DIFFERENCES BETWEEN PARTICIPANTS AND NONPARTICIPANTS OF A COMMUNITY-BASED SENIOR HEALTH EDUCATION PROGRAM

by

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ABSTRACT

The purpose of this study was to determine which factors, if any, are associated with participation in a formal seniors' health education program. It was hypothesised that three identifiable groups, two of which would be nonparticipants of the health education program of interest, would be found. One group of nonparticipants would be very active, and score more favourably than the other two subsamples on multi-dimensional health scales. This group were expected to be actively engaged in a satisfying lifestyle, and would perceive no need for the health education program. A second group of nonparticipants was expected to score less favourably than program participants on scales measuring multi-dimensional health and to be less active in the community.

The second nonparticipant group was of primary interest to this study, as lower functioning on health and social support scales might constitute both risk factors which would target this group as possible participants, and identify barriers to their participation in the program.

One hundred eighty respondents were surveyed from three sources: (1) participants of a seniors' health education program based in a senior centre; (2) residents of single family dwellings and (3) apartment buildings in a five-block radius around the senior centre. Respondents completed a standardised tool to measure physical, mental and social health, and a series of questions relating to community involvement and participation in the health education program of interest.

The 63 program participants were found to be younger, and to have higher scores on measures of physical health and mobility, than nonparticipants. Nonparticipants were found to fall into two groups. One group was younger, had higher scores on measures of health, and was more likely to choose predisposing reasons for not attending the health education program, such as "Not interested" and

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"Don't need it". A second group of nonparticipants was found to be older, with lower scores on measures of health and social support. This second group of nonparticipants was more likely to choose enabling or reinforcing reasons for not attending, such as "Poor health", "Can't do exercise", "No transportation", "Can't afford it", or "Don't know anyone there".

The information gained in this study suggests than direct outreach in some form would be required to recruit the group of nonparticipants who are identified in the literature as the target population for health education programs; that is, those who are economically or socially disadvantaged, older, less mobile or have chronic health problems.

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CHAPTER 1 INTRODUCTION

1.0 STATEMENT OF PROBLEM

The increasing proportion of elderly people (Health and Welfare Canada, 1989) and increasing costs of medical care (Cox and Monk, 1989) have been credited with influencing the development of health education and promotion for older people. The elderly are high users of health services, as they suffer from more chronic disease than younger persons (Butler, Gertman, Oberlander and Schindler, 1979). Health education and promotion are viewed as a means of decreasing costs of care through prevention of illness and decreasing institutionalisation (Schneider, Chapman and Voth, 1985).

A successful health promotion program must be designed to meet the needs of its target population (Fallcreek, Warner-Reitz and Mettler, 1986). The majority of community-based health education programs involve voluntary registration by participants. Suggested recruitment procedures include advertisements at senior centres, personal letter from physicians, word-of-mouth recruitment by past participants and the media (Simmons, Roberts and Nelson, 1986). With self-selection of participants, however, there is limited control over characteristics of the participant population. Some sources suggest use of a pre-enrollment screening assessment to ensure that course participants are appropriate, or to allow instructors to respond to the needs of participants (Simmons, et. al., 1986; Fallcreek et. al., 1986).

The issue of whether the appropriate individuals are registering for the program is not addressed, however, by pre-screening. It may be that individuals who choose to participate are those who have the greatest need for the intervention. It is also possible that those individuals who choose to, or are able to participate in the program are not those who might obtain the greatest benefit from the intervention.

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Mass enrollment campaigns are frequently successful in recruiting high numbers of participants, but cannot locate the people who are most in need of the service, particularly isolated older people (Stuen, 1985). Factors such as activity level, financial status, existence of a chronic health problem or perceived health status may prevent or discourage appropriate individuals from accessing the services of community-based programs (Toseland and Sykes, 1977). Health problems and needs of seniors have been related to other needs in the social, financial, nutritional and educational spheres (Leanse, 1986). The very problems which identify individuals as part of the target population for the intervention, therefore, may act as barriers to their participation. Outreach, defined as an effort to link people in need with the appropriate community resources, is often a necessary step in reaching isolated older persons (Stuen, 1985).

Recently in senior centres, emphasis has been placed upon providing a wider range of programming, including health services and education (Hanssen et. al., 1978). It is not clear, however, that this shift has been accompanied by outreach, or that the new programming has involved older people who were not previously involved with senior centres (Hanssen et. al., 1978). A lack of integration of frail elderly into senior centres has been observed, along with a feeling among senior centre directors that they are unable to accomodate frail older people in proportions greater than ten percent of their total participants (Cox and Monk, 1990).

If health education programs are not reaching the individuals who could most benefit from the services, then the identification of variables that act as barriers may assist with enhancement of program design, recruitment strategies and support services in order to better serve the target population. In order to be effective, programs must match the intervention strategies with the needs and resources of the people the programs are intended to serve (British Columbia Ministry of Health, 1989). Patterns and correlates of service use must be understood by program planners in

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order to reach the intended target population and, subsequently, provide effective service (Krout, 1983).

1.1 PURPOSE OF THE STUDY

The purpose of this study is to determine which factors, if any, correlate with participation in a formal seniors' health education program. More specifically, it explores potential significant differences in demographic, health, psychosocial and daily activity pattern characteristics between participants and nonparticipants of a specific community based health education program.

1.2 STUDY SIGNIFICANCE

Based upon the literature and discussions with professionals in West Main Health Unit, it is hypothesised that this study will find evidence of three identifiable groups, two of which will be nonparticipants of the health education program of interest. One group of nonparticipants may be very active, and score more favourably than the other two subsamples on scales measuring economic resources, emotional balance, level of trust, mobility, cognitive status and social support. This group will be actively engaged in a satisfying lifestyle, and may perceive no need for the health education program.

It is hypothesised that a second group of nonparticipants will be more likely to be male, and score less favourably on emotional balance, physical health, level of trust, mobility, cognitive status and social support scales than program participants.

The second nonparticipant group is of primary interest to this study. If such a group is found, the lower scores on the specified scales may constitute both risk factors which would target this group as possible participants, and identify barriers to their participation in the program. The information gained in this study might prove helpful in enhancing programming to reach this group of nonparticipants, who are unable or unwilling to participate at present but could benefit from the program.

1.3 CONCEPTUAL FRAMEWORK

LaLonde's publication of "A New Perspective on the Health of Canadians" (1974) is partially responsible for a recent widespread change in outlook toward health care delivery, with greater emphasis being placed on health promotion, self-help and illness prevention (Green, Kreuter, Deeds and Partridge, 1980). The growing proportion of older people, movement toward independence rather than illness cure as a goal of health service delivery and publicity received by health promotion "successes" (Weiler, 1986) are also factors in the rise of health promotion programs for the elderly.

It is not desirable, however, to provide health education without channeling the programs to those who can benefit from them. Past research has demonstrated that "high risk groups and optimum age ranges can be clearly identified for most preventive and self-care actions which health education can facilitate" (Green, 1978, p.30).

1.4 OPERATIONAL DEFINITIONS

Activities of Daily Living (ADL): functions which are essential to a person's ability to do their self-care (eg. dressing, bathing, feeding) (Spector, Katz, Murphy and Fulton, 1987).

Health education: "any combination of learning experiences designed to facilitate voluntary actions conducive to health" (Green and Kreuter, 1991, p. 17). It consists of planned activity which promotes health or illness-related learning, and may produce changes in understanding or ways of thinking, bring about some shift in belief or attitude, influence or clarify values, facilitate the acquisition of skills or even effect changes in behaviour or life-style. (Tones, 1990).

Health promotion: "any combination of educational, informational, organisational, service, legislative and regulatory, and/or economic methods designed to motivate health-related behaviour changes among a target population in a specified geographic area during a defined time period". (Windsor, 1986, p. 436).

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Iowa Self-Assessment Inventory (ISAI): a 56-item self-report instrument designed to measure the resources, needs, statuses and abilities of older persons. It is intended for use either with individuals or to gain a better understanding of groups of elderly people through survey research methods (Morris et al., 1991)

Community-based health education for the well elderly: programs designed to provide health maintenance activities and early detection of disease (Moneyham and Rider, 1988) in order to prevent illness in older people, assist them to achieve the ability to manage independently their chronic disease and provide them with information to become more effective consumers of health services (Rimer, Keintz, Glassman and Kinman, 1986). In Vancouver, such programs generally consist of weekly meetings organised around a format of exercise, social interaction and health discussion (Martin, 1986).

Multi-dimensional measures of health: comprehensive evaluations of health, which measure distinct dimensions such as "physical health, mental health, everyday functioning in social and role activities, and general perceptions of well-being" (Ware, 1987, p. 474).

Participant: a current attender of the health education program, who has attended more than one session (not a first time attender).

Senior centre: "a community focal point on aging where older persons as individuals or in groups come together for services and activities which enhance their dignity, support their independence and encourage their involvement in and with the community."

"As part of a comprehensive community strategy to meet the needs of older persons, senior centre programs take place within and emanate from a facility. These programs consist of a variety of services and activities in areas such as education, creative arts, recreation, advocacy, leadership development, employment, health, nutrition, social work and other supportive services."

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"The centre also serves as a community resource for information on aging, for training professional and lay leadership and for developing new approaches to aging programs" (In Leanse, 1986, p. 105-6).

Well elderly: people who are 55 years of age or older, not living in a nursing home or other long-term care facility (adapted from Lalonde, Hooyman and Blumhagen, 1988).

CHAPTER 2 REVIEW OF THE LITERATURE

2.0 HEALTH EDUCATION AND HEALTH PROMOTION DEFINED

Central to any definition of health education and promotion is the concept of "health". The traditional, and most common, definition of health is "the absence of disease or the ability to perform vital functions normally" (MacRae, 1986). This is in keeping with the word's roots, as "health" is derived from the Anglo-Saxon word "haelth", meaning safe, sound or whole (Shirreffs, 1984.) Such a definition treats health as a static state. One is either healthy or unhealthy.

The concept of health includes lack of disease, which Sherriffs (1984) defines as "largely a scientific, medical and technical territory encompassing what is known about biologic impairment" (p. 40). Absence of illness, viewed as "culturally defined; the territory in which social judgment defines that deviance for which the physician and other health practitioners are considered the official remedial agents", is also encompassed under the umbrella of health (Shirreffs, 1984, p. 40).

Contemporary views of health, however, treat it as a process rather than a static state (Shirreffs, 1984). It is seen as multi-dimensional, including physical and mental states, the capacity to perform normal daily living activities, and the social, economic and environmental resources required to maintain a quality life style (Duffy and MacDonald, 1990, Kane and Kane, 1987). Health is perceived as encompassing not only a lack of disease and illness, but also the positive aspects of "wellness" (Bergner, 1985). Wellness has been characterised as the "attitudes and activities which improve quality of life and expand the potential for higher levels of functioning" (Mullen, 1986, p. 34). Efforts to achieve wellness are motivated by a desire to improve quality of life, rather that a desire to avoid disease (Mullen, 1986). Health is thought of as a quality or a state of mind, rather than a condition (Sherriffs, 1984, p. 41).

Bergner (1985) identified five dimensions of health status: genetic or inherited characteristics, biochemical/physiological/anatomic characteristics, functional condition including performance of activities of daily living (ADL), mental state including self-perception of mood and emotion, and health potential (longevity, prognosis of disease, functional potential). A somewhat different approach to identification of health dimensions by Ware (1987) includes physical health, mental health, social functioning, role functioning and general perceptions of well-being. This philosophy of health is captured in the definition proposed by WHO (1946):

Health is a state of complete physical, mental and social well-being, and not merely the absence of disease or infirmity (In Downie et. al., 1990, p. 9).

The same change in focus is apparent within the discipline of health education, which has progressed from a negative approach in the late nineteenth and early twentieth centuries, when educators were known as "Warriors against pleasure", to a positive focus on quality of life (Rubinson and Alles, 1984).

Current definitions of health education stress the voluntary involvement of individuals in learning activities which are meant to promote health (French, 1990; Green, 1978). Thus, Green and Kreuter (1991) define health education as "any combination of learning experiences designed to facilitate voluntary actions conducive to health" (p. 17). Acknowledgement of the multiple determinants of health is evident in the use of "combination", which refers to the necessity to match health determinants with appropriate interventions or supports. The use of the word "designed" is meant to encompass only systematically planned activities in a health education context.

A more complex definition of health education, which incorporates these elements is:

Health education is any planned activity which promotes health or illness related learning, that is, some permanent change in an individuals's competence or disposition. Effective health education may produce changes in understanding or ways of thinking; it may bring about some shift in belief or attitude; it may influence or clarify values; it may facilitate the acquisition of skills; it may even effect changes in behaviour or life-style (Tones, 1990).

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French (1990), in addition, believes that health education should be concerned with the provision of high quality information in a readily understandable form, and that social and economic determinants of health should not be neglected. He supports a community empowerment view of health education, which aims at enabling and supporting individuals or groups to set and implement their own health agendas. This is in accord with the widely held belief that community health programs are most effective when they are established by the community (B.C. Research, 1986).

Shirreffs (1984) lists several qualities of health education, including the following:

- · a professional field and academic discipline,
- strategies which provide a bridge between scientific discovery and application for everyday healthful purposes,
- an integral part of school curriculum and community based health programs,
- contribution to total education through providing meaningful experiences that can positively influence health behaviour,
- principles and strategies which are based upon and improved through basic and applied research,
- facilitates primary prevention of health problems. (p. 41).

It has, as its goal, to maintain, promote and improve individual and community health through educational processes (Shirreffs, 1984).

Health promotion grew out of health education (Green and Kreuter, 1991) and has wider boundaries. It includes, but is not limited to, the voluntary activities of health education (Green and Kreuter, 1991) and can consist of any planned activities aimed at healthy individuals that are intended to increase their health (Duncan and Gold, 1986).

The Canadian Public Health Association has defined health promotion as, "the prevention of physical and mental ill health through the promotion of better personal health habits and the elimination of self-imposed risks" (in Labonte and Penfold, 1981). Such a definition is limited, as it does not encompass environmental factors (eg. neighbourhood safety, pollution). It has been criticised for promoting an attitude of "victim blaming" (Labonte and Penfold, 1981, Minkler and Pasick, 1986). Broader definitions which include these factors are the following:

Health promotion is any combination of educational, informational, organisational, service, legislative and regulatory, and/or economic methods designed to motivate health-related behaviour changes among a target population in a specified geographic area during a defined time period (Windsor, 1986, p. 436) or

Health promotion comprises efforts to enhance positive health and prevent illhealth, through the overlapping spheres of health education, prevention and health protection (Downie, Fyfe and Tannahill, 1990, p. 2).

McGinnis (1982) identified five strategies which are aimed at promotion of health:

• <u>Regulation</u> - is generally used when the potential exists for behaviour of an individual to impinge upon the rights of others. Some examples include legislation of the use of seat belts, restriction of alcohol and drugs while driving, provision of smoke-free sections in public places.

• Economic Incentives - such measures can be positive, such as tax breaks to industries who engage in environmentally friendly practices, or negative, such as increased insurance premiums for smokers.

• <u>Technology Development and Application</u> - these can be innovations which enhance health, such as less toxic cigarettes or computerised health risk appraisal forms, or environmental manipulations such as fluoridation of water.

• <u>Service Delivery</u> - Fitness programs, nutritious meal programs, smoking cessation programs and telephone counselling are specific examples of services offered.

•Education and Information - carefully designed efforts to provide information systematically to targeted populations in order to facilitate health behaviour

changes.

The areas which are generally included under health education include some service delivery and education and information.

2.1 MODELS OF HEALTH EDUCATION

There are many models used as a framework for health education and promotion programs. Most are founded on social learning theory. Some also incorporate environmental factors into their design and at least one model applies epidemiological and planning concepts.

A well known and widely researched model of health education based on social learning theory is the Health Belief Model (Janz and Becker, 1984). This model was developed in the 1950's as a way to explain people's behaviour with regards to preventive screening tests, and was based upon Lewin's theory of positive, negative and neutral valances (perceptions of value) as the determining factor for engaging in a behaviour (Rosenstock, 1974). Preventive behaviour was explained in terms of an individual's perceptions about the relevant disease (perceived susceptibility to and severity of the disease), which leads to their valuation of the threat posed by the disease. The perceived threat is modified by demographic and sociopsychological variables (age, sex, race, ethnicity, personality, peer pressure, etc.), which influence the perceived benefits of the behaviour as well as barriers to action. However, in order to engage in preventive action, the individual must also experience a cue to action (eg. media campaigns, advice, reminder by physician, etc.). The net result of the interaction of all these factors is the degree of likelihood of the individual to engage in the preventive behaviour (Janz and Becker, 1984; Maiman and Becker, 1974; Radecki and Cowell, 1990; Rosenstock, 1974).

Research generated by the discipline of adult education is related to behavioural models in that it focuses on individual motivation and requirements for learning. Although not specific to health education, the concepts derived are useful in

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a wide range of programming, including health. It is thought that learning outcomes with older individuals depend upon many factors, including learning capabilities, previous learning experiences, and the social contexts in which thought and behaviour have developed (Thornton, 1986). Previous learning can, therefore, interfere with the acquisition of new knowledge. To facilitate transfer of learning (the extent to which a learning event contributes to or detracts from subsequent learning or problem solving) instruction must be arranged so that relevant past learning can facilitate the acquisition of new learning (near transfer) and new learning can be used to deal with everyday problems or events (far transfer) (Uman and Richardson, 1986). In addition, older adults appear to learn more efficiently when they can control the pace of instruction, when attention is given to compensation for sensory deficits (eg. visual and auditory), and when the need for sufficient practice is balanced with the detrimental effects of fatigue (Whitbourne and Sperbeck, 1982).

Because educational experiences for older adults are often motivated by a problem which must be solved, strategies must identify the problem and develop the necessary knowledge, skills and attitudes to solve them. There is a need for initial learning, practice and integration of the new knowledge for long term use (Uman and Richardson, 1986).

Boshier (1991) has done a great deal of work in identifying the motivational factors for adults to participate in education. His Education Participation Scale consists of seven motivational factors for adult education attendance: communication improvement, social contact, educational preparation, professional advancement, family togetherness, social stimulation and cognitive interest. An earlier version of the Educational Participation Scale, used with a sample of retired older adults, found four significant factors; escape stimulation, social welfare, social contact and cognitive interest (Boshier and Riddell, 1978).

An approach which incorporates environmental factors into a model is the

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"Ecological Model for Health Promotion" (McLeroy, Bibeau, Steckler and Glanz, 1988). This model attributes the causes of individual behaviour to five sets of factors:

• intrapersonal characteristics of the individual such as knowledge, attitudes, behaviour, self-concept, skills, etc.,

• interpersonal processes and primary groups, which include the formal and informal social support systems such as families, work associates and friends,

• institutional factors, which include the organisational characteristics, rules and regulations (formal and informal) of social institutions,

 community relationships between organisations, institutions and informal networks and

 public policy, which includes regional, provincial and national laws and policies.

It is assumed that the full range of possible strategies for health promotion programming is included in these five levels, as techniques must be based upon current understanding of causes of behaviour. Each of the five levels can be used appropriately in health promotion programming. For example, interpersonal factors may be used in educational programs, mass media, support groups or peer counselling, whereas public policy targets the health of populations rather than individuals.

A model of health education which incorporates both social learning theory and environmental factors, but based in epidemiology, is Green and Kreuter's (1991, p. 22-31) PRECEDE-PROCEED model. It contains nine phases, and begins the planning process with the determination of desired outcomes. Phase 1, Social Diagnoses, involves subjective definition of the problems and priorities of the target community. The identification of "quality of life" issues leads to the second phase, epidemiological diagnosis, in which specific health goals are identified and ranked. In the Behavioural and Environmental phase, specific health related factors which can be linked to the problems or goals chosen in the first two phases are distinguished. The fourth phase, Educational and Organisational Diagnosis, consists of determining the factors which influence the health behaviours identified in phase 3. There are three broad categories under which factors can be classified:

• Predisposing Factors: include the knowledge, attitudes, beliefs, values and perceptions which can facilitate or inhibit motivation for change,

• Enabling Factors: include the skills, resources and barriers that assist or obstruct behavioural and/or environmental change,

• Reinforcing Factors: include the rewards and feedback received from engaging in the health behaviour, which will encourage or discourage continuation of the behaviour.

Once the factors which influence health behaviours are classified according to these categories, it is possible to determine which of the categories deserves highest priority as the focus of intervention. Administrative and policy diagnosis, phase 5, involves the determination of resources and capabililities for developing a program at the organisational level. Limitations in resources, policies, time and abilities are identified, as are opportunities, and the methods and strategies for intervention are chosen. The intervention is then implemented (phase six). Process, impact and outcome evaluations (phases 7 to 9) should be a continuous process throughout the model, and evaluation criteria should be determined from the objectives identified a priori, during the diagnostic phases.

This model originated as a framework for health education cost-benefit evaluations (Green, 1974) and evolved into a model for program evaluation which has been widely applied in a variety of settings (Green, Kreuter, Deeds and Partridge, 1980).

2.2 HEALTH EDUCATION FOR OLDER ADULTS

Traditionally, health education has been targeted at younger populations, with the result that older people have often been overlooked (Barr, 1983; Cox and Monk, 1989; Estes, Fox and Mahoney, 1986; Gilbert, 1986; Minkler and Pasick, 1986). Health education was viewed as an activity that could be presented as a one-time effort early in life to ensure healthy choices throughout the lifespan (MacRae, 1986). Attitudes were also a barrier; older adults were generally believed to be too old to participate in vigorous activity, for example (MacRae, 1986).

Factors credited with influencing the development of health promotion and education for older adults include growth in the number of older people (Cox and Monk, 1989; Lalonde and Fallcreek, 1985; Weiler and Lubben, 1989) and increasing per capita proportion of older people (Gilbert, 1986; Rimer, Keintz, Glassman and Kinmar, 1986). Projections by Statistics Canada indicate that by the year 2020 one fifth of the Canadian population will be over 65 years (Health and Welfare Canada, 1989). Other factors include increasing costs of medical care (Barr, 1983; Butler, Gertman, Oberlander, Schindler, 1979; Cox and Monk, 1989; Lalonde and Fallcreek, 1985; McLeroy et. al., 1988; Reynolds, 1975; Weiler, Chi and Lubben, 1989), increased expectations and educational attainment of elderly health care consumers (Butler et. al., 1979) and lack of coordination of health care services and research (Slivinske and Kosberg, 1984). An additional catalyst contributing to the development of health promotion/education programs for older persons is the increasing realisation, in an era of cost containment, that the elderly are high users of treatment services, as they suffer from more chronic conditions than younger people (Butler et. al., 1979; Health and Welfare Canada, 1989). For instance, Gilbert (1986) quotes high U.S. percentages of older people suffering from arthritis (44%), hypertension (30%), hearing loss (29%) and heart conditions (27%). On average, older Americans are confined to bed for 14 days of each year and must restrict their activity for 39 days of

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each year (in Gilbert, 1986). The Canadian experience is that 80% of persons over 65 years report at least one health problem, compared to 54% of Canadians as a whole. Twenty-four percent of persons aged 55 to 64 years and 32% of persons over 65 years report that they experience activity limitations, compared to 10% of persons under 55 years (Health and Welfare Canada, 1989). The proportionately greater rates of chronic illness and disability in older populations have resulted in large proportions of health care budgets devoted to treatment of elderly persons, providing additional motivation for health education among the elderly (Lalonde and Fallcreek, 1985). Health promotion activities are often viewed by health care professionals as a method to prevent institutionalisation of elderly people, resulting in decreased costs of care and more humane treatment (Moneyham and Rider, 1988; Schneider, Chapman and Voth, 1985).

The provision of health promotion programs for the elderly has been endorsed by society, government and by professional organisations (Krout, 1983). For example, the British Columbia Minister of Health and Minister Responsible for Seniors, in Toward a Better Age (1989), recommended greater emphasis on preventive activities, stating that many of the major causes of ill health and disability in old age may be preventable through healthy lifestyle. The Institute for Health Care Facilities of the Future, in the 1988 Aging Report, also endorsed health promotion and disease prevention as ways to improve the quality of life of Canadian elders, and stressed the need to move away from a medical model of health care toward a focus on social support, self-care and creation of healthy environments. The Canadian Nurses Association (1989) emphasised that encouraging wellness practices should become a major concern in health care, to maintain and enhance seniors' quality of life. Most recently, the British Columbia Royal Commission on Health Care and Costs (1991) stated that the traditional health care system, where ninety-seven percent of the budget goes toward institutional care, medical services and pharmacare, must be

transformed into a system where more money is spent on prevention of illness and protection of health.

Cox and Monk (1989) described the purpose of health education for older adults as illness prevention. However, others portrayed it as including a range of activities, from primary prevention of disease to self-care for chronic disease and maintenance of an individual's ability to function in their natural environment (Benson, Nelson, Napps, Roberts, Kane-Williams and Salisbury, 1989; Rimer et. al., 1986). Rimer et. al. (1986) listed the goals of programs as increased health, increased quality of life and decreases in days of restricted activity. They affirmed that the intended outcome is an extension in years of active, independent pleasurable life, rather that merely an increase in years of life. Secondary analysis of research data by Fries, Green and Levine (1989) supported this; termination of bad health habits can reverse health risks in relatively short periods of time, and development of good habits can quickly provide beneficial effects. Accessibility of medical care was also seen as a goal by some (Reynolds, 1975), as was prevention of institutionalisation (Schneider et. al., 1985; U.S. Department of Health, Education and Welfare, 1979). Health education and health promotion may also be viewed as a vehicle for achieving community-based empowerment to achieve social and/or environmental change (Caplan, 1990; French, 1990; Taylor, 1990).

2.3 COMMUNITY-BASED HEALTH PROMOTION/EDUCATION PROGRAMS FOR THE ELDERLY

Community-based programs for the well elderly provide health promotion/maintenance activities and early detection of disease (Moneyham and Rider, 1988). Health education programs are used as means to prevent illness in older people, assist them to achieve the ability to manage their chronic disease independently and provide them with information to become more effective consumers of health services (Rimer, Keintz, Glassman and Kinman, 1986). They occur in a wide range of settings, including senior citizens' centers, meal sites, recreational facilities, subsidised housing units, older adult residences (Moneyham and Rider, 1988), churches and other religious organisations, health care delivery sites such as hospitals, colleges and universities and voluntary organisations (Rimer et. al., 1986). Staffing for older adult health education programs can consist of health educators, nurses, occupational therapists, social workers, students and older persons as peer educators (Rimer et. al., 1986). Programs typically offer health assessment, counselling, education, monitoring of chronic conditions, screening and referral (Moneyham and Rider, 1988). Often the focus is on instruction for management of common chronic diseases, such as hypertension, heart disease, diabetes, arthritis and hearing and vision loss (Meeks and Johnson, 1988). In addition, medication use, nutrition, exercise, accident prevention and depression are common topics for health promotion among the elderly (Meeks and Johnson, 1988).

Several examples of large community-based senior health promotion/education programs can be found in the literature. Some programs focused on a single issue for education and behaviour change. For example, the SRx-Senior Medication Education Program in San Francisco, begun in the late 1970's, provided education for prescription drug use to seniors through theatre presentations, mini-classes, multilingual educational materials and individual consultations (Eng and Emlet, 1990). A project in Buffalo, New York provided dietary education and instruction to a random sample of elderly persons who were recipients of noon-time meals at the Salvation Army Center and judged to have inadequate nutritional intake (Mitic, 1985). The Preventive Health Care for the Aging Program (PHCAP) in California furnished medical screening and referral by a public health nurse to self-referred elderly persons at 24 local screening sites (Weiler, Chi and Lubben, 1989).

Other programs were more comprehensive, including a wide range of health

promotion topics and activities. The Senior Actualisation and Growth Exploration program (SAGE), for example, was founded in 1974 in California, and spread to other U.S. states (Butler et. al., 1979). It was based on the premise that the older years of life should continue to involve personal growth, and consisted of two to three hours per week of deep breathing, massage, exercise, biofeedback and counselling (Butler et. al., 1979). In June, 1975, Sehnert began a Medicare program out of Georgetown's School for Summer and Continuing Education in Virginia consisting of health education lectures and self-help skills instruction (Butler et. al., 1979).

The Self-Care for Senior Citizens Program (SCSC) was developed and sponsored by the Dartmouth Institute for Better Health (DIBH) in New Hampshire in the late 1970's (Simmons, Roberts and Nelson, 1986) with the aim of helping the elderly learn how to achieve better physical and mental health, use the health and social service system more effectively and maintain their independent living status. The program consisted of thirteen two hour sessions with a set curriculum developed by DIBH. This project led to the Staying Healthy After Fifty (SHAF) program, a collaborative venture of DIBH, the American Association of Retired Persons (AARP) and the American Red Cross in 1985 (Simmons, Nelson, Roberts, Salisbury, Kane-Williams, Benson, 1989). SHAF was a revision of SCSC, and consisted of eleven two-hour sessions which cover health concerns and emergency situations, lifestyle and consumer planning.

The Wisdom Project was another collaborative arrangement between the American Red Cross and municipal organisations in New York to provide screening and treatment, health education and evaluation/follow-up through thirty senior centers for persons over 65 years with health disorders (Lederman and Farrar, 1986). The GROWING YOUNGER program was begun in 1979 through Healthwise, a non-profit health promotion centre which had previously only worked with young families (Kemper, 1986). It was developed and piloted at the Boise Senior Center, and aimed

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to improve the health of older people living in the community. Its program was comprised of four two-hour workshops covering fitness, nutrition, stress management and medical self-care. The Tenderloin Senior Outreach Project (TSOP) in San Francisco was a university sponsored project, developed in 1979 with the aim of combating social isolation, poor health and powerlessness, which were common to the elderly low income residents of the Tenderloin area. It provided health education about smoking, nutrition, exercise and alcohol/drug abuse, and screening and referral on a weekly basis in each of eight Tenderloin hotels, but it also emphasised social gathering and mobilisation of the elderly to take collective actions in relation to landlords, merchants and others to improve their living conditions. The Wallingford Wellness Project was a research project in health promotion for persons over 54 years of age, which consisted of a 21 week program of physical fitness, stress management, nutrition and environmental awareness and action (Lalonde and Fallcreek, 1985). Unlike other senior health promotion programs, participants ranged in age from 13 to 87 years, although the research centred around those who were over 54 years of age.

Meeks and Johnson (1988) described the development of a comprehensive health promotion program based upon a literature review and community needs assessment at the North Shore Senior Center in Winnetka, Illinois. This resulted in a health promotion "browsing area", with a library of pamphlets and books, publication of a cookbook of nutritious recipes, health topics inserted into the member newsletter, a monthly health lecture series and ongoing exercise programs. The "Feeling Great!" Wellness Program for Older Adults was developed at a Louisiana YMCA as a fitness program for older adults, and included a complete physical workout, social outlet, health education lecture/discussion and recreational activity in each session for adults over fifty years of age (Weiss, 1988). The Personal Health Management System (PHMS) was developed in the Ohio Presbyterian Homes in 1979 with the goals of improving quality of life for participants and decreasing costs of health care through application of wellness concepts (Slivinske and Kosberg, 1984). The program incorporated educational classes, physical exercise and individual professional conferences.

In Vancouver, Seniors Wellness positions were established within each health unit in 1984 (Martin, Robertson, Altman, 1988). This led to a process of establishing health promotion activities for the elderly through existing community agencies or groups. Once the sponsorship of a group of seniors in a neighbourhood was established, a health professional worked with the sponsoring group to design and implement a program, which generally consisted of weekly meetings for two hours oraganised around a format of exercise, social interaction and health discussion (Martin, 1986). In 1990, there were twenty-three such programs in operation in Vancouver (Calsaferri, 1990).

2.4 EFFECTIVENESS OF SENIOR HEALTH PROMOTION PROGRAMS

Much of the literature describing senior health promotion/education programs was descriptive in nature, such as the "Feeling Great" program (Weiss, 1988). Process evaluative information was provided for others, such as the PHCAP, which provided quantitative data on numbers of participants, what types of services were provided, and resulting referrals (Weiler et. al., 1989). Likewise, SRx supplied numbers of persons reached by the program, but outcome effectiveness of the program in terms of behavioural change and health measures were not reported (Eng and Emlet, 1990). Qualitative information regarding effectiveness was provided for SAGE (Butler et. al., 1979), the Wisdom project (Lederman and Farrar, 1986) and Tenderloin (Wechsler and Minkler, 1986) in terms of participants' satisfaction with, and perceived benefits of, the programs.

Mitic (1985) utilised a random control group design to evaluate the effectiveness of nutrition education, and found that, using a 24 hour dietary recall, 62 percent of the experimental group (n=34) reported eating adequately immediately

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following intervention, compared to only nine percent of the control group (n=32). Six weeks after completion of the program, 73 percent of the experimental group and nine percent of the control group exhibited adequate eating behaviours.

Slivinske and Kosberg (1984) used a modified non-equivalent control group design (the experimental group was self-selected, whereas the controls were recruited through random selection from one of the Ohio Presbyterian Home facilities). Self-administered questionnaires disclosed that on scales of physical health, morale, economic resources, Activities of Daily Living (ADL), spirituality, social resources and an overall Wellness index, scores for experimental subjects (n=53) increased over time whereas scores for controls (n=14) remained relatively stable. Muscular strength and flexibility increased significantly for the experimental group (p<.001), but there was no significant change in number of times medical care was sought, number of days of illness, amount of money spent on medical care or number of days of hospitalisation.

The Wallingford Wellness Project (Lalonde and Fallcreek, 1985) recruited a comparison group (n=44) from church groups, social groups and housing complexes in the same geographic area from which the experimental group (n=90) was recruited. The controls were matched for age, sex, socioeconomic status (SES), marital status and physical/psychosocial health levels. Measures of health knowledge, attitude and behaviour change were taken at baseline, immediately following the 21 week program, six months after completion and two years following completion. There were no significant pre-test differences between groups. At immediate post-test, the experimental group had significant improvement in overall mental health and positive well-being, motivation and confidence in their ability to initiate and sustain lifestyle changes in the areas of nutrition and stress management, behavioural changes in physical fitness, stress management, nutrition and environmental awareness, and health information related to environmental awareness and stress management. A

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significant reduction was found in risk of heart attack and stroke. The majority of significant post-test changes were sustained at the six month followup (Lalonde and Fallcreek, 1985). There was also a significant decrease in depression and increase in acceptance of responsibility for health, knowledge of available social and health resources and nutrition related health information at the six month post-test. At the two year follow-up, behavioural changes among the experimental group in physical fitness, stress management and nutrition were sustained, but not at the same level as the six month followup (Lalonde, Hooyman and Blumhagen, 1988). Health information was retained without significant decline for all areas except nutrition, and there was still significantly greater knowledge in all four areas compared to the controls. The mental health benefits, increased health responsibility, and decreased risk of heart attack and stroke were, however, not sustained at the long term followup. The authors concluded that the project was most effective in the short term and suggested that continued intermittent program intervention might be required to sustain benefits over the long term (Lalonde, Hooyman and Blumhagen, 1988).

The effectiveness of SHAF was examined using a pre and post evaluation study using friends or neighbours of participants (n=164) as the controls for the experimental group (n=161). Data were obtained from twenty SHAF courses held in sixteen communities over a five month period in 1986. Course completion rate was high (92.5%), as was satisfaction with the course (97%) (Simmons et. al., 1989). The test group, at baseline, perceived themselves as significantly less healthy and more limited by health problems than the control group; they were also less likely to be white and less educated than the controls (Benson, Nelson, Napps, Roberts, Kane-Williams and Salisbury, 1989). At immediate post-intervention, the test group scored higher than the controls on self-assessed ability to perform health skills such as taking temperature, blood pressure and pulse, performing first aid for choking, understanding food labels, using a medical reference book, checking for safety hazards at home and

owning a medical reference book. Test group members also reported significant improvements in health actions such as use of a seatbelt, performing vigorous and stretching/strengthening exercise, reducing stress levels, consuming calcium rich foods. The test group scored significantly higher on a health care costs scale, displaying significantly greater ability in trying to save money on health care, comparing prices and services and comparing health insurance policies. At the six month post-test, differences in the health skills scale were sustained and the test group continued to report improvement on individual health skills. The differences on the health actions scales were also sustained, but there was no longer a significant difference in the health care costs scale. The positive results that were obtained must be viewed with caution, as there is a potential for regression to the mean due to lower base-line scores in the test group.

