Facts about club members personal lives are known by other members.	10	8	9
	0	1	1
26) Club members are not in close enough contact to develop likes or dislikes for one another.	10	6	10
	0	3	0
27) Club members address each other by their first name.	9	8	9
	1	0	0
28) Mall walking club members are personal friends.	10	8	10
	0	1	0
29) Members of the club know the family backgrounds of other	9	7	9
	1	1	1

members of the club.

30) Members of the mall	9	9	9
walking club often	1	0	1
walk together.			
31) I can talk to mall	9	8	9
walking friends about	0	0	0
personal problems.			
32) Members of the mall	9	8	9
walking club know the	1	0	0
names of my children or			
grandchildren.			
33) I attend functions	8	8	10
other than walking	2	1	0
with club members.			

Reciprocity

34) Certain members	8	8	10
discuss personal	2	1	0
problems or situations			
among themselves.			
35) A club member has the	6	7	9
chance to get to know	4	2	0
all other members of			
the club.			
36) The mall walking club	8	3	9
is controlled by the	1	5	0
actions of a few			

members.

37) Every member of the	8	8	9
club has equal freedom	1	1	0
of expression.			
38) Club members know that	10	9	10
each one looks out for	0	0	0
the other one as well			
as for themselves.			
39) The opinions of all club	6	6	7
members are considered	3	1	1
equal.			
40) I would rather not	6	2	7
talk when I walk in	3	6	2
the mall.			
41) I enjoy listening to	9	9	10
club members plans.	1	0	0

Multiplexity

42) Only certain kinds	9	6	9
of ideas may be	0	3	1
expressed freely among			
club members.			
43) Members of the mall	8	8	10
walking club provide	2	0	0
other members with			
emotional support.			
44) Members of the club	9	6	10

feel free to discuss	1	2	0
problems with each			
other.			
45) Members of the club	10	9	10
do small favors for	0	0	0
one another.			
46) Club members feel	10	3	10
uncomfortable about	0	6	0
seeking help from other			
members of the group.			
47) Members of the mall			
walking club lend each	9	5	9
other money or things.	1	2	0
48) I do not feel			
comfortable seeking	9	3	9
help from mall walking	1	5	0
friends.			
49) I help mall walking club	9	7	9
friends with different	1	1	0
projects.			
50) I feel free to borrow	8	2	8
things from club	1	2	0
members.			

Social Health

51) I cope better with	10	9	9
crises because of the	0	0	1

encouragement I get from club members.			
52) Mall walking	10	9	10
friendships help me	0	0	0
to be more satisfied with life.			
53) I have feelings of	10	9	10
disappointment when I	0	0	0
do not have contact with mall walking friends.			
54) Mall walking club	10	9	9
membership gives me	0	0	1
a greater sense of identity and self control.			
55) Due to mall walking	10	9	10
friendships I am a more	0	0	0
trusting person.			
56) I cope better with	10	9	10
life's problems when I	0	0	0
am with mall walking friends.			
57) Being able to share	10	9	10
problems with mall	0	0	0
walking friends			

increases my sense
of well being.

58) My overall health is	9	9	9
influenced by my mall	1	0	1
walking friendships.			
59) I feel as comfortable	9	7	9
discussing problems	1	1	0
with mall walking			
friends as with			
family.			
60) My overall health is	7	7	7
influenced by mall	3	0	3
walking contacts.			
61) Contact with club	10	9	10
members makes my day	0	0	0
go better.			
62) I prefer to walk in	8	3	8
the malls alone.	2	6	2
63) I prefer to walk with	7	8	7
club embers.	2	0	2
64) Joining the mall			
walking club is one	10	9	10
of the best decisions	0	0	0
I have made.			
65) Mall walking membership	10	9	10
has strengthened my	0	0	0

relationship with other
people.

66) I am encouraged to	10	9	10
exercise more frequently	0	0	0
because of the example			
of other club members.			
67) I would not walk in the	9	8	10
mall unless my friends	1	0	0
did.			

APPENDIX E
FIRST DRAFT OF THE INSTRUMENT

MALL WALKER'S SOCIALIZATION INDICATOR

PART A

Demographic Information (Member Homogeneity)

There are two parts to this survey (Part A and B). This section of the survey, Part A, will seek to determine basic information about you, the mall walking club member.

Information given will be used in the study but your name will be known only by the researcher. Confidentiality of the information given to the researcher will be upheld. Please answer each item as honestly as you can.

Name: _____ Mall walking club: OTC or HPMC

Gender: M___ F___ Date of Birth: _____

Race: Caucasian___ Black___

Hispanic___ Other___

Level of Education: What is your level of education?

High school degree_____ College degree_____

Master degree_____ Doctoral degree_____

No Degree_____

Social Class: How would you classify your social status?

Upper class_____ Middle class_____

Lower class_____

Occupation: Are you...

Retired_____ Other_____

Total Income of Household: What is the total annual income of your household?

under \$10,000_____ \$10,000-\$19,999_____

\$20,000-\$29,999_____ \$30,000 and over_____

Religious Affiliation: What is your religious affiliation?

Baptist_____ Methodist_____

Presbyterian_____ Catholic_____

Luthern_____ Episcopalian_____

Other_____

Political Orientation: Politically speaking, would you consider yourself to be...

conservative___ liberal___ moderate___

Marital status: What is your marital status?

married___ divorced___ separated___

widow, widower___

Chronic Medical Conditions: Do you have any chronic medical conditions?

Heart disease___ Stroke___ Cancer___

Diabetes___ High blood pressure

Arthritis___ Other_____

Mall Walking Participation: Do you walk in the mall...

3 days or more a week_____

less than 3 days a week_____

Distance Of Residence From The Mall: How far from the mall do you live?

less than 1 mile___ 1-3 miles___

3-5 miles___ 5-10___ 10 or more___

PART B

Likert scale (network size, density, geographic dispersion, strength of ties, reciprocity, multiplexity, social health)

The questions of Part B that follow make it possible to describe certain characteristics about mall walking clubs. The items simply describe characteristics of groups; they do not judge whether the characteristic is desirable or undesirable. Therefore in no way are the questions to be considered a 'test' either of the groups or of the person answering the questions. A simple opinion of what the group is like is sought.

Your choices of answers are agree, disagree or no answer. Please answer each question as honestly as possible.

Network size

Agree No Answer Disagree 1) The mall walking club is continually increasing in size.

Agree No Answer Disagree 2) New members of the mall walking club are welcomed by other members.

Agree No Answer Disagree 3) The mall walking club engages in membership drives.

Agree No Answer Disagree 4) There is a consistent turnover in the mall walking club membership.

Agree No Answer Disagree 5) Anyone desiring to enter club membership is welcome.

_____Total Score for Network Size

Density

Agree No Answer Disagree 6) The mall walking club has
unwritten but well understood
rules that apply to all
members.

Agree No Answer Disagree 7) Members of the mall walking
club gain a feeling of being
important because they are
accepted as one of the group.

Agree No Answer Disagree 8) No explanation need be given
by a member who is absent
from walking at the mall.

Agree No Answer Disagree 9) Mall walking club members are
working toward many different
goals.

Agree No Answer Disagree 10) Club members are aware of the
benefits available through
mall walking.

Agree No Answer Disagree 11) Club members do things
together that are not related
to the club's main purpose.

_____Total Score for Density

Geographic Dispersion

- Agree No Answer Disagree 12) The mall walking club
is totally dependent on the
mall facility.
- Agree No Answer Disagree 13) Many of the mall walking club
members walk outdoors.
- Agree No Answer Disagree 14) Mall walking is only a small
part of most of the members
exercise program.
- Agree No Answer Disagree 15) Club members eat with other
members outside of the mall.

_____ Total Score for Geographic Dispersion

Strength of Ties

- Agree No Answer Disagree 16) Facts about club members
personal lives are known by
other members.
- Agree No Answer Disagree 17) Club members are not in close
enough contact to develop
likes or dislikes for one
another.
- Agree No Answer Disagree 18) Club members address each
other by their first name.
- Agree No Answer Disagree 19) Mall walking club members are

personal friends.

Agree No Answer Disagree 20) Members of the club know the family backgrounds of other members of the club.

Agree No Answer Disagree 21) Members of the mall walking club often walk together.

Agree No Answer Disagree 22) Club members can talk to mall walking friends about personal problems.

Agree No Answer Disagree 23) Members attend functions other than walking with other club members.

_____Total Score for Strength of Ties

Reciprocity

Agree No Answer Disagree 24) A club member has the opportunity to get to know all other members of the club.

Agree No Answer Disagree 25) The mall walking club is controlled by the actions of a few members.

Agree No Answer Disagree 26) Every member of the club has the same freedom of expression.

Agree No Answer Disagree 27) Club members know that each
one looks out for the other
one as well as for themselves.