Cox and Monk (1989) evaluated the effectiveness of comprehensive health education services at six senior centers in the New York area. The participant sample consisted of 104 individuals, and a comparison group, comprised of senior centre attenders who did not participate in the health education program, was used (n=36). The comparison group was less likely to be foreign born, had higher levels of education and had higher annual incomes than the test group. There were no significant differences in types of chronic conditions or in use of health services. The comparison group was more likely to rate their health as good or excellent (51% of participants compared to 84% of non-participants). The comparison group also felt significantly more in control of their health than did participants, but the authors pointed out that this could have been a reflection of differences in education and SES. More participants than nonparticipants felt they were getting an appropriate amount of exercise, however, and more participants than nonparticipants had made changes in health behaviour over the previous year, including dietary changes (p<.006), exercise habits (p<.001) and weight changes (p<.05). These changes were attributed by

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participants to the health education program. Because this was a cross-sectional study, a causal relationship between the program and the differences observed cannot be inferred.

It is, perhaps, surprising that so little formal evaluation has been attempted, given the popularity of community-based programs for the elderly. Nevertheless, based upon the research results available in the literature reviewed, it seems that such programs are effective in producing at least short-term benefits in health knowledge, attitudes and behaviours. There is evidence that at least some of these changes are sustained up to two years following completion of the program.

2.5 TARGET POPULATION FOR SENIOR HEALTH PROMOTION PROGRAMS

To be successful, a health promotion program must be designed to meet the needs of its target population (Fallcreek, Warner-Reitz and Mettler, 1986; Meeks and Johnson, 1988; Trela and Simmons, 1971). Choice of target populations should be grounded on knowledge of the prevalence of disease and the potential for health promotion and disease control (Green and Kreuter, 1991; Larson, 1988). Identification of risk factors for development of disease or disability, through epidemiology, can allow programs to be targeted to high risk individuals (Breslow, 1983). Recruitment tactics, promotional materials, curriculum and evaluation are all dependent upon characteristics of the target population (Fallcreek et. al., 1986). The local environment must also be considered in determining recruitment techniques (Simmons et. al., 1986).

Individuals over 70 years are known to be more at risk for malnutrition and this is exacerbated by socioeconomic factors, physical health, mental status, and social isolation (Anderson, 1982). Diet is an important strategy for prevention of cardiovascular disease, which is a major cause of death and disability in people over

-25-

65 years (Larson, 1988). In addition, and more important to an elderly target population, diet and exercise have been found to reverse the effects of atheroscerosis (Fries, et. al., 1989). However, the majority of elderly people do not link diet with prevention of illness and disability (Health and Welfare Canada, 1989; Larson, 1988).

Elderly persons exercise less, yet require exercise to maintain joint flexibility, muscle strength, balance, tendon strength and cardiovascular reserves (Anderson, 1982). Elderly persons who do not exercise regularly have been found to be significantly more at risk for decline in functional status, after demographic and medical conditions have been controlled for (Mor, Murphy, Masterson-Allen, Willey, Razmpour, Jackson, Greer and Katz, 1989). Lack of exercise is also linked to exacerbation of cardiovascular disease (Larson, 1988). Regular exercise is a potential deterrent of osteoporosis and low bone mass, which are leading causes of fractures, especially in elderly women (Larson, 1988). Yet greater than one third of elderly Canadians believe that more exercise would not improve their health (Health and Welfare Canada, 1989).

In the area of avoidance of health risks, although the frequency of smoking and drinking alcohol decreases with age, the use of sleeping pills and tranquilisers increases dramatically (Health and Welfare Canada, 1989). More elderly people use seatbelts and less elderly persons report drinking and driving (Health and Welfare Canada, 1989).

Depression, which increases in incidence with age (Butler, 1975), is correlated with low income and less social activity (Anderson, 1982; Health and Welfare Canada, 1989). Suicide also increases with age, and has been related to physical stresses such as illness or loss of finances (Butler, 1975). Physical stresses such as illness may induce mental confusion, depression, weakness or sleep disturbances in elderly persons. A large percentage of elderly people do not receive help for psychiatric problems (Butler, 1975).

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The extent of one's connections to family, close friends, relatives, social groups affects health status (Breslow, 1983). Frequency of interaction with friends and relatives for males, and number of organisational memberships for females, have been correlated with positive health status (Green and Gottlieb, 1989). A progressive loss of social roles through retirement, decreased physical mobility, loss of parenting responsibilities and death of friends/spouse occur as a person ages, and these role losses have the potential to cause isolation of the older person (Toseland, Decker and Bliesner, 1979). Social isolation is recognised by many health care professionals as a cause of some elderly persons who require community assistance "falling through the cracks" (Bennett and Killeffer, 1989).

Schneider, Chapman and Voth (1985) suggested that community-based programs for the elderly should direct services at priority groups of older persons such as those who are advanced in age, of low SES, who live alone and have functional disabilities which impede ADL. They further stated that, if a goal of the program is to decrease institutionalisation, targeted individuals should be those who are older than 75 years, live alone, have recently been hospitalised and have a chronic health problem. Support for this is found in Canada's Health Promotion Survey completed in 1985, which determined that seniors perceived themselves as less healthy, reported more chronic disability and more activity restrictions due to disability when they were older, less wealthy and less educated (Health and Welfare Canada, 1989; Health and Welfare Canada, 1987). Green and Gottlieb (1989) also found education and income to be positively correlated, and life events and age to be negatively associated, with health status. They suggested that interventions which promote healthy lifestyle should target specific groups defined by income, education and age. Krout (1983) identified the "at risk elders" who require formal government support as those who suffer chronic illness, live in substandard housing, are subject to a large reduction in personal income and lack access to personal or public transportation. Low SES and

levels of community involvement have also been correlated with low life satisfaction, which, in turn, is related to level of well being (Kearney, Plax, Lentz, 1985). The 1973 amendments to the U.S. Older Americans Act recognised the need to target the most vulnerable groups in planning and service delivery, including the low income, minority group members and socially or geographically isolated elders who were in need of services to maintain functional abilities and lessen deterioration (Jacks, 1975).

Yet the poor and the socially isolated, who may be at high risk for health problems, are often the most difficult to reach with voluntary health education programs (McLeroy et. al., 1988). Community-wide approaches often do not reach older age groups, rendering them ineffective with this age group (Green and Gottlieb, 1989). People are often not aware of existing community services, are afraid to ask for help, or deny that they are not coping (Stuen, 1985).

Recently, professionals have become aware that making services available at senior centers and other locations does not ensure that the targeted population will utilise them (Krout, 1983). With no outreach component, an agency places the burden for initiating service requests on the older person, who may not know about the service or understand how to access it (Stuen, 1985). In a review of the literature, Krout (1983) determined that knowledge of services by the elderly was variable from survey to survey, many elderly people do not view the services they are aware of in a positive light, and there are very low utilisation rates by a small minority of elderly people.

2.6 CHARACTERISTICS OF PARTICIPANTS OF HEALTH PROMOTION PROGRAMS

Programs which have recorded baseline data for their participants provide a good indication of what kinds of people are being reached by present programming. Several documented programs for seniors have provided their baseline data in the literature, which can then be contrasted with the characteristics which are perceived to belong to the target group, as outlined in the previous section.

The Wallingford Wellness Project employed media such as newspaper, radio and group presentations in recruitment (Lalonde and Fallcreek, 1985). Participants (n=90) ranged in age from 55 to 87 years, with a mean age of 70. Twenty-one percent of participants were male and over half (n=38) were married. All participants were Caucasian. The average yearly income was \$11,866. No demographic information for seniors in the recruitment area was provided for comparison purposes. The comparison group, although recruited from the same geographical region, does not allow for comparison to determine whether the program reached the more "at risk" group due to the fact that recruiters tried to match on demographic characteristics for purposes of outcome evaluation of the project. However, the control group (n=44) was older (range of 61 to 98 years with mean age of 73), less likely to be married (34% were married) and less affluent (mean yearly income of \$9792). None of these differences was significant. Similar to the participant group, 22% were male and all were Caucasian.

SHAF (Benson et. al., 1989) showed an opposite pattern between participants (n=161) and the friendship/control group (n=164). Once again, the majority of both groups was female (83% for participants and 88% for friendship group). Both groups were younger (mean age of 65.9 years for participants and 64.2 years for controls). A large percentage of both groups was also married (46% for participants and 53% for controls). The participants were significantly less educated, with 7.0 years versus 7.4 years of education (p=.05) and less likely to be white (83% versus 93%, p=.01), and though no income figures are provided, this would indicate that participants were likely less affluent than controls in the SHAF program. In addition, the test group felt significantly less healthy and more limited by health problems than the friendship group, and considered themselves less capable in performing health skills. The participant group also reported less social interaction than controls, and more of the test group were dissatisfied with their lives, although these results were not significant.

None of these demographic or health variables were compared to the characteristics of seniors in the areas from which individuals were recruited.

In contrast to both SHAF and the Wallingford Wellness Project, Cox and Monk (1989), who drew their comparison group from the same senior centers that housed the health education programs they were evaluating, found that only one quarter of participants (n=104) and controls (n=36) were married, with approximately 70% of both groups living alone. Participants were significantly more likely to be foreign born (28% versus 7%). There was a dramatic difference between groups in annual income, with participants significantly less affluent that controls (p<.0001). Likewise, participants had significantly less years of education (p=.002). Although this was a cross-sectional study so the measures of health status are not baseline data, it is interesting that there were no significantly less healthy and less in control of their health than the comparison group. As with preceeding studies, no data were provided to allow comparison with the area demographics.

Slivinske and Kosberg (1984) did not differentiate the demographic characteristics between participants (n=53) and controls (n=14). Statistics for the two groups suggest that they were very well educated (mean of 14 years of formal education) and financially able to cope (mean annual income of \$13,500, with three quarters having retired from, or with a spouse who was retired from, a professional or white collar job). The average age was 76 years, 23 % of study participants were married and the majority were Caucasian female. It is also noteworthy that 43 of the 53 participants were residents of Ohio Presbyterian Homes, which might be indicative of a social support network.

Fitch and Slivinske (1988) randomly selected 84 residents from three retirement communities and then randomly assigned them to participant and control groups. The

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average age was 77.5 years. Once again, this was a relatively more affluent and educated group, with a mean annual income of \$16,485 and average years of formal education of 14.8. 73% of the samples were female and 39% were married.

Weiler et. al. (1989), in a sample of 5,454 participants of the Preventive Health Care Program for the Aged, found that two thirds were female, nearly 85% were white, and close to half were married. 41% of the sample lived alone. 38% were 60-69 years of age, 49% were 70-79 years and 14% 80 years old or more. Forty-four percent of the sample had no chronic conditions, 23% had one, 17% had two and 16% had three or more chronic conditions. Using medical insurance coverage as a proxy for financial status, the researchers conjectured that those who were eligible for Medicaid (13%) and those who had no insurance (5%) were probably low income. In contrast, approximately 60% had private medical insurance in addition to Medicare.

In a study of five of the Vancouver Health Department Seniors' Wellness Programs, it was found that the participant ethnic mix generally mirrored the ethnic mix of the surrounding neighborhood, but males were underrepresented, with a range of 0 to 33% and a mean of 27% of participants being male (Calsaferri, 1990).

Schneider et. al. (1985) chose, as one of their main research objectives, to determine whether the senior program was reaching the intended audience of those at risk for institutionalisation. They selected a quota sample through canvassing enumeration districts based upon 1970 census data. Data from this sample (n=152) could then be compared to information obtained from seniors who took part in a mobile medical screening program (n=251). The quota sample, which should have accurately reflected the characteristics of seniors in that geographical region, were older (73 years versus 71 years), less well educated (8.4 years versus 9.3 years), less affluent (\$375 per month versus \$380 per month) and less healthy (3.7 versus 1.6 annual hospitalisation days, 17.3 versus 2.8 annual disability days, 6.3 versus 4.1 annual doctor visits) than the medical screening sample. A smaller proportion of the

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quota sample attended church weekly or were involved with the senior centre. They were also less likely to expect an interesting future (68.4% versus 87.5%). The medical screening sample was, however, more likely to live alone and had less contact with their children than the quota sample.

The research reviewed suggests that there is wide variation between programs with regard to characteristics of recruited individuals. However, it seems that programs are only partially successful in reaching targeted "at risk" seniors. Schneider et. al. (1985), which is the most discouraging, suggesting that participants of voluntary medical screening are more healthy, more affluent, more educated, younger and more involved in the community than the norm for the geographical region, is likely the most accurate, as no other studies employed a random sample of seniors in the geographical area for their baseline. The studies which seem to have reached a more "at risk" group of participants utilised matching techniques in order to have an appropriate comparison group for determining effectiveness of the program. The matching techniques are ineffective in determining whether or not the appropriate target population was reached.

2.7 SENIOR CENTERS AS LOCATIONS FOR HEALTH EDUCATION/PROMOTION

A common location for community based seniors health education programs is the local senior citizens' centre (Leanse, 1986, Rimer et. al., 1986). The definition of a Senior Center, as developed by the U.S. National Council on the Aging's National Institute of Senior Centers in their <u>Senior Center Standards</u> (1975) is as follows:

A senior centre is a community focal point on aging where older persons as individuals or in groups come together for services and activities which enhance their dignity, support their independence and encourage their involvement in and with the community.

As part of a comprehensive community strategy to meet the needs of older persons, senior centre programs take place within and emanate from a facility. These programs consist of a variety of services and activities in areas such as education, creative arts, recreation, advocacy, leadership development, employment, health, nutrition, social work and other supportive services.

The centre also serves as a community resource for information on aging, for training professional and lay leadership and for developing new approaches to aging programs. (Quoted in Leanse, 1986, p. 105-6)

Senior centers operate with the philosophy that aging is a normal process, individuals require interaction with and support from peers, and adults have the right to involvement in issues which concern them (Leanse, 1986). Historically, senior centers have provided primarily social and recreational activities (Hanssen, Meima, Buckspan, Henderson, Helbig and Zarit, 1978). The philosophy of senior centers, however, is supportive of health promotion/education philosophies of individual responsibility and determination for health behaviours (Leanse, 1986), and this has led to increases in health programming in recent years (Hanssen et. al., 1978).

A further reason for development of health promotion programs in Senior Centers is the fact that large numbers of seniors attend them (Cox and Monk, 1989). The assumption is made that senior centers are a natural setting to reach the target population of older adults (Cox and Monk, 1989; Meeks and Johnson, 1988; Schneider et. al., 1985). However, many senior centers do not have the resources for careful development of health programming (Meeks and Johnson, 1988). Furthermore, if senior centers are to be effective in providing health services, they must be able to attract a population that needs such services and can be assisted by the techniques utilised by the centre (Schneider et. al., 1985). With a shift from recreational to multi-purpose programming, there must be an accompanying move toward outreach or programming which attracts older people who did not previously attend, and there is some question whether this change has happened (Hanssen et. al., 1978).

2.8 CHARACTERISTICS OF SENIOR CENTER ATTENDERS

A great deal of research has been undertaken to determine the characteristics of participants/non-participants of senior centers, particularly in the United States. Trela and Simmons (1971), in a sample of 210 new senior centre members and 110 non-members of a senior centre, determined that reasons for joining included desire for outside interests besides work and family (43%), the need for companionship (12%) and the persuasiveness of the volunteer recruiter (greater than one third). Reasons given for not joining included competing activities and interests, ambivalence toward organisational activities, poor health or lack of transportation. Non-members were more likely to state they had a health problem and less likely to perceive their health as excellent or good (significant at .01 level). Poor health also played a large role in membership attrition, with the mortality rate for those who were no longer members after two years at 15%, and the percentage of those who gave poor health as a reason for lapsed membership at 16%.

Toseland and Sykes (1977) found that measures of life satisfaction were not correlated with attendance or nonattendance at a senior centre. Hanssen, Meima, Buckspan, Henderson, Helbig and Zarit (1978) found that senior centre participants were more "socially oriented", enjoying more structured, community activities, had fewer physical limitations and reported less depression than nonparticipants. In contrast to Trela and Simmons (1971), they found no correlation between lack of transportation and non-participation, and unlike Toseland and Sykes (1977), there were no significant differences in measures of health. Krout (1983b) also found that users (n=97) reported less mobility problems due to health than non-users (n=125). He also determined that attenders were more likely to see their friends often, had lower incomes, had an average of 1.5 years less education and were more likely to be female, not married and live alone. Using multiple regression, this study found that 20% of the variation between users and non-users was accounted for by lower income, lower education, seeing friends more frequently and desiring more contact with children. Reasons given for attendance were "something to do" (50%) and "invitation from friends or others" (25%). Reasons for lack of involvement were being

"too busy" (40%) and "lack of interest" (20%), followed by "no need" (8%). Only 2% identified lack of transportation as a reason for nonattendance. Ralston and Griggs (1985) found that lack of time, home responsibilities, lack of interest in attending a senior centre, job responsibilities and lack of interesting activities were the most commonly listed obstacles to participation in a survey of 110 senior homeowners. Schneider et. al. (1985) found that more women and more individuals who attended church regularly were senior centre participants (n=500). There was no significant difference in age or health status. An interesting finding was that participants entered nursing homes in greater proportions than non-participants.

In looking at frequency, duration and stability of senior centre attendance, Krout (1988) found that female, unmarried and low income attenders and those who saw their friends daily reported higher frequency of use than male, married or high income attenders. Length of attendance was only significantly correlated to increased age. Unmarried persons were more likely to report variable frequencies of attendance, while renters and those reporting excellent health status were more likely to have increased their frequency of attendance over time.

A secondary analysis by Krout, Cutler and Coward (1990) of data drawn from the 1984 Supplement of Aging (SOA) to the National Health Interview Study (NHIS), an annual survey of the civilian, noninstitutionalised U.S. population, used information from 13,807 Americans 60 years of age and older. Of this sample, 13.7% had used a senior centre in the preceding twelve months. Use of multivariate analysis and regression techniques determined that social interaction was the variable which most strongly predicted senior centre participation. Age and education had curvilinear relationships, with middle ages and middle levels of educational attainment correlated more highly with participation. Participants were more likely to be female, have lower family incomes, to live alone and to have less difficulty with Activities of Daily Living. Non-central city area residents and rural non-farm residents were more likely to be

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participants. There were no questions on the SOA to the NHIS that allowed the researchers to measure differences in life satisfaction, morale or access senior centers.

An interesting finding by Cox and Monk (1990) was that senior centers do not integrate large proportions of frail elderly individuals into centre activities (10% of participants were described by directors as frail, in a survey of 282 centers), and 48% of the directors felt that 10% was the upper limit of frail individuals that could be absorbed into their programs. Only 27% of directors felt that they could integrate more, with 20% being the upper limit of frail seniors which was perceived possible. Over one third of the disabled participants were considered frail due to hearing loss, followed by visual, memory and mobility impairments. The authors found evidence of little planning for such integration, although over half had a policy of acceptance of frail elderly and three quarters encouraged the well members to welcome them. Training for staff and interagency cooperation to provide specialised services were not prevalent in the study.

2.9 SUMMARY

The literature seems to show that community-based health education programs for seniors are effective in increasing various measures of health. For example, changes have been noted in dietary habits (Mitic, 1985), improved mental health and positive well-being have been demonstrated (Lalonde and Fallcreek, 1985), behavioral changes resulting in reduced risk of illness have been found (Lalonde and Fallcreek, 1985) and increased knowlege of health behavior performance and effective health service utilisation have been demonstrated (Benson et. al. 1989). Many of these changes are sustained at short term follow up, but tend not to be sustained over the long term, suggesting the need for some continued intermittent program intervention (Lalonde, Hooyman and Blumhagen, 1988).

The people who are identified as part of the target population, however, are

often not aware of existing community services (Krout, 1983) and are afraid to ask for help, or deny that they are not coping (Stuen, 1985). Senior centres seem to reach a group of elders who are healthier, with less ADL limitations and more social interaction (Hanssen et. al., 1978; Krout, 1983b; Schneider et. al., 1985). Two of the reported reasons for not attending senior centres, "lack of transportation" and "poor health", could be classified as barriers to attendance, or enabling reasons on the PRECEDE-PROCEED framework (Green and Kreuter, 1991).

Little research has been carried out to determine whether this pattern is also true for community-based health education programs. The studies which have employed a control group have generally utilised matching techniques in order to determine the effectiveness of the health education intervention (Benson et. al. 1989; Lalonde and Fallcreek, 1985). Determining whether or not their target group was being reached was generally not a research objective, so the matched controls were not chosen to be representative of the population of seniors in the community. Schneider et. al. (1985), however, found that participants of a mobile screening program were younger, healthier and more educated than a representative control group. The differences in characteristics between participants and nonparticipants, as well as the reasons for attending or not attending a community-based seniors health education program have yet to documented.

Based upon the literature review, a simplified conceptual scheme can be developed to show the expected relationship between various characteristics of attenders of a senior health education program, their environment, and participation. The conceptual scheme is presented in Figure 1, and is adapted from the Green and Kreuter (1991) PRECEDE-PROCEED model. The framework, as presented by Green and Kreuter (1991) already includes all elements presented in Figure 1. The elements are simply realigned in the scheme presented here, for purposes of the present study. The addition of bi-directional arrows indicates that this cross-sectional study does not

allow for causational analysis.

Participation in a health education program is expected to be influenced by predisposing, enabling and reinforcing factors. The types of motivational factors possessed by an individual will be determined by their behavior and lifestyle (including health behaviours, degree of community involvement, extent to which lifestyle revolves around home-based activities, cultural factors, etc.).

Individual behaviour and lifestyle is determined by intervening variables such as demographic characteristics of the individual (for example, gender, age, educational status) and the environment (e.g., accessibility of the health program, availability of transportation, safety issues, etc.). In addition, there is a group of healthrelated variables which are influenced by health status and, in turn, affect behaviour and lifestyle. These variables are often considered aspects of health in a multidimensional model, and include factors such as mobility, social network and economic status of the individual.

The three sets of intervening variables are influenced by, and influence, the physical and mental health of the individual. They also may act as enabling variables, which provide motivation or barriers to participation in the health education program.





* Adapted from Green and Kreuter (1991)

CHAPTER 3 METHODOLOGY

3.0 OBJECTIVE

The objective of this research project was to determine which factors, if any, correlate with participation in a formal seniors' health education program.

Such information might prove helpful in enhancing programming to reach nonparticipants who have been unwilling or unable to participate, but who might benefit from such a program. At a more general level, it might provide insight into social marketing for such programs.

3.1 RESEARCH QUESTIONS

1) Are there demographic differences in gender, age, educational attainment or living arrangements between participants and nonparticipants of a communitybased seniors' wellness program?

2) Are there differences in measures of economic resources, physical health, mobility, emotional balance, level of trust, social support or cognitive status between participants and nonparticipants of a community-based seniors' wellness program?

3) What are the reasons given by participants for their attendance at a community-based seniors' wellness program?

4) What are the reasons given by nonparticipants for not attending a community-based seniors' wellness program? Are there specific barriers to their participation which would also target them as potential participants?

5) Are there differences in involvement in other community activities between participants and nonparticipants of a community-based seniors' wellness program?

6) Are there differences in activities performed by, or time spent on performing, daily living activities between participants and nonparticipants of a community-based seniors' wellness program?

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3.2 THE PROGRAM

3.2.1 Choice of Program

Contact was initially made with Dr. Veronica Doyle, a researcher in Vancouver West Main Health Unit. Dr. Doyle is conducting research to determine the reasons for participation in a health related seniors' program and is interested in determining reasons for non-participation in the future. It was reasonable, therefore, to conduct this research in the same geographical area, to allow comparability of results with regard to population samples.

In consultation with West Main Health Unit staff, the Kerrisdale Seniors' Center Health Drop-In was determined as a first choice of a health education program for this study for the following reasons:

• it is well established and stable,

• there are sufficient participants to achieve an adequate sample size,

• the program is typical of health education programs for Vancouver seniors, including exercise, education, blood pressure monitoring and massage components.

The Program Coordinator of Kerrisdale Seniors' Center was then approached, and was receptive to use of the Health Drop-In for this research project.

3.2.2 Description of Program

Kerrisdale Seniors' Center is attached to the Kerrisdale Community Center Complex and located in an area of high rise apartments, self-owned apartments and single family dwellings. It is funded by the Vancouver Parks Board and operated by the Kerrisdale Community Center Seniors Operational Committee. Members must be 55 years or older. An annual membership fee of \$7.00 for 55 to 65 year olds and \$4.00 for 65 year olds and up is required. A full-time Program Coordinator and day and evening secretarial support are employed. The Center relies mainly on volunteer assistance by members. Kerrisdale Senior Center, and all of its programs, operate under the Vancouver Parks and Recreation Mission, which is, "To maintain and enhance the quality of life of all citizens of Vancouver by ensuring the provision of a parks and recreation system." The established Aims, Objectives and Goals of the Kerrisdale Seniors' Center are

1) To encourage involvement and participation in senior center activities.

2) To promote healthy social interaction.

3) To supply services at many different levels as required, and in different areas.

4) To utilise the special skills of volunteers. (Kerrisdale Senior Centre Policy Manual, 1987).

The Center operates a variety of programs for seniors seven days a week, including social activities, music, dancing, arts, crafts, educational activities and workshops on a variety of subjects. In addition, a nutritious lunch is provided six days per week at a low cost to members (Kerrisdale Senior Centre Promotional Pamphlet, 1991).

The Health Drop-In is one of several support services offered, and includes blood pressure monitoring, exercise and neck/shoulder massage. In the past, health lectures and discussions were also a part of the program, but they were discontinued due to a perceived lack of interest (Pirie, 1991-2). The blood pressure monitoring is a free service to members, operating one morning per week. Volunteer retired nurses take blood pressures, retain a record and provide members with a record. Massage is provided by a volunteer free of charge two mornings per week. Both the blood pressure monitoring and the massage are provided on a "drop-in", first-come firstserved basis. The atmosphere as members wait is relaxed. Many members sit and visit with each other while waiting for their turn, thus it is evident that there is also an informal social component to the program.

The exercise program is more structured as members are required to sign up for a twelve week period. It was, in the past, provided free of charge to members. The loss of a volunteer instructor has compelled the Center to hire a qualified fitness instructor, prompting a participant fee of \$9.00 per session (once per week for twelve

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weeks). This fitness instructor conducts regular fitness classes three times per week and Gentle Fit once per week.

The exercise program is evaluated at the end of each session by participants. However, the results of the evaluation are not retained by the Program Coordinator. The Program Coordinator reported that in December, 1991, the participants evaluated the exercise program positively, with the exception of some specific comments about the types of exercise they disliked (eg. mat exercises) (Pirie, 1991-2).

The blood pressure monitoring component serves 30 to 40 members per week, the neck and shoulder massage component serves 18 to 20 members per week. The exercise programs have spaces for 40 in each class. Currently, exercise classes are always full, with members having to be turned away (Pirie, 1991-2).

3.2.3 Demographics of the Area

Census tracts 022 and 009 most closely approximate the area covered in this study (Statistics Canada, 1987). Vancouver had a population over 65 years of age that represented 11.0% of the total city population in 1986 (Statistics Canada, 1987). The percentage of males 55 years of age and over in the city was 19.6% of the total male population, while the percentage of females 55 years of age and over was 23.6% of the city's female population.

Seniors (65 years and older) who lived alone were 30.6% of the total senior population, while 58.4% were classified as "family persons" (probably living with a spouse in this age group), 8.7% lived with a relative and 2.3% lived with a non-relative. The city as a whole had 53.3% of persons living in single detached dwellings, 9.9% living in apartments over 5 storeys and the rest living in other types of dwellings.

Those individuals with less than high school education represented 36.7% of the total city population, while 11.9% had a high school diploma and 51.3% had some form of education or training above the high school level. The average income for city residents was \$36, 086 and the median income was \$30,477.

Census tract 022, bounded by Trafalgar, W. 37th Ave., Arbutus and W. 41st Ave., had a male population 55 years and older that was 47.3% of the total male population for the area, and 16.5% of the area's total population. Females 55 years of age and over represented 58.8% of the total female population, and 38.1% of the area's total population.

Overall, 43.4% of the area's population was 65 years and older. Among this age group, over half (52.2%) lived alone, 41% were listed as "family persons" (probably living with spouses in this age group), 4.4% lived with a relative and 1.9% lived with a non-relative. These figures are consistent with residential types for the area: a full half of the people lived in apartments over 5 storeys, while 8.8% lived in single detached dwellings and 41.7% lived in some other type of dwelling.

The people in this area were relatively more educated than the city as a whole: 23% had less than high school, 13.1% had a high school diploma and 63.7% had some education or training beyond the high school level. The average income was slightly above the city average, at \$37,492, but the median income was lower, at \$26,678 (perhaps indicative of a greater number of older people living in high rise apartments on fixed incomes).

Census tract 009, bounded by McDonald, W. 41st Ave., Granville, and W. 49th Ave., had a different profile (Statistics Canada, 1987). Approximately one quarter (24.5%) of the population was 65 years or older, which is higher than the city average but lower than census tract 022. Males 55 years and older represented 28.4% of the total male population for the area and 12.0% of the area's total population, while females 55 years of age and older represented 40.2% of the area's total female population and 23.4% of the area's total population.

Among those who were 65 years of age and older, 47.8% lived alone, 44.1% were family persons, 5.7% lived with a relative and 2.7% lived with non-relatives. The area includes 40.9% single detached dwelling residents, 15.9% residents of

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apartments over 5 storeys and 43.2% residents of other types of dwellings. A large proportion of people (70.8%) had education or training beyond the high school level, while 7.2% had a high school diploma and 21.9% had not completed high school. The average income (\$45,936) and median income (\$31,106) were both higher than the totals for Vancouver.

3.3 RESEARCH DESIGN

3.3.1 Subjects

Samples were drawn from three sources:

 participants of the Kerrisdale Seniors' Center Health Drop-In, including the Blood Pressure Monitoring, Neck and Shoulder Massage and Exercise components,

• a sample of senior citizens residing in single family dwellings within a fiveblock radius of the Kerrisdale Seniors' Center and

• a sample of senior citizens residing in apartment buildings within a five-block radius of the Kerrisdale Seniors' Center.

It was hoped that a sample approaching 100 participants could be drawn from the Health Drop-In attenders, 50 from single family dwellings in the surrounding area and 100 from apartment buildings in the surrounding area.

Health Drop-In attenders were approached by the researcher at the Kerrisdale Seniors' Center during times that the programs were running. The research study was explained to them and they were asked to complete the questionnaire. They were given the choice of completing it immediately and returning it to the researcher, or taking it home and leaving it in a folder at the Kerrisdale Seniors' Center office at their convenience.

To attain a random sample of nonparticipants from the geographical area surrounding the Seniors' Center, a block map of the area including a five-block radius surrounding the Seniors' Center (reasonable walking distance) was traced. A computer-generated table of random numbers was utilised to assign a number to each block in the area, which determined the order in which the block was visited. (Block list included in Appendix A.) At each residence where there was someone home, the researcher introduced herself, presented University of British Columbia identification and asked if any senior citizens were in residence. Where there were seniors residing at the dwelling, the research purpose and method were briefly described and the senior residents were asked to participate. If they agreed, the questionnaire was left with them overnight and picked up the next day by the researcher. A covering letter was also left, which described the study and stated that participation in the study was voluntary, refusal would not jeopardise receipt of any services and completion and return of the questionnaire would be assumed to indicate consent. Individuals were invited to receive a summary of the study results; a separate form was included on which they could provide their name and address for this purpose if they wished.

The entire five-block radius was covered before attaining a sample of fifty participants from single family dwellings. This design also allowed various areas to be visited at different times of the day, so if there were differences in activity patterns within the geographical area, certain types of individuals would not be systematically excluded by the time of day their residence was visited.

To contact residents of apartment buildings, the same introduction and identification routine was followed with apartment managers. Managers were asked to determine the most appropriate means of contacting senior residents, observing security protocol for that particular building. In some apartments, the manager took the researcher door to door to the senior residents, which provided assurance to the seniors that the research was legitimate and permitted face to face contact with potential participants. In other cases, the managers put the questionnaires under the residents' doors or into their mailboxes. In two cases, the researcher left questionnaires in an open area beside the apartment mailboxes, so that residents

could pick up a questionnaire if they wished. There were six apartment managers who were unwilling to participate in any form. In these cases, access could not be gained to the seniors. There was also no practical way to access residents of owned apartment buildings, as there was usually no manager and the buildings utilised security systems. Where face-to-face contact was possible, apartment participants were given the choice of returning the questionnaires to the researcher on the following day, or leaving them with the apartment manager, if that was more convenient for them. Where apartment managers acted as a "go-between", participants were asked to leave the questionnaires with the apartment manager.

Return rates were found to be very low unless face-to-face contact could be made with the potential participants. Therefore, three apartment managers were approached through contacts within the West Main Health Unit, ensuring the opportunity to go door to door and, thus, increasing participation rates while allowing estimates of non-participation rates. It was recognised that this counteracted the random selection process, and therefore, was less than ideal. However, the alternative of low participation rates with no idea of the characteristics or numbers of nonparticipants was considered more problematic (ie. would have compromised random selection even more).

3.3.2 Choice of Questionnaire

Factors identified previously in the Literature Review section as target characteristics for health education programs directed to the elderly included physical health, mobility, mental health, social network, health behaviours and economic factors. Therefore, these were the variables of interest to this study. There are a number of general health status measurement tools which include all or most of these factors. Choice of an instrument to be used for this study was based upon a number of criteria.

Bergner (1985) stated that a health status measure should be meaningful,

understandable, sensitive to change, theoretically justifiable and intuitively reasonable. Component parts should be clear, and the data necessary to calculate the measure should be obtainable. Feinstein, Josephy and Wells (1986) stated that the first step in choosing a scale is to determine the specific purpose and setting for which it is to be used. If there is a choice of suitable tools for the intended purpose, then the issues of statistical reliablility and validity can be addressed. This was supported by Bergner, Kaplan and Ware (1987), who indicated that choice of a tool is dependent on the goals and design of the study, as well as the outcomes expected. Ware (1987) noted that the broader the instrument the more it increased in length. The purpose of information-gathering must be ascertained to focus the instrument and keep it lean. Pfeiffer (1975) supported this, suggesting that only information items which will be used and have action implications should be collected.

In addition, the degree of ease with which an index can be administered and analysed must be considered (Bergner et al., 1987; Feinstein et al., 1986; Pfeiffer, 1975). In evaluating three measures of health, Read, Quinn and Hoefer (1987) compared the following factors: training time for interviewers, difficulty of administration, coding and scoring difficulty, comprehensibility for subjects and administration time.

The assessment methodology must be valid; that is, it must measure what it purports to measure (Pfeiffer, 1975). Evaluating the validity of health status measures was said to be difficult because there is no gold standard for health (Read et al., 1987). Recorded methods for assessment included content validity (careful inspection of the items to confirm that they address the appropriate domains), construct validity (comparison of results between the tool of interest and other measures to confirm that they are related in a logical way based on assumptions of cause and effect), convergent construct validity (the measure correlates with other measures with which it is causally related, based upon an accepted theory), discriminant validity (the measure

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correlates more highly with other measures of the same variable than with measures of related but different variables). (Read et al., 1987; Ware, Brook, Davies and Lohr, 1981; Jette, 1980).

Other considerations discussed were that the measure is reliable, producing the same results for the same populations over time, different locations and numerous administrators (Pfeiffer, 1975). It should also provide quantitative data, permitting aggregation of data from the individual to the population level (Pfeiffer, 1975).

In the choice of measurement instruments for this study, the framework utilised was by Ware et al. (1981). This framework suggested that the first step in choosing a tool is to define the reasons for measurement of health status, which fall into five broad categories: (1) measuring efficiency or effectiveness of medical interventions, (2) assessing quality of care, (3) estimating the needs of a population, (4) improving clinical decisions or (5) understanding the causes and consequences of differences in health. When studying general populations, use of positively defined health measures was perceived as providing information about the greatest percentage of subjects.

The second step, according to Ware et al. (1981) is to define the aspects of health which are being addressed in the particular study. The components of health which may be of interest include physical health (the physiologic and physical status of the body), mental health (the state of mind, including basic intellectual functions) and social functioning (the quantity and quality of social contacts and resources). Jette (1987) added general health perceptions to this list and defined this category as self-ratings of health based upon the notion that "your health is what you think it is."

Once it is clear what is to be measured, possible instruments are evaluated using the criteria of practicality, reliability, validity and subjectivity/objectivity. Practical considerations include affordability of interviews versus self-administered instruments, respondent burden (as indicated by refusal rates, missing responses or administration time), and choice of the least complicated instrument and method possible. Shorter

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scales and any scales applied to disadvantaged groups (eg. lower income or education) tend to be less reliable.