Agree No Answer Disagree 28) Most members would rather not
talk when they walk in the
mall.

Agree No Answer Disagree 29) Members enjoy listening to
other members plans.

_____Total Score for Reciprocity

Multiplexity

Agree No Answer Disagree 30) Only certain kinds of ideas
may be expressed freely among
club members.

Agree No Answer Disagree 31) Members of the mall walking
club provide other members
with emotional support.

Agree No Answer Disagree 32) Members of the club feel free
to discuss problems with each
other.

Agree No Answer Disagree 33) Members of the club do small
favors for one another.

Agree No Answer Disagree 34) Club members feel
uncomfortable about seeking
help from other members of

the group.

Agree No Answer Disagree 35) Members of the mall walking club lend to each other.

Agree No Answer Disagree 36) Club members help other club members with different projects.

Agree No Answer Disagree 37) Members feel free to borrow from other club members.

_____Total Score for Multiplexity

Social Health

Please answer the following questions as they personally apply to you:

Agree No Answer Disagree 38) I cope better with crises because of the encouragement I get from club members.

Agree No Answer Disagree 39) Mall walking friendships help me to be more satisfied with life.

Agree No Answer Disagree 40) I feel disappointed when I do not have contact with mall walking friends.

Agree No Answer Disagree 41) Mall walking club membership gives me a greater sense of identity and self control.

- Agree No Answer Disagree 42) Due to mall walking friendships I am a more trusting person.
- Agree No Answer Disagree 43) Being able to share problems with mall walking friends increases my sense of well being.
- Agree No Answer Disagree 44) I feel as comfortable discussing problems with mall walking friends as with family.
- Agree No Answer Disagree 45) My overall health is influenced by mall walking contacts.
- Agree No Answer Disagree 46) Contact with club members makes my day go better.
- Agree No Answer Disagree 47) I prefer to walk in the malls alone.
- Agree No Answer Disagree 48) Joining the mall walking club is one of the best decisions I have made.
- Agree No Answer Disagree 49) Mall walking membership has strengthened my relationship with other people.
- Agree No Answer Disagree 50) I am encouraged to exercise more frequently because of

the example of other club
members.

Agree No Answer Disagree 51) I would not walk in the mall
unless my friends did.

_____Total Score for Social Health

* Developed in part from Hemphill's Index Of Group
Dimensions (1956).

APPENDIX F
LETTER FROM WEST TOWN MALL



April 18, 1988

Jim Blair
2110 Bennett Avenue
Chattanooga, Tn 37404

Dear Jim,

Thank you for your interest regarding West Town Mall's Walking Club. We will be happy to assist you in any way regarding your dissertation.

I am enclosing a Mall Permit for you to sign and return at your earliest convenience.

Let me know if you have any questions.

Sincerely,


Gina Chastain
Marketing Director

GC/jb

APPENDIX G
REVISED DRAFT OF THE INSTRUMENT

MALL WALKER'S SOCIALIZATION INDICATOR

PART A

Demographic Information (Member Homogeneity)

There are two parts to this survey (Part A and B). This section of the survey, Part A, will seek to determine basic information about you, the mall walking club member.

Information given will be used in the study but your name will be known only by the researcher. Confidentiality of the information given to the researcher will be upheld. Please answer each item as honestly as you can.

Name: _____ Mall walking club: OTC or HPMC

Gender: M _____ F _____

Race: Caucasian _____ Black _____

Hispanic _____ Other _____

Mall Walking Participation: Do you walk in the mall...

3 days or more a week _____

less than 3 days a week _____

Distance Of Residence From The Mall: How far from the mall
do you live?

less than 1 mile____ 1-2 miles____

3-5 miles____ 6-10____ more than 10 miles____

Date of Birth: What is your date of birth?_____

Level of Education: What is your level of education?

No degree____ High school degree____

College degree____ Master degree____

Doctoral degree____

Occupation: Are you...

Retired____ Other_____

Total Income of Household: What is the total annual income
of your household?

under \$10,000____ \$10,000-\$19,999____

\$20,000-\$29,999____ \$30,000 and over____

Religious Affiliation: What is your religious affiliation?

Protestant____ Catholic____ Other____

None____

Marital status: What is your marital status?

married____ divorced____ separated____

widow, widower___ single___

Chronic Medical Conditions: Do you have any chronic medical conditions?

Heart disease___ Stroke___ Cancer___

Diabetes___ High blood pressure___

Arthritis___ Other_____ None_____

PART B

Likert scale (network size, density, geographic dispersion, strength of ties, reciprocity, multiplexity, social health)

The questions of Part B that follow make it possible to describe certain characteristics about mall walking clubs. The items simply describe characteristics of groups; they do not judge whether the characteristic is desirable or undesirable. Therefore in no way are the questions to be considered a "test" either of the groups or of the person answering the questions. A simple opinion of what the group is like is sought.

Your choices of answers are agree, disagree or no answer.

Please answer each question as honestly as possible.

Network size

- Agree No Answer Disagree 1) The mall walking club is continually increasing in size.
- Agree No Answer Disagree 2) New members of the mall walking club are welcomed by other members.
- Agree No Answer Disagree 3) The mall walking club engages in membership drives.
- Agree No Answer Disagree 4) There is a consistent turnover in the mall walking club membership.
- Agree No Answer Disagree 5) Anyone desiring to enter club membership is welcome.

_____Total Score for Network Size

Density

- Agree No Answer Disagree 6) The mall walking club has unwritten but well understood rules that apply to all members.

- Agree No Answer Disagree 7) Members of the mall walking club gain a feeling of being important because they are accepted as one of the group.
- Agree No Answer Disagree 8) No explanation need be given by a member who is absent from walking at the mall.
- Agree No Answer Disagree 9) Mall walking club members are working toward many different goals.
- Agree No Answer Disagree 10) Club members are aware of the benefits available through mall walking.
- Agree No Answer Disagree 11) Club members do things together that are not related to walking.

_____Total Score for Density

Geographic Dispersion

- Agree No Answer Disagree 12) The mall walking club is totally dependent on the mall facility.
- Agree No Answer Disagree 13) Many of the mall walking club members walk outdoors.

Agree No Answer Disagree 14) Mall walking is only a small
part of most members
exercise program.

Agree No Answer Disagree 15) Club members eat with other
members outside of the mall.

_____Total Score for Geographic Dispersion

Strength of Ties

Agree No Answer Disagree 16) Facts about club members
personal lives are known by
other members.

Agree No Answer Disagree 17) Club members are not in close
enough contact to develop
likes or dislikes for one
another.

Agree No Answer Disagree 18) Club members address each
other by their first name.

Agree No Answer Disagree 19) Mall walking club members are
personal friends.

Agree No Answer Disagree 20) Members of the club know the
family backgrounds of other
members of the club.

Agree No Answer Disagree 21) Members of the mall walking
club often walk together.

Agree No Answer Disagree 22) Club members can talk to mall walking friends about personal problems.

Agree No Answer Disagree 23) Members attend functions other than walking with other club members.

_____ Total Score for Strength of Ties

Reciprocity

Agree No Answer Disagree 24) A club member has the opportunity to get to know all other members of the club.

Agree No Answer Disagree 25) The mall walking club is controlled by the actions of a few members.

Agree No Answer Disagree 26) Every member of the club has the same freedom of expression.

Agree No Answer Disagree 27) Club members know that each one looks out for the other one as well as for themselves.

Agree No Answer Disagree 28) Most members would rather not talk when they walk in the mall.

Agree No Answer Disagree 29) Members enjoy listening to
other members plans.

_____Total Score for Reciprocity

Multiplexity

Agree No Answer Disagree 30) Only certain kinds of ideas
may be expressed freely among
club members.

Agree No Answer Disagree 31) Members of the mall walking
club provide other members
with emotional support.

Agree No Answer Disagree 32) Members of the club feel free
to discuss problems with each
other.

Agree No Answer Disagree 33) Members of the club do small
favours for one another.

Agree No Answer Disagree 34) Club members feel
uncomfortable about seeking
advice from other members.

Agree No Answer Disagree 35) Members of the mall walking
club lend money or things to
each other.

Agree No Answer Disagree 36) Club members help other club
members with different
projects.

Agree No Answer Disagree 37) Members feel free to borrow
from other club members.

_____Total Score for Multiplexity

Social Health

Please answer the following questions as they personally
apply to you:

Agree No Answer Disagree 38) I cope better with crises
because of the encouragement
I get from club members.

Agree No Answer Disagree 39) Mall walking friendships help
me to be more satisfied with
life.

Agree No Answer Disagree 40) I feel disappointed when I do
not have contact with mall
walking friends.

Agree No Answer Disagree 41) Mall walking club membership
gives me a greater sense of
identity and self control.