Important issues in validity are ensuring that the measures chosen include all relevant components of health as well as the specific aspects of each component which must be measured, and ensuring that the measures are not confounded with other variables which will confuse or bias the results (Ware, 1981). This may mean that a subset of a comprehensive battery is utilised, rather than the entire instrument, if the subset's indicators pertain most closely to the studied variable. Objective measures have generally been more preferred than subjective measures, based on the assumption that they are more reliable and that they agree most closely with ratings by trained professionals. Subjective ratings, however, are more useful in general populations where undiagnosed conditions may be a factor. They also allow for finer discrimination among people who fall along the full range of the health status continuum. Subjective ratings also have more relevance for quality of life and health promotion planning, because they take into consideration the personal meaning and importance of the condition to the individual (Green, 1992).

Jette (1987) and Ware (1985) argued that subjective measures of health tap additional facets of health that are missed by objective means. Individual differences in health such as level of effort required, pain, difficulty, worry, wellness, life satisfaction, psychologic distress and wellbeing, vitality and concern about health can only be measured through self-report. Ware (1985) considered these subjective ratings to be the most sensitive measures of age-related deterioration in health and found them to be the best predictors of future medical care expenditures and the best predictors of survival. Agostino (1985) also stated that subjective ratings are an economical way of gaining health information about the elderly, and, following a review of relevant literature, concluded that there is evidence of a positive relationship between self-ratings and physician ratings of health; that they measure something

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different from physician evaluations but are persistently related to objective measures of health and, therefore, could be used in survey research of older persons where objective ratings are not feasible. Morris and Boutelle (1985) determined that selfresponses on a questionnaire were as reliable as information derived from an interview for a group of relatively independent, well elderly people. And Dorevitch, Cossar, Bailey, Bisset, Lewis, Wise and MacLennan (1992) found that, for a group of 150 elderly patients attending a geriatric day care, self ratings of ADL performance were more accurate and less biased than ratings by either health professionals or caregivers, judged according to direct observation of the patient undertaking the activity.

The present study falls primarily into the category, among the five purposes in the Ware et al. (1981) framework, of "estimating the needs of a population." Secondary purposes include improvement of planning decisions and understanding the causes/consequences of differences in (perceived) health. Physical, mental and social health were all important, as were the subjective components discussed by Jette (1980) and Ware (1985). Because a general population was to be studied, respondent burden was an important consideration: the time, complexity and commitment required needed to be kept to the minimum possible. Recognising that reliability must sometimes be sacrificed for brevity, the more important consideration in this case was to choose a short, simple survey, as groups of people were being compared rather than individual health status being measured. Subjective ratings were the method of choice, as objective ratings were not feasible with a general population within the resources available for this study.

With these considerations in mind, a number of possible instruments were reviewed, including the HRCA Vulnerability Index (Morris, Sherwood, Mor, 1984), the Sickness Impact Profile (SIP) (Bergner, Bobbitt, Carter and Gilson, 1981; Stahl, 1984), the Duke-UNC Health Profile (Parkerson, Gehlbach, Wagner, James, Clapp and

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Muhlbaier, 1981), the Life Satisfaction Indexes (Neugarten, Havighurst and Tobin, 1961), the OARS Multidimensional Functional Assessment Questionnaire (Fillenbaum and Smyer, 1981; Pfeiffer, 1975; Ernst and Ernst, 1984), an abbreviated version of Rotter's Internal-External Locus of Control (Valecha and Ostrom, 1974), the Comprehensive Older Persons' Evaluation (COPE) (Pearlman, 1987), the MOS Shortform General Health Survey (Stewart, Hays and Ware, 1988), the Functional Assessment Screen (Pannill, 1991), the Multilevel Assessment Instrument (MAI) (Lawton, Moss, Fulcomer and Kleban, 1982), the Comprehensive Assessment and Referral Evaluation (CARE) (Gurland, Kuriansky, Sharpe, Simon, Stiller and Birkett, 1977-78; Eustis and Patten, 1984), the Assessment of Living Skills and Resources (ALSAR) (Williams, Drinka, Greenberg, Farrell-Holtan, Euhardy and Schram, 1991) and the Iowa Self Assessment Inventory (ISAI) (Morris, Buckwalter, Cleary, Gilmer, Hatz and Studer, 1990; Morris, Andrews, Gilmer, Buckwalter, Cleary, Boutelle, Hatz, 1991; Gilmer, Cleary, Lu, Morris, Buckwalter, Andrew, Boutelle, Hatz, 1991).

Instruments were eliminated on the basis of length, complexity, usefulness for an elderly population, usefulness for a general, healthy population (versus a patient population) and measurement of only one component of health status.

A short list of instruments included the Multilevel Assessment Instrument (MAI) (Lawton et al., 1982), the Duke-UNC Health Profile (Parkerson et al., 1981), the Comprehensive Older Persons' Evaluation (COPE) (Pearlman, 1987), the MOS Short-form General Health Survey (Stewart et al., 1988) and the Iowa Self Assessment Inventory (ISAI) (Morris et al., 1990; Morris et al., 1991; Gilmer et al., 1991). These were further evaluated based on the same criteria, with particular attention to inclusion of all relevant health status components and respondent burden.

The final choice of an instrument consisted of two parts:

• the ISAI (Morris et al., 1990), a standardised multi-dimensional health measurement instrument which includes measures of self-perceptions of economic

resources, emotional balance, physical health, mobility, trusting others/alienation, cognitive status and social support, and

• a series of questions determining involvement or lack of involvement in the Kerrisdale Senior Centre Health Drop-In, reasons for participation or lack of participation and involvement in other community and daily living activities.

3.3.3 The Iowa Self-Assessment Inventory

The lowa Self-Assessment Inventory (ISAI, Morris et al., 1991) is a 56-item selfreport instrument designed to measure the resources, needs, statuses and abilities of older persons. It is intended for use either with individuals or to gain a better understanding of groups of elderly people through survey research methods.

The ISAI is based on the Multidimensional Functional Assessment Questionnaire (OMFAQ; Pfeiffer, 1975), also referred to as the OARS questionnaire (Morris and Boutelle, 1985). It was originally designed to provide a method of assessing large numbers of elderly individuals in a less costly, time-intensive manner than is required with the OARS.

Initially, the OARS questions were reworded so that respondents could provide self-report answers, and, using a double blind method, it was concluded that self-administered assessment by literate, relatively independent elderly persons was as reliable as results obtained from the interview format (Morris and Boutelle, 1985; Morris and Buckwalter, 1988). An inventory was then developed which encompassed six scales tapping social resources, economic resources, mental health, physical health, ADL ability and cognitive status (Morris, Buckwalter, Cleary, Gilmer, Hatz and Studer, 1989). A Likert-type scale, using True, More Often True Than Not, More Often False Than Not and False was utilised for all questions, making the inventory relatively easy to use for respondents. The original scale, containing 120 items, was tested on an American sample of elderly people who resided in public housing projects, congregate meal sites, community-based groups and retirement homes. Of the 2,347

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surveys sent out, 1,850 were returned and after removing incomplete surveys or those which were not appropriate (less than 60 years old, patients in a geriatric clinic), 1,153 surveys were analysed for reliability of the subscales. Acceptable reliabilities were found, so the researchers continued with the next step, which was to reduce the number of questions through factor analysis (Morris et al., 1989).

Morris and his colleagues subjected their original 1,153 surveys plus an additional 420 from similar sources to factor analysis, leading to the isolation of four meaningful factors: perceptions of economic resources, perceptions of physical health, perceptions of cognitive status, and a new factor which pertained to mobility (Morris, Buckwalter, Cleary, Gilmer, Hatz and Studer, 1990). Social support and mental health did not emerge as viable factors. The researchers, therefore, developed new experimental inventories for these two factors, based upon existing instruments. They presented the new inventories to their 420 respondents, then performed another factor analysis which confirmed the existence of clear factors relating to anxiety/depression, alienation and social support.

They selected eight items with the highest loading for each of the seven factors for the final version of the ISAI, as an eight-item solution had slightly higher reliabilities than six or seven-item scales, but similar reliabilities to a nine-item solution. Reliabilities for the seven factors were as follows: anxiety/depression, 0.84; alienation, 0.74; social support, 0.75; economic resources, 0.86; physical health, 0.80; mobility, 0.79; cognitive status, 0.82.

Morris et al. (1990) suggested the following definitions for the factors:

 Anxiety/Depression: a high score indicates a relatively worry-free, calm individual who sleeps well and enjoys a tranquil life;

 Alienation: a high score indicates an individual who believes they have reliable, trustworthy friends, is friendly toward others, and is generally friendly in interpersonal relationships;

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• Social Support: a high score indicates a perception of a comfortable social environment and close relationships with friends and relatives;

• Economic Resources: a high score indicates a perception of adequate income and assets, with no need for outside financial assistance;

 Physical Health: a high score indicates a perception of excellent health, with few doctor visits or few prescribed medications;

• Mobility: a high score indicates an ability to carry on usual ADL and to get out and visit friends and relatives or participate in other social activities;

• Cognitive Status: a high score indicates a perception of intact intellect, good memory, orientation and a continued ability to learn. (Morris et al., 1990).

Gilmer, Cleary, Lu, Morris, Buckwalter, Andrew, Boutelle and Hatz (1991) developed a measurement model for the seven factors, to confirm that the specified relationships between items and dimensions, in fact, existed. They administered the ISAI to 511 elderly persons in a predominantly rural area. Respondents were residents of retirement homes, participants of congregate meal programs, or residents of public housing projects for low income elderly. Respondents were 84% female, with an average age of 74 years. Due to missing data, they used 484 surveys in the analysis. Their factor analysis confirmed the existence of six to eight factors. The seven-factor solution fit the data the best, and the loadings for individual items in the seven factor solution indicated that 53 (of the 56) items had their highest loadings on the predicted dimensions, with only nine items having loadings of less than 0.40. Reliabilities for the seven factors were: emotional balance (anxiety/depression), 0.84; trusting others (alienation), 0.71; social support, 0.79; economic resources, 0.84; physical health, 0.76; mobility, 0.78; cognitive status, 0.79. Intercorrelations between scales were moderate, suggesting separate factors, but were highest where correlations would be expected (eg. trusting others, emotional balance and social support).

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Scores for each scale are derived by coding each item from one (for lowest functioning) to four (for highest functioning). Each of the seven scales ends up with a raw score between 8 and 32, with 8 denoting poorer functioning on that particular scale and 32 indicating high functioning. Negatively worded items are reversed to preserve the direction of scoring.

Because the means and standard deviations of the raw scores vary significantly between scales, they converted the raw scores to standard T-scores, with a mean of 50 and standard deviation of 10 (Morris, Andrews, Gilmer, Buckwalter, Cleary, Boutelle and Hatz, 1991). The ISAI and its score Profile are included in Appendix B.

The validity of the ISAI stems from its derivation from the OARS questionnaire, which may be considered the "gold standard" for geriatric multidimensional functional assessment, as it was the first integrated system for evaluating older people and, therefore, provided a model against which possible improvements could be compared (Moss et al., 1982; Morris and Buckwalter, 1988). The original version of the ISAI was found to provide results which were as reliable as those obtained from the OARS (Morris and Boutelle, 1985). The additional scales added to the ISAI (social support. emotional balance and trusting others) were reviewed by a panel of 20 experts from across the U.S. (from the disciplines of geriatrics, geriatric nursing, anthropology, psychology, education, social work and public health) for content validity, with emphasis upon relevance and inclusiveness of items, clarity, readability and format (Morris et al., 1989). In terms of construct validity, predicted correlation between specific demographic variables and the appropriate scales were confirmed (eg. strong positive relationship between ER and income, strong negative correlation between ADL and age) (Morris et al., 1989). It was suggested by the authors that, where results of the ISAI are to be used to make decisions about individuals, they should be treated as one piece of information along with other relevant sources of personal information about financial and health status (concurrent and convergent validity) (Morris et al.,

1991).

Other validity considerations in administration of the ISAI include "faking", acquiescence and negative response bias, random responses and special population considerations (Morris et al., 1991). Due to the self-report nature of the ISAI, there may be a tendency for individuals to distort their ratings in a socially desirable direction. It was suggested that scores deviating 0.5 or more standard deviations from the mean be interpreted cautiously. The researchers defined acquiescence as "the tendency to rate all or almost all items "true", and negative response bias as "the tendency to disagree with the items regardless of their content" (Morris et al., 1991, p. 13). Random responses may occur if there is a lack of motivation on the respondents part, if some of the items are not understood or if the respondent has mis-scored some of the items.

The ISAI has not yet been standardised with ethnic populations, although such work is presently underway. It is intended for use with adults age 60 and over and is not recommended for individuals who are unable to read or cognitively unable to make a response.

3.3.4 Questions Specific to the Kerrisdale Health Drop-In

In addition to measures of health, the following questions were thought to be important to obtain information about:

- age, gender, educational status, whether living alone or with someone,
- whether living in apartment or single family residence,
- knowledge of the Health Drop-In,
- attendance or nonattendance at the Health Drop-In, and (for participants) specific parts of the program which were attended,
- for participants, length and frequency of attendance, source of knowledge and reasons for attendance,
- · for nonparticipants, reasons for nonattendance,

· involvement in other community activities,

• time spent on various ADL, such as housework, hobbies, visiting, physical activities and community activities.

These questions would serve the purposes of: determining eligibility for this study, determining category of the study (participant or nonparticipant of the Health Drop-In), describing characteristics of participants and nonparticipants of the Health Drop-In, determining reasons for attendance or nonattendance including possible barriers to participation for nonparticipants, and determining differences in patterns of activity for participants and nonparticipants.

The original draft consisted of both open-ended and categorical response questions. It was presented to members of the thesis committee (Drs. Sheps, Green and Thornton) for review of content and format, and revised twice. The final format prior to piloting the questionnaires consisted of 16 questions, all requiring categorical responses. Generally, the questions were ordered with the easiest to answer and least threatening ones at the beginning, and the most difficult to answer at the end. The first five questions provide demographic data (age, gender, educational attainment, place of residence and whether living alone or other arrangement). Questions 6 to 12 determine knowledge of the Health Drop-In, participation in program and in specific program components, length and regularity of attendance and source of knowledge about the program. The last four questions ask for reasons for attendance or nonattendance, involvement in other community activities and hours per week spent on ADL.

A) INCLUSION AND EXCLUSION CRITERIA: As membership in the Kerrisdale Senior Center begins at 55 years of age, eligibility for inclusion in this study was defined as, "persons 55 years of age or older, not living in a nursing home or other long-term care facility." This was similar (exept for the age chosen) to a definition of "well elderly" utilised by Lalonde, Hooyman and Blumhagen (1988) in a study

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determining the long-term effectiveness of the Wallingford Wellness Project, a health promotion program for the elderly. The first question, asking for birthdate, and the fifth question, asking for place of residence, provided the necessary information for determining eligibility for inclusion. Exclusion criteria included inability to communicate in the English language or cognitive impairment to the extent that the individual was unable to complete the ISAI.

B) DETERMINATION OF CATEGORY: Participants were defined as those who answered "Yes" to current attendance at the Health Drop-In, and any category except "Once" to length of attendance. By excluding first-time attenders, individuals who were checking out the program but decided that they would not participate were not captured as participants.

C) REASONS FOR NONATTENDANCE: Eighteen categorical answers plus an "Others (please list)" category were chosen, based upon the literature review. Particularly helpful in deriving individual items was a list of barriers to physical activity by older adults derived by O'Neill and Reid (1991). This consisted of 20 possible barriers to physical activity based upon a framework of "knowledge, psychological, physical/health and administrative" reasons.

The eighteen items were classified according to where they best fit on Green and Kreuter's (1991) "Predisposing, Enabling, Reinforcing" model of Educational and Organisational diagnosis within the Precede-Proceed framework. Predisposing factors are defined as "those antecedents to behavior that provide the rationale or *motivation* for the behavior" (Green and Kreuter, 1991, p. 151.) They include knowledge or awareness, beliefs, values, attitudes, self-efficacy, behavioural intention and existing skills (pp. 154-61.) Enabling factors are "the antecedents to behavior that enable a motivation to be realised " (p. 151). They are often conditions of the environment and include availability, accessibility and affordability of the behavior or program. Also included in this category are acquisition of new skills which facilitate

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performance of the health behaviour (p. 161-65). Reinforcing factors are defined as "factors subsequent to performing, or contemplation of, a behaviour that provide the continuing *reward* or incentive for the behaviour and contribute to its persistence or repetition" (p. 151). The individual receives positive or negative feedback as a result of engaging in the behaviour, including social support, peer influences, advice and feedback from health care professionals, feelings of wellbeing or pain, etc. (p. 165).

Six predisposing items were included (would not enjoy it, don't like to leave home, won't do me any good, don't need it, not interested and health is not important to me). Seven enabling items (don't know about it, too far to centre, can't do exercise, can't afford it, not enough time, poor health and no transportation) and five reinforcing items (doctor says not to, don't know anyone there, friends/spouse don't go, don't feel welcome there and friends/spouse think it's silly) were included. The items chosen and the classification for items were checked with Dr. Green, who suggested some of the items and provided assistance in coding according to categories. The "my doctor says not to" item, which was coded under reinforcing factors, could also be an enabling factor like "poor health" and it was decided to check the data to determine whether individuals who chose "doctor says not to" also tended to check "poor health."

D) REASONS FOR ATTENDANCE: The same framework of predisposing, enabling and reinforcing factors was utilised to provide structure to reasons for attendance. This framework was chosen over two other possibilities. Boshier's (1991) Education Participation Scale (E.P.S.) was considered, but also included a number of non-relevant factors that would have increased the length of the questionnaire without providing any more useful information, and might have confused or biased the results by adding non-relevant variables (Ware, 1981). (However, an earlier version of the E.P.S. (Boshier and Riddell, 1978) which was specific to older people was of great assistance in deriving individual items.) Green and Kreuter's loose breakdown of reinforcing factors into Physical Benefit vs. Social Benefit and Tangible Reward vs. Vicarious Reward was also considered.

Eighteen items were chosen, along with an "others - please list" category. Six predisposing items were included (health is important to me, interested in learning how to keep healthy, need the exercise, want to stay active, want to continue living at home and to participate in volunteer or community work). There were four enabling reasons (have lots of time, centre is close and easy to get to, already there for other activities and good at exercise) and eight reinforcing reasons (relief from boredom, enjoy exercising, break in routine, to make friends, to participate with a group, to be accepted by others, friends and/or spouse go and doctor told me to go). "Doctor told me to go" could be classified as a predisposing reason as well as a reinforcing one, and it was decided that responses would be compared to determine whether individuals who chose this particular item tended to choose other reinforcing items or other predisposing items.

E) DESCRIBING PATTERNS OF ACTIVITY: Two questions were included which related to patterns of activity. One question asked about involvement in other community programs. Respondents were asked to state whether they were attenders, or leaders/volunteers for various programs in the Kerrisdale area. The list was compiled with assistance of West Main Health Unit staff and the Kerrisdale Senior Centre program coordinator, and included: other programs at Kerrisdale Senior Centre, West Main Health Unit activities, church, church groups or organisations, cultural centres or organisations, symphony, opera, etc., recreational activities, other senior centres or organisations and the Kerrisdale Community Center. Spaces were left for other programs not listed.

The second question requested hours of activity per week spent on housework, physical activities, hobbies, visiting friends or relatives and community activities.

Information from a sample of 100 people over 50 years of age from an Eastern Canadian city suggested that the majority of time would be allotted to activities within
the home (Singleton, Mtic and Farquharson, 1986). These authors, however, based their interviews on activities of the past 24 hours, and noted in their discussion that some activities occur infrequently, so a weekly, rather than daily, time frame should be explored. Singleton et al. (1986) found gender to be a determining factor in actual and favorite activity choices. Age (with community involvement increasing until the age of 72 years), income, educational attainment (positively correlated with community involvement), marital status (married individuals more involved in community) and type of community (retirement communities showing more integration than either planned "new" or control communities) were also found to be significant factors in activity patterns, in a secondary analysis of a in North Carolina environmental preferences and quality of life survey (n=873) (Spakes, 1979).

A secondary analysis of 1398 senior citizens who participated in a 1986 Canadian survey on time use, social mobility and language use determined that older individuals spend an average of 13.4 hours per day on self care (including sleep, ADL and shopping and services), 3.1 hours on productivity (paid employment, child care, school and education, organisations) and 7.5 hours on leisure (entertainment, sports and hobbies, media) (McKinnon, 1992).

The above information from the literature was considered to be important as comparison data to that which is derived from this study.

3.4 SPECIFIC HYPOTHESES

1. a) Scores in the normal range (less than one standard deviation above or below the mean) on the ISAI economic resources, emotional balance, trusting others, mobility, cognitive status, physical health and social support scales will be associated with participation in the Health Drop-In.

b) Gender will be associated with participation (participants will be more likely to be female).

c) Participation in other Kerrisdale Senior Centre activities will be associated with participation in the Health Drop-In, as will involvement in other community activities, but generally as a attender rather than a leader or volunteer.

d) Choice of predisposing and reinforcing reasons for attending will be most common among participants.

2. a) Higher mean scores than those of the participants on the economic resources, mobility and social support scales will be associated with one subset of nonparticipants.

b) Physical health, trusting others, emotional balance and cognitive status scale scores will be equivalent to participant scores.

c) Gender (more females) and educational level (greater than high school) will be associated with this subset of nonparticipants.

d) Active involvement in other community activities, especially in a leader or volunteer (as opposed to attender) capacity, and reporting of more hours of activity per week will be associated with this group.

e) Past participation in the Health Drop-In may be associated with this subset of nonparticipants.

f) Reasons for nonattendance such as lack of interest, lack of need, lack of enjoyment of or lack of time for the activity will more often be chosen by this subset of nonparticipants.

3. a) Lower scores on all the ISAI scales will be associated with a second subset of nonparticipants.

b) Gender and educational attainment will be associated with this subset, with greater representation of males and higher proportions of individuals with less than high school education being represented.

c) Lower levels of community involvement and lower attendance at other Kerrisdale Senior Centre activities will be associated with this subset of

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nonparticipants.

d) Reasons for nonattendance will more likely be enabling factors, and will be associated to results in the ISAI (for example, lack of knowledge associated with lower scores in social support, alienation and/or cognitive status scales; too far to the center, no transportation or poor health associated with low scores on mobility and physical health scales; can't afford it associated with low scores on the Economic Resources scale; don't like to leave home, don't feel welcome there associated with low scores on the Trusting Others scale).

3.5 ANALYSIS

Comparison of results was completed using a Macintosh LC computer and Statview SE + Graphics statistical software (Feldman, Hofmann, Gagnon and Simpson, 1987). Categorical data were compared using rxc contingency table analysis. Age, hours of activity per week and results on the ISAI scales were compared using nonparametric techniques (Mann Whitney U for 2 groups or Kruskal Wallis for more than two groups) as data results did not approximate normal distributions.

In calculating ISAI scores, where responses were missing, a score was calculated if there were one or two item responses missing for that particular scale, but if more than two were absent, a score was not calculated. For example, if only six responses were given by an individual for the Economic Resources scale, and the sum of the six responses given was 21, then a score out of 32 would be calculated (21*32/24) to be 28. The Trusting Others (TO) scale seemed to pose difficulties for some of the respondents. Many individuals did not complete some of the items, such as "I believe I am being plotted against" and "People secretly say bad things about me." Consequently, this scale had the greatest number of unusable scores (8).

Each of the independent variables was first subjected to analysis with regard to

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place of residence (also an independent variable). Where place of residence was significant, other results must be interpreted with caution, as place of residence may be a confounding variable.

Each independent variable was analysed according to its relationship with participation in the Health Drop-In, and in each of the three components (Blood Pressure Monitoring, Exercise and Neck/Shoulder Massage). The variable was also compared between Exercise participants who answered as nonparticipants (P2) versus those who perceived themselves as participants (P1).

Results of the statistical tests are reported if they were below p = .05. Due to the large number of tests that were carried out, it is possible that some of the results which are reported here were due to chance rather than true differences between groups. Reporting results which were significant below the p = .01 or .001 level was considered, but it was decided to report all results in order to show trends due to a potential lack of power resulting from low numbers. Marginal results should be interpreted with caution.

3.6 PILOT OF QUESTIONNAIRES

The Concerned Citizens for Affordable Housing, a seniors' political and lobbying group with support from the West Main Health Unit Wellness Coordinator, volunteered their support and time to pilot the questionnaires. Questionnaires were provided to the Wellness Coordinator, who distributed them to the members. The researcher attended a regular meeting to pick up the completed questionnaires and receive verbal feedback from members. Five questionnaires, plus one from the Wellness Coordinator were returned, which represents all individuals who attended the meeting at which the forms were collected.

Pilot respondents consisted of one male and four females. One individual had less than high school level, one had finished grade twelve, while the other three had

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post-secondary education. Four lived alone, one with a spouse. Four resided in apartments or suites, while one lived in a single family dwelling. The group ranged in age from 60 to 81 years, with a mean age of 70.4 years.

Feedback with regard to the questionnaire included:

• One statement on the standard "Directions" for the ISAI provided in the manual ("In this way we hope to understand some of your problems and needs") was thought to imply a perception of elderly people as "sick" or "needy". The group suggested either changing the wording to the positive or dropping the statement. The statement was dropped in the final version distributed to study participants, as it was felt to relate more to individual assessment than to group comparisons.

• Question number 50 of the ISAI ("I use food stamps") is not applicable to a Canadian sample. Suggestions for revision were solicited from the group, and included the food bank, the Guaranteed Income Supplement (GIS, a supplement to the Old Age Pension) and GAIN. The GIS was chosen for the final version, as it is an organised government program similar to food stamps in the United States.

• The group was asked to pay particular attention to the questions which were not part of the ISAI, as they had not been tested. There were no voiced concerns with the wording of any questions, group members felt that all possible reasons for participation or non-participation had been included and all possible community activities were covered.

• Members felt that the categories in Question 16 of the Kerrisdale-specific questions could be revised for ease of understanding and to provide more useful information. They were concerned that there might be some confusion between "housework" and "physical activity" and suggested changing these categories to "household activities" and "exercise" to make the distinction more clear. They also suggested the addition of "gardening", which is not necessarily considered either housework or exercise, and "sleep". These changes were incorporated into the final

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version.

Pilot results on the ISAI showed mean values on each scale within the average range. The economic resources scale had a range of values from 23 to 31, with a mean of 28.4, which is a standardised score of approximately 52.5 (slightly above the standard mean of 50). The emotional balance scale showed a range of 14 to 30, with a raw mean of 23.2, or a standardised score of approximately 47. This was the only scale with a result below the standard mean of 50. The Physical Health scale had a range of 19 to 32 and a raw mean of 25.8, which converted to a standardised score of 52. On the Trusting Others scale, the range of raw scores was from 29 to 32, with a raw mean of 30.4 and a standardised score of 52. The Mobility scale showed a raw mean of 28, with a range from 20 to 32. The standardised score was 52. On the Cognitive Status scale, the raw mean was 24.2, with a range of values from 18 to 30, and a standardised score of approximately 52.5. Finally on the Social Support scale, the range of values was 26 to 32 with a raw mean of 30.2, which converted to a standardised score of a standardised score of approximately 53.5. Table 1 summarises the data from the pilot group.

| CHARACTERISTICS OF PILOT STUDY SAMPLE (N = 5) | | | | | | |
|---|--------------|------|--------------|--|--|--|
| | | RAW | STANDARDISED | | | |
| | RANGE | MEAN | SCORE | | | |
| AGE (years) | 60-81 | 70.4 | | | | |
| EDUCATION | Gr. 10 - PhD | | | | | |
| ECONOMIC RESOURCES | 23-31 | 28.4 | 52.5 | | | |
| EMOTIONAL BALANCE | 14-30 | 23.2 | 47 | | | |
| PHYSICAL HEALTH | 19-32 | 25.8 | 52 | | | |
| TRUSTING OTHERS | 29-32 | 30.4 | 52 | | | |
| MOBILITY | 20-32 | 28 | 52 | | | |
| COGNITIVE STATUS | 18-30 | 24.2 | 52.5 | | | |
| SOCIAL SUPPORT | 26-32 | 30.2 | 53.5 | | | |

TABLE 1

These results were encouraging, as it was expected that the Concerned Citizens for Affordable Housing would be a comparatively high functioning group of senior citizens, and would, therefore, score in the high ranges on the ISAI. Their ISAI profile, with the exception of the emotional balance scale, supported this expectation.

The revised version of the Kerrisdale specific questionnaire was presented to the Kerrisdale Senior Centre Program Coordinator, who suggested some changes to categories on the question related to length of attendance, based upon the fact that many Health Drop-In participants have been attending for years. The final version of the questionnaires, as presented to study respondents, is included in Appendix C.

CHAPTER 4

RESULTS

4.0 DATA COLLECTION

Data collection was carried out between the period of May 13 and June 17, 1992. Survey questionnaires were distributed to 357 Kerrisdale Senior Centre participants, residents of single family dwellings and residents of apartment buildings.

A total of 102 surveys were distributed to participants at Kerrisdale Senior Centre. Fifty-eight of these surveys were returned completed: a return rate of 56.9%. Two additional surveys were returned uncompleted. Seven individuals refused to participate and were not provided with a survey. The reasons given for refusal included: poor English (3), no time (1), not liking surveys (1), first time participant (1) and not good at questionnaires (1).

Sixty-two residents of single family dwellings who were eligible to participate were approached. Fifty-six surveys were distributed. Four were not returned (one individual stated that she would mail it, but failed to do so, the other three were unavailable when the survey was to be picked up). One additional survey was returned uncompleted. This resulted in the return of 51 of the 56 surveys, for a return rate of 91.1%. There were 8 refusals, of which one had poor English skills and one presented as confused and would, therefore, not be eligible to participate under inclusion criteria. Five of the refusals were female, three were male. It was not possible to estimate the number of single family dwelling resident seniors who were not contacted because they were not at home for initial contact to be made.

In the case of apartment residents, 199 surveys were distributed. However, in some cases, where the surveys were left with the manager or in the front entrance to the apartment, it was not possible to determine how many were received by potential participants.

There were six apartment buildings where managers accompanied the researcher door to door or provided information which allowed complete calculation of rates of contact and return rates. In those six buildings, 61 surveys were distributed to senior residents. Fifty-one surveys were returned completed, for a return rate of 83.61%. One resident returned a questionnaire which was not usable due to too few questions being completed (had been completed, then most erased), and fifteen residents refused to participate and were not provided with questionnaires. Two individuals had already received a survey as participants of Kerrisdale Senior Centre and were not provided with a second one. In addition, with the information provided by managers it was possible to determine the number of eligible residents who could not be contacted because they were out of the city, not home or the manager did not feel comfortable bothering them. Thirty-four individuals were not contacted, for a total of 112 individuals who were eligible to participate in these six apartment buildings. Therefore, 69.64% (61 provided with surveys + 15 refusals + 2 contacted at Kerrisdale Senior Centre equals 78/112) of all eligible residents were contacted and asked to participate in the study, and usable data was received from 47.32% (51 surveys + 2 at Kerrisdale Senior Centre equals 53/112) of all persons eligible to be participants of this study from these six buildings.

Of the remaining 138 surveys distributed among apartment buildings, 73 were left at the front entrances of two large apartments, and 53 were left with apartment managers to distribute to elderly residents. It is, therefore, not possible to calculate the contact rate or the return rate, as it is not known how many eligible residents received a survey. Of the surveys left at the front entrances, only nine were returned, one from one building and eight from the other. Of those which were left with managers, eleven were returned. There is some question about whether one of the managers, who was provided with twenty surveys, actually distributed them (she agreed to do so but was less than enthusiastic). Three telephone contacts with the manager after leaving the

surveys determined that she had not distributed them until at least two weeks after receiving them, and none were returned from this building. Although it was very quickly apparent that return rates would be low from buildings where residents could not be contacted directly, the judgment was made that it was important to try, in case there were differences between residents of buildings where the manager was more or less approachable and involved with the residents. Table 2 portrays the return rate information from all sources.

| TABLE 2: RETURN RATES FOR STUDY | | | | | | | | |
|-----------------------------------|----------|----------|----------|----------|-----------|--|--|--|
| | SURVEYS | SURVEYS | RETURN | | NOT | | | |
| SOURCE | PROVIDED | RETURNED | RAIE (%) | REFUSALS | CONTACTEL | | | |
| A) Kerrisdale | | | | | | | | |
| Senior Centre | 102 | 58 | 57 | 9 | | | | |
| B) Single | 50 | | | | | | | |
| Family Dwellings | 56 | 51 | 91 | 8 | | | | |
| C) Apartments (Direct Contact) | 61 | 51 | 84 | 15 | 34 | | | |
| D) Apartments | | | ······ | | | | | |
| (No Direct Contact) | 138 | 20 | | | | | | |
| TOTALS | 357 | 180 | A-C: 77 | | | | | |
| | | | *A-D: 50 | | | | | |

* No true return rate could be calculated for apartments where there was no direct contact (D), as it is not known how many eligible residents actually received a survey. Therefore, total return rate is shown in two ways: for the three sources for which a true return rate could be calculated (A-C) and for all surveys distributed and returned (A-D).

4.1 DETERMINATION OF PARTICIPANTS AND NONPARTICIPANTS

Participation in the Health Drop-In was to be limited to study respondents who answered that they attended the Health Drop-In, and had done so more than once. However, participants of the program did not necessarily consider the programs they were attending to be part of the Health Drop-In. This was most common among exercise program participants, perhaps because the exercise sessions are spread out over four days rather than all taking place on Wednesday morning. Thus, twelve exercise participants completed surveys as though they were nonparticipants of the Health Drop-In. These individuals could be identified by: (1) the coding on survey forms (all surveys distributed to participants at Kerrisdale Senior Centre were coded with a number starting with "K"); (2) comments in various locations on the surveys in which the respondents stated they participated in an exercise program, and (3) checking off of the "exercise program" in the question that requested information about which components participants attended. All 12 could be identified by the coding, 5 had checked off the "program component" and 5 included identifying comments.

Dropping these individuals was considered. However, it was thought that there might be some differences between individuals who considered themselves participants of a health program versus those who attended the same program but did not consider themselves participants. Therefore, it was decided to compare results of these twelve with the rest of the participants, in addition to comparing true participants and nonparticipants. Unfortunately, in surveys filled out by respondents who considered themselves nonparticipants, some potentially interesting data are unavailable, especially regarding the reasons for participating in a health program. Comparisons could be made, however, on demographic data, results of the ISAI scales and activity patterns.

In addition to the 12 participants who described themselves as nonparticipants, 8 respondents gave incomplete or contradictory information regarding their attendance. One individual stated that he did not attend the Health Drop-In and provided no response to length of attendance, but completed the survey as a participant of the Blood Pressure Monitoring component. A second individual provided no response to the question about current attendance, but completed the questionnaire as a weekly attender of the Neck and Shoulder Massage component. Four individuals provided no response to length of attendance, but each were

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attenders of two of the three components. Two individuals checked that they had attended the program once, but filled the rest of the survey out as regular weekly attenders of more than one component. These 8 individuals were included as participants, rather than being dropped.

Once the respondents had been stratified according to participation/nonparticipation, there were 63 participants, 12 of whom described themselves as nonparticipants. The majority were from the Kerrisdale Senior Centre sample; 2 came from the single family dwelling sample and 3 were from the apartment resident sample.

There were 117 nonparticipant questionnaires (one questionnaire was returned with less than 50% of questions completed and was, therefore, dropped). Forty-nine nonparticipant respondents were residents of single family dwellings and 68 resided in apartments.

4.2 DEMOGRAPHIC CHARACTERISTICS

Table 3 summarises demographic characteristics with respect to place of residence (which represents a possible confounding variable due to sampling technique). Table 4 presents demographic data for participant and nonparticipant groups. Table 5 provides a profile of the demographic characteristics of participants in the three Health Drop-In program components, while Table 6 provides the same information for participants according to whether they classified themselves as participants (P1) or nonparticipants (P2).