Agree No Answer Disagree 42) Due to mall walking
friendships I am a more
trusting person.

- Agree No Answer Disagree 43) Being able to share problems with mall walking friends increases my sense of well being.
- Agree No Answer Disagree 44) I feel as comfortable discussing problems with mall walking friends as with family.
- Agree No Answer Disagree 45) My overall health is influenced by mall walking contacts.
- Agree No Answer Disagree 46) Contact with club members makes my day go better.
- Agree No Answer Disagree 47) I prefer to walk in the mall alone.
- Agree No Answer Disagree 48) Joining the mall walking club is one of the best decisions I have made.
- Agree No Answer Disagree 49) Mall walking membership has strengthened my relationship with other people.
- Agree No Answer Disagree 50) I am encouraged to exercise more frequently because of the example of other club members.

Agree No Answer Disagree 51) I would not walk in the mall
unless my friends did.

_____Total Score for Social Health

* Developed in part from Hemphill's Index Of Group
Dimensions (1956).

APPENDIX H

LETTER FROM THE OLD TIMERS' CLUB

808 Sweetbriar Circle
Chattanooga, TN 37412
March 8, 1988

Dear Mr. Blair,

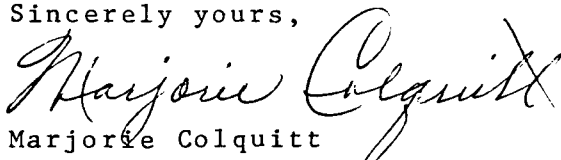
In response to your letter, the Old Timers' Club of Eastgate will be happy to help you in any way that we can in answering questions and talking to you about our walkers' club.

We have been a happy group of people for almost eight years now, and we plan to go forward with our club.

Enclosed you will find copy of the names of our club members. You may use most of these names for information that you will need for your dissertation, but there are some who will not be able to be questioned because of their health and age.

May you do well in your research of mall walkers.

Sincerely yours,


Marjorie Colquitt
Secretary

APPENDIX I
LETTER FROM MEMORIAL HOSPITAL



A DIVISION OF SISTERS OF CHARITY OF NAZARETH HEALTH CORPORATION

March 08, 1988

Mr. Jim Neutens, Doctoral Advisor
University of Tennessee
College of Education
Department of Health, Leisure & Safety
1914 Andy Holt Avenue
Knoxville, Tennessee 37996-2700

Dear Mr. Neutens:

On February 26, Mr. Jim Blair was sent the complete membership list of the Memorial Hospital Mall Walkers at Hamilton Place.

We are only too happy to provide this information to Mr. Blair and wish him great success with his study.

Sincerely,

Deborah S. Bork
Cardiac Services Representative

DSB/sm

APPENDIX J
FINAL INSTRUMENT

APPENDIX J

THE MALL WALKERS SOCIAL HEALTH AND
SOCIAL RELATIONSHIP INDICATOR

Network size

Question for mall walking club officials only:

What was the size of the _____ mall walkers club:

1 year ago _____ 2 years ago _____ 3 years ago _____

PART A Demographic Information

There are two parts to this survey (Part A and B). This section of the survey, Part A, will seek to determine basic information about you, the mall walking club member.

Information given will be used in the study but your name will be known only by the researcher. Confidentiality of the information given to the researcher will be upheld.

Please answer each item as honestly as you can.

Homogeneity

Name: _____ Mall walking club: _____

Gender: M _____ F _____

Marital status: what is your religious affiliation?

married____ divorced____ separated____

widow, widower____ single____

Date of birth; What is your date of birth?_____

Level of Education: What is your level of education?

No degree____ High school degree____

College degree____ Master degree____

Doctoral degree____

Religious Affiliation: What is your religious affiliation?

Protestant____ Catholic____ Other____ None____

Occupation: Are you...

Retired____ Other_____

Total Income of Household: What is the total annual income of your household?

under \$10,000____ \$10,000-\$19,999____

\$20,000-\$29,999____ \$30,000 and over____

Chronic Medical Conditions: Do you have any chronic medical conditions?

Heart disease___ Stroke___ Cancer___

Diabetes___ High blood pressure___

Arthritis___ Other_____ None_____

Geographic dispersion

Mall walking Participation:

a) Do you walk in the mall...

3 days or more a week_____

less than 3 days a week_____

b) Please fill in the following blank:

Mall walking is_____ % of my exercise program.

Density

a) Besides mall walking, what kinds of activities do you share with mall walking club members?