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| TABLE 3: DEMOGRAPHIC CHARACTERISTICS BY PLACE OF RESIDENCE* | | | | | | | | |
|---|----------|-----------|---------------|-------|--------------|--|--|--|
| | | | SINGLE FAMILY | | | | | |
| | | APARTMENT | DWELLING | OTHER | SIGNIFICANCE | | | |
| Age: (mear | ו years) | 78.5 | 72.7 | 71.3 | 0.0004 | | | |
| Gender: | М | 22 | 27 | 0 | | | | |
| | F | 88 | 39 | 3 | 0.006 | | | |
| Education: | < HS | 28 | 16 | 2 | | | | |
| | HS | 47 | 27 | 0 | | | | |
| | > HS | 29 | 21 | 1 | NS | | | |
| Live: | Alone | 82 | 14 | 2 | | | | |
| | Spouse | 22 | 43 | 1 | | | | |
| Relative | /Friend | 5 | 8 | 0 | | | | |
| | Other | 1 | 1 | 0 | 0.0001 | | | |

* Total N will vary due to missing responses in some categories.

| TABLE 4:DEMO | GRAPHIC CHAR | ACTERISTICS BY | PARTICIPATION |
|-------------------|--------------|-----------------|---------------|
| | | 1 | |
| | PARTICIPANTS | NONPARTICIPANTS | SIGNIFICANCE |
| Age: (mean yrs.) | 74.8 | 77.1 | 0.0293 |
| Gender: M | 13 (20.6%) | 37 (31.6%) | |
| F | 50 (79.4%) | 80 (68.4%) | NS |
| Education: < HS | 13 (21.7%) | 33 (29.7%) | |
| HS | 29 (48.3%) | 45 (40.5%) | |
| > HS | 18 (30.0%) | 33 (29.7%) | NS |
| Residence: Apar. | 42 (67.7%) | 68 (58.1%) | |
| SFD | 17 (27.4%) | 49 (41.9%) | |
| Other | 3 (4.9%) | 0 (0%) | 0.0138 |
| Live: Alone | 35 (55.5%) | 64 (54.7%) | |
| Spouse | 23 (36.5%) | 43 (36.8%) | |
| Rel. <i>I</i> Fr. | 5 (8.0%) | 8 (6.8%) | |
| Other | 0 (0.0%) | 2 (1.8%) | NS |

* Total N will vary due to missing responses in some categories

| TABLE 5: | DEMO | DGRAPHIC | CHARACI | ERISTICS | BY PROG | RAM CON | IPONENT^ |
|------------|---------|----------|---------|----------|---------|---------|----------|
| | | | | PROGRA | M | | |
| | | BPM | Sig. | E | Sig. | N/SM | Sig. |
| Age: (year | s) | 74.7 | NS | 74.8 | NS | 75.5 | NS |
| Gender: | М | 11 | | 2 | | 7 | |
| | F | 30 | NS | 35 | 0.0082 | 17 | NS |
| Education: | < HS | 9 | | 10 | | 8 |] |
| | HS | 16 | | 17 | | 11 | |
| | > HS | 14 | NS | 8 | NS | 4 | NS |
| Residence: | Apar. | 27 | | 27 | | 17 | |
| | SFD | 11 | | 8 | | 5 | |
| | Other | 2 | NS | 2 | 0.0193 | 1 | NS |
| *Live: | Alone | 20 | | 25 | | 13 | |
| | Spouse | 19 | | 8 | | 9 | |
| | Rel./Fr | 2 | | 4 | | 2 | |
| | Other | 0 | | 0 | | 0 | |

^ATotal N will vary due to missing responses in some categories. *Contingency table analysis not done due to small numbers in many cells.

| TABLE 6: DID | | OGRAPHIC CHARACT DID NOT PERCEIVE | ERISTICS OF ATTEI | NDERS WHO |
|-----------------|----------|--------------------------------------|-------------------|--|
| | | P2: Responded as | P1: Responded as | |
| | | Nonparticipants (12) | Participants (51) | Significance |
| Age: (years) | | 77 | 74.3 | 0.0475 |
| Gender: | М | 1 | 12 | <u>,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, ,, </u> |
| | F | 11 | 39 | NS |
| Education: | < HS | 1 | 12 | |
| | HS | 6 | 23 | |
| | > HS | 5 | 13 | NS |
| Residence: | Apar. | 8 | 34 | |
| | SFD | 4 | 13 | |
| | Other | 0 | 3 | NS |
| Live: | Alone | 9 | 26 | |
| S | pouse | 2 | 21 | |
| 1 | Rel./Fr. | 1 | 4 | |
| | Other | 0 | 0 | NS |

4.2.1 Age and Place of Residence

Age and place of residence were strongly associated (p = .0004, χ^2 = 32.276), with apartment dwellers being significantly older than residents of single family dwellings.

4.2.2 Age and Participation

Age showed a significant association with participation, using the Mann Whitney U test. The average age of respondents was 76.3 years, with 2 individuals not responding. Participants, with a mean age of 74.8 years (n = 62), were significantly younger than nonparticipants, who had a mean age of 77.1 years (n = 116) at the p = .0293 level (Z = -2.179).

Attenders who did not perceive themselves as participants (P2) were also older than those who answered the surveys as participants (P1). The mean age for the P2 group (n=12) was 77.0 years, compared to 74.3 years for the P1 group (n=50). At a Z-score of -1.981, the p value was .0475.

Age was not significantly associated with the various program components. The mean age for attenders of the Blood Pressure Monitoring component (BPM) was 74.7 years, for the Exercise component (E) 74.8 years and for the Neck/Shoulder Massage (N/SM) 75.5 years.

4.2.3 Gender and Place of Residence

Twenty-two males and 88 females lived in apartments, 27 males and 39 females resided in single family dwellings and 3 females checked the "other" category. Respondents in the "other" category specified townhouse (2) and condo (1). Gender showed a significant association with place of residence ($\chi^2 = 10.221$, p = .006), with females more likely to reside in apartments, while males had a greater chance of residing in a single family dwelling.

4.2.4 Gender and Participation

Fifty respondents were male, representing 27.8% of the sample, and 130 (72.2%) were female. Overall, gender was not significantly associated with participation, with 26% of the males and 38.5% of the females indicating they were participants. Females were significantly more likely to attend the E component (2 males and 35 females reported attending, $\chi^2 = 6.992$, p = .0082). Gender approached significance for the BPM component (p = .0522), with more male participants than would be expected. Gender was a nonsignificant factor for attendance in the N/SM component.

There was no significant difference between P1 (answered as participants) and P2 (answered as nonparticipants, but attended E component) with regards to gender. There were 12 males and 39 females in P1, while P2 consisted of 1 male and 11 females.

4.2.5 Education and Place of Residence

Of the 171 respondents who provided information about educational status, 46 (26.9%) had less that high school, 74 (43.3%) had completed high school and 51 (29.8%) had at least some education above high school. Level of education was not significantly associated with place of residence.

4.2.6 Education and Participation

There was no significant association between education and participation in the Health Drop-In. Of the respondents who had less than high school education, 28.3% were participants. Of those who had high school completion or equivalent, 39.2% were participants, while 35.3% of those with education past the high school level indicated that they were participants. There were also no significant associations between education and attendance at various components of the program, or between P1 and P2.

4.2.7 Living Arrangement and Place of Residence

The majority of the sample (99, or 55%) lived alone, with 66 (36.7%) living with a spouse, 13 (7.2%) living with a relative or friend and 2 with some other arrangement. There was a strong association between living arrangement and place of residence $(\chi^2 = 47.979, p = .0001)$, with respondents who lived alone more likely to live in apartment buildings or "other", while those who lived with spouses or relatives/friends more likely to reside in a single family dwelling than would be expected.

4.2.8 Living Arrangement and Participation

Living arrangement was not significantly associated with participation in the Health Drop-In. Of the respondents who lived alone, 35.4% were participants, while 34.8% of respondents living with a spouse were participants. Of the 13 respondents who lived with a relative or friend, 38.5% were participants, and neither of the 2 respondents with a different arrangement indicated that they were participants.

It was not possible to determine whether respondents with some living arrangements were more or less likely to attend the various program components due to small numbers in some contingency table cells. Likewise, living arrangement could not be compared for the P1 and P2 groups.

4.3 KNOWLEDGE OF THE HEALTH DROP-IN

Of 179 respondents who provided information about their knowledge of the Health Drop-In, 125 (69.8%) were aware of the program and 54 (30.2%) did not know about it. Half (50.4%) of the 125 respondents who knew about the Health Drop-In, therefore, were participants.

4.3.1 Knowledge and Previous Attendance Among Nonparticipants

Among the 116 nonparticipants who provided this information, 55.9% (38) of apartment residents were aware of the program compared to 56.3% (27) of the single family resident respondents. Twenty-one of the male (55.7%) and 44 of the female (56.8%) nonparticipants knew about it. Those who lived alone were more likely to be

aware of it (41 respondents, or 64.1%) than those who lived with a spouse (19 respondents, or 45.2%) or those who lived with a relative/friend (3 respondents or 37.5%). However, there were no significant associations between knowledge and gender, place of residence or living arrangement.

Among nonparticipants, 14 (12.1%) stated that they had previously attended the Health Drop-In. Two of these past participants were male, 12 were female. Ten lived alone, 2 with a spouse, 1 with a relative/friend, with 1 choosing "other". Ten of these past participants were apartment residents, the other 4 lived in single family dwellings. None of these variables was significantly associated with being a past participant.

4.3.2 Source of Knowledge

Of 55 participants who provided a source of knowledge about the Health Drop-In, 20 (36.4%) had read about it, 18 (32.7%) had heard about it from a friend, 3 (5.5%) had been told by their doctor and 1 had been informed by a public health nurse. Two respondents chose two sources: one had read about it and heard from a friend, and the other had read about it and heard about it from their doctor. Thirteen (23.6%) had heard about it from other sources; 8 of these specified membership in the senior centre or long term involvement in the community centre. One specified through volunteering at West Main Health Unit, 1 through living in the area, 1 through the newspaper, 1 found out about it on the bus, and 1 did not specify the source.

Sixty-five of the nonparticipants, or 57%, responded that they knew about the Health Drop-In. Although not requested, 27 of these individuals provided a source of knowledge: nearly half (13) had read about it, 4 had found out from a friend, 1 was informed by a Public Health Nurse, 2 by a doctor, and 7 checked "other".

Therefore, 33 of the the 82 respondents who knew about the program, and provided the source of their knowledge, had read about it. Twenty-two had found out from a friend, 2 heard about it from a public health nurse, 5 were told by their doctor and 20 indicated an alternate source.

Differences in source of information between participants and nonparticipants were not significant, but it is interesting that nonparticipants were more likely to have read about it (13 of 27 respondents, or 48%) than participants (20 or 55 respondents, or 36.4%). Participants, on the other hand, had more frequently found out about it from a friend (18 participants, or 32.7% compared to 4 nonparticipants, or 14.8%) or from a nurse or doctor (4 participants, or 7.3% compared to 3 nonparticipants, or 1.1%).

Gender, educational level, living arrangement, place of residence and age were not significantly associated with source of knowledge.

4.4 LENGTH OF PARTICIPATION

Of 72 respondents who had attended the Health Drop-In (participants and past participants) and who provided length of participation information, 10 (16.1%) had attended once, 8 (12.9%) had attended more that once but less than 3 months, 7 (11.3%) had participated for at least 3 months but less than one year and the majority (37, or 59.7%) had participated for more than one year. Gender, level of education, living arrangement and place of residence were not significantly different for respondents who had attended for different lengths of time.

Of the participants, 3 responded that they had attended once (but filled out the surveys as regular attenders as previously discussed in Section 4.1), 3 had attended more than once but less than 3 months, 6 had attended for 3 months to one year and 36 had attended for more than one year. Once again, gender, place of residence and living arrangements were all non-significant with regard to length of attendance. There was no significant difference between lengths of attendance for respondents who reported attending the three program components (BPM, E or N/SM).

Past participants were more likely to have attended once (7, or 50%) or more than once but less than 3 months (5, or 35.7%). One past participant had attended for 3 months to one year, and one had attended for more than one year. Length of attendance for past participants was not significantly associated with gender, living arrangement or place of residence.

Of 5 past participants who provided information about program components attended, 3 had attended the BPM component, 2 the E component and 1 the N/SM component.

Information about knowledge of and past attendance patterns among nonparticipants is summarised in Table 7.

| TABLE 7: KNOWLEDGE OF HEALTH DROP-IN AND PAST ATTENDANCE AMONG NONPARTICIPANTS | | | | | | |
|--|--------------------------|-----------------------------|--|--|--|--|
| A. KNOWLE | DGE (n = 116) | B. PAST PARTICIPATION | | | | |
| YES NO | 65 (56.0%) 51 (44.0%) | YES 14 (12.1%) | | | | |
| By Place of F | lesidence: | By Place of Residence: | | | | |
| Apartment | 38 (55.9%)* | Apartment 10 | | | | |
| SFD | 27 (56.3%)* | SFD 4 | | | | |
| By Gender: | | By Gender: | | | | |
| Male | 21 (55.7%)* | Male 2 | | | | |
| Female | 44 (56.8%)* | Female 12 | | | | |
| · · _ · | | Program Components Attended | | | | |
| * Percentages re | efer to the proportion | BPM3 | | | | |
| of all nonpartic | ipant respondents | E2 | | | | |
| with that charac | cteristic. | N/SM 1 | | | | |

4.5 **PROGRAM COMPONENTS**

4.5.1 Past and Present Participants

There were 40 respondents who indicated present or past participation in the Blood Pressure Monitoring (BPM) component, with a mean age of 74.7 years. Thirty-seven respondents, with an average age of 74.8 years, reported past or present participation in the Exercise (E) component, and 23 respondents indicated past or present participation in the Neck and Shoulder Massage (N/SM) component, with a mean age of 75.5 years.

Place of residence was significantly associated with participation in the E

component, with 27 of the 109 apartment dwellers reporting past or present involvement in E, compared to 8 of 66 single family residence respondents and 2 or 3 "other" respondents ($\chi^2 = 7.896$, p = .0193). However, this variable was non-significant for BPM and N/SM components. Twenty-seven apartment dwellers, 11 single family dwelling residents and 2 of those with other arrangements reported past or present involvement in the BPM component. Seventeen of the apartment dwellers, 5 single family residents and 1 with another arrangement reported past or present N/SM participation.

Age was not significantly associated with present or past participation in any of the three components.

Of 49 male respondents, 11 indicated present or past involvement in the BPM component, compared to 30 of 129 females. In the N/SM component, 7 males and 17 females reported participation. Gender was not associated with participation in either of these components. However, gender was significantly associated with participation in the E component, with 2 of 49 male respondents, and 35 of 130 female respondents, indicating present or past involvement (χ^2 with continuity correction = 9.973, p = .0016).

Educational attainment was not associated with participation in any of the components. Of 46 individuals who had less than high school education, 9 attended (or had attended in the past) the BPM, 10 the E and 8 the N/SM components. There were 73 respondents with the equivalent of high school education; 16 indicated present or past participation in the BPM, 17 the E and 11 the N/SM components. Of 51 respondents who had received education past the high school level, 14 attended the BPM, 8 the E and 4 the N/SM components.

Living arrangement was also a non-significant variable with respect to participation in any of the components. Of 97 respondents who reported living alone,

20 had past or present involvement in the BPM, 25 the E and 13 the N/SM components. Sixty-six individuals lived with a spouse, and 19 of these were, or had been participants in the BPM, 8 in the E and 9 in the N/SM. Two of the 13 respondents who lived with a relative or friend reported present or past participation in the BPM, 4 in E and 2 in N/SM. None of the respondents who reported another living arrangement were involved in any of the program components.

4.5.2 Current Participants

Area of participation was given, or could be determined, for 62 of the participants. Thirty-nine individuals responded that they were participants of the BPM component. There were 35 respondents who stated that they were participants of the E program (including those who perceived themselves as nonparticipants of the Health Drop-In) and 23 stated that they participated in the N/SM. Sixty percent (37 respondents) attended only one of the three components. 4 (6.5%) attended BPM and E, 10 (16.1%) attended BPM and N/SM, 2 (3.2%) attended E and N/SM, and 9 (14.5%) attended all 3 components. Table 8 provides a summary or patterns of participation.

| TABLE 8: ATTENDAN | CE PATTER | NS OF PROGRAM PARTI | CIPANTS | |
|-------------------------|------------|------------------------|------------|--|
| | | | | |
| A. LENGTH OF FANTICIPAT | | D. FREQUENCE OF ATTENE | | |
| MORE THAN 1 YEAR | 36 (75%) | WEEKLY | 34 (66.7%) | |
| 3 MOS. TO 1 YEAR | 6 (12.5%) | REGULARLY | 9 (17.6%) | |
| > ONCE AND < 3 MOS. | 6 (12.5%) | IRREGULARLY | 8 (15.7%) | |
| NO RESPONSE | 15 | NO RESPONSE | 12 | |
| B. PROGRAM COMPONENTS | S | E. SOURCE OF KNOWLEDGE | | |
| BLOOD PRES. MONITORING | 39 | READ ABOUT IT | 20 (36.4%) | |
| EXERCISE | 35 | HEARD FROM A FRIEND | 18 (32.7%) | |
| NECK/SHOULDER MASS. | 23 | DOCTOR | 3 (5.5%) | |
| NO RESPONSE | 1 | PUBLIC HEALTH NURSE | 1 | |
| | | OTHER | 13 (23.6%) | |
| C. NUMBER OF COMPONEN | rs | NO RESPONSE | 8 | |
| ONE | 37 (59.7%) | | | |
| TWO | 16 (25.8%) | | | |
| THREE | 9 (14.5%) | | | |

Of the individuals who had been participating for more than one year in the Health Drop-In (n=36), 27 attended the BPM, 16 the E and 17 the N/SM components. Of those who had been attending for less than one year (n=12), 6 were BPM participants, 7 E participants and 3 N/SM attenders. Length of attendance was not associated with participation in any of the components.

4.6 FREQUENCY OF ATTENDANCE

The majority of participants who gave frequency of attendance information (34 respondents, 66.7%) visited the Health Drop-In weekly. Nine respondents (17.6%) stated that they were regular attenders and 8 (15.7%) indicated that they were irregular attenders. Twelve individuals did not provide this information, including 9 of the exercise attenders who perceived themselves as nonparticipants of the Health Drop-In.

By place of residence, 25 of the 34 weekly attenders lived in apartments, 5 in single family dwellings and 3 in another type of abode. Three of the 9 regular attenders lived in apartments, the other 6 in single family dwellings. Five of the eight irregular attenders were apartment residents, the other 3 lived in single family dwellings. Single family dwelling residents are more likely to attend regularly while apartment dwellers are more likely to be weekly attenders. This tendency was marginally significant at the $\chi^2 = 10.501$ level, with p = .0328.

Gender, educational attainment and age showed no significant associations with frequency of attendance. There was, however, a perceptible tendency for less regular participation with increased age, with a mean age for weekly attenders of 72.8 years, compared to 75.0 years for regular attenders and 80.7 years for irregular attenders.

Living arrangement was significantly associated with frequency of attendance. Of the 34 weekly attenders, 20 lived alone, 11 with a spouse and 3 with a relative or friend. Of 9 regular attenders, 1 each lived alone and with a relative/friend, while 7 lived with a spouse. Seven of the 8 irregular attenders lived alone, the other lived with a spouse. There was some tendency toward either weekly or irregular participation among those who lived alone, and regular participation for those who resided with a spouse ($\chi^2 = 11.081$, p = .0257).

There were no significant associations between frequency of attendance and any of the program components. Among the 34 weekly attenders, there were 22 who participated in the BPM, 20 of the E participants and 14 of the N/SM attenders. Included in the 9 regular attender respondents were 9 BPM, 2 E and 5 N/SM participants. The 8 irregular attenders included 6 BPM, 2 E and 3 N/SM participants.

4.7 ISAI SCORES

Scores on the ISAI scales were first analysed to determine whether there were differences between respondents based upon place of residence. Comparisons were then made between participants and nonparticipants, and between attenders of the three program components. Comparisons between participants who responded as nonparticipants and those who answered as participants are also provided. Nonparametric tests (Mann Whitney U for two groups and Kruskall-Wallis for more than two groups) were utilised to determine statistical differences between groups as mean values were highly skewed to the right (large numbers of high scores and relatively few low scores). Table 9 summarises information about mean ISAI scores and place of residence. Differences between participants and nonparticipants are summarised in Table 10. Profiles of ISAI means for participants of the various program components are included in Table 11, while Table 12 shows ISAI scale scores for participants based upon whether they responded as participants (P1) or as nonparticipants (P2).

| TABLE 9: MEAN ISAI SCORES BY PLACE OF RESIDENCE | | | | | | | | |
|---|-----------------------|----------------------|--------------------|--------------------|----------|---------------------|-------------------|--|
| | Economic Resources | Emotional Balance | Physical Health | Trusting Others | Mobility | Cognitive Status | Social Support | |
| APARTMENTS | 29.3 | 25.5 | 22.4 | 30.7 | 27.9 | 24.4 | 29.6 | |
| (N) | 107 | 104 | 106 | 103 | 107 | 106 | 106 | |
| SFD | 29.4 | 25.8 | 22.4 | 30.4 | 27.7 | 25.2 | 29.8 | |
| (N) | 64 | 65 | 65 | 65 | 64 | 65 | 64 | |
| OTHER | 31 | 22 | 23.3 | 30.7 | 29.7 | 23.7 | 29.3 | |
| (N) | 3 | 3 | 3 | 3 | 3 | 3 | 3 | |

| TABLE 10: MEAN ISAI SCORES FOR PARTICIPANTS AND NONPARTICIPANTS | | | | | | | | |
|---|-------|-----------|-----|-----------|-----|----------|---------|--------------|
| | TO | TAL SAMPL | E | PARTICIPA | NTS | NONPARTI | CIPANTS | |
| SCALE | Range | Mean | N | Mean | N | Mean | N | Significance |
| Econ. Res. | 12-32 | 29.4 | 175 | 30.1 | 61 | 29 | 114 | NS |
| Emot. Bal. | 9-32 | 25.5 | 173 | 24.4 | 61 | 26.1 | 112 | NS |
| Ph. Health | 8-32 | 22.4 | 175 | 24.4 | 61 | 21.3 | 114 | p = .0019 |
| Trust. Oth | 16-32 | 30.5 | 172 | 30.1 | 60 | 30.8 | 112 | NS |
| Mobility | 11-32 | 27.8 | 175 | 28 | 61 | 27.2 | 114 | p = .0318 |
| Cog. Stat. | 8-32 | 24.6 | 175 | 24.2 | 61 | 24.9 | 114 | NS |
| Soc. Sup. | 15-32 | 29.7 | 174 | 29.3 | 60 | 29.9 | 114 | NS |

| | | | PROGRAM | | | |
|------------|------|--------|---------|--------|------|--------|
| | BPM | | E | | N/SM | |
| N | 38 | | 35 | | 22 | |
| SCALE: | Mean | Sig. | Mean | Sig. | Mean | Sig. |
| Econ. Res. | 30.1 | | 29.7 | | 29.9 | |
| Emot. Bal. | 24.2 | | 24.3 | | 23.8 | |
| Ph. Health | 23.4 | 0.0292 | 26 | 0.0088 | 23.1 | |
| Trust. Oth | 30.1 | | 30.2 | | 30.4 | |
| Mobility | 28.8 | | 29.3 | | 27.5 | 0.0318 |
| Cog. Stat. | 24.4 | | 24.1 | | 23.6 | |
| Soc. Sup. | 29.4 | | 28.9 | | 28.6 | |

| TABLE 12: ME | AN ISAI SCORES OF ATTEN | VES AS DARTICIDANTS |
|-----------------|-------------------------|---------------------|
| | P2: Responded as | P1: Responded as |
| | Nonparticipants (12) | Participants (51) |
| Economic Res. | 29.6 | 30.2 |
| Emotional Bal. | 24.4 | 24.4 |
| Phys. Health | 26.3 | 24 |
| Trusting Oth. | 29.3 | 30.3 |
| Mobility | 29.7 | 28.8 |
| Cognitive Stat. | 23.8 | 24.4 |
| Social Support | 27.5 | 29.7 |

4.7.1 **Economic Resources (ER)**

The standard mean of 50 is achieved at a raw score of 27 on the ER scale (Morris et al., 1991). Usable scores were obtained from 175 respondents in this study. Scores ranged from 12 to 32, with a mean score of 29.4. This translates to a standardised score of approximately 54, indicating that the Kerrisdale seniors in this sample believe that they are relatively well off financially.

Because apartment residents and single family dwelling residents were independent samples, scores were compared by place of residence, using the Kruskal-Wallis test for 3 groups, to determine whether financial status was associated with place of residence. The differences between mean ER scores for single family dwellers (29.4, n = 64), apartment residents (29.3, n = 107) and other (31.0, n = 3) were not significant.

Among participants, there were 61 usable scores, with a mean raw score of 30.1 Of 114 scores from nonparticipants, the mean raw score was 29.0. This difference was not significant. There was also no significant difference between those who perceived themselves as participants (raw score of 30.2, n = 49) and participants who responded as nonparticipants (raw score of 29.6, n = 12). No significant differences in ER were noted between attenders of the three program components.

The raw score for BPM participants was 30.1, for E the mean raw score was 29.7 and for N/SM it was 29.9.

4.7.2 Emotional Balance (EB)

A raw score of 25 on the EB scale translates to the standard mean score of 50 (Morris et al., 1991). This sample (n = 173) had a range of scores from 9 to 32, with a mean of 25.5. This converts to a standardised score of 52.

Once again, mean scores among apartment residents (25.5, n = 105), single family residents (25.8, n = 65) and others (22.0, n = 3) were not significantly different, using the Kruskal- Wallis test.

The mean EB score for the participants was 24.4 (n = 61), and for nonparticipants 26.1 (n = 112). EB was not a significant variable with respect to participation, using Mann Whitney U test. The means for the P1 and the P2 groups were equivalent to each other and to the participant mean, at 24.4. EB was not a significant factor with regards to participation in the different program components: the BPM participants had a mean of 24.2, the E participants 24.3 and the N/SM participants a mean of 23.8.

4.7.3 Physical Health (PH)

On the PH scale, a raw score of 21 is equivalent to the standard mean of 50 (Morris et al., 1991). This sample's mean score (n = 175) was 22.4, which converts to a standardised score of 52. Scores ranged from 8 to 32.

Single family dwelling residents (n = 65) and apartment dwellers (n = 106) both had a mean of 22.4 on the PH scale, while those with another type of residents (n = 3) had a mean score of 23.3. This difference was not significant.

PH mean scores were higher than the standard mean of 50 for both participants (24.4, n = 61) and nonparticipants (21.3, n = 114), but differences in PH scores were significantly associated with participation (Z corrected for ties = -3.112, p = .0019).

PH was a significant factor in participation for two of the program components.

The mean score of BPM participants was 23.4, which was significantly lower than the rest of the participants (Z corrected for ties = -2.181, p = .0292). Alternatively, the mean score for E participants on the PH scale was 26.0, which was significantly higher than the rest of the participant group (Z corrected for ties = -2.618, p = .0088). PH scores were not significantly associated with N/SM participation. The mean for this group was 23.1.

The PH mean score for the P2 group (n = 12) was in line with the mean score for all E participants, at 26.3. This was not significantly different from the P1 group (n = 51), at 24.0.

4.7.4 Trusting Others (TO)

A raw score of 30 on the TO scale converts to the standard mean of 50 (Morris et al., 1991). The mean for the 172 valid Trusting Others (TO) scale scores in this study was 30.5 (or a standardised score of 52.5). The range of scores was from 16 to 32.

Those who lived in apartments (n = 103) and those who chose "other" as a place of residence (n = 3) had a slightly higher mean (30.7) than those who lived in single family residences (30.4, n = 65). This difference was not significant.

Scores on the TO scales were not significantly different for participants (30.1, n = 60) and nonparticipants (30.8, n = 112). Likewise, level of trust was not a significant factor in participation in the various program components. The mean score for BPM participants was 30.1, for E participants 30.2 and for N/SM participants 30.4. The P2 group, which responded as nonparticipants, had a mean score of 29.3, compared to the P1 mean score of 30.3. This was also non-significant.

4.7.5 Mobility (MO)

To achieve a standardised score equal to the standard mean of 50 on the Mobility (MO) scale, a raw score of 27 must be attained (Morris et al., 1991). For the 175 scores computed on the MO scale in this study, ranging from 11 to 32, the mean was 27.8 (standardised score of 52).

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Apartment residents (n = 107) had a mean score of 27.9, single family residents (n = 64) a mean of 27.7 and others (n = 3) a mean of 29.7. This was not a significant difference.

Greater mobility was marginally associated, statistically, with participation (score of 28, n = 61) in the Health Drop-In. The actual clinical difference, however, was minimal, with nonparticipants having a lower MO mean of 27.2 (n = 114). The Mann Whitney U Z value corrected for ties was -3.112 (p = .0316).

There were no significant differences in MO score means between participants of the BPM component (28.8) and other component participants, or for E participants (29.3). However, the N/SM participants, with a mean score of 27.5, were marginally significantly lower than other participants (Z corrected for ties = -2.147, p = .0318). Degree of mobility did not show up as significantly associated with response as a participant or nonparticipant among the participants; P2 had a mean score of 29.7 and P1 a mean score of 28.8.

4.7.6 Cognitive Status (CS)

A raw score of 23 on the CS scale corresponds to the standard mean of 50 (Morris et al., 1991). In this study, on the CS scale (n = 175) the range of scores was from 8 to 32, with a mean of 24.6 (standardised score of approximately 53).

For the 106 apartment residents, the mean score was 24.4. The 65 single family residents had a mean of 25.2 and the rest (n = 3) had a mean of 23.7. This was not significant.

Cognitive status was not significantly associated with participation in the Health Drop-In. The mean for participants (n = 61) was 24.2 and for nonparticipants (n = 114) 24.9. This variable was also not significantly associated with participation among the three components, with BPM participants having a mean of 24.4, E participants a mean of 24.1 and N/SM participants a mean of 23.6. Likewise, there was no significant difference between the P1 mean of 24.4 and the P2 mean of 23.8.

4.7.7 Social Support (SS)

A raw score of 29 on the Social Support (SS) scale is equivalent to the standard mean score of 50 (Morris et al., 1991). The individual scores on the SS scale were highly skewed, with a range from 15 to 32 with a mean of 29.7, converting to a standardised score of 52.

SS scores were not associated with place of residence. Apartment residents (n = 106) had a mean score of 29.6, single family residents (n = 64) a mean of 29.8, and the others (n = 3) a mean of 29.3.

Level of social support was not significantly associated with participation in the Health Drop-In. Participants (n = 60) had a mean score of 29.3, compared to nonparticipants' (n = 114) mean score of 29.9. Social support was also not a significant factor in participation among the various components, with BPM participants having a mean of 29.4, E participants a mean of 28.9 and N/SM participants a mean of 28.6. Social support did not show up as significantly associated with response as a participant or nonparticipant among the participant group, with P2 (n = 12) having a SS mean of 27.5 compared to the P1 (n = 51) mean of 29.7.

4.8 COMMUNITY INVOLVEMENT

Involvement in community activities was requested in terms of whether respondents attended each activity or led/volunteered for it. Due to small numbers, especially in the leader/volunteer cells, the attend and leader/volunteer cells were combined to determine total involvement for contingency table analysis. Table 13 summarises community involvement in terms of demographic variables. Table 14 provides a summary of community involvement for participants and nonparticipants.

| | Residence (%) | | | Gender (%) | | Age | Living | Arrange. (% | | Edu | cation | ation (%) |
|-----------------|---------------|------|-------|------------|------|--------------|--------|-------------|--------|------|--------|-----------|
| | Apart. | SFD | Other | м | F | mean | Alone | Spouse | Rel/Fr | < HS | HS | >HS |
| Total N | 110 | 66 | 3 | 50 | 130 | years | 99 | 66 | 13 | 46 | 74 | 51 |
| Kerrisdale S.C. | 18.2 | 12.1 | 66.7 | 6 | 20.8 | 75.2 | 19.1 | 15.2 | 7.7 | 19.6 | 13.5 | 19.6 |
| Sig. | | 0.04 | | | 0.03 | | | | | | | |
| Church | 33.6 | 28.8 | 33.3 | 26 | 33.8 | 77.6 | 22.2 | 33.3 | 30.8 | 43.5 | 27 | 33.3 |
| Sig. | | | | | | 0.02 | | 1 | | | | |
| Church Grps. | 21.8 | 15.2 | 33.3 | 12 | 22.3 | 76.3 | 17.2 | 24.2 | 15.4 | 28.3 | 17.6 | 17.6 |
| Cultural Orgs. | 10.9 | 9.1 | 0 | 2 | 13.1 | 72.7 | 11.1 | 10.6 | 0 | 6.5 | 9.5 | 13.7 |
| Sig. | | | | | | 0.04 | | | | | | |
| Symphony, etc | 35.5 | 27.3 | 33.3 | 20 | 36.9 | 74.9 | 30.3 | 36.4 | 30.8 | 28.3 | 27 | 47.1 |
| Sig. | | | | | 0.05 | | | | | | 0.05 | |
| Recreat. Act. | 21.8 | 30.3 | 0 | 24 | 24.6 | 73.7 | 21.2 | 33.3 | 7.7 | 15.2 | 24.3 | 37.3 |
| Sig. | | | | | | 0.01 | | | | | 0.04 | |
| Other Sen. Cen. | 12.7 | 4.5 | 0 | 4 | 11.5 | 75.9 | 12.1 | 4.5 | 15.4 | 4.3 | 10.8 | 13.7 |
| Commun. Cen. | 7.2 | 16.7 | 0 | 8 | 11.5 | <u>76</u> .7 | 9 | 12.1 | 15.4 | 13 | 8.1 | 13.7 |
| Others | 20.9 | 28.8 | 33.3 | 60 | 10 | 75.9 | 26.3 | 24.2 | 7.7 | 19.6 | 31.1 | 19.6 |

TABLE 13: PERCENTAGE OF COMMUNITY INVOLVEMENT AMONG RESPONDENTS BY DEMOGRAPHIC CHARACTERISTICS

| | Participants | Nonnarticipants | Significance | |
|------------------------------|--------------|-----------------|--------------|--|
| | n = 63 | n = 117 | | |
| Kerrisdale Senior Centre | 16 (25.4%) | 14 (12.0%) | 0.036 | |
| West Main Health Unit | 4 (6.3%) | 0 (0%) | | |
| Church | 19 (30.2%) | 38 (32.5%) | | |
| Church Groups, Organisations | 15 (23.8%) | 20 (17.1%) | | |
| Cultural Centres, Organisat. | 9 (14.3%) | 9 (7.7%) | | |
| Symphony, Opera, etc. | 27 (42.9%) | 31 (26.5%) | 0.0251 | |
| Recreational Activities | 21 (33.3%) | 23 (19.7%) | | |
| Other Senior Centres | 10 (15.9%) | 7 (6.0%) | | |
| Community Centre | 6 (9.5%) | 13 (11.1%) | | |
| Others | 14 (22,2%) | 29 (24.8%) | | |

4.8.1 Other Activities at Kerrisdale Senior Centre

Of the 180 respondents, 30 (16.7%) reported that they were involved with other activities at Kerrisdale Senior Centre. There was a marginally significant difference in attendance by place of residence, with 20 of 110 apartment residents (18.2%), 8 of 66 single family dwelling residents (12.1%) and 2 of 3 others reporting involvement (χ^2 = 6.533, p = .0381). However, the largest difference was with those reporting a place of residence other than apartment or single family dwelling, where numbers were very low, which may represent a confounder.

Gender was also marginally associated with other Kerrisdale Senior Centre involvement, with 3 males (6%) compared to 27 females (20.8%) reporting involvement (χ^2 corrected for continuity = 4.658, p = .0309). Age was not significantly associated with other Kerrisdale Senior Centre involvement, with an average age of respondents reporting such involvement of 75.2 years. Nineteen of 99 (18.2%) respondents who lived alone were involved, compared to 10 of 66 (15.2%) of respondents who lived with a spouse and 1 of 13 (7.7%) who lived with a relative or friend. Nine of 46 (19.6%) individuals with less than high school education were involved, compared to 10 of 74 (13.5%) respondents who completed high school and 10 of 51 (19.6%) with education beyond high school.

Other involvement with Kerrisdale Senior Centre was weakly associated with participation in the Health Drop-In (χ^2 with continuity correction = 4.396, p = .036). Sixteen of the 63 participants reported such involvement, which is 53.3% of all respondents reporting other Kerrisdale Senior Centre involvement. There was no significant difference between those participants who answered as participants (P1) versus those who answered as nonparticipants (P2).

4.8.2 West Main Health Unit

Four respondents reported involvement with West Main Health Unit activities.

Two were apartment residents, 1 resided in a single family dwelling and 1 reported another arrangement. All 4 respondents who indicated involvement were female. Three had post secondary education, while the fourth had completed high school. All activity related to the West Main Health Unit was reported by participants.