1._____ 2._____ 3._____

b) Name the members in the mall walking club you are closest to:

1._____ 2._____ 3._____

4._____ 5._____

PART B Likert scale

The questions of Part B that follow make it possible to describe certain characteristics about mall walking clubs.

The items simply describe characteristics of groups; they do not judge whether the characteristic is desirable or undesirable. Therefore in no way are the questions to be considered a "test" either of the groups or of the person answering the questions. A simple opinion of what the group is like is sought.

Your choices of answers are agree, disagree or no answer. Please answer each question as honestly as possible.

Strength of Ties

- | | | | |
|-------|-----------|----------|--|
| Agree | No Answer | Disagree | 1) Facts about club members
personal lives are known by
other members. |
| Agree | No Answer | Disagree | 2) Club members address each
other by their first name. |
| Agree | No Answer | Disagree | 3) Mall walking club members are
personal friends. |
| Agree | No Answer | Disagree | 4) Members of the club know the
family backgrounds of other
members of the club. |
| Agree | No Answer | Disagree | 5) Club members can talk to mall
walking friends about
personal problems. |

Agree No Answer Disagree 6) Members attend functions
other than walking with other
club members.

_____ Total Score for Strength of Ties

Reciprocity

Agree No Answer Disagree 7) A club member has the
opportunity to get to know
all other members of the
club.

Agree No Answer Disagree 8) The mall walking club is
controlled by the actions of
a few members.

Agree No Answer Disagree 9) Every member of the club
has the same freedom of
expression.

Agree No Answer Disagree 10) Club members know that each
one looks out for the other
one as well as for themself.

Agree No Answer Disagree 11) Most members would rather not
talk when they walk in the
mall.

Agree No Answer Disagree 12) Members enjoy listening to
other members plans.

_____ Total Score for Reciprocity

Multiplexity

Agree No Answer Disagree 13) Members of the club feel free
to discuss problems with each
other.

Agree No Answer Disagree 14) Members of the club do small
favors for one another.

Agree No Answer Disagree 15) Club members feel
uncomfortable about seeking
advice from other members.

Agree No Answer Disagree 16) Club members help other club
members with different
projects.

Agree No Answer Disagree 17) Members feel free to borrow
from other club members.

_____Total Score for Multiplexity

Social Health

Please answer the following questions as they personally
apply to you:

Agree No Answer Disagree 18) I cope better with crises
because of the encouragement
I get from club members.

Agree No Answer Disagree 19) Mall walking friendships help
me to be more satisfied with
life.

- Agree No Answer Disagree 20) I feel disappointed when I do not have contact with mall walking friends.
- Agree No Answer Disagree 21) Mall walking club membership gives me a greater sense of identity and self control.
- Agree No Answer Disagree 22) Due to mall walking friendships I am a more trusting person.
- Agree No Answer Disagree 23) Being able to share problems with mall walking friends increases my sense of well being.
- Agree No Answer Disagree 24) I feel as comfortable discussing problems with mall walking friends as with family.
- Agree No Answer Disagree 25) My overall health is influenced by mall walking contacts.
- Agree No Answer Disagree 26) Contact with club members makes my day go better.
- Agree No Answer Disagree 27) I prefer to walk in the mall alone.

Agree No Answer Disagree 28) Joining the mall walking club
is one of the best decisions
I have made.

Agree No Answer Disagree 29) Mall walking membership has
strengthened my relationship
with other people.

_____Total Score for Social Health

* Developed in part from Hemphill's Index Of Group
Dimensions (1956).

VITA

Jim Blair was born in Charlotte, North Carolina, on August 30, 1952. He graduated from West Mecklenburg High School in June of 1970. In the fall of 1973 he transferred from Western Carolina University to East Carolina University in Greenville, North Carolina. In August 1975 he received a Bachelor of Arts degree in Health and Physical Education from East Carolina University.

After graduating from East Carolina he was immediately employed by Tennessee Temple University in the Physical Education department. While at Temple he enrolled in Temple Theological Seminary from which he graduated with the Master of Religious Education in August 1982. In the fall of 1983 he enrolled in the master's degree program at the University of Tennessee at Chattanooga. He completed that program in August 1986 and was awarded a Master of Education degree with a concentration in Physical Education.

In the fall of 1986, he enrolled in the doctoral program at the University of Tennessee at Knoxville. He received the Doctor of Education degree with a major in Health Education and a collateral in Public Health in December 1988.