4.8.3 Church

Fifty-seven individuals (31.7%) reported involvement with church. Place of residence was not significantly associated with church involvement, with 37 apartment residents (33.6%), 19 single family dwelling residents (28.8%) and 1 individual from another place of residence (33.3%) reporting such involvement. Increased age was, however, associated with involvement. The average age of those reporting church attendance/leading/volunteering was 77.6 years, which was significant at the p = .0216 level on the Mann Whitney U test (*Z* corrected for ties = -2.297).

Gender was not significantly associated with such involvement, although a greater proportion of females (44, or 33.8%) than males (13, or 26%) were involved. A greater proportion of respondents with less than high school (20, or 43.5%) were involved with church compared to high school graduates (20, or 27%) or respondents with education past the high school level (17, or 33.3%), but this difference was non-significant. Of the 99 respondents who lived alone, 22 (22.2%) reported church involvement, compared to 22 of 66 (33.3%) who lived with spouses, 4 of 13 (30.8%) with a relative or friend and 2 of 2 who had some other living arrangement.

Church involvement was not significantly associated with Health Drop-In participation, with 19 of the respondents who were involved with church, or 33.3%, reporting participation in the Health Drop-In. There was no difference between the P1 (14 of 51) and P2 (5 of 12) groups, either.

4.8.4 Church Groups and Organisations

Thirty-five of the respondents (19.4%) indicated that they were involved with church groups or organisations. Place of residence was not significantly associated

with involvement: Twenty-four apartment dwellers (21.8%), 10 single family residents (15.2%) and 1 individual from another type of dwelling (33.3%) were included among these respondents. The average age of respondents indicating involvement was 76.3 years. Although considerably more females were involved (29, or 33.2% were female compared to 6, or 12% male), this difference was not significant. Neither were education or living arrangement significantly associated with involvement. Seventeen (17.2%) of those living alone, 16 (24.2%) of those living with a spouse and 2 (15.4%) respondents living with a relative or friend stated that they were involved with church groups. Thirteen (28.3%) respondents with less than high school education, 13 (17.6%) with high school and 9 (17.6%) with post secondary education were involved.

Although more participants reported involvement (15, or 42.9% of all respondents with church involvement) the difference was not significant. Likewise, there was no significant difference between P1 (13 respondents) and P2 (2 respondents).

4.8.5 Cultural Centres or Organisations

Eighteen respondents (10%) indicated involvement in cultural centres or organisations. Place of residence was not significantly associated with involvement: 10.9% (12) of apartment residents and 9.1% (6) of single family residents responded that they were involved with cultural organisations or centres.

Younger age was weakly associated with involvement in cultural centres or organisations. The mean age of such respondents was 72.7 years (Z corrected for ties = -2.002, p = .0453).

Females were more likely to be involved than males, with 17 women (15%) indicating involvement compared to 1 of the 50 males. Those respondents with educational status beyond high school (7, or 13.7%) were also represented in greater proportion than those with high school (7, or 9.5%) or those with less than high school (3, or 6.5%). These tendencies did not show up as significant, however. Eleven of

respondents who were involved lived alone (11.1% of respondents living alone) and 7 (10.6%) lived with a spouse.

Involvement in a cultural centre or organisation was not significantly associated with participation in the Health Drop-In, although 9 of the respondents who reported such activity, or 50%, were participants. Seven respondents in the P1 group and 2 in the P2 group were involved.

4.8.6 Symphony, Opera, etc.

The most frequently checked activity by respondents was "symphony, opera, etc.". The involvement of the 58 respondents indicating attendance at these activities represents 32.2% of the sample. Place of residence was not significantly associated with involvement, with 39 (35.5%) apartment residents, 18 (27.3%) single family residents and 1 (33.3%) "other" respondent indicating involvement.

The average age of attenders in this category was 74.9 years. Females were marginally more likely to attend these activities (48, or 36.9%) than males (10, or 20.0%; χ^2 with continuity correction = 3.992, p = .0457). Respondents with post secondary education (24, or 47.1%) were also more likely to report attendance at these functions than those with high school (20, or 27.0%) or less than high school (13, or 28.3%). This was marginally significant at the p = .0455 level (χ^2 = 6.18). Living arrangement was not significantly associated with symphony, opera, etc. attendance. 30.3% of respondents who lived alone (30 respondents), 36.4% of those living with a spouse (24 respondents) and 30.8% of those living with a friend or relative (4) reported attendance or leading/volunteering.

Symphony, opera, etc. involvement was positively associated with Health Drop-In participation (χ^2 with continuity correction = 4.298, p = .0251). Twenty-seven of the respondents indicating involvement, or 46.5%, were participants. This variable was not significantly associated with P1 (21 of 51 respondents) and P2 (6 of 12).

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4.8.7 Recreational Activities

There were 44 respondents (24.4%) who indicated involvement in recreational activities. Place of residence was not associated with involvement in recreational activities, with 24 respondents from apartments (21.8%) and 20 single family dwelling residents (30.3%) responding positively.

However, younger respondents were significantly more likely to report such involvement, at a mean age of 73.7 years (Z corrected for ties = -2.652, p = .008). Males and females showed equal involvement, with 12 of the males (24.0%) and 32 of the females (24.6%) reporting involvement. Living arrangement was also a non-significant variable, with 21 (21.2%) of the respondents who lived alone, 22 (33.3%) of those living with a spouse, and 1 of those living with a friend or relative indicating recreational involvement.

Higher educational status was significantly associated with involvement in recreational activity ($\chi^2 = 6.281$, p = .0433). Nineteen of the 51 respondents with more than high school education (37.3%), 18 of 74 with high school education (24.3%) and 7 of 46 with less than high school education (15.2%) responded that they were involved in recreational activities.

Although 21 of the respondents indicating recreational activity involvement, or 47.7%, were Health Drop-In participants, this difference did not show up as significant. One third of each of the P1 (17 respondents) and P2 (4 respondents) reported involvement in recreational activities.

4.8.8 Other Senior Centres

A total of 17 respondents (9.4%) reported involvement of some kind in other senior centres. Although a greater proportion of apartment dwellers (12.7%, or 14 respondents) indicated involvement than single family residents (4.5%, or 3 respondents) or others (no respondents), this difference was not significant.

The mean age for respondents involved in other senior centres was 75.9 years.
Four percent of the males in this sample (2 respondents) and 11.5 % of the females (15 respondents) indicated involvement. Living arrangement and education were not significantly associated with attendance at other senior centres. Twelve (12.1%) of those who lived alone, 3 (4.5%) of those living with a spouse, and 2 (15.4%) of those living with a relative or friend indicated involvement. Two respondents with less than high school education (4.3%), 8 who finished high school (10.8%) and 7 with post secondary education (13.7%) were involved.

Although respondents who were involved with other senior centres were more likely to be Health Drop-In participants, the difference did not show up as significant. Ten of the respondents who attended other senior centres, or 58.8%, were participants. There was no significant difference in proportion of involvement between P1 (7 respondents) and P2 (3 respondents).

4.8.9 Community Centre

The proportion of respondents who reported attending the community centre was 10.6% (19 respondents). Single family residents (11, or 16.7%) were more likely than apartment dwellers (8, or 7.3%) or others (0) to report attendance, but this was not significant.

Fifteen females (11.5%) and 4 males (8.0%) attended the community centre. These respondents had a mean age of 76.7 years. Nine of them lived alone (9.1% of all respondents who lived alone), 8 were single family residents (12.1% of single family residents) and 2 lived with a relative or friend (15.4% of all who lived with a friend/relative). Of those with less than high school education, 6 (13%) attended the community centre. Six of those with high school (8.1%) and 7 with post secondary education (13.7%) reported attending. None of these variables were significant.

Attendance at the community centre was not associated with participation in the Health Drop-In. Six of the respondents who attended the community centre, or 31.6%, were participants. Four respondents in the P1 category and 2 in the P2 category

4.8.10 Other

Forty-three of the respondents (23.9%) reported involvement in some other community activities. A list of the activities specified is included in Appendix D.

Place of residence was not significantly associated with involvement in other community activities. Twenty-three of the apartment residents (20.9%), 19 of the single family residents (28.8%) and 1 of the 3 respondents from another place of residence indicated such involvement.

The mean age of respondents with involvement in other community activities was 75.9 years. This was the only category where males were represented in greater proportion than females: 13 males (26.0%) utilised the "other" category compared to 30 (23.1%) females. This difference, however, was non-significant. Neither were educational attainment or living arrangement significantly associated with involvement in other community activities. Ten (21.7%) of those respondents with less than high school education, 23 (31.1%) of the high school graduates or equivalent and 9 (17.6%) of respondents with more than high school education listed other community activities. Twenty-six (26.3%) respondents who lived alone, 16 (24.2%) of those living with a spouse and 1 of the 3 respondents with some other arrangement was involved in some other community activity.

Reported involvement in other community activities besides those listed was not significantly associated with participation. Fourteen (32.6%%) of those indicating such involvement were participants. Eleven of the 51 P1 respondents and 3 of the 12 P2 respondents used the "other" community activities category.

4.9 PATTERNS OF ACTIVITY

The final question of the survey, which asked for hours per week spent on each

of seven activities, seemed to pose the most difficulty for respondents. Only 154 of the 180 respondents provided usable data for this question. The majority of the rest did not provide any answers. Several provided descriptive information (ie. the types of hobbies, exercise or community activities engaged in, or comments such as "too little" or "too much" for sleep or household activities). One respondent furnished the comment that she could not divide up her time in this way, and another commented that her time expenditures varied.

A few individuals provided information in hours per day; these were multiplied by 7 to attain weekly expenditures. In some cases, respondents provided a range of hours (eg. 2-4 hours), in which case the middle value was chosen (ie. 3 hours).

As individual results did not approximate a normal distribution, analysis of results was carried out for categorical data with the Kruskal Wallis test (for more than 2 groups) or the Mann Whitney U (for 2 groups). Age was compared using the Spearman Correlation Coefficient test. Mean weekly hours for the seven activities are summarised by demographic grouping in Table 15, and differences between participants and nonparticipants are provided in Table 16. The mean reported weekly hours of activity for attenders of the three program components are summarised in Table 17.

| TABLE 15: MEAN WEEKLY HOURS OF ACTIVITY BY DEMOGRAPHIC GROUP | | | | | | | | |
|--|------------|-------------|---------|----------|-------------|-------------|-------|--|
| | Hous. Act. | Exercise | Hobbies | Visiting | Comm. Act | Gardening | Sleep | |
| Resid: Apar (89) | 12.5 | 4.4 | 5.8 | 5.6 | 1.2 | 1 | 50.5 | |
| SFD (63) | 13.8 | 5.4 | 9.1 | 5.9 | 2.7 | 6.3 | 49.6 | |
| Other (3) | 7.3 | 4 | 6.7 | 2.7 | 6.3 | 1 | 43.7 | |
| Sig. | | | | | 0.0354 | 0.0001 | | |
| Age: | | ↓ with age* | | | ↓ with age* | ↓ with age* | | |
| Sig. | | 0.0072 | | | 0.0004 | 0.0334 | | |
| Gender: M (41) | 8.9 | 5.7 | 8.3 | 5.1 | 0.7 | 4.1 | 50.7 | |
| F (113) | 14.4 | 4.7 | 6.9 | 5.9 | 2.4 | 2.7 | 49.7 | |
| Sig. | 0.0415 | | | | | | | |
| Live: Alone (83) | 12.7 | 4.4 | 5.9 | 6.1 | 1.9 | 2 | 48.9 | |
| Spouse (59) | 13.4 | 5.5 | 9 | 5.6 | 2 | 4.8 | 50.8 | |
| Rel/Fr. (11) | 13 | 4.7 | 6.5 | 3.1 | 1.4 | 2.8 | 52.6 | |
| Sig. | | | | | | 0.0043 | | |
| Education: < HS | 11.9 | 2.8 | 8.6 | 4.8 | 2.6 | 2.9 | 52.9 | |
| HS | 15.1 | 5.7 | 6.5 | 6.2 | 2 | 3.4 | 49.7 | |
| > HS | 11 | 5.5 | 6.8 | 6 | 1.4 | 3.1 | 47.7 | |
| Sig. | | 0.0065 | | | | | | |

* ↓ denotes an inverse relationship between variables

| TABLE 16: MEAN REPORTED WEEKLY HOURS OF ACTIVITY BY PARTICIPATION | | | | | | | | | |
|---|--------------|-----------------|--------------|--------------|--|--|--|--|--|
| | Participants | Nonparticipants | Total Sample | | | | | | |
| ACTIVITY | n = 56 | n = 98 | n = 154 | Significance | | | | | |
| Household Activities | 11.3 | 13.7 | 12.9 | | | | | | |
| Exercise | 5.6 | 4.3 | 4.8 | | | | | | |
| Hobbies | 5.2 | 8.2 | 7.1 | | | | | | |
| Visit Friends and Relatives | 5.7 | 5.6 | 5.6 | | | | | | |
| Community Activities | 2.8 | 1.4 | 1.9 | 0.0058 | | | | | |
| Gardening | 2.1 | 3.7 | 3.1 | | | | | | |
| Sleep | 43.1 | 49.4 | 47 | | | | | | |

| TABLE 17: MEAN WEEKLY HOURS OF ACTIVITY BY PROGRAM COMPONENT | | | | | | | | | |
|--|--------|--------|--------|------|--------|------|--|--|--|
| | ВРМ | | E | | N/SM | | | | |
| | n = 39 | Sig. | n = 35 | Sig. | n = 22 | Sig. | | | |
| Household Activity | 12.7 | | 10.5 | | 13.6 | | | | |
| Exercise | 5.3 | | 5.9 | | 4.2 | | | | |
| Hobbies | 5.1 | | 4.6 | | 6.6 | | | | |
| Visiting Friends and Relatives | 4.6 | | 5.5 | | 6.4 | | | | |
| Community Activities | 2.9 | | 2.2 | | 3.8 | | | | |
| Gardening | 3 | 0.0275 | 1.5 | | 2.6 | | | | |
| Sleep | 49.8 | | 46.3 | | 50.6 | | | | |

4.9.1 Total Hours of Activity

Place of residence was significantly associated with hours of activity reported, with single family residents (n = 63, mean of 94.8 hours) reporting more hours than apartment dwellers (n = 89, mean of 89.0 hours) or others (n = 3, mean of 71.7 hours). The Kruskal Wallis H value corrected for ties was 12.125, p = .0023.

Living arrangement was also significantly associated with hours of reported activity. As would be expected given the results based upon place of residence, respondents living with a spouse (n = 59) reported the most hours, at a mean of 94.3 hours. Respondents living with a relative or friend reported the next highest hours at 81.7 (n = 11), followed by respondents living alone (n = 83, mean of 77.3 hours). One respondent who fit none of these categories reported 52.0 hours of activity per week. Living arrangement was significant at the p = .0247 level (H corrected for ties = 9.377).

Older respondents were significantly more likely to report less hours (Z corrected for ties = -2.498, p = .0125). However, there were no significant differences in hours reported by gender or educational level. Males (n = 41) reported 81.7 hours per week on average, and females (n = 113) reported an average of 84.8 hours per week. The 40 respondents with less than high school education reported a mean of 82.6 hours per week, compared to 88.0 hours for those with high school (n = 63) and 81.8 hours for those with post secondary education (n = 47).

Hours of activity reported per week was not significantly associated with Health Drop-In participation. Participants (n = 56) reported a mean of 76.3 hours, while nonparticipants (n = 98) had a mean of 88.3 hours. P1 participants (n = 44) had a mean of 79.0 hours and P2 (n=12) participants a mean of 66.7 hours. Total reported hours of activity was also not a significant factor among program components attended by participants. The BPM participants (n = 33) reported a mean of 76.7 hours of activity per week, compared to 75.2 hours (n = 33) for E participants and 86.3 hours for N/SM participants (n = 19).

4.9.2 Household Activity

The mean weekly hours for household activity for the 154 respondents with usable data was 12.9, with a range of 0 to 64 hours. Hours spent on household activity were not significantly associated with place of residence. For the 89 apartment residents, the mean number of hours per week spent on household activity was 12.5. For residents of single family dwellings (n = 62), the mean was 13.8 hours and for the 3 respondents who fitted neither of these categories the mean was 7.3 hours.

There was no significant correlation of reported hours of household activity according to age. However, males reported marginally less hours of household activity per week (8.9 hours, n = 41) than females (14.4 hour, n = 113). The Mann Whitney U Z score was -2.038, with a p value of .0415.

Those who lived alone had a mean of 12.7 hours of household activity per week, respondents who lived with a spouse reported 13.4 hours on average, respondents who resided with a relative or a friend reported 13.0 hours, and the 1 respondent who did not fit any of these categories reported 3.0 hours of household activity. Respondents who had less than high school education spent an average of 11.9 hours on household activity, compared to 15.1 hours for high school graduates and 11.0 hours for those with educational levels past high school. Neither living arrangement nor educational status was significantly associated with reported hours per week of household activity.

Hours spent on household activity per week were not significantly associated with participation in the Health Drop-In. Participants (n = 56) spent a mean of 11.5 hours compared to 13.7 hours for nonparticipants (n = 98). The P1 participants reported 12.3 hours on average, while the P2 group reported 8.8 hours. The P2 group's lower average was not significant, but was in line with the tendency for other E participants, who reported lower (but not significantly lower) hours per week of household activity than the other components, at 10.5 hours. The BPM participants

had a mean of 12.7 hours, and the N/SM participants a mean of 13.6 hours.

4.9.3 Exercise

For hours per week of exercise, the range among the 154 respondents was 0 to 28 hours, with a mean of 4.8 hours. Place of residence was not significantly associated with exercise hours. Apartment residents averaged 4.4 hours per week, compared to single family dwelling residents at 5.4 hours and others at 4.0 hours.

Gender was not a significant variable with respect to hours of exercise per week. Males reported a mean of 5.7 hours per week, while females reported 4.7 hours per week on average. Living arrangement was also not significantly associated with hours of exercise. Respondents who lived alone reported a mean of 4.4 hours per week, compared to 5.5 hours for respondents living with a spouse, 4.7 hours for those living with a relative or friend, and 0 hours for the 1 individual not fitting these categories.

Educational status was, however, associated with hours of exercise per week reported by respondents. Respondents who had finished high school (n = 63, mean of 5.7 hours per week) or received education past the high school level (n = 47, 5.5 hours per week) reported significantly higher hours than those with less than high school education (n = 40, mean of 2.8 hours per week). The Kruskal Wallis H value corrected for ties was 10.086, which was significant at the .0065 level. Age was also negatively correlated with hours of exercise per week, with older respondents reporting significantly lower hours of exercise per week (Z corrected for ties = -2.69, p = .0072).

Although participants had a higher mean for hours of exercise per week (5.6 hours compared to 4.3 hours for nonparticipants), this difference was not significant. There was no significant difference between P1 (5.6 hours) and P2 (5.4 hours), nor were there significant associations between hours of reported exercise per week and the various program components. E participants reported a mean of 5.9 hours per week, BPM participants 5.3 hours per week and N/SM participants 4.2 hours per week.

4.9.4 Hobbies

The range of reported hours by the 154 respondents for hobbies was 0 to 50 and the mean was 7.1 hours. Single family dwelling residents reported more hours per week on average, at 9.1 hours. This was not, however, significantly different from the reported hours by apartment residents (5.8 hours) or others (6.7 hours).

Males reported spending more time on hobbies (8.3 hours) than females (6.9 hours), but the difference was not significant. There was no significant correlation between age and reported hours spent on hobbies. Neither was living arrangement significantly associated with time spent on hobbies, although individuals who lived with a spouse reported more hours (9.0) than those living alone (5.9) or with a relative or friend (6.5). Educational status was also not associated with time spent on hobbies. Respondents with less than high school education had the highest mean, at 8.6 hours, followed by those with post secondary education (6.8 hours) and those who finished high school (6.5 hours).

Mean hours per week spent on hobbies was not significantly associated with Health Drop-In participation, although nonparticipants had a higher mean (8.2 hours) than participants (5.1 hours). P1 reported a mean of 5.5 hours, while P2 had a mean of 4.0 hours per week. N/SM participants had the highest mean of reported hours per week among the three program components, at 6.6 hours, followed by BPM at 5.1 hours and E at 4.6 hours. However, reported hours spent on hobbies per week were not significantly associated with participation in any of the program components, among the participants.

4.9.5 Visiting Friends and Relatives

In the category of "visiting friends or relatives", the range of values was 0 to 50 hours with a mean of 5.6 hours. Place of residence was not associated with reported hours spent on visiting by this respondent sample. Apartment dwellers reported a mean of 5.6 hours per week, compared to 5.9 hours per week for single family

residents and 2.7 hour per week for the 3 in the "other" category.

Age was not significantly correlated with reported hours per week of visiting. Likewise, gender was not significantly associated with time spent visiting, with males reporting a mean of 5.1 hours and females a mean of 5.9 hours. Respondents who lived alone reported 6.1 hours per week on average, compared to 5.6 hour for individuals living with a spouse and 3.1 hours for those living with a relative or friend. The respondent who reported another living arrangement had 0 hours per week in the visiting category. Respondents with high school education had a mean of 6.2 hours per week of visiting, compared to 4.8 hours for those with less than high school and 6.0 hours for those with more than high school.

Hours per week spent visiting family and friends were not significantly associated with participation in the Health Drop-In. Participants reported 5.8 hours per week on average, while nonparticipants had a mean of 5.6 hours. P1 participants reported 5.5 hours, and P2 participants 6.8 hours. Hours of visiting per week were also not significantly associated with participation in any of the components among the participants. The mean for BPM participants was 4.6 hours, for E participants 5.5 hours and for N/SM participants 6.4 hours.

4.9.6 Community Activities

Respondents spent an average of 1.9 hours per week on community activities, with a range of 0 to 35 hours. There was a weak association between place of residence and reported time spent on community activities (H corrected for ties = 6.68, p = .0354). Apartment dwellers spent reported a mean of 1.2 hours per week (n = 89) compared to single family residents with a mean of 2.7 hours (n = 63) and others at 6.3 hours (n = 3).

There was a strong correlation between age and hours spent on community activities, with older respondents reporting less time per week (Z corrected for ties = -3.547, p = .0004). Males reported a mean of 0.7 hours per week, while females

reported a mean of 2.4 hours per week. This difference was not significant. Living arrangement and educational status were also non-significant. Respondents who lived alone reported 1.9 hours per week, those who lived with a spouse reported 2.0 hours and those who lived with a relative or friend reported 1.4 hours. Individuals with less than high school education had a mean of 2.6 hours, while those with high school reported 2.0 hours and respondents with post secondary education 1.4 hours per week.

As would be expected from the higher proportions of participants involved in various community activities reported in the previous section, time spent on community activities was significantly associated with participation in the Health Drop-In (*Z* corrected for ties = -2.758, p = .0058). Participants reported a mean of 2.9 hours per week of time spent on community activities, while nonparticipants reported a mean of 1.4 hours per week. Participants in P1 (3.0 hours) were not significantly different from participants in P2 (2.5 hours). Hours of community activity were not significantly associated, among participants, with attendance in any of the components. BPM participants had a mean of 2.9 hours.

4.9.7 Gardening

Gardening accounted for a mean of 3.1 hours per week among respondents, with a range of 0 to 42 hours. Several individuals commented that this was a seasonal activity. Single family residents reported significantly higher (H corrected for ties = 40.138, p = .0001) hours per week spent on gardening (6.3 hours) than apartment residents (1.0 hours) or others (1.0 hours).

Greater age was correlated with fewer reported hours spent on gardening (Z corrected for ties = -2.127, p = .0334). In addition, respondents living with a spouse reported significantly more hours (4.8) than those living alone (2.0), with a relative or friend (2.8) or the 1 "other" (0 hours) (H corrected for ties = 12.986, p = .0043).

Education was not significantly associated with gardening hours. Respondents with less than high school reported 2.9 hours on average, while those with high school or equivalent reported 3.4 hours and those with post secondary education reported 3.1 hours.

There was no association between hours spent on gardening and Health Drop-In participation. Participants reported spending a mean of 2.1 hours per week on gardening, while nonparticipants reported a mean of 3.7 hours. P1, at 2.3 hours, was not significantly different than P2, at 1.1 hours per week.

However, BPM participants reported spending significantly more hours per week on gardening (3.0 hours) than non-BPM participants (Z corrected for ties = -2.204, p = .0275). Participants of the E component reported 1.5 hours and those in the N/SM component reported a mean of 2.6 hours.

4.9.8 Sleep

The reported range of hours per week of sleep among respondents was 0 to 90, with an average of 47 hours. There was no significant association between reported hours of sleep and place of residence. Apartment dwellers had a mean of 50.5 hours, single family residents a mean of 49.6 hours and the 3 who resided in another type of dwelling reported a mean of 43.7 hours.

Age was not correlated with reported hours of sleep. Nor was gender significantly associated with time spent on sleep. Males reported a mean of 50.7 hours per week, while females reported 49.7 hours. Living arrangement was not a significant variable: respondents who lived alone reported 48.9 hours on average, those living with a spouse reported 50.8 hours, respondents living with a relative or friend had a mean of 52.6 hours, and the 1 individual with another arrangement reported 49 hours of sleep per week. Educational status was also a non-significant variable with respect to hours of sleep per week. Respondents with less than high school reported 52.9 hours per week, those with high school reported 49.7 hours and

those with post secondary education reported a mean of 47.7 hours per week.

Reported hours of sleep per week were not significantly associated with Health Drop-In attendance. Participants had a mean of 47.0 hours per week compared to 51.5 hours per week reported sleep, on average, by nonparticipants. Participants in P1 reported a mean of 49.8 hours, while P2 participants reported 38.0 hours. Reported hours of sleep per week did not vary significantly among the various program components. BPM participants had a mean of 49.8 hours, E participants a mean of 46.3 hours and N/SM participants a mean of 50.6 hours.

4.10 REASONS FOR ATTENDING THE HEALTH DROP-IN

Fifty-five respondents provided reasons for their participation in the Health Drop-In. All 8 of the respondents who did not provide reasons were exercise participants who perceived themselves as nonparticipants (P2). The 8 individuals who did not provide reasons were deleted in calculation of averages.

There were 18 possible categories of reasons, plus an "Other" category. Respondents gave an average of 5.2 reasons, with a range of 0 to 15. Of the 55 respondents, 51 (92.7%) chose at least one predisposing reason, 26 (47.2%) picked at least one enabling reason and 37 (67.3%) selected at least one reinforcing reason.

On average, individuals chose 2.5 (49%) predisposing reasons, 1.0 (19%) enabling reason and 1.6 (31%) reinforcing reasons. This is, however, misleading, as there were different numbers of choices in each category (6 predisposing, 4 enabling and 8 reinforcing). Therefore, each reason was weighted (predisposing = 1.5X, enabling = 2X and reinforcing = X) so that all would have had an equal probability of being chosen if the three of the factors were equally important to participants. (For example, "Health is important to me" was chosen by 40 respondents and is counted as a predisposing reason, so $40 \times 1.5 = 60$). Weighting each reason in a similar fashion led to a weighted total number of reasons chosen of 406. Dividing the sum of the

weighted numbers for the six predisposing reasons by 406 yielded a weighted percentage for the predisposing factor. Once the weighting calculations were completed, enabling reasons were relatively more frequently chosen than reinforcing reasons, with reasons classified under the predisposing factor having a 52% chance of being chosen by the participants, reasons classified under the enabling factor having a 27% chance and reasons classified under the reinforcing factor having a 21% chance.

Another method of determining the relative importance placed upon each of the factors is to determine how frequently it is chosen by respondents relative to total possible chances to select it. There were 6 predisposing reasons. If all 55 respondents chose each predisposing reason, there would have been 330 predisposing choices in total. Respondents actually chose 140 predisposing reasons in total. Therefore, respondents chose 42.4% of all possible predisposing choices available to them.

The 4 enabling reasons provided an opportunity for the 55 respondents to choose 220 reasons. Respondents actually chose 55 enabling reasons in total, which is equal to 25.0% of all possible enabling choices available to them.

The 8 reinforcing reasons provided 440 total choices in this category to the 55 respondents. There were 86 reinforcing reasons chosen it total, representing 19.5% of all possible reinforcing choices available to them. This represents a similar pattern to that which was obtained with unweighted percentages.

Looking at the individual responses, the most commonly chosen reason for attendance (40 responses) was "Health is important to me". This was followed by "Want to stay active" (28 responses), "Need the exercise" (24), "Centre is close and easy to get to" (22), "I'm interested in learning how to keep healthy" (21) and "I want to continue living at home" (21) responses. Five of the six most frequently chosen responses were classified under the predisposing factor. The only exception was the response, "Centre is close and easy to get to", an enabling response.

The response, "Enjoy exercising" was chosen by 19 respondents, "To participate with a group" by 16 and "My friends and /or spouse go" by 15. "To make friends" and "I'm good at exercise" had an equal number of responses at 14. The first four responses were all classified as reinforcing factors, while "I'm good at exercise" was classified as enabling, but could also be a reinforcing factor.

The lowest number of responses were for the enabling reasons "I go to other activities so I'm there" (10), "Have lots of time" (9), "Break in routine" (7), "Relief from boredom" (7); the reinforcing reasons "My doctor told me to go" (6), "To be accepted by others (2) and the predisposing reason "To participate/volunteer in community work" (7). These results are summarised in Table 18.

Five individuals provided comments in the "Others" section. Two of these comments were to clarify role (stating that the respondents were RNs who volunteered their time to take blood pressures). One person stated that "keeping busy is a great help". She was also a centre volunteer and commented that she worked in the kitchen and took care of the plants. A fourth individual, also a Health Drop-In volunteer, provided details of her volunteer work in this section, which included being a member of the Kerrisdale Senior Centre Operating Committee, reporting to the A.S.K. (Arbutus-Shaughnessy-Kerrisdale Friendship Association) and working each Wednesday morning at the Centre (Health Drop-In). The final respondent's comment was, "To rub shoulders with others and learn how others feel about the world around them."

"My doctor told me to go" was classified as a reinforcing reason, but could also be considered a predisposing one. Therefore, a contingency table analysis was to have been performed to determine whether individuals who chose this response also tended to choose other predisposing reasons. However, due to the low numbers of individuals choosing this response, it was not possible to determine which of the two factors it was most appropriately classified under. Full data is presented for each of the three factors (predisposing, enabling and reinforcing), and summarised in Table 19. Only significant differences are reported here for individual reasons falling into each of these categories. Where the number of respondents choosing any reason was less than 5, results are not reported as significant. Tables presenting complete information by reason are included in Appendix E.

| TABLE 18: REASONS GIVEN FOR ATT | ENDANCE | | 1 | |
|---|-----------------------------|----|----------|------|
| REASON | Number Choosing *Weighted % | | *% Total | Resp |
| PREDISPOSING: (# choosing @ least 1) | 5 1 | 52 | | 42.4 |
| Health is important to me | 40 | | | |
| Want to stay active | 28 | | | |
| Need the exercise | 24 | | | |
| · Interested in learning how to keep healthy | 21 | | | |
| Want to continue living at home | 20 | | | |
| Participate/Volunteer in community work | 7 | | | |
| ENABLING: (# choosing @ least 1) | 2 6 | 27 | | 25 |
| Centre is close and easy to get to | 22 | | | |
| I'm good at exercise | 14 | | | |
| I go to other activities so I'm there | 10 | | | |
| Have lots of time | 9 | | | |
| REINFORCING: (# choosing @ least 1) | 3 7 | 21 | | 19.5 |
| Enjoy exercising | 19 | | | |
| To participate with a group | 16 | | | |
| My friends and/or spouse go | 15 | | | |
| To make friends | 14 | | | |
| Relief from boredom | 7 | | | |
| Break in routine | 7 | | | |
| My doctor told me to go | 6 | | | |
| To be accepted by others | 2 | | | |
| | N = 55 | | | |

* Weighted % refers to percentage of each of the factors (predisposing, enabling and reinforcing) respondents chose, taking into account the differing numbers of reasons under each factor (ie. enabling = 2X, predisposing = 1.5X, reinforcing = X). % of total responses refers to the proportion of responses under each factor chosen, compared to the total if all 55 respondents had chosen each reason under that factor.

| LEAST ONE PREDISPOSING, ENABLING OR REINFORCING REASON | | | | | | | |
|--|----------|-----------|----------|------|----------|----------|--|
| VARIABLE | PREDISPO | SING (51) | ENABLING | (26) | REINFORC | ING (37) | |
| | Value | Sig. | Value | Sig. | Value | Sig. | |
| Age: (mean years) | 74.4 | | 75.3 | | 74.6 | | |
| ISAI Scales: ER | 30.2 | | 30.7 | | 29.8 | | |
| EB | 24.3 | | 25.3 | | 24.3 | | |
| PH | 23.8 | | 24.8 | | 24.6 | | |
| то | 30.8 | | 30.6 | | 30 | | |
| МО | 28.9 | | 29.6 | | 28.6 | | |
| CS | 24 | | 23.8 | | 24.6 | | |
| SS | 29.5 | | 29.4 | | 29.1 | | |
| Activity Hrs: | | | | | | | |
| House. Act. | 11.9 | | 10.1 | | 10.4 | | |
| Exercise | 5.1 | 0.0331 | 6 | | 6 | | |
| Hobbies | 4.7 | 0.0469 | 4.9 | | 5.1 | | |
| Visiting | 6 | | 3.8 | | 4.7 | | |
| Commun. Act. | 2.9 | | 1.8 | | 2.3 | | |
| Gardening | 2.2 | 0.0403 | 2 | | 1.9 | | |
| Sleep | 48.6 | | 49.2 | | 47.3 | | |
| Total Reported Hrs | 76.7 | 0.0441 | 74.5 | | 73.5 | | |

TABLE 19: CHARACTERISTICS OF ATTENDERS CHOOSING AT

4.10.1 **Predisposing Reasons**

The average age of the 51 respondents choosing at least one predisposing reason was 74.4 years. Place of residence was non-significant, with 35 living in apartments, 13 in single family dwellings and 3 with some other arrangement.

Eleven males and 40 females were in this category. Thirteen had less than high school education, while 22 had finished high school and 14 had post secondary education. Twenty-six lived alone, 21 with a spouse and 4 with a relative or friend. None of these demographic variables were significantly associated with choosing a predisposing reason. Educational status was, however, significantly different for the predisposing reason, "Interested in learning how to keep healthy," with less representation from respondents with postsecondary education (3) and more representation from those with less than high school (9). Nine respondents with high

school or equivalent education also chose this reason (p = .0278).

The mean score on the ER scale was 30.2, on the EB scale 24.3, on the PH scale 23.8, on TO 30.8, on MO 28.9, on CS 24.0 and on the SS scale 29.5. Differences in mean scores on the ISAI scales were not significantly associated with choice of at least one predisposing reason. Mean scores on the TO scales were significantly higher for two of the predisposing reasons: "Health is important to me," (30.7, p = .0498) and "I want to continue living at home" (31.2, p = .0091).

Fourteen of the 51 respondents were involved with other activities at the Kerrisdale Senior Centre, 15 attended church, 13 belonged to church groups or organisations and 18 attended cultural centres or organisations. Twenty-three attended the symphony, opera, etc., 18 were involved with recreational activities, 7 were members of other senior centres, 5 attended the community centre and 11 indicated some other form of community involvement. For the group choosing at least one predisposing reason, community involvement was not significant. However, other involvement in Kerrisdale Senior Centre was positively associated with choice of the reason, "To participate/volunteer in community work" (6 respondents, p = .0011), and involvement in other senior centres was weakly associated with choice of "I want to continue living at home" (6 respondents, p = .0394). In general, proportions of respondents indicating involvement in the various community activities were equal to or above the mean for all participant respondents.

Respondents choosing at least one predisposing reason reported marginally less hours of exercise (5.1 hours, p = .0331) and hobbies (4.7 hours, p = .0469) per week and marginally more time per week of gardening (2.2 hours, p = .0403) and more total hours (76.7 hours, p = .0441) than the rest of the participants. Mean hours spent on household activities (11.9), visiting (6.0), community activity (2.9) and sleep (48.6) were not significantly different from respondents who did not choose at least one predisposing reason. Reported hours of community activity were significantly

higher (7.7 hours) for respondents choosing the reason, "To participate/volunteer in community work" (p = .0011).

Choice of at least one predisposing reason was not significantly associated with attendance in the BPM component (35 respondents), E component (25 respondents) or the N/SM component (21 respondents). Choice of, "I want to continue living at home" was positively associated with attendance in the N/SM component of the program (p = .0111). Choice of "Need the exercise" was negatively associated with participation in the BPM component (p = .0001) of the Health Drop-In.

When the age and ISAI scale scores of respondents who chose predisposing reasons were divided according to the number of predisposing reason chosen, no significant patterns of responses were found. This may, however, be a power issue, as inspection of the data shows a tendency for decreasing age with number of predisposing reasons chosen, along with decreasing EB, MO, CS and SS scores. There is also a tendency for increasing TO scores. The ER and PH scales do not show a pattern, but there is a remarkable variation in scores on the PH scale. Table 20 summarises mean age and ISAI scores by number of reasons chosen.

| TABLE 20: PA | RTICIPANT AGE | AND ISAI RESU | JLTS BY NO. | | | | | | |
|---|---------------|----------------|----------------|--|--|--|--|--|--|
| OF PREDISPOSING REASONS CHOSEN | | | | | | | | | |
| VARIABLES: NUMBER OF PREDISPOSING REASONS CHOSEN: | | | | | | | | | |
| by means | 0 (N = 3) | 1 - 3 (N = 32) | 4 - 6 (N = 17) | | | | | | |
| Age | 75.3 | 74.6 | 73.9 | | | | | | |
| Economic Res. | 28.3 | 30.7 | 29.2 | | | | | | |
| Emotional Bal. | 29 | 24.5 | 24 | | | | | | |
| Physical Health | 30.3 | 23.2 | 25 | | | | | | |
| Trusting Others | 29.7 | 30.2 | 30.9 | | | | | | |
| Mobility | 30 | 28.9 | 28.8 | | | | | | |
| Cognitive Status | 29 | 24.2 | 23.5 | | | | | | |
| Social Support | 30.7 | 29.7 | 29 | | | | | | |

4.10.2 Enabling Reasons

Place of residence was nonsignificant for the 26 respondents choosing at least one enabling reason. Twenty-one resided in apartments, 4 in single family dwellings and 1 in another type of residence.

The mean age of individuals choosing at least one enabling reason was 75.3 years. Gender, level of educational attainment and living arrangement were all nonsignificant, as were mean scores on the ISAI scales. The ER mean score was 30.7; EB, 25.3; PH, 24.8; TO, 30.6; MO, 29.6; CS, 23.8 and SS, 29.4. All of these means except CS were above the means for the participant sample overall.

Hours of reported activity were also not significantly different for respondents choosing at least one enabling reason. The mean reported hours for household activity was 10.1 hours, for exercise, 4.9 hours; for visiting, 3.8 hours; community activity, 1.8 hours; gardening, 2.0 hours and sleep, 49.2 hours.

Ten of these respondents reported involvement with other activities at Kerrisdale Senior Centre, 9 with church, 6 with church groups or organisations and 4 with cultural centres or organisations. Twelve respondents in this category reported attending the symphony, opera, etc. Nine were involved in recreational activities, 7 in other senior centres and 4 attended the community centre. Five indicated other community involvement. Of the reported community involvement, there was a marginally higher proportion of individuals choosing at least one enabling reason who attended other senior centres (p = .0373). Choice of "I go to other activities so I'm there" was positively associated with attendance at other Kerrisdale Senior Centre activities (p = .0002) and involvement with other senior centres (p = .0025).

Sixteen of the respondents in this category were involved in the BPM component, 17 in the E component and 12 in the N/SM component. None of these were significantly different from respondents who did not choose at least one enabling reason. Two of the individual reasons, however, ("I'm good at exercise" and "Centre is

close and easy to get to") were positively associated with attendance in the E component (p = .0052 and .0127, respectively).

When mean age and scores on the ISAI scales were calculated for respondents according to the number of enabling reasons that were chosen, there were no significant patterns using simple regression. There was a tendency for increased age, along with higher values on the ER scale with more enabling reasons chosen. Results on the other scales are inconclusive; nevertheless, there is a great deal of variation in mean values depending upon number of enabling reasons chosen. Results are displayed in Table 21.

| TABLE 21: PA | RTICIPANT AGE | AND ISAI RESU | LTS BY NO. | | | | | | |
|---|---------------|---------------|--------------|--|--|--|--|--|--|
| OF ENABLING REASONS CHOSEN | | | | | | | | | |
| VARIABLES: NUMBER OF ENABLING REASONS CHOSEN: | | | | | | | | | |
| by means | 0 (N = 27) | 1 (n = 11) | ≥ 2 (n = 15) | | | | | | |
| Age | 73.5 | 75.6 | 75.1 | | | | | | |
| Economic Res. | 29.5 | 30.3 | 30.9 | | | | | | |
| Emotional Bal. | 23.9 | 26.5 | 24.5 | | | | | | |
| Physical Health | 23.6 | 22.4 | 26.7 | | | | | | |
| Trusting Others | 30.3 | 30.7 | 30.5 | | | | | | |
| Mobility | 28.3 | 30.3 | 29.1 | | | | | | |
| Cognitive Status | 24.6 | 23.5 | 24.1 | | | | | | |
| Social Support | 29.7 | 30 | 28.9 | | | | | | |

4.10.3 Reinforcing Reasons

Place of residence was not significantly associated with choice of at least one reinforcing reason (n = 37).

Gender, age, living arrangement and education were also not associated with choice of at least one reinforcing reason. There were some demographic differences related to choice of some of the reasons under the reinforcing category, however. Gender was significantly associated with choice of "To participate with a group", with none of the males choosing this reason (p = .0218). Living arrangement was

significantly associated with choice of three reasons: "Relief from boredom" (more respondents living with friends or relatives choosing, p = .0004); "To participate with a group" (more respondents living alone or with friends or relatives choosing, p = .0089) and "To make friends" (more respondents living with friends or relatives choosing, p = .0089).

ISAI scale scores were not significantly associated with choice of at least one reinforcing reason. Mean scores for these 37 respondents were: ER, 29.8; EB, 24.3; PH, 24.6; TO, 30.0; MO, 28.6; CS, 24.6 and SS, 29.1. Choice of "To participate with a group" was associated with a higher mean on the MO scale (29.9, p = .0221). Two reasons were associated with lower means on the SS scale: "Relief from boredom" (26.4, p = .029) and "To make friends" (27.7, p = .0239).

Reported hours of activity per week were not significant for respondents choosing at least one reinforcing reason. The means for this group were: household activities, 10.4 hours; exercise, 6.0 hours; hobbies, 5.1 hours; visiting, 4.7 hours; community activities, 2.3 hours; gardening, 1.9 hours and sleep, 47.3 hours. Choice of the reason "My friends and/or spouse go" was associated with reporting significantly fewer hours of community activity (0.9 hours, .0213).

Proportions of respondents attending other community activities were not significantly associated with choice of at least one reinforcing reason. Twelve of the 37 individuals attended other activities at Kerrisdale Senior Centre, 12 attended church, 10 were involved in church groups or organisations and 6 in cultural centres or organisations. Fifteen attended the symphony, etc., and 13 were involved in recreational activities. Seven attended other senior centres, 5 went to the community centre and 5 indicated involvement in another community activity. Choice of "To participate with a group" was marginally associated with involvement in other activities at Kerrisdale Senior Centre (8 respondents, p = .0366).

Choice of at least one reinforcing reason was marginally associated with

attendance at the E component of the Health Drop-In (22 respondents, p = .0433) but not the BPM (27 respondents) or N/SM (16 respondents) components. Choice of "Enjoy exercising" as a reason for participating was positively associated with participation in the E component (p = .0006), as was choice of "To participate with a group" (p = .037).

When mean age and mean scores on the ISAI scales were compared for respondents choosing different numbers of reinforcing reasons, no significant patterns were found using simple regression tests. On inspection of the data, the mean ER, EB, MO and SS scale scores tend to decrease with the number of reinforcing reasons chosen. Results are shown in Table 22.

| TABLE 22: PAR | TICIPANT AGE AND IS | AI RESULTS BY NO. | OF REINF. REASONS |
|------------------|----------------------|-------------------|-------------------|
| VARIABLES: | NUMBER OF REINFORCIN | G REASONS CHOSEN: | |
| by means | 0 (N = 16) | 1 - 3 (n = 29) | 4 - 6 (n = 7) |
| Age | 74 | 74.8 | 73.6 |
| Economic Res. | 30.7 | 30 | 28.9 |
| Emotional Bal. | 25.3 | 24.3 | 24.3 |
| Physical Health | 23.3 | 24.7 | 24.4 |
| Trusting Others | 31.5 | 29.8 | 30.6 |
| Mobility | 29.6 | 28.8 | 27.9 |
| Cognitive Status | 23.6 | 25.2 | 21.7 |
| Social Support | 30.5 | 29.7 | 26.9 |

4.11 REASONS FOR NOT ATTENDING THE HEALTH DROP-IN

Of the 117 nonparticipant respondents, 107 provided reasons for not attending. Four of the ten who did not provide reasons checked that they did not know about the Health Drop-In (which is also one of the reasons for not attending). The 107 respondents who completed this section provided a mean of 2.26 reasons for nonattendance, with a range of 1 to 9. Of the 107 individuals who provided reasons, 50% (55) chose at least one predisposing reason, 83% (90) chose at least one enabling reason and 32% (33) chose at least one reinforcing reason. On average, respondents chose 0.67 predisposing reasons (29.7%), 0.93 enabling reasons (41.2%) and 0.25 reinforcing reasons (13.7%). There was a greater proportion of "other" reasons among nonparticipants than participants. Altogether, there were 40 "other" responses, which is a mean of 0.37 per respondent, accounting for the other 16% of the responses.

Using the same weighting method that was performed for attendance reasons, the predisposing factor (6 items) had a weighting of 1.1667X, enabling (7 items) a weighting of X and reinforcing (5 items) a weighting of 1.4X. Recalculation of numbers of responses for each item using the appropriate weighting provided a total weighted number of reasons of 230.9 ("other" reasons were excluded from this calculation). The total weighted predisposing reasons were 81.67, which, when divided by the 107, came to a weighted average of 0.76 predisposing reasons (35.4%). For the enabling factor, the total weighted reasons were 105.83, for a weighted average of 1.0 (45.8%). The total weighted reinforcing reasons were 43.4, with a weighted average of 0.41 reasons, or 18.8%.

If all 107 respondents chose each of the 6 predisposing reasons, a total of 642 predisposing responses would have been recorded. In fact, 72 predisposing responses were chosen in total, or 11.2% of all possible predisposing responses. For the 7 enabling reasons, there was a total of 749 possible responses for the 107 respondents. There were 99 actual enabling responses. Therefore, 13.2% of all possible enabling responses were actually chosen by the respondents. For the 5 reinforcing reasons, the total possible responses would have been 535 for the 107 respondents. Thirty-one reinforcing reasons, or 5.8% of the total possible reinforcing responses were chosen.

The most common reason given for lack of attendance at the Health Drop In was "Don't know about it". Forty-one individuals chose this response. Other common responses were "Not interested" (27), "Don't need it" (25), "Not enough time" (22), "Don't know anyone there" (19), "Would not enjoy it" (14) and "Can't do exercise" (14).

Table 20 shows a complete breakdown of numbers of respondents choosing each reason.

"My doctor said not to" was classified as a reinforcing reason, but could also be considered an enabling reason related to "poor health". Therefore, responses were to be compared to determine whether individuals who chose "My doctor says not to" also chose "Poor health". "My doctor says not to" was the only reason which was not chosen by any respondents, eliminating the need for this analysis.

In the following section, complete profiles of respondents choosing at least one predisposing reason, at least one enabling reason and at least one reinforcing reason will be given. These are summarised in Table 23. Results for specific reasons classified under each of these categories will only be discussed where they were significant. A complete summary of information by reason chosen is provided in Appendix F.

4.11.1 Predisposing Reasons

Place of residence was not significantly associated with choice of at least one predisposing reason. Of the 50 respondents in this category, half lived in apartments and the other half in single family dwellings.

The average age of these respondents was 76.4 years. Nineteen were male and 31 female. Nine had less than high school education, 23 had completed high school and 17 had post secondary education. Twenty-one lived alone, 24 with a spouse and 5 with a relative or friend. These variables were not significantly associated with choice of a predisposing reason. Gender was marginally associated with choice of "Would not enjoy it" (males choosing more frequently, p = .038).

| TABLE 23: REASON GIVEN FOR NON | ATTENDANCE | | | |
|--|-------------|-------------|-------------|--|
| REASONS | RESPONDENTS | *WEIGHTED % | *% OF TOTAL | |
| | CINCOGING | | T COSTDEL | |
| PREDISPOSING: (# choosing @ least 1) | 50 | 35.4 | 11.2 | |
| Not interested | 27 | | | |
| Don't need it | 25 | | | |
| Would not enjoy it | 14 | | | |
| Don't like to leave home | 3 | | | |
| • Won't do me any good | 2 | | | |
| Health is not important to me | 1 | | | |
| ENABLING: (# choosing @ least 1) | 70 | 45.8 | 13.2 | |
| Don't know about it | 41 | | | |
| Not enough time | 22 | | | |
| Can't do exercise | 14 | | | |
| Poor health | 9 | | | |
| No transportation | 8 | | | |
| Can't afford it | 4 | | | |
| Too far to centre | 1 | | | |
| REINFORCING: (# choosing @ least 1) | 23 | 18.8 | 5.8 | |
| Don't know anyone there | 19 | | | |
| Friends/spouse don't go | 7 | | | |
| Don't feel welcome there | 3 | | | |
| Friends/Spouse think its silly | 2 | | | |
| Doctor says not to | 0 | | | |
| OTHER: | 40 | | | |
| | n = 107 | | | |

* Weighted % refers to percentage of each of the factors (predisposing, enabling and reinforcing)

respondents chose, taking into account the differing number of reasons classified under each factor. % of total possible refers to the proportion of responses chosen under each factor, compared to the total if all 107 respondents had chosen each reason under that factor.

| VARIABLE | PREDISPOSING (50) | | ENABLING (70) | | REINFORCING (23) | |
|--------------------|-------------------|--------|---------------|--------|------------------|--------|
| | Value | Sig. | Value | Sig. | Value | Sig. |
| Age: (mean years) | 76.4 | | 77.2 | | 80.7 | 0.0081 |
| ISAI Scales: ER | 29.7 | | 28.7 | | 28.2 | |
| EB | 27.3 | 0.0222 | 25.7 | | 24.8 | |
| PH | 23.2 | 0.01 | 20.9 | | 20.1 | ļ |
| ТО | 30.9 | | 30.8 | | 30.2 | |
| MO | 28.2 | | 26.3 | 0.0328 | 24 | 0.0095 |
| CS | 25.9 | 0.0314 | 25.1 | | 24.1 | |
| SS | 30.6 | | 29.8 | | 27.5 | 0.0042 |
| Activity Hrs: | | | | | | |
| House. Act. | 13.3 | | 11.4 | | 10.3 | |
| Exercise | 5.4 | | 4.1 | | 3.2 | |
| Hobbies | 7.5 | | 10.1 | | 9.2 | |
| Visiting | 5.8 | | 5 | | 4.3 | |
| Commun. Act. | 0.6 | 0.0185 | 1.4 | | 0 | 0.0146 |
| Gardening | 4.5 | | 4.4 | | 1.3 | 0.0045 |
| Sleep | 53.1 | | 49.1 | 0.01 | 48.1 | |
| Total Reported Hrs | 89.6 | | 84.9 | | 73.7 | 0.0386 |

TABLE 24: CHARACTERISTICS OF NONATTENDERS CHOOSING ATLEAST ONE PREDISPOSING, ENABLING OR REINFORCING REASON

Respondents choosing at least one predisposing reason had significantly higher means on 3 of the ISAI scales: EB (27.3, p = .0222), PH (23.2, p = .01) and CS (25.9, p = .0314). Means on the other four scales were all above the total nonparticipant means, although not significantly. The mean for the ER scale was 29.7, for TO the mean was 30.9, for MO it was 28.2 and for SS the mean was 30.6. Choice of the reason "Not interested" was associated with higher means of the EB (27.8, p = .0447) and SS (30.9, p = .0214) scales. Choice of "Don't need it" was associated with higher means on the PH (25.6; p = .0001), TO (31.4, p = .0415) and MO (29.8, p = .015) scales.

Reported hours of activity were nonsignificant for respondents choosing at least one predisposing reason, with the exception of community activities, which was significantly lower for this group (p = .0185). Mean values were: household activities,

13.3 hours; exercise, 5.4 hours; hobbies, 7.5 hours; visiting, 5.8 hours; community activities, 0.6 hours; gardening, 4.5 hours and sleep, 53.1 hours.

Likewise, participation in other community activities was not associated with choice of at least one predisposing reason. Five respondents attended other activities at Kerrisdale Senior Centre, 14 attended church and 10 belonged to church groups or organisations. Four belonged to cultural centres or organisations, 15 attended the symphony, etc., 12 participated in recreational activities, 1 went to other senior centres, and 5 attended the community centre. Thirteen respondents indicated involvement in other community activities.

Twenty-nine of the 50 respondents choosing at least one predisposing reason indicated that they knew about the Kerrisdale Health Drop-In.

When mean age and mean scores on ISAI scales were calculated for respondents by the number of predisposing reasons chosen, a pattern of increasing age and increasingly high scores with number of reasons was evident. Using simple regressions, significant patterns were found for PH (higher scores with increasing number of reasons chosen, F = 10.917, p = .0013) and for EB (higher scores with increasing number of reasons chosen, F = 4.812, p = .0305). Table 25 summarises information by number of predisposing reasons chosen.

| TABLE 25: NONPA | RTICIPANT | AGE AND I | SAI RESUL | TS BY NO. | OF PRED. | REASONS |
|--------------------|------------|------------|------------|-----------|-----------|---------|
| VARIABLES: | NUMBER OF | PREDISPOSI | NG REASONS | CHOSEN: | | |
| by means | 0 (N = 60) | 1 (n = 35) | 2 (n = 9) | 3 (n = 5) | 4 (n = 1) | Sig. |
| Age | 77.2 | 75.5 | 78.6 | 78.4 | 79 | NS |
| Economic Resources | 28.5 | 29.8 | 29.6 | 31.8 | 16 | NS |
| Emotional Balance | 25.1 | 27.1 | 28.6 | 26.4 | 29 | 0.0305 |
| Physical Health | 20 | 22.3 | 24.7 | 25.8 | 29 | 0.0013 |
| Trusting Others | 30.6 | 30.6 | 31.7 | 32 | 29 | NS |
| Mobility | 26.5 | 28.2 | 27.8 | 28.8 | 28 | NS |
| Cognitive Status | 24.1 | 25.9 | 27.2 | 22.2 | 31 | NS |
| Social Support | 29.4 | 31.1 | 29.9 | 31.4 | 15 | NS |

4.11.2 Enabling Reasons

Place of residence was not significantly associated with choice of at least one enabling reason, with 39 respondents residing in apartment buildings compared to 31 in single family dwellings. Choice of the reason "Not enough time" was, however, positively associated with living in single family dwellings (15 of the 22 respondents choosing this reason lived in single family dwellings, p = .0148).

Age, gender, educational level and living arrangement were all nonsignificant with respect to choice of at least one enabling reason. The average age of the 70 individuals in this category was 77.2 years. Twenty-one respondents were male and 49 female. Thirty-eight lived alone, 24 with a spouse, 7 with a friend or relative and one had some other arrangement. Twenty-two had finished high school, while 21 had less than high school and 23 had received education past the high school level. Mean age was significantly higher with respect to choice of three specific reasons: "No transportation" (86.4 years, p = .0019); "Poor health" (82.1 years, p = .0315) and "Can't do exercise" (82.0 years, p = .008). Choice of "Poor health" as a reason was also associated with living alone or with a relative/friend, rather than a spouse (p = .005).

Scores on the ISAI for the 70 respondents who chose at least one enabling reason were at or below the sample means for all scales except CS, but only MO was significantly lower (p = .0328). Mean scale scores were: ER, 28.7; EB, 25.7; PH, 20.9; TO, 30.8; MO, 26.3; CS, 25.1 and SS, 29.8. With regard to specific reasons, "Not enough time" showed a pattern similar to the predisposing reasons, with all mean scores above the nonparticipant group means, two of them significantly above the means (PH, 24.7, p = .0074 and CS, 26.5, p = .0427). Choice of the reason "No transportation" was associated with significantly lower scores on the MO scale, at 21.5 (p = .0039). Choice of "Can't afford it" was, as would be expected, associated with lower scores on the ER scale, at 15.0 (p = .0027). There was also a significant association with lower scores on the TO scale (29.3, p = .0199). Choice of "Poor

health" was associated with lower scores on the EB (mean of 23.9, p = .0109), PH (mean of 12.9, p = .0001), MO (mean score of 18.1, p = .0001) and CS (mean of 21.7, p = .0465) scales. The reason "Can't do exercise" was also significantly associated with lower scores of four of the scales; PH (17.2, p = .0084), MO (21.4, p = .0001), CS (22.2, p = .0338) and SS (28.4, p = .04).

For respondents choosing at least one enabling reason, reported hours of sleep were significantly lower than the nonparticipant group mean at 49.1 hours per week (p = .01). Means for the other areas of activity were: household activity, 11.4 hours; exercise, 4.1 hours; hobbies, 10.1 hours; visiting, 5.0 hours; community activities, 1.4 hours and gardening, 4.4 hours. Respondents choosing "Not enough time" as a reason reported spending significantly more hours on gardening, at 7.1 hours (p = .0225). Choice of "Poor health" as a reason was associated with fewer reported hours on household activities (4.2 hours, p = .0253) and exercise (1.0 hours, p = .022). Choice of "Can't do exercise" was also associated with fewer reported hours on household activity (6.5 hours, p = .0111) and on sleep (45.2 hours, p = .0174).

Proportions of respondents involved in community activities were not significant with regard to choice of at least on enabling reason. Six respondents were involved in other activities at Kerrisdale Senior Centre, 27 attended church, 13 participated in church groups or organisations and 7 in cultural centres or organisations. Twenty-one respondents attended the symphony, etc., 12 participated in recreational activities, 5 attended other senior centres, 8 went to the community centre and 18 indicated involvement in other community activities. Choice of "Don't know about it" as a reason for nonattendance was marginally associated with less involvement in other Kerrisdale Senior Centre activities, p = .0302).

A lack of knowledge about the Health Drop-In was significantly associated with

choice of at least one enabling reason (p = .0001), but the inclusion of "Don't know about it" as a reason under the enabling category may account for this result, as a full 43 of the 70 respondents chose the reason "Don't know about it".

When mean age and mean scores on ISAI scales were calculated by number of enabling reasons chosen, a pattern of increasing age and decreasing scale scores with more reasons chosen was observed. Using simple regression, PH and MO scores showed a significant pattern of decreasing scale scores with increasing number of enabling reasons chosen. (PH had an F-value of 5.746 with p = .0183; MO had an F-value of 26.809, p = .0001). Values are shown in Table 26.

| TABLE 26: NONPA | RTICIPANT A | GE AND IS | AI RESULT | S BY NO. | OF ENAB. | REASONS |
|--------------------|-------------|-------------|------------|-----------|-----------|---------|
| VARIABLES: | NUMBER OF | ENABLING RE | ASONS CHOS | EN: | | |
| by means | 0 (N = 39) | 1 (n = 48) | 2 (n = 16) | 3 (n = 5) | 4 (n = 1) | Sig. |
| Age | 76.1 | 75.7 | 80.1 | 81.81 | 79 | NS |
| Economic Resources | 29.5 | 29.4 | 27.1 | 27 | 30 | NS |
| Emotional Balance | 26.8 | 26.2 | 25.3 | 23.3 | 21 | NS |
| Physical Health | 22.7 | 21.7 | 19.6 | 16.8 | 17 | 0.0183 |
| Trusting Others | 30.7 | 30.8 | 30.6 | 31.8 | 29 | NS |
| Mobility | 29 | 28.2 | 22.4 | 20.5 | 22 | 0.0001 |
| Cognitive Status | 25.1 | 25.3 | 26.6 | 19.8 | 11 | NS |
| Social Support | 30.2 | 30.1 | 28.8 | 30 | 29 | NS |

4.11.3 Reinforcing Reasons

Place of residence was not a significant variable with respect to choice of at least one reinforcing reason. Fourteen of the 23 respondents resided in apartments, and the remainder were single family dwelling residents.

The age of respondents choosing at least one reinforcing reason was significantly higher than the rest of the nonparticipant group at 80.7 years (p = .0081). No other demographic characteristics were significant with respect to choice of at least one reinforcing reason. Nine of the respondents were male, and 25 were female.

Thirteen lived alone, 6 with a spouse, 3 with a relative or friend and 1 had another arrangement. Seven each had less than high school and high school equivalent education, while 8 had post secondary education. With regard to specific reasons, choice of "Don't know any one there" was associated with being older (mean of 81 years, p = .015).

Mean scores on all ISAI scales were below the means for the total nonparticipant group: ER, 28.2; EB, 24.8; PH, 20.1; TO, 30.2; MO, 24.0; CS, 24.1 and SS, 27.5. The MO scale (p = .0095) and the SS scale (p = .0042) were significantly lower. Lower scores on the EB (mean of 24.3, p = .039), MO (mean of 23.3, p = .0081) and SS (mean of 26.4, p = .0001) scales were associated with choice of the reason "Don't know any one there".

Means for reported hours of activity were below the total nonparticipant group means on all activities except hobbies. Significantly lower reported values were found for community activities (mean of 0 hours, p = .0146) and gardening (mean of 1.3 hours, p = .0045). Mean reported hours for other activities were: household activities, 10.3 hours; exercise, 3.2 hours; hobbies, 9.2 hours; visiting, 4.3 hours and sleep, 48.1 hours. Lower reported hours were also significant for choice of the reason "Don't know any one there" for exercise (2.5 hours, p = .0347), community activities (0 hours, p = .0332) and gardening (1.5 hours, p = .0165).

For respondents choosing at least one reinforcing reason, no involvement was reported with cultural centres and organisations or other senior centres. Three individuals indicated that they attended other activities at Kerrisdale Senior Centre, 9 attended church, 4 belonged to church groups or organisations, 3 went to the symphony, etc., 3 attended recreational activities and 3 attended the community centre. Six respondents indicated involvement in other community activities.

Knowledge of the Health Drop-In was not significantly associated with choice of at least one reinforcing reason.

When mean age and mean scores on the ISAI scales were subjected to simple regression techniques by number of reinforcing reasons chosen, two scales showed significant patterns. Scores on the MO scale decreased with increasing number of reinforcing reasons chosen (F-value = 4.529, p = .0357), and a similar pattern was found for the SS scale (F-value = 10.159, p = .0019). Mean values by number of reinforcing reasons chosen are summarised in Table 27.

| TABLE 27: NONPART | ICIPANT AGE | AND ISAI I | RESULTS BY | NO. OF REI | N. REASONS |
|--------------------|---------------------------------------|--------------|------------|------------|------------|
| VARIABLES: | NUMBER OF REINFORCING REASONS CHOSEN: | | | | |
| by means | 0 (N = 86) | 1 (n = 16) | 2 (n = 6) | 3 (n = 1) | Sig. |
| Age | 75.8 | 82.6 | 76.3 | 76 | NS |
| Economic Resources | 29.2 | 27.6 | 29 | 32 | NS |
| Emotional Balance | 26.4 | 24 | 26 | 29 | NS |
| Physical Health | 21.9 | 18.4 | 23.2 | 27 | NS |
| Trusting Others | 30.9 | 30.5 | 29.3 | 32 | NS |
| Mobility | _28.1 | 22.4 | 27.7 | 27 | 0.0357 |
| Cognitive Status | 25.3 | <u>2</u> 3.1 | 25.8 | 27 | NS |
| Social Support | 30.6 | 27.3 | 27.7 | 29 | 0.0019 |

4.12 SUMMARY OF RESULTS

4.12.1 Hypothesis 1

a) Scores in the normal range (less than one standard deviation above or below the mean) on the ISAI ER, EB, TO, MO, CS PH and SS scales will be associated with participation in the Health Drop-In.

b) Gender will be associated with participation (participants will be more likely to be female).

c) Participation in other Kerrisdale Senior Centre activities will be associated with participation in the Health Drop-In, as will involvement in other community activities, but generally as an attender rather than a leader or volunteer.

d) Choice of predisposing and reinforcing reasons will be most common among participants.

Mean ISAI scores were, as predicted, all within one standard deviation above or below the standard mean of 50. Mean standardised scores ranged from approximately 49.5 on the EB scale to 55 on the ER scale. (In retrospect, given the relatively wealthy condition of residents of the Kerrisdale area, it might have been expected that all mean results would be at or above the standard mean of 50. It was also noted, however, that elderly people, especially on fixed incomes, might have financial difficulties even in an area which is relatively well off economically.)

A higher percentage of female respondents were participants (38.5%) than male respondents (26.0%). Contrary to what was hypothesised, however, this difference was not significant, but this may be due to lack of power. Within the exercise component of the program there were significantly more women than in the other components (94.3% female).

As hypothesised, the participants of the Health Drop-In were significantly more involved with other activities at the Kerrisdale Senior Centre. They were also more likely to attend the symphony, opera, etc. It was not possible to utilise the "attend" versus "lead/volunteer" categories in statistical analysis due to small numbers in some of the cells.

It was hypothesised that the most common reasons chosen for attending would be predisposing and reinforcing. This was only partially supported. Predisposing reasons were, by far, the most commonly chosen, but enabling reasons accounted for the next most common choice.

4.12.2 Hypothesis 2

a) Higher mean scores than those of the participants on the ER, MO and SS scales will be associated with one subset of nonparticipants.

b) PH, TO EB and CS mean scale scores will be equivalent to participant scores.

c) Gender, (more females) and educational level (greater than high school) will be associated with this subset of nonparticipants.

d) Active involvement in other community activities, especially in a leader of volunteer (as opposed to attender) capacity, and reporting of more hours of activity per week will be associated with this group.

e) Past participation in the Health Drop-In may be associated with this subset of nonparticipants.

f) Reasons for nonattendance such as lack of interest, lack of need, lack of enjoyment of or lack of time for the activity will more often be chosen by this subset of nonparticipants.

As three of the four reasons (all except lack of time) hypothesised to be most commonly chosen by this higher functioning group of nonparticipants were classified as predisposing, the group of nonparticipants who chose at least one predisposing reason was analysed as the possible group of high functioning nonparticipants. Contrary to what was anticipated, means on the ER, MO and SS scales were approximately equal for the participants and the nonparticipants choosing at least one

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predisposing reason. This subset of the nonparticipants had a higher mean score on the EB scale (27.3 compared to 24.4 for participants). Mean scores were also slightly higher for this subset of nonparticipants on the TO, CS and SS scales, but were slightly lower on the ER, PH and MO scales.

The subset of nonparticipants who chose at least one predisposing reason was not more likely to be female (62% of nonparticipants choosing at least one predisposing reason were female compared to 68.4% of nonparticipants overall). Nor was this subset significantly more likely to have education past the high school level, although the difference was in the specified direction (30% of participants versus 34% of nonparticipants choosing at least one predisposing reason had education past the high school level). This subset was not more involved in community activities than the participants, with the exception of the "other" category (26%, compared to 22% for participants). In fact, their mean for reported hours of community activity was significantly lower than that of nonparticipants who did not choose at least one predisposing reason for nonattendance, and, at 0.6 hours per week, far below the participant mean of 2.9 hours per week.

The subset choosing at least one predisposing reason did, however, report more hours of activity per week than the participant group. Their mean for total reported hours was 12 hours higher than the participants'. The increase was taken up by more hours of household activity (mean was 1.8 hours higher), hobbies (mean was 1.7 hours higher), gardening (mean was 2.4 hours higher) and sleep (mean was 6.1 hours higher).

Therefore, the second hypothesis, that there would be a subset of nonparticipants who was higher functioning than participants, as evidenced by higher means scores on some ISAI scales and more community participation, was not supported. The differing patterns of activity, together with the differing score profiles, suggests that the participants and the nonparticipants who chose at least one predisposing reason are both high functioning groups, but in different ways. Participants reported spending more time in structured community activity, whereas, nonparticipants choosing at least one predisposing reason spent more time with activities in the home.

This subset of nonparticipants was, however, higher functioning than the rest of the nonparticipant group. Mean scores for the subset of nonparticipants who chose at least one predisposing reason were higher than the total nonparticipant group means on all ISAI scales, and significantly higher on the EB, PH and CS scales. At a mean of 5.4 hours of exercise per week, they were higher than the total nonparticipant group mean of 4.3 hours. In addition, this subset had a higher mean (4.5 hours) than the group mean (3.7 hours) for gardening (also an energetic activity). Their mean hours of community activity were significantly lower than the nonparticipant group mean, however.

4.12.3 Hypothesis 3

a) Lower scores on all the ISAI scales will be associated with a second subset of nonparticipants.

b) Gender and educational attainment will be associated with this subset, with greater representation of males and higher proportions of individuals with less than high school education being represented.

c) Lower levels of community involvement and lower attendance at other Kerrisdale Senior Centre activities will be associated with this subset of nonparticipants.

d) Reasons for nonattendance will more likely be enabling factors, and will be associated to results in the ISAI (for example, lack of knowledge associated with lower scores in SS, TO and/or CS scales; too far to the centre, no transportation or poor health associated with low scores on MO and PH scales; can't afford it associated with low scores on ER scale; don't like to leave home, don't feel welcome there associated
with low scores on the TO scale).

For the other two groups in the nonparticipant sample (those who chose at least one enabling reason and those who chose at least one reinforcing reason) means on the ISAI scales were, with two exceptions, below the means for the total group of nonparticipants (the exceptions were both with the "enabling" group and included TO, which was equal to the total group mean, and CS which was higher than the group mean). Three values were significantly lower; MO for the "enabling" group; MO and SS for the "reinforcing" group. More would probably have shown up as significantly lower, if the reason "Not enough time" had not been included as an enabling reason. This reason was chosen by a large number of nonparticipants (22) and showed a pattern more similar to that of the respondents who chose at least one predisposing reason than to those who chose at least one enabling reason (all ISAI means were above the total nonparticipant group means, with 2 of them significantly higher, PH and CS).

Nonparticipants who chose at least one enabling reason had mean scores lower than the participants' on the ER, PH and MO scales, and higher than the participants' on the EB, TO, CS and SS scales. Nonparticipants who chose at least one reinforcing reason had lower mean scores than the participant group means on the ER, PH, MO and SS scales, and equal or higher means on the EB, TO and CS scales. A look at specific reasons in these two categories supports a tendency toward lower, rather than higher, mean ISAI scale scores among these groups: four mean scores are significantly lower for the reasons, "Can't do exercise" and "Poor health"; three are significantly lower for "Don't know anyone there"; two for "Can't afford it" and one for "No transportation." The only enabling or reinforcing reason which had significantly higher mean scores was "Not enough time", with significantly higher means on the PH and CS scales.

The hypothesis that individual reasons would be associated with corresponding

scales was also supported. Significantly lower scores were present on the SS, EB and TO scale for individuals choosing, "Don't know anyone there." Significantly lower scores were present on the PH and MO (as well as the CS and SS scales) for respondents choosing the reason "Can't do exercise". Significantly lower scores were present on the PH and MO scales (as well as the EB and CS scales) for respondents choosing the reason, "Poor health". Respondents choosing the reason "Can't afford it" had significantly lower means on the ER and TO scales. And respondents choosing the reason "No transportation" had a significantly lower mean on the MO scale.

There was not a significantly higher representation of males in the subsets of respondents choosing at least one enabling reason (30% male) or at least one reinforcing reason (26.5%). The proportion of males in these groups was higher than the proportion among participants (20.6%) but lower than the subset of nonparticipants choosing at least one predisposing reason (38%).

The predicted tendency for nonparticipant respondents in the lower functioning group to have less than high school education, while not significant, is present. In the subsets choosing at least one enabling reason and at least one reinforcing reason, 31.8% of respondents had less than high school education. Among participants, only 21.7% had less than high school education. Among the group of nonparticipants choosing at least one predisposing reason, 18.4% had less than high school education.

Age was not explicitly addressed in the hypotheses, but was, nevertheless, a significant factor. Participants were significantly younger than nonparticipants. Nonparticipant respondents choosing at least one reinforcing reason (a group which had lower means on all ISAI scales than the nonparticipant group means) were significantly older than the rest of the nonparticipants. Nonparticipants choosing at least one enabling reason had a mean age almost equivalent to the overall nonparticipant group mean (77.2 years compared to 77.1 years), but this is

complicated by the presence of "Not enough time", which is classified as an enabling reason although it exhibited a pattern more similar to the predisposing reasons. The four enabling reasons which show mean ISAI scale scores significantly lower than the nonparticipant group means ("No transportation", "Poor health", "Can't do exercise" and "Don't know about it") all show mean respondent ages above 80 years (86.4 years, 81.3 years, 82.1 years and 82.0 years respectively).

The reason "Don't know about it", chosen by 43 of the nonparticipants, had ISAI scale means approximately equal to the nonparticipant group means. The only significant difference between this group and the total nonparticipant group was in the proportion who were involved in other Kerrisdale Senior Centre activities, which was significantly lower (only one of the 43 respondents). It was not, as hypothesised associated with low scores on the SS, CS or TO scales. The mean age of nonparticipant respondents choosing this reason, at 75.8 years, is closer to the participant mean age of 74.8 years than the nonparticipant age of 77.1 years. It is possible that lack of knowledge is not an enabling reason, but represents a fourth factor which precedes the predisposing factor.

The third hypothesis, that there would be a lower functioning subset of nonparticipants as evidenced by lower ISAI means, who would choose reasons for nonattendance which would also represent barriers to their attendance, seems to be supported. Specific reasons chosen showed close agreement with significantly lower scores on the associated health measure. For example, where physical health and mobility scores were low, which might target the individual as a good candidate for the health education program, poor health and an inability to do exercise were frequent reasons given for not attending. Where social support system scores were low, which might indicate that the individual would benefit from the supportive environment provided by the program, one frequently chosen reason for not attending was not knowing anyone there. Transportation was a reason provided for individuals with poor mobility even within the 5-block radius canvassed in this study; lack of mobility might be an indicator for attendance at the program.

| TABLE 28: MEAN AGE AND ISAI SCORES FOR PARTICIPANTS AND FOR NONPARTICIPANTS BY REASON | | | | | | |
|---|--------------|-------------------|-------------------|-------------------|--|--|
| | PARTICIPANTS | NONPARTICIPANTS | NONPARTICIPANTS | NONPARTICIPANTS | | |
| | | CHOOSING AT LEAST | CHOOSING AT LEAST | CHOOSING AT LEAST | | |
| | | 1 PRED. REASON | 1 ENAB. REASON | 1 REINF. REASON | | |
| Age (years) | 74.8 | 76.4 | 77.2 | 80.7 | | |
| Economic Res. | 30.1 | 29.7 | 28.7 | 28.2 | | |
| Emotional Bal. | 24.4 | 27.3 | 25.7 | 24.8 | | |
| Physical Health | 24.4 | 23.2 | 20.9 | 20.1 | | |
| Trusting Others | 30.1 | 30.9 | 30.8 | 30.2 | | |
| Mobility | 29 | 28.2 | 26.3 | 24 | | |
| Cognitive Stat. | 24.2 | 25.9 | 25.1 | 24.1 | | |
| Social Support | 29.3 | 30.6 | 29.8 | 27.5 | | |

CHAPTER 5

DISCUSSION AND CONCLUSIONS

5.0 LIMITATIONS

This was a cross-sectional survey at one point in time, and therefore, it is not possible to determine whether significant factors such as higher mean scores of the Physical Health and Mobility scales preceded the health education program (ie. are predictive of use), or developed concurrently with or as a result of the program.

The sample was limited to a small geographic area in Vancouver and it is expected that there was systematic bias due to variables associated with that particular area. Since the study was carried out in the Kerrisdale area, which houses a relatively more wealthy and well educated population than other areas of Vancouver, the study may have systematically under-represented elderly individuals who do not have adequate income, are less educated and do not have transportation and social support resources. As income and education have been positively associated with measures of health (Health and Welfare Canada, 1989), the study may also have under-represented elderly individuals with health problems which might target them as ideal participants of the health education program.

These same individuals, however, may have had a wider array of options, thus allowing this study to assess factors directly related to program participation due to the greater array of optional activities open to respondents.

The study was limited to comparison of the characteristics of participants and nonparticipants of one health education program. There may have been systematic bias due to factors unique to the program (structure of the program, connection of the program with the Senior Centre which operates it, characteristics of leaders and instructors, etc.) which limit the generalisability of the results. The literature reviewed included characteristics of senior centre attenders and of health education attenders. The results of this study seem to be characteristic of both profiles of attenders (increased measures of health, younger age, greater proportions of females), which provides some assurance of the generalisability of the study.

In addition, the study was limited to a survey of community residents within a five-block radius of the Senior Centre out of which the health education program operates. This was done to control for distance as a study variable. As such, the proportion of nonparticipants who do not attend due to mobility and transportation problems may have been under-represented. There may also have been systematic differences in characteristics of Kerrisdale residents according to where within the neighbourhood they reside (eg. income, education, etc.). Even within this 5-block radius, however, some respondents reported having transportation and monetary difficulties, suggesting that these are problems for some elderly people which must be addressed in programming.

The sampling technique drew study participants from three sources: (1) participants of the health education program of interest, (2) apartment residents from the surrounding area and (3) single family dwelling residents from the surrounding area. Place of residence was a potentially confounding variable, as no explicit attempt was made to ensure that the proportions of seniors canvassed from each of these sources was equivalent to proportions residing in the area, although a greater number of apartment residents was targeted, in keeping with the large number of apartment residents in the area. Place of residence was included in the analysis, so that areas where it is a potential confounder were identified, and can be taken into consideration in interpreting results.

There may be systematic differences among the potential study participants who did not choose to participate. Such differences might have related to variables that were of interest in the study, such as reasons for attending or not attending the program (eg. lack of interest or lack of time), multi-dimensional measures of health (eg. cognitive status, level of trust) or levels of community involvement and time spent on

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ADL (eg. were too busy to participate).

The multi-dimensional measure of health utilised (lowa Self-Assessment Inventory or ISAI) was developed and tested in the United States (Morris, Buckwalter, Cleary, Gilmer, Hatz and Studer, 1991). One question had to be changed to suit a Canadian population (number 50, "I use food stamps"). There may be other differences between Canadian and American elderly people which systematically bias the results of this study (eg. interpretation of questions, etc.). Piloting of the questionnaire with a group of Kerrisdale seniors, however, provided assurance that such bias did not exist: the questions were found to be understandable and deemed relevant by the pilot respondents.

The second part of the survey, which asked questions specific to participation in the health education program and community involvement in the Kerrisdale area, was developed for this study and did not undergo rigorous testing of reliability and validity. Through scrutiny by experts (thesis committee members, health professionals and researchers working with the senior population in Kerrisdale) and piloting on a small group of Kerrisdale seniors, face and content validity were established. Associations between the Kerrisdale-specific questions and the ISAI (ER mean associated with the reason "Can't afford it"; MO mean associated with the reason "Lack of transportation", for example) also support the validity of the second part of the questionnaire. There may, however, have been unidentified problems with the content and/or reliability of the questionnaire.

Sample size calculations were performed based upon the data available from the ISAI standardisation (Morris, Andrews, Gilmer, Buckwalter, Cleary, Boutelle and Hatz, 1991). Due to small numbers in some cells on the second half of the questionnaire, however, sample size may not have been adequate to provide the power necessary to capture differences among the study participants. For this reason, significant test values were reported at the p < .05 level, in spite of the large number of

tests run, in order to establish trends in community participation and patterns of ADL. Results which are marginally significant should be interpreted with caution, as some of them may have been significant due to chance.

5.1 DISCUSSION RE METHODOLOGY ISSUES

5.1.1 Return Rates

Low return rates were observed among the Kerrisdale Senior Centre sample, and among portions of the apartment sample. This was contrary to what was anticipated when the methodology was formulated; it was expected that the Kerrisdale Senior Centre sample, which consisted mainly of participants, would have the highest return rates due to committment to the program.

The single family dwelling sample, which had the highest return rate, was different from the other two in that each residence that took part in the survey was revisited on a specified day for pick up of the completed survey. This was also true for some of the apartment residents, and return rate was high in these cases as well.

The apartment sample, however, had the option of returning their questionnaire to the manager, while the Kerrisdale sample had the option of returning their questionnaire to the Kerrisdale Senior Centre office.

For the Kerrisdale Senior Centre sample, arrangements could have been made to have all participants complete the survey at once and return it the same day. Refusal rates would probably have increased in this case. Many individuals at the Senior Centre were only willing to participate if they could take the survey home, as they had other plans following their visit to the Centre. Therefore, even though return rate might have been higher, the information gained would have been equally (or perhaps more) compromised by higher refusal rates. A benefit of this method would have been the ability to provide assistance to participants who had difficulty interpreting questions. For example, the problem with self-perception as a participant or nonparticipant of the Health Drop-In among exercise attenders might have been avoided.

Another option would have been to allow Kerrisdale Senior Centre participants to take the survey home, as was done, but to record an address and arrange for pickup of the survey at the participants' resident one or two days later. This would have made the methodology for the Kerrisdale Senior Centre sample more similar to that of the single family resident sample, where return rates were the highest, while allowing the same opportunity to choose an opportune time and place to complete the questionnaire. There might also have been a higher refusal rate, but this could have been at least partially circumvented by explaining to participants that the recording of addresses would not compromise their anonymity.

5.1.2 ISAI Trusting Others Scale

As was noted in the Results section, many respondents seemed to object to some of the items on the TO scale, particularly item 4 (People secretly say bad things about me), item 11 (Friends are disloyal to me behind my back), item 18 (I believe I am being plotted against) and item 53 (I see things when others do not). This led to the lowest number of usable scores of any of the of the ISAI scales (172). It is not possible to discern a particular reason for this discomfort level, as respondents were not asked for any evaluative comments about the survey. It is possible, however, that some of the possible respondents among the Kerrisdale Senior Centre and apartment samples who did not return their questionnaires were also offended by these items. Perhaps changing the wording on the ISAI Directions (page 3 of the survey) to provide an explanation of the scales would have partially avoided this problem. It may be that, where multi-dimensional measures of health are utilised with a general population, this is a general issue which must be considered.

5.2 DISCUSSION OF RESULTS

5.2.1 Place of Residence as a Possible Confounder

Apartment residents were significantly more likely to be female and live alone,

and were significantly older, than residents of single family dwellings. Because place of residence was an independent variable, this has the potential to confound the results which compare participants to nonparticipants.

With significantly more apartment dwellers in the participant group (if no true differences existed between participants and nonparticipants) the participants should have been older. In fact, participants were significantly younger than nonparticipants, which is the opposite trend from what would be expected if there were no true differences between participants and nonparticipants. Even though there were more apartment residents within the participant group, gender and living arrangement were not significantly different. Mean scores on the ISAI scales were not significantly different results between participants and nonparticipants on the scales are due to sampling bias or place of residence.

5.2.2 Demographic Characteristics and Participation

Participants of the Health Drop-In were significantly younger than nonparticipants. This finding is similar to findings from other community-based programs for seniors (Lalonde and Fallcreek, 1985; Schneider et. al., 1985), but contrary to what is stated in the literature about target populations (Schneider et. al., 1985; Green and Gottlieb, 1989). At a mean of 74.8 years, however, the program is reaching people near or in the specified target age range (over 70 year, Anderson, 1982; over 75 years, Schneider et. al., 1985).

Level of education was not significantly different for participants and nonparticipants. The participant group consisted of more individuals with high school completion (48.3% compared to 40.5% for nonparticipants) and fewer individuals with less than high school (21.7% compared to 29.7% for nonparticipants). The proportion of respondents with more than high school education was equivalent between the groups. Excluding the proportion of the study sample with post-secondary education,

the trend for more education among participants is consistent with the literature reviewed (Schneider et. al., 1985; Benson et. al., 1989; Cox and Monk, 1989). The literature suggests, however, that programs should be targeted at individuals who are less educated (Schneider et. al., 1985; Green and Gottlieb, 1989) as less education is correlated with poorer health (Health and Welfare Canada, 1989).

Although gender was not significantly associated with overall Health Drop-In participation in this study, there were proportionately less males in the participant group (20.6%) than the nonparticipant group (31.6%). There also were some differences between program components, with males significantly less likely to attend the exercise components (only 6.0% were male), but more likely (although not significantly) to attend the blood pressure monitoring component (26.9% were male).

The proportion of participant males in this study was less than the 27% average found in five Vancouver seniors' wellness programs by Calsaferri (1990). The nonparticipant proportion of males to females is closer than the participants' to those found in the two census tracts which most closely approximate the area canvassed in this study (30.2% of individuals 55 years of age and older were male in census tract 022, while 33.7% were male in census tract 009; Statistics Canada, 1987).

The proportions of respondents living alone, with a spouse or with a relative or friend were nearly identical for participants and nonparticipants in this study. Over half of both groups lived alone and just over one third lived with a spouse. The similarity in proportions is compatible with the finding of Cox and Monk (1989), although the proportion living alone is lower (70% in the quoted study). Schneider et. al. (1985) found that a higher proportion of participants than nonparticipants lived alone, and Benson et. al. (1989) found that there were fewer married individuals in their participant sample. The findings are also compatible with Statistics Canada (1987) census data, which determined that in 1986 approximately half the individuals 65 years and older in this area lived alone, and between 41 and 44% were family

persons (ie. lived with a spouse).

The demographic characteristics of this sample are similar to the findings in other studies of seniors' community-based health education programs. The program is not reaching older and less educated individuals who live alone, although these are variables which the literature suggests should be targeted with such programs.

5.2.3 Measures of Health

As previously stated in the Limitations section, significant differences in measures of health cannot be attributed directly to the Health Drop-In due to the cross-sectional nature of the study.

Nevertheless, the participants had significantly higher mean scores on selfrated measures of physical health and mobility. Perhaps this should be expected for a group of respondents which is significantly younger, but self-rated scores on scales of emotional balance, level of trust, cognitive status and social support were virtually the same as, or lower than, those for nonparticipants. The participants were not, therefore, a younger group of elderly people who scored higher on all measures of health than the older nonparticipants; the two groups had distinctly different profiles.

Schneider et. al. (1985) found, at base-line, that their participant group was more healthy, but also found that they were more likely to expect an interesting future, which would imply higher levels of mental health. The opposite trend was found by Benson et. al. (1989) (participants scored significantly lower on health measures, were less satisfied with their lives and had less social interaction). Slivinske and Kosberg (1984) also found participants to be less healthy at base-line.

Cox and Monk (1989) found in cross-sectional study that health education attenders who had participated for at least 12 months had significantly lower ratings of self-perceived health than the nonparticipants. This is in contrast to other studies which have found that measures of both physical and mental health increased for participants (Slivinske and Kosberg, 1984; Lalonde and Fallcreek, 1985). The significantly higher scores in mobility found in this study are consistent with the results found regarding participants of senior centres (Hanssen et. al., 1978; Krout, 1983b; Krout et. al., 1988). But these studies also found less depression (Hanssen et. al., 1978) and more social interaction (Hanssen et. al., 1978; Krout, 1983b; Krout et. al., 1990), differing from the results of this study.

Schneider et. al. (1985) suggested that programs should be directed at individuals with low SES who have mobility problems. Low income (Green and Gottlieb, 1989; Health and Welfare Canada, 1989), depression (Anderson, 1982) and social support (Anderson, 1982; Green and Gottlieb, 1989), because of their correlations with poorer health, are also considered to be characteristics which should be targeted. The present study found a significant group of nonparticipants who fell into the targeted categories (respondents choosing at least one enabling or reinforcing reasons for nonattendance). This group was often significantly older, and scored lower (often significantly) on all of the above characteristics (mobility, economic resources, emotional balance and social support). The Health Drop-In did not seem to be effectively reaching this group of nonparticipants. Moreover, the reasons that these individuals indicated for nonattendance were the same reasons why they should be targeted. A lower score on economic resources, for instance, was associated with choice of "Can't afford it" as a reason for not participating. Lower scores on mobility, physical health and emotional balance scales, as well as increased age, were associated with choice of "Poor health" as a reason for lack of attendance. Lower mobility and physical health scores, along with increased age, were associated with choice of "Can't do exercise". Finally, lower social support, cognitive status and emotional balance scores, along with increased age, were associated with choice of "Don't know any one there" as a reason for not attending.

A second subset of nonparticipants, mainly those choosing at least one predisposing reason, had higher scores on all measures of health and were younger.

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These nonparticipants did not have the characteristics of older age, low economic status, poorer scores on the emotional balance scale, poorer health or less social support which would target them as candidates for the health education program. They may have self-screened themselves, as the most common reasons given for nonattendance were "Don't need it" and "Not interested". Respondents choosing the enabling reason "Not enough time" had a similar profile to those choosing predisposing ones (younger age and higher scores on the ISAI scales).

The higher participant scores in measures of physical health and mobility found in this study are similar to the findings among participants on post-tests in some of the large community-based studies. The results differ, however, in the finding of equivalent or lower scores on measures of emotional health and social support.

In addition, one group of nonparticipants was identified which has the target characteristics identified in the literature for community-based health education programs. These respondents identified, as reasons for nonattendance, the same characteristics which identify them as part of the target population. A second group of nonparticipants, which was similar to participants in age and measures of health, did not have the target characteristics of health education programs identified in the literature and, thus, may have self-screened themselves for other reasons not captured in this study.

5.2.4 Community Activity

A significantly higher proportion of participants than nonparticipants were involved in other Kerrisdale Senior Centre activities, and a significantly higher proportion attended the symphony and similar events. Although not showing up as significant (perhaps due to lack of power), there were also higher proportions of participants involved in West Main Health Unit activities, church groups and organisations, cultural centres and organisations, recreational activities and other senior centres. Proportions of participants were not higher for attendance at church, the community centre and "other" activities.

There is support in the literature for the increased involvement of participants in senior centres (Schneider et. al., 1985). Schneider and colleagues found the opposite trend for church attendance, however, with more participants reporting church involvement. Hanssen et. al. (1978) found, for senior centre participants, attendance at more out-of-home activities and less passive activities than for nonparticipants.

In this study, church attenders were found to be significantly older that nonattenders, while those attending recreational activities or cultural organisations were significantly younger. This may have influenced the community activity profile for participants and nonparticipants of the Health Drop-In, as participants were also significantly younger. Educational attainment may also have had an influence, as 43.5% of the church attenders had less than high school education, although among the total sample approximately 27% had less than high school. Recreational activities and symphony, etc. were significantly more attended by those with post-secondary education.

The tendency for less community involvement by nonparticipants than participants in activities other than the Health Drop-In suggests that other community sources are not providing nonparticipants with support in place of the Health Drop-In.

5.2.5 Reported Hours of Activity

The activity to which the largest amount of time was attributed, apart from sleep, was household activities, which tends to bear out the findings of Singleton et. al (1986) who found that the majority of time would be allotted to home-based activities. Gender (females reporting significantly more hours of household activity), age (older individuals reporting significantly fewer hours of household activity, exercise, community activity and gardening) and educational status (respondents with less than high school education reporting significantly less hours of exercise) were related to

activity profiles. Gender differences were also found by Singleton et. al. (1986), and differences in gender, age and educational status were found by Spakes (1979). Residents of single family dwellings reported significantly more hours of household activity and gardening than apartment residents, as would be expected.

Nonparticipants reported, on average, more total hours of activity per week than participants. The areas which had higher mean scores were household activities, hobbies, gardening and sleep. The nonparticipant group had lower means for hours of exercise, visiting friends and relatives and community activities (only community activities showed a significant difference). These results may be associated with the finding of significantly lower ratings of physical health and mobility among nonparticipants.

The significantly lower mean for hours of community activity is consistent with the trend found in reported community involvement for these respondents (with participants proportionately more involved in most community activities than nonparticipants).

The lower mean for exercise hours (5.6 hours for participants versus 4.3 hours for nonparticipants) is interesting in light of the correlation between lack of regular exercise and declines in functional status (Mor et. al., 1989) and is consistent with the lower proportion of nonparticipants who are involved in recreational activities. Nonparticipant respondents choosing at least one enabling reason or at least one reinforcing reason had means lower than the nonparticipant group means for exercise (4.1 and 3.2 hours, respectively), community activity (1.4 hours and 0 hours, respectively) and visiting (5.0 hours and 4.3 hours respectively). This would suggest that the subset of nonparticipants who belong to the target population for community health education programs are not receiving physical activity and social support from sources other than the Health Drop-In. These two groups (nonparticipant respondents choosing at least one enabling reason and nonparticipant respondents choosing at

least one reinforcing reason) had higher means, however for hobbies (10.1 hours and 9.2 hours, respectively) than either the nonparticipant group as a whole (8.2 hours) or the participant group (5.2 hours). It would have been interesting to get more specific information of the nature of the hobbies; are they active or passive in nature? McKinnon's (1982) finding, with a sample of 1,398 Canadian elders, that the majority of leisure activity time was spent on watching television would suggest that, should this information have been requested, passive activities would have been more prevalent.

5.2.6 Reasons for Attendance or Nonattendance

There was no literature found providing reasons for attendance at a communitybased health education program. In this study, the reasons classified as predisposing were most frequently chosen. These reasons were, with only 1 exception ("To participate/volunteer in community work") related to health and functional status ("Health is important to me", "Want to stay active", "Need the exercise", "Interested in learning how to keep healthy" and "Want to continue living at home"). The three overall most frequently chosen reasons were among these.

The frequently noted reasons in studies of senior centre participants reflect some of the reasons chosen in this study. For example, "something to do" was chosen by 50% of participants in the Krout (1983b) study and "desire for outside interest by 43% in the Trela and Simmons (1971) study. These reasons are similar to "Break in routine", "Relief from boredom" and "Participate/volunteer in community work", chosen by 7 respondents each (12.7%) in this study. The reason "need for companionship, chosen by 12% of the Trela and Simmons (1971) sample, is similar to "To make friends", chosen by 14 respondents (25.5%) in this study.

Hanssen et. al. (1978) found senior centre participants to enjoy structured community activity more than nonparticipants. Sixteen respondents in this study (29%) chose the reason "To participate with a group". Among exercise participants, this percentage was significantly higher, at 34.3%.

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It is also interesting that over one third of participants in the Trela and Simmons (1971) study and 25% in the Krout (1983b) study gave, as their reason for joining a senior centre, invitation or persuasion of friends, volunteer recruiter, etc. A higher percentage of participants of the Health Drop-In in this study had gained their knowledge of the program from a friend, whereas nonparticipants of the Health Drop-In were less likely to have heard about it from a friend and more likely to have read about it. It may be that the personal contact is a significant force in determining whether individuals attend any community function, including a health education program. If true, this would support the need for an outreach component to health programs, as suggested by Stuen (1985).

The most frequently chosen reasons for not attending the Health Drop-In were very similar to documented reasons for not attending senior centres. Excluding, for the moment, the reason "Don't know about it", the most frequently chosen reasons in this study were "Not interested", "Don't need it", "Can't do exercise" and "Not enough time". Similar, or equivalent reasons found in studies of senior centre nonattenders were "competing activities and interests" (Trela and Simmons, 1971); "too busy" (Krout, 1983b); "lack of time" (Ralston and Griggs, 1985); "lack of interest" (Krout, 1983b; Ralston and Griggs, 1985) and "no need" (Krout, 1983b). "Would not enjoy it", chosen by 14 respondents in this study, was similar to "ambivalence toward organisational activities" (Trela and Simmons, 1971) and "lack of interesting activities" (Ralston and Griggs, 1985). Ralston and Griggs (1985) did not find any enabling or reinforcing reasons which would also constitute barriers to attendance, but "lack of transportation" was cited by 2% of the Krout (1983b) sample and 10% of nonattenders in the study by Trela and Simmons (1971). Eight respondents in this study (7.3%) cited "No transportation" as a reason for not attending the Health Drop-In, even within a 5-block radius of the Senior Centre. "Poor health" was cited as a reason by 8.6% in the Trela and Simmons (1971) study, and was chosen by 9 (8.1%) of respondents in

this study.

Among nonparticipant respondents in this study, choice of the reasons "Not interested", Don't need it" and "Not enough time" were most predictive of high means on all ISAI scales, with significantly higher mean scores than the rest of the nonparticipants on several. Respondents choosing "No transportation", "Can't afford it", "Poor health", "Can't do exercise", "Don't know anyone there" and "Don't like to leave home" had significantly lower means on one or more of the ISAI scales and were older. Choice of "Poor health", "Can't do exercise" and "Don't know anyone there" and "Don't know anyone there" were most predictive of lower mean scores on ISAI scales and increased age.

Forty-one respondents gave, as a reason for not attending, "Don't know about it". This represents 37.3% of the nonparticipant respondents who provided reasons for not attending, and tends to bear out the finding of Krout (1983) that there is a low rate of knowledge among the public of services they can access.

5.3 IMPLICATIONS OF RESULTS

Green and Kreuter's (1991) framework, which provides three categories of motivational factors for an individual's participation in a health education program, was used to group reasons for attendance and reasons for nonattendance at the Health Drop-In. The different patterns that seem to have been obtained, in terms of age and ISAI score profiles, for respondents choosing at least one predisposing, enabling or reinforcing reason, provide partial support for Green and Kreuter's (1991) model.

Some reasons, however, might have been more effectively grouped. For example, "Not enough time" was classified as an enabling reason. The logic followed involved consideration of time as a tangible resource; if an individual did not have enough time they would not be able to participate. It could also be true, however, that the individual perceived that he/she did not have enough time to attend because the Health Drop-In was relatively low on the priority list of activities they wished to participate in. If this were the case, "Not enough time" should properly be classified as a predisposing reason. The trend for higher than average mean scores on the ISAI scales found in this study might indicate that more individuals who chose "Not enough time" had a predisposing, rather than an enabling, motivation for doing so.

Nearly 40% of the nonparticipant respondents stated that they did not attend because they did not know about the program. If the area which was surveyed had been widened to include more than a 5-block radius around the Senior Centre, this percentage would most likely have been higher. In addition, it is conceivable that knowledge of community resources is higher than the norm for Vancouver in a more educated area such as Kerrisdale (Statistics Canada, 1987). Given that contact with individuals (friends, recruiters, etc.) is a commonly chosen reason for attending senior centres (Krout, 1983b; Trela and Simmons, 1971), to increase knowledge of the Health Drop-In and similar programs in a manner which will translate into increased attendance, a word of mouth campaign may be one plausible strategy.

The 7.3% of respondents who chose "No transportation" as a reason for not attending is notable, particularly since surveys were only distributed in a 5-block radius around the senior centre. The percentage is between the 2% found by Krout (1983b) and 10% found by Trela and Simmons (1971) as a reason for nonattendance at senior centres. If surveys had been distributed throughout the area which is served by the Kerrisdale Senior Centre, this percentage would possibly have been higher. The subset of respondents who chose lack of transportation as a reason was significantly older and significantly less mobile than the rest of the nonparticipants. According to the literature reviewed, therefore, they probably represent one group of individuals who should be targeted by community health education programs (Schneider et. al., 1985; Jacks, 1975; Krout, 1983). Perhaps the use of volunteer escorts or drivers could be employed by a program such as the Health Drop-In to reach these individuals.

As was pointed out by the Kerrisdale Senior Centre Program Coordinator, the

costs involved in participating in the Health Drop-In are not prohibitive (\$4 or 7 for a membership, depending on age, and \$9 for 12 weeks of exercise), but 3.6% of individuals still chose "Can't afford it" as a reason for nonattendance. It may be that the respondents who chose this reason were not informed about the low cost of the program. It may also be that, on a fixed income, even the small amount of money required is more than some individuals can afford. There is a difference between net worth and cash flow, and in 1986, one of the census tracts in this area had a median annual income which was lower than the city's median annual income (Statistics Canada, 1987). In addition, if one were to look at other similar programs in less affluent areas of Vancouver, cost would probably be an even greater deterrent to attendance. An advertised policy of not charging individuals who are unable to pay might allow these individuals to participate.

Approximately 9% of nonparticipant respondents chose "Poor health" as a reason for not attending and 12.7% chose "Can't do exercise". Choice of these reasons may be partially due to lack of awareness of the various program components, as "Poor health" is actually a possible reason for attending the Blood Pressure Monitoring component, and neither the Blood Pressure Monitoring the Neck/Shoulder Massage involve exercise. Advertising the different array of program components might draw some of these individuals into the program.

The respondents who chose these two responses may also be unaware of the Gentle Fit exercise program, which caters to less mobile participants. Any strategy to promote the Gentle Fit program would require expansion of the exercise program, however, due to the current full enrollment.

Another possibility is that respondents who selected these two responses have misperceptions about the value of exercise for elderly individuals, or are unaware of the ability of older people to participate in exercise (Health and Welfare Canada, 1989; Larson, 1988). If this is the case, it implies the need for a more far-reaching educational campaign (for example, through the media) which attempts to reverse the beliefs that exercise is not good or necessary for older people (Health and Welfare Canada, 1989), and explains the benefits and content of a regular exercise program.

The response "Don't know anyone there", chosen by 17.3% of the nonparticipant group, and accompanied by a significantly higher mean age along with significantly lower scores on scales for emotional balance, mobility and social support, suggests that some of these respondents may be socially isolated and depressed. This seems to be a group of individuals who would benefit from a program such as the Health Drop-In, but would require a personal contact to allow them to attend. In one study, over one-third of participants in a senior centre attributed their attendance to use of volunteer recruiters (Trela and Simmons, 1971), which suggests that a similar strategy employed in the case of the Health Drop-In might help to provide a link for individuals who find themselves unable to participate because they don't know any one there.

This study found that there is a group of nonparticipants who might benefit from the Health Drop-In but have barriers to participating such as lack of mobility, lack of transportation, limited income, poor health or no contact with individuals in the Drop-In. These characteristics also target them as potential participants of the program (Jacks, 1975; Krout, 1983; Schneider et. al, 1985). The results of this study support the view of Stuen (1985), that to reach these respondents, and others with the same characteristics, would involve direct outreach in some fashion.

5.4 SUGGESTIONS FOR FURTHER RESEARCH

The trends documented in this study suggest that further research to document the characteristics of elderly health education participants over wider regions would be justified. Such research would be helpful in understanding what factors are predictive of senior health education program participation. It could determine whether or not the trends identified in this study are generalisable beyond the Kerrisdale area, and would provide the increased power necessary to illuminate further additional variables which did not provide significant results in this study, such as areas of community participation. An understanding of the factors which result in the decision to participate in health education programming would be useful at the policy and program planning level in determining strategies for recruitment and priorising funding alternatives. It would also be useful for program evaluation, by providing information which is useful in determining whether or not the target population is being effectively reached, and if not, how to modify the program to achieve this objective.

In addition to the information requested in this study, any similar research might wish to ask respondents to specify what forms of exercise and hobbies they engage in. A question which determined knowledge and practice of various health behaviors (eg. knowledge of exercise and nutritional benefits, nutritional habits, smoking behavior, alcohol intake, etc.) would also be useful to correlate with participation behavior. Such questions might be seen as threatening by some respondents in a general population, however, and decrease response rate.

The trends noted in this study among respondents choosing predisposing, enabling and reinforcing reasons for attendance and nonattendance suggest that larger studies building upon this information could be helpful in understanding these three factors. Particularly among the nonparticipants, there were identifiable differences in trends between these factors. A study with more respondents, which generated larger numbers for each of the reasons, would allow the reasons to be subjected to differential analysis. This would help to determine which of the reasons were best classified in each of the predisposing, enabling and reinforcing categories (eg. would determine whether "Not enough time" was more consistent with predisposing or enabling factors) and would also identify any factors which did not belong with any of these categories (eg. might help to determine whether "Don't know about it" is a fourth factor which precedes the predisposing factors). A more complete understanding of the reasons why people do and do not attend programs could be gleaned from such research. This would, in turn, aid in determining recruitment and intervention strategies for the target population.

Table 29 provides a comparison of possible characteristics of participants and nonparticipants who, according to the literature, do or do not belong to the target population for health education programs. Such characteristics include age, lower socio-economic status, chronic health conditions and social isolation. The summary in Table 29 is based upon the findings of this study, and includes both the significant associations and nonsignificant tendencies that were noted. As was noted in the Results section, the mean is not necessarily an appropriate analytical measure for data from this study, as the distribution of scores for respondents was highly skewed in some instances. Nevertheless, it provides a means of summarising the patterns noted. The characteristics listed in the tables are not definitive, but could prove to be helpful in generating hypotheses for future research.

Research aimed at determining peoples' reasons for attendance and nonattendance, and classifying these reasons using the predisposing-enablingreinforcing framework, need not be limited to seniors' health education programs. It would be interesting to see whether the reasons which were most common in this study are also common with other age groups and other types of health programming. For example, it would be reasonable to expect that "Don't know anyone there" would be a barrier to attendance for younger as well as older people, and for many types of community-based activities. Green and Kreuter's (1991) framework is likely generalisable well beyond health education and promotion programming, and potentially generalisable to organisational behavior in settings other than health (eg. social and leisure settings, employment settings, etc.).

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| TABLE 29: Comparison of Selected Characteristics Between: Column A: Participants and Nonparticipants | | | | | | |
|--|-----------|---------------------------------------|---------------------------------------|--|--|--|
| Belonging to the Target Group [^] (P v. NPTG) Column B: Participants and Nonparticipants Not Belonging to the | | | | | | |
| Target Group (P v. NPTG) Column C: Nonparticipants Belonging and not Belonging to the Target Group | | | | | | |
| | Column A | Column B | Column C | | | |
| Variable (Means) | P v. NPTG | P v. NPTG | NPTG v. NPTG | | | |
| Age (years) | Younger | Younger | Older | | | |
| Emot. Bal. (ISAI score) | Similar* | Lower | Lower | | | |
| Ph. Health (ISAI score) | Higher | Higher | Lower | | | |
| Mobility (ISAI score) | Higher | Higher | Lower | | | |
| Cog. Status (ISAI score) | Similar* | Lower | Lower | | | |
| Social Support (ISAI score) | Higher | Lower | Lower | | | |
| Home-based Activity | | | | | | |
| (self-reported hours) | Fewer | Fewer | Fewer | | | |
| Exercise (self-report hrs.) | Моге | Similar* | Fewer | | | |
| Community | | · · · · · · · · · · · · · · · · · · · | · · · · · · · · · · · · · · · · · · · | | | |
| Activity (self-report hrs.) | More | More | Fewer | | | |

* Similar: no significant difference between the means of the two groups

^Target Populations: as defined in the literature (higher age, lower SES, social isolation, chronic health problems)

REFERENCES

Agostino, J.N. (1985). Subjective Rating of Health Among the Elderly. <u>Activities</u>, <u>Adaptation and Aging</u>, 6(4): 53-62.

Anderson, W.F. (1982). Is Health Education for the Middle-Aged and Elderly a Waste of Time? In Wells, T. (ed.). Aging and Health Promotion. Aspen Systems Corporation. Rockville, Maryland. 101-110.

Barr, G. (1983). Educators Play Crucial Role In Promoting Healthy Aging. <u>Health</u> Education, <u>21</u>(3): 2-7.

Bennett, R., Killeffer, E.H.P. (1989). Concluding Remarks and Suggested Issues for Further Discussion. Physical and Occupational Therapy in Geriatrics, 8(1/2): 147-58.

Benson, L., Nelson, E.C., Napps, S.E., Roberts, E., Kane-Williams, E., Salisbury, Z. (1989). Evaluation of the Staying Healthy After Fifty Educational Program: Impact on Course Participants. <u>Health Education Quarterly 16(4)</u>: 485-508.

Bergner, M. (1985). Measurement of Health Status. Medical Care, 23(5): 696-704.

Bergner, M., Kaplan, R.M., Ware, J.E. (1987). Evaluating Health Measures. Commentary: Measuring Overall Health: An Evaluation of Three Important Approaches. Journal of Chronic Disease, 40(Suppl. 1): 23S-26S.

Bergner, M., Bobbitt, R.A., Carter, W.B., Gilson, B.S. (1981). The Sickness Impact Profile: Development and Final Revision of a Health Status Measure. <u>Medical Care,</u> <u>19</u>(8): 787-805.

Blakenbaker, R.G. and Moore, A.T. (1983). Health Promotion and Disease Prevention: The Second Public Health Revolution. In Landry, F. (ed.). <u>Health Risk Estimation</u>, <u>Risk Reduction and Health Promotion</u>. Canadian Public Health Association. Ottawa.

Boshier, R. (1991). Psychometric Properties of the Alternative Form of the Education Participation Scale. Adult Education Quarterly,41(3): 150-67.

Boshier, R., Riddell, G. (1978). Education Participation Scale Factor Structure for Older Adults. Adult Education 28(3): 165-75.

Breslow, L. (1983). The Risk Factor Approach to Chronic Disease Prevention-- Some Updating. In Landry, F. (ed.) <u>Health Risk Estimation, Risk Reduction and Health</u> <u>Promotion.</u> Canadian Public Health Association. Ottawa.

British Columbia Minister of Health and Minister Responsible for Seniors (1989). Toward a Better Age: Strategies for Improving the Lives of Senior British Columbians. Victoria, B.C. British Columbia Ministry of Health, Division of Community and Family Health (1989). Healthy Communities: The Process. Ministry of Health. Victoria. 27 pp.

British Columbia Research (1986). Community Based Planning for Seniors: A Review of the Literature, Vol. 1. B.C. Research. Vancouver.

British Columbia Royal Commission on Health Care and Costs (1991). Part B: Organisation, Public Policies for Health. <u>Closer to Home</u>. Crown Publications, Inc. Victoria, B.C. pp B-2-B-8.

Butler, R.N., Gertman, J.S., Oberlander, D.L., Schindler, L. (1979-80). Self-Care, Self-Help, and the Elderly. International Journal of Aging and Human Development 10(1): 95-119.

Butler, R.N. (1975). Psychiatry and the Elderly: An Overview. American Journal of Psychiatry, 132(9): 893-900.

Calsaferri, K. (1990). <u>Community Health Promotion Programs for Seniors: Program</u> <u>Focus and Contributing Factors to Composition</u>. Unpublished M.Sc. Thesis. University of British Columbia. 208 p.

Canadian Nurses Association (1989). <u>Health Care Reform for Seniors</u>. Canadian Nurses Association. Ottawa.

Caplan, R., Holland, R. (1990). Rethinking Health Education Theory. <u>Health</u> Education Journal 49(1): 10-12.

Cox, C., Monk, A. (1989). Measuring the Effectiveness of a Health Education Program for Older Adults. Educational Gerontology 15: 9-23.

Cox, C., Monk, A. (1990). Integrating the Frail and Well Elderly: The Experience of Senior Centers. Journal of Gerontological Social Work, 15: 131-47.

Dorevitch, M.I., Cossar, R.M., Bailey, F.J., Bisset, T., Lewis, S.J., Wise, L.A., MacLennan, W.J. (1992). The Accuracy of Self and Informant Ratings of Physical Functional Capacity in the Elderly. Journal of Clinical Epidemiology, 45(7): 791-98.

Downie, R.S., Fyfe, C. Tannahill, A. (1990). <u>Health Promotion: Models and Values.</u> Oxford University Press. Oxford.

Duffy, M.E., MacDonald, E. (1990). Determinants of Functional Health of Older Persons. <u>The Gerontologist</u>, <u>30</u>(4): 503-9.

Duncan, D.F., Gold, R.S. (1986, May/June). Reflections: Health Promotion-- What Is It?. <u>Health Values 10(3)</u>: 47-48.

Eng, K., Emlet, C.A. (1990). SRx: A Regional Approach to Geriatric Medication Education. <u>The Gerontologist 30(3)</u>: 408-10.

Ernst, M., Ernst, N.S. (1984). Functional Capacity. In Mangen, D.J. and Peterson, W.A. (eds.). Research Instruments in Social Gerontology, Vol. 3: Health, Program. Evaluation and Demography. University of Minnesota. 9-84.

Estes, C.L., Fox, S., Mahoney, C.W. (1986). Health Care and Social Policy: Health Promotion and the Elderly. In Wellness and Health Promotion for the Elderly. Dychtwald, K. (editor), Aspen Systems Corp., Rockville, Maryland. 55-70.

Eustis, N.N., Patten, S.K. (1984). The Effectiveness of Long-term Care. In Mangen, D.J. and Peterson, W.A. (eds.). <u>Research Instruments in Social Gerontology, Vol. 3</u>. <u>Health, Program Evaluation and Demography.</u> University of Minnesota. 217-316.

Fallcreek, S.J., Allen, B.P., Halls, D.M. (1986). <u>Health Promotion and Aging: A</u> <u>National Directory of Selected Programs</u>. Institute for Gerontological Research and Education. New Mexico State University.

Fallcreek,S., Warner-Reitz, A., Mettler, M. (1986). Designing Health Promotion Programs for Elders. In <u>Wellness and Health Promotion for the Elderly</u>. Dychtwald, K. (editor), Aspen Systems Corp., Rockville, Maryland. 219-234.

Feinstein, A.R., Josephy, M.S., Wells, C.K. (1986). Scientific and Clinical Problems in Indexes of Functional Disability. Annals of Internal Medicine, 105: 413-420.

Feldman, D.S., Hofmann, R., Gagnon, J., Simpson, J. (1987). <u>Statview II: Statview SE</u> + <u>Graphics</u>. Abacus Concepts, Inc. Berkeley, Ca.

Fillenbaum, G.G., Smyer, M.A. (1981). The Development, Validity, and Reliability of the OARS Multidimensional Functional Assessment Questionnaire. <u>Journal of</u> <u>Gerontology, 36</u>(4): 428-34.

Fitch, V.L., Slivinske, L.R. (1988 Winter). Maximizing Effects of Wellness Programs for the Elderly. <u>Health and Social Work:</u> 61-67.

French, J. (1990). Boundaries and Horizons, The Role of Health Education Within Health Promotion. <u>Health Education Journal, 49(1)</u>: 7-9.

Fries, J.F., Green, L.W., Levine, S. (1989, March 4). Health Promotion and the Compression of Morbidity. <u>The Lancet</u>: 481-83.

Gilbert, S.B. (1986, May/June). Health Promotion for Older Americans. Health Values 10(3): 38-46.

Gilmer, J.S., Cleary, T.A., Lu, D.F., Morris, W.W., Buckwalter, K.C., Andrews, P. Boutelle, S., Hatz, D.L. (1991). The Factor Structure of the Iowa Self Assessment Inventory. Educational and Psychological Measurement, 51(2): 365-75.

Green, L.W. (1974). Toward Cost-Benefit Evaluations of Health Education: Some Concepts, Methods and Examples. <u>Health Education Monographs</u>, 2 (Suppl 1): 34-64.

Green, L.W. (1978). Determining the Impact and Effectivenenss of Health Education as it Relates to Federal Policy. <u>Health Education Monographs</u>, 6 (Suppl 1): 28-66.

Green, L.W. (1992). Unpublished personal communications. University of British Columbia. Vancouver.

Green, L.W., Kreuter, M.W., Deeds, S.G., Partridge, K.B. (1980). <u>Health Education</u> <u>Planning: A Diagnostic Approach.</u> Mayfield Publishing Co. Palo Alto, Ca.

Green, L.W., Gottlieb, N.H. (1989). Health Promotion for the Aging Population: Approaches to Extending Life Expectancy. In Andreopoulos, S., Hogness, J.R. (eds.). <u>Health Care for an Aging Society.</u> Churchill Livingstone. New York. 139-57.

Green, L.W., Kreuter, M.W. (1991). <u>Health Promotion Planning: An Educational and</u> <u>Environmental Approach</u>. Mayfield Publishing Co. Mountain View, Ca. 2nd Ed.

Gurland, B., Kuriansky, J., Sharpe, L., Simon, R., Stiller, P. Birkett, P. (1977-78). The Comprehensive Assessment and Referral Evaluation (CARE)-- Rationale, Development and Reliability. International Journal of Aging and Human Development, 8(1): 9-42.

Hanssen, A.M., Meima, N.J., Buckspan, L.M., Henderson, B.E., Helbig, T.L., Zarit, S.H. (1978). Correlates of Senior Center Participation. <u>The Gerontologist 18</u>(2): 193-199.

Health And Welfare Canada (1989). The Active Health Report on Seniors. Minister of Supply and Services. Ottawa.

Health and Welfare Canada (1987). <u>The Active Health Report: Perspectives on</u> <u>Canada's Health Promotion Survey 1985</u>. Minister of Supply and Services Canada. Ottawa.

Institute for Health Care Facilities of the Future (1988). Aging: Future Health Care Delivery. Institute for Health Care Facilities of the Future. Ottawa.

Jacks, M. (1975 April). Changing Perspectives Under the Older Americans Act. In Osterbind, C.C. (ed.) <u>Social Goals, Social Programs and the Aging</u>. Published for the Center for Gerontological Studies and Programs. University Presses of Florida. Gainesville. 9-17.

Jackson, C., Altman, D.G., Howard-Pitney, B., Farquhar, J.W. (1989). Evaluating Community-Level Health Promotion and Disease Prevention Interventions. In Braverman, M.T. (ed.) Evaluating Health Promotion Programs. Jossey-Bass, Inc. San Fransisco. 19-32.

Janz, N.K., Becker, M.H. (1984 Spring). The Health Belief Model: A Decade Later. Health Education Quarterly 11(1): 1-47.

Jette, A.M. (1980). Health Status Indicators: Their Utility in Chronic-Disease Evaluation Research. Journal of Chronic Disease, 33: 567-79.

Kane, R.A., Kane, R.L. (1981). Assessing the Elderly. The Rand Corp. Lexington, Massachusetts.

Kane, R.L. (1987). Commentary: Functional Assessment Questionnaire for Geriatric Patients--Or The Clinical Swiss Army Knife. Journal of Chronic Disease, 40(Suppl. 1): 95S-98S.

Kearney, P., Plax, T.G., Lentz, P.S. (1985). Participation in Community Organisations and Socioeconomic Status as Determinants of Seniors' Life Satisfaction. <u>Activities</u>, <u>Adaptation and Aging</u>,6(4): 31-37.

Kemper, D. (1986). The Healthwise Program: GROWING YOUNGER. In <u>Wellness</u> and <u>Health Promotion for the Elderly</u>. Dychtwald, K. (editor), Aspen Systems Corp., Rockville, Maryland. 263-274.

Kerrisdale Senior Centre Policy Manual. (1987). Kerrisdale Senior Centre. Vancouver.

Kerrisdale Senior Centre Promotional Pamphlet. (1991). Kerrisdale Senior Centre. Vancouver.

Kimble, C.S., Longe, M.E. (1989). <u>Health Promotion Programs for Older Adults: A</u> <u>Planning and Management Guide.</u> American Hospital Publishing, Inc., Chicago.

Krout, J.A. (1983). Knowledge and Use of Services by the Elderly: A Critical Review of the Literature. International Journal of Aging and Human Development 17(3): 153-67.

Krout, J.A. (1983b). Correlates of Senior Center Utilization. <u>Research on Aging, 5(3)</u>: 339-52.

Krout, J.A. (1988). The Frequency, Duration and Stability of Senior Center Attendance. Journal of Gerontological Social Work, 13(1/2): 3-19.

Krout, J.A., Cutler, S.J., Coward, R.T. (1990). Correlates of Senior Center Participation: A National Analysis. <u>The Gerontologist, 30(1)</u>: 72-79.

Labonte, R.N., Penfold, P.S. (1981). <u>Health Promotion Philosophy: From Victim-Blaming to Social Responsibility.</u> Western Region Office, Health Promotion Directorate, Health and Welfare Canada.

Lalonde, B.I.D., Fallcreek, S.J. (1985). Outcome Effectiveness of the Wallingford Wellness Project: A Model Health Promotion Program for the Elderly. Journal of Gerontological Social Work 9(1): 49-64.

Lalonde, B., Hooyman, N., Blumhagen, J. (1988). Long-Term Outcome Effectiveness of a Health Promotion Program for the Elderly: The Wallingford Wellness Project. Journal of Gerontological Social Work 13(1/2): 95-112.

Lalonde, M. (1974). <u>A New Perspective on the Health of Canadians</u>. National Health and Welfare, Canada. Ottawa.

Landry, F. (ed.) (1982). Health Risk Estimation, Risk Reduction and Health Promotion. Canadian Public Health Association. Ottawa.

Larson, E.B. (1988). Health Promotion and Disease Prevention in the Older Adult. Geriatrics, 43(Suppl.): 31-39.

Lawton, M.P., Moss, M., Fulcomer, M., Kleban, M.H. (1982). A Research and Service Oriented Multilevel Assessment Instrument. Journal of Gerontology, <u>37</u>(1): 91-99.

Leanse, J. (1986). The Senior Center as a Wellness Center. In <u>Wellness and Health</u> <u>Promotion for the Elderly.</u> Dychtwald, K. (ed.), Aspen Systems Corp., Rockville, Maryland. 105-118.

Lederman, S., Farrar, M. (1986). The Wisdom Project of the American Red Cross in Greater New York: A Blueprint for a Community-Based Health Care and Health Education Program. In Wellness and Health Promotion for the Elderly. Dychtwald, K. (editor), Aspen Systems Corp., Rockville, Maryland. 247-262.

Maiman, L.A., Becker, M.H. (1974). The Health Belief Model: Origins and Correlates in Psychological Theory. <u>Health Education Monographs</u>, 2(4): 336-53.

Marshall, V.W. (1980). <u>Aging in Canada: Social Perspectives</u>. Fitzhenry and Whiteside, Ltd. Don Mills, Ont.

Martin, S. (1986). Keeping Well: Health Education as a Vehicle for Community Development. Vancouver Health Department. Vancouver.

Martin, S., Robertson, A., Altman, J. (1988 February). <u>A Framework for Health</u> <u>Promotion: Older Adults.</u> Vancouver Health Department. Vancouver. 11 p. MacRae, P.G. (1986). The Effects of Physical Activity on the Physiological and Psychological Health of the Older Adult: Implications for Education. In Peterson, D.A., Thornton, J.E., Birren, J.E. (eds.) Education and Aging. Prentice-Hall, Inc., Englewood Cliffs, New Jersey. 205-230.

McGinnis, J.M. (1982). Future Directions of Health Promotion. In Taylor, R.B., Ureda, J.R., Denham, J.W. <u>Health Promotion: Principles and Clinical Applications.</u> Appleton-Century-Crofts. East Norwalk, Conn.

McLeroy, K.R., Bibeau, D., Steckler, A., Glanz, K. (1988). An Ecological Perspective on Health Promotion Programs. <u>Health Education Quarterly, 15(4)</u>: 351-377.

McKinnon, A.L. (1992). Time Use for Self Care, Productivity, and Leisure Among Elderly Canadians. <u>Canadian Journal of Occupational Therapy</u>, <u>59</u>(2): 102-110.

Meeks, S., Johnson, S. (1988). Health Promotion at a Senior Center: Designing the Ideal Program. Journal of Gerontological Social Work 13(1/2): 21-35.

Minkler, M., Pasick, R.J. (1986). Health Promotion and the Elderly: A Critical Perspective on the Past and Future. In <u>Wellness and Health Promotion for the Elderly.</u> Dychtwald, K. (editor), Aspen Systems Corp., Rockville, Maryland. 39-54.

Mitic, W. (1985 February/March). Nutrition Education for Older Adults: Implementation of a Nutrition Instruction Program. <u>Health Education 15:</u> 7-9.

Moneyham, L.L., Rider, M.S. (1988 September/October). Nursing's Role In Promoting Health For Elders In The Community. <u>Geriatric Nursing</u>: 282-3.

Mor, V., Murphy, J., Masterson-Allen, S., Willey, C., Razmpour, A., Jackson, M.E., Greer, D., Katz, S. (1989). Risk of Functional Decline Among Well Elders. <u>Journal of Clinical Epidemiology</u>, 42(9): 895-904.

Morris, J.N., Sherwood, S., Mor, V. (1984). An Assessment Tool for Use in Identifying Functionally Vulnerable Persons in the Community. <u>The Gerontologist, 24(4)</u>: 373-79.

Morris, W.W., Boutelle, S. (1985). Multidimensional Functional Assessment in Two Modes. <u>The Gerontologist</u>, 25(6): 638-43.

Morris, W.W., Buckwalter, K.C. (1988). Functional Assessment of the Elderly: The lowa Self-Assessment Inventory. In Waltz, C.F., Strickland, O.L. (eds.). <u>Measurement of Nursing Outcomes, Vol. 1.</u>, <u>Measuring Client Outcomes</u>. Springer Publishing Co. New York. 328-51.

Morris, W.W., Buckwalter, K.C., Cleary, T.A., Gilmer, J.S., Hatz, D.L., Studer, M. (1989). Issues Related to the Validation of the Iowa Self-Assessment Inventory. <u>Educational</u> and <u>Psychological Measurement</u>, 49: 853-61. Morris, W.W., Buckwalter, K.C., Cleary, T.A., Gilmer, J.S., Hatz, D.L., Studer, M. (1990). Refinement of the Iowa Self-Assessment Inventory. <u>The Gerontologist</u> 30(2): 243-8.

Morris, W.W., Andrews, P.H., Gilmer, J.S., Buckwalter, K.C., Cleary, T.A., Boutelle, S., Hatz, D.L. (1991). <u>The lowa Self Assessment Inventory User's Manual.</u> © Woodrow W. Morris and Kathleen C. Buckwalter, 1985. University of Iowa.

Mullen, K.D. (1986). Wellness: The Missing Concept in Health Promotion Programming for Adults. Health Values 19(3): 34-37.

Neugarten, B.L., Havighurst, R.J., Tobin, S.S. (1961). The Measurement of Life Satisfaction. Journal of Gerontology, 16: 134-43.

O'Neill, K., Reid, G. (1991). Perceived Barriers to Physical Activity by Older Adults. Canadian Journal of Public Health,82: 392-6.

Osterbind, C.C. (ed.) (1975). <u>Social Goals, Social Programs and the Aging</u>. University Presses of Florida. Gainesville.

Pannill, F.C. (1991). A Patient-Completed Screening Instrument for Functional Disability in the Elderly. <u>The American Journal of Medicine</u>, 90: 320-27.

Parkerson, G.R., Gehlbach, S.H., Wagner, E.H., James, S.A., Clapp, N.E., Muhlbaier, L.H. (1981). The Duke-UNC Health Profile: An Adult Health Status Instrument for Primary Care. <u>Medical Care, 19(8)</u>: 806-828.

Pearlman, R.A. (1987). Development of a Functional Assessment Questionnaire for Geriatric Patients: The Comprehensive Older Persons' Evaluation (COPE). Journal of Chronic Disease, 40(Suppl. 1): 85S-94S.

Peterson, D.A. (1986). Aging and Higher Education. In Peterson, D.A., Thornton, J.E., Birren, J.E. (eds.) <u>Education and Aging.</u> Prentice-Hall, Inc. Englewood Cliffs, New Jersey. 30-61.

Peterson, D.A. (1990). A History of the Education of Older Learners. In Sherron, R.H. and Lumsden, D.B. (eds.) Introduction to Educational Gerontology. 3rd Edition. Hemisphere Publishing Corp. New York.

Pfeiffer, E. (1975). <u>Multidimensional Functional Assessment: The Oars Methodology</u>. Center for the Study of Aging and Human Development. Durham, N.C. 134 p.

Pirie, G. (1991-2). Personal communications and interviews regarding the operation of the Kerrisdale Senior Centre. Kerrisdale Senior Centre. Vancouver.

Radecki, S.E., Cowell, W.G. (1990). Health Promotion for Elderly Patients. <u>Family</u> <u>Medicine, 22(4)</u>: 299-302.

Rakowski, W. (1986). Research Issues in Health Promotion Programs for the Elderly. In <u>Wellness and Health Promotion for the Elderly</u>. Dychtwald, K. (editor), Aspen Systems Corp., Rockville, Maryland. 313-326.

Ralston, P.A., Griggs, M.B. (1985 Fall). Factors Affecting Utilization of Senior Centers: Race, Sex, and Socioeconomic Differences. Journal of Gerontological Social Work, 9(1): 99-111.

Read, J.L., Quinn, R.J., Hoefer, M.A. (1987). Measuring Overall Health: An Evaluation of Three Important Approaches. Journal of Chronic Disease, 40(Suppl. 1): 7S-21S.

Rimer, B., Keintz, M.K., Glassman, B., Kinman, J.L. (1986). Health Education for Older Persons: Lessons from Research and Program Evaluations. In Ward. W.B., Salisbury, Z.T., Zapka, J.G., Kar, S.B. (eds). <u>Advances in Health Education and Promotion</u>. Vol. 1, Part B. Jai Press. Greenwich, Conn. 369-96.

Rosenstock, I.M. (1974). Historical Origins of the Health Belief Model. <u>Health</u> Education Monographs 2(4): 328-35.

Rubinson, L., Alles, W.F. (1984). Introduction and Editors Remarks to Chapter 3, Health Promotion. <u>Health Education: Foundations for the Future</u>. Times Mirror/Mosby College Publishing. St. Louis, Missouri. p. 63, 87.)

Rubinson, L., Alles, W.F. (1984). Editors Remarks. In Lussier, R. History of Health Education. <u>Health Education: Foundations for the Future</u>. Times Mirror/Mosby College Publishing. St. Louis, Missouri. p. 27-29.

Schneider, M.J., Chapman, D.D., Voth, D.E. (1985). Senior Center Participation: A Two-Stage Approach to Impact Evaluation. <u>The Gerontologist 25(2)</u>: 194-200.

Shirreffs, J.A. (1984). The Nature and Meaning of Health Education. In Rubinson, L., Alles, W.F. (eds.) <u>Health Education: Foundations for the Future</u>. Times Mirror/Mosby College Publishing. St. Louis, Missouri. p.35-53.

Singleton, J.F., Mitic, W., Farquharson, J. (1986). Activity Profile of Retired Individuals. Activities, Adaptation and Aging, 9(1): 17-24.

Simmons, J.J., Roberts, E., Nelson, E.C. (1986). The Dartmouth Self-Care for Senior Citizens Program: Tools, Strategies, and Methods. In <u>Wellness and Health Promotion</u> for the Elderly. Dychtwald, K. (editor), Aspen Systems Corp., Rockville, Maryland. 235-246.

Simmons, J.J., Nelson, E.C., Roberts, E., Salisbury, Z.T., Kane-Williams, E., Benson, L. (1989 Winter). A Health Promotion Program: Staying Healthy After Fifty. <u>Health</u> Education Quarterly 16(4): 461-72.

Slivinske, L.R., Kosberg, J.I. (1984). Assessing the Effect of a Personal Health Management System Within Retirement Communities: A Preliminary Investigation. The Gerontologist, 24(3): 280-85.

Spakes, P.R. (1979). Family, Friendship and Community Interaction as Related to Life Satisfaction of the Elderly. Journal of Gerontological Social Work, 1(4): 279-93.

Spector, W.D., Katz, S., Murphy, J.B., Fulton, J.P. (1987). The Hierarchical Relationship Between Activities of Daily Living and Instrumental Activities of Daily Living. Journal of Chronic Disease, 40(6): 481-89.

Stahl, S.M. (1984). Health. In Mangen, D.J. and Peterson, W.A. (eds.). <u>Research</u> Instruments in Social Gerontology, Vol. 3: Health, Program Evaluation and <u>Demography</u>. University of Minnesota. 85-116.

Statistics Canada (1987). <u>Census Tract Profiles: Vancouver Part 1</u>. Minister of Supply and Services Canada. Ottawa.

Statistics Canada (1987). <u>Census Tract Profiles: Vancouver Part 2</u>. Minister of Supply and Services Canada. Ottawa.

Stewart, A.L., Hays, R.D., Ware, J.E. (1988). The MOS Short-form General Health Survey. <u>Medical Care, 26</u>(7): 724-35.

Stuen, C. (1985). Outreach to the Elderly: Community Based Services. Journal of Gerontological Social Work 10: 85-95.

Taylor, R.B., Ureda, J.R., Denham, J.W. (1982). <u>Health Promotion: Principles and</u> <u>Clinical Applications</u>. Appletom-Century-Crofts. East Norwalk, Conn.

Taylor, V. (1990). Health Education - A Theoretical Mapping. <u>Health Education</u> Journal 49(1): 13-14.

Thornton, J.E. (1986). Life Span Learning and Education: A Conceptual Progression in the Life Course. In Peterson, D.A., Thornton, J.E., Birren, J.E. (eds.) Education and Aging. Prentice-Hall, Inc.. Englewood Cliffs, New Jersey. 62-92.

Tones, K. (1990). Why Theorise? Ideology in Health Education. <u>Health Education</u> Journal, 49 (1): 2-6.

Toseland, R.W., Decker, J., Bliesner, J. (1979 Spring). A Community Outreach Program for Socially Isolated Older Persons. <u>Journal of Gerontological Social Work</u> 1(3): 211-224.

Toseland, R., Sykes, J. (1977). Senior Citizens Center Participation and Other Correlates of Life Satisfaction. <u>The Gerontologist, 17(3)</u>: 235-41.

Trela, J.E., Simmons, L.W. (1971). Health and Other Factors Affecting Membership and Attrition in a Senior Center. Journal of Gerontology, 26(1): 46-51.

Uman, G.C., Richardson, P.L. (1986). Application of Classroom Health Education to Health Behavior in Daily Life. In Peterson, D.A., Thornton, J.E., Birren, J.E. Education and Aging. Prentice-Hall, Inc. Englewood Cliffs, New Jersey. 185-204.

U.S. Department of Health, Education and Welfare (1979). <u>Healthy People: The</u> Surgeon General's Report on Health Promotion and Disease Prevention. Office of the Assistant Secretary for Health and Surgeon General, DHEW (PHS) Publication No. 79-55071. Washington.

Valecha, G.K., Ostrom, T.M. (1974). An Abbreviated Measure of Internal-External Locus of Control. Journal of Personality Assessment, 38: 369-76.

Volden, C., Langemo, D., Adamson, M., Oechsle, L. (1990). The Relationship of Age, Gender, and Exercise Practices to Measures of Health, Life-Style, and Self-Esteem. Applied Nursing Research, 3(1): 20-26.

Ware, J.E. (1987). Standards for Validating Health Measures: Definition and Content. Journal of Chronic Disease, 40(Suppl. 1): 473-80.

Ware, J.E., Brook, R.H., Davies, A.R., Lohr, K.N. (1981). Choosing Measures of Health Status for Individuals in General Populations. <u>American Journal of Public Health</u>, <u>71(6)</u>: 620-25.

Ware, J.E. (1985). Monitoring and Evaluating Health Services. <u>Medical Care, 23(5)</u>: 705-709.

Ward. W.B., Salisbury, Z.T., Zapka, J.G., Kar, S.B. (eds). (1986). <u>Advances in Health</u> <u>Education and Promotion</u>. Vol. 1, Part A. Jai Press. Greenwich, Conn.

Ward. W.B., Salisbury, Z.T., Zapka, J.G., Kar, S.B. (eds). (1986). <u>Advances in Health</u> <u>Education and Promotion</u>. Vol. 1, Part B. Jai Press. Greenwich, Conn.

Wechler, R., Minkler, M. (1986). A Community-Oriented Approach to Health Promotion: The Tenderloin Senior Outreach Project. In <u>Wellness and Health</u> <u>Promotion for the Elderly</u>. Dychtwald, K. (editor), Aspen Systems Corp., Rockville, Maryland. 301-312.

Weiler, P.G. (1986). Education and Training in Wellness for Health Care Providers. In <u>Wellness and Health Promotion for the Elderly</u>. Dychtwald, K. (editor), Aspen Systems Corp., Rockville, Maryland. 71-86.

Weiler, P.G., Chi, I., Lubben, J.E. (1989). A Statewide Preventive Health Care Program for the Aged. Public Health Reports 104(3): 215-221.
Weiss, J.C. (1988). The "Feeling Great!" Wellness Program for Older Adults. <u>Activities</u>, <u>Adaptation and Aging 12(3/4)</u>: 1-16.

Whitbourne, S.K., Sperbeck, D.J. (1982). Health Care Maintenance for the Elderly. In Wells, T. (ed.). Aging and Health Promotion. Aspens Systems Corporation. Rockville, Maryland. 111-128.

Whitelaw, N.A., Liang, J. (1991). The Structure of the OARS Physical Health Measures. Medical Care, 29(4): 332-47.

Williams, J.H., Drinka, T.J.K., Greenberg, J.R., Farrell-Holtan, J., Euhardy, R., Schram, M. (1991). Development and Testing of the Assessment of Living Skills and Resources (ALSAR) in Elderly Community-Dwelling Veterans. <u>The Gerontologist</u>, <u>31</u>(1): 84-91.

Windsor, R.A. (1986). The Utility of Time Series Designs and Analysis in Evaluating Health Promotion and Education Programs. In Ward. W.B., Salisbury, Z.T., Zapka, J.G., Kar, S.B. (eds.) Advances in Health Education and Promotion. Vol. 1, Part A. Jai Press. Greenwich, Conn. 435-65.

APPENDIX A

ORDER OF VISITATION OF KERRISDALE BLOCKS

APPENDIX A

ORDER OF VISITATION OF KERRISDALE BLOCKS (with corresponding computer generated number)

- 1. 41 Ave. Larch St. 39 Ave. Balsam St.
- 3. 44 Ave. Boulevard 43 Ave. Maple St.
- 4. 45 Ave. Larch St. 43 Ave. Balsam St.
- 16. 44 Ave. Maple St. 43 Ave. Balsam St.
- 18. Balsam St. Vine St. between 47 and 45 Ave.
- 21. Larch St. Balsam St. on either side of 45 Ave.
- 23. 49 Ave. Yew St. 48 Ave. Boulevard
- 25. Balsam St. Vine St. on either side of 45 Ave.
- 26. Balsam St. Vine St. on either side of 41 Ave.
- 27. 37 Ave. Laburnum St. 39 Ave. Cypress St.
- 31. Elementary School-- 37 Ave, Maple St.
- 33. 39 Ave. Yew St. 38 Ave. Boulevard
- 34. Maple Grove Elementary School
- 35. 49 Ave. Cypress St.
- 41. Vine St. Yew St., either side of 45 Ave.
- 42. 42 Ave. Yew St. 41 Ave. Bouldevard
- 43. 45 Ave. Boulevard 44 Ave. Maple St.
- 45. 43 Ave. Boulevard 42 Ave. Maple St.
- 46. 37 Ave. Cypress St.
- 48. 38 Ave. Yew St. 37 Ave. Boulevard
- 51. 41 Ave. Maple St. 39 Ave. Laburnum St.
- 57. 49 Ave. Balsam St. 47 Ave. Vine St.
- 61. 41 Ave. Boulevard- Kerrisdale Park Maple St. (Park and School)
- 67. 40 Ave. Yew St. 39 Ave. Boulevard
- 67. 49 Ave. Boulevard 48 Ave. Maple St.
- 69. 47 Ave. Balsam St. Vine St.
- 77. Elm St. Larch St., either side of 46 Ave.
- 77. 39 Ave. Balsam St. Vine St.
- 81. 47 Ave. Boulevard 46 Ave. Maple St.
- 83. 42 Ave. Boulevard 41 Ave. Maple St.
- 94. 45 Ave. Maple St. 44 Ave. Cypress St.
- 95. Elm St. Larch St., either side of 44 Ave.
- 97. Kerndale Park
- 99. Larch St. Balsam St., either side of 46 Ave.
- 100. 41 Ave Cypress St.
- 100. 39 Ave. Elm St. Larch St.
- 100. 43 Ave. Elm St. Larch St.
- 103. Elm St. Larch St., either side of 45 Ave.
- 105. 41 Ave. Yew St. 40 Ave. Boulevard
- 110. Vine St. 43 Ave. Yew St.

- 110. 45 Ave. Yew St. 46 Ave. Boulevard 113. 46 Ave. - Yew St. - 47 Ave. - Boulevard 114. Point Grey Park 117. 39 Ave. - Larch St. - Elm St. 117. 41 Ave. -Maple St. -42 Ave. - Cypress St. 120. Balsam St. - 42 Ave. - Vine St. - 43 Ave. 121. Laburnum St. - 38 Ave. - Cypress St. - 39 Ave. 124. 47 Ave. - Boulevard - 48 Ave. - Maple St. 128. 47 Ave. - Yew St. - 48 Ave. - Boulevard 136. 43 Ave. - Balsam St. - 44 Ave. - Vine St. 138. Elm St. - 49 Ave. - Larch St. - 47 Ave. 138. Point Grey Park 145. Elm Park 145. Vine St. - 49 Ave. - Yew St. - 47 Ave. 147. Vine St. - 47 Ave. - Yew St. - 46 Ave. 150. 45 Ave. - Yew St. - 44 Ave. - Boulevard 152. 41 Ave., between Elm and Larch 155. Boulevard - 45 Ave. - Maple St. 46 Ave. 156. 37 Ave. - Larch St. - 39 Ave. - Balsam St. 160. 43 Ave. - Yew St. - 42 Ave. - Boulevard 165. Vine St. - 37 Ave. - Yew St. - 39 Ave. 169. 37 Ave., between Vine and Yew St.
- 176. Cypress St. 49 Ave. Laburnum St. 47 Ave.
- 186. 43 Ave. Maple St. 42 Ave. Cypress St. 37 Ave., between Yew and Balsam St.

APPENDIX B

IOWA SELF-ASSESSMENT INVENTORY AND ITS SCORE PROFILE

Appendix A

Directions

The statements on the following pages are about things that can affect our lives in one way or another. We ask you to describe your own situation using these statements. In this way we hope to understand some of your problems and needs. Please use the following key in rating each statement:

4 — True 3 — More often true than not 2 — More often false than not 1 — False

Please read each statement carefully and then encircle the number corresponding to the answer that *best* applies to you. We realize that some of the statements may not apply directly to you all the time, but try to do the best you can. Do not worry about giving exactly the right answer; your answer may simply mean the statement is true or false to some degree. Please try to make an answer to *every* statement.

| | | - | | | _ | | | | | | | |
|---------------|---|----|---|----------------|---|---|------------|--|---|--------|----------------|---|
| 1 | . I have enough money to meet | | | | | | 29 | . My finances at the present time are | | | | |
| | unexpected emergencies. | 4 | 3 | 2 | 1 | 1 | | excellent. | 4 | 3 | 2 | 1 |
| 2 | . I sometimes get tense as I think of the | | | | | | 30 | . I am a very nervous person. | 4 | 3 | 2 | 1 |
| | day's happenings. | 4 | 3 | 2 | 1 | 1 | 31 | . My ability to carry on my daily activities | | | | |
| 3 | . I have no physical disabilities or | | | | | | | is worse than it was 5 years ago. | 4 | 3 | 2 | 1 |
| | illnesses at this time. | 4 | 3 | 2 | 1 | | 32 | . I am sure I am being talked about. | 4 | 3 | 2 | 1 |
| 4 | . People secretly say bad things about | | | | | | -33 | . I am not able to prepare my own meals. | 4 | 3 | 2 | 1 |
| | me. | 4 | 3 | 2 | 1 | | 34 | . Learning new things is harder for me | | | | |
| 5 | . I need a cane, crutches, walker, or | | | | | | | than it used to be. | 4 | 3 | . 2 | 1 |
| | wheelchair to get around. | 4 | 3 | 2 | 1 | | 35 | . No one shares my concerns. | 4 | 3 | 2 | 1 |
| 6 | . I have trouble remembering things that | | | | | | 36. | . My monthly expenses are so high I | | | | |
| | happened recently. | 4 | 3 | 2 | 1 | | | cannot always pay my bills. | 4 | 3 | 2 | 1 |
| 7 | . There is no one I can turn to in times of | | | | | | 37. | . I get upset over things. | 4 | 3 | 2 | 1 |
| | stress. | 4 | 3 | 2 | 1 | | 38. | . I have fewer health problems than most | | | | |
| 8 | I have enough money to buy those little | | | | | | | older people I know. | 4 | 3 | 2 | 1 |
| - | extras. | 4 | 3 | 2 | 1 | | 39. | Someone is controlling my thoughts. | 4 | 3 | 2 | 1 |
| 9 | I frequently find myself worrying. | 4 | 3 | 2 | 1 | | 40. | I walk without help. | 4 | š | $\overline{2}$ | 1 |
| 10 | I take 3 or more medicines each day. | 4 | 3 | 2 | 1 | | 41. | l forget appointments. | 4 | 3 | $\overline{2}$ | 1 |
| 11 | Friends are disloval to me behind my | | - | _ | | | 42 | I know people I can depend on to help | • | 3 | - | |
| • • • | back. | 4 | 3 | 2 | 1 | | | me if I really need it. | 4 | 3 | 2 | 1 |
| 12 | l do my own shopping without help. | 4 | 3 | 2 | 1 | | 43 | have some savings and/or | | 5 | - | • |
| 13 | I forget where I nut things | 4 | 3 | $\overline{2}$ | 1 | | | investments | 4 | 3 | 2 | 1 |
| 14 | There is no one I can depend on for aid | • | 5 | - | | | 44 | l worry over nast mistakes | 4 | 3 | 2 | 1 |
| 7-73 | if I really need it | 4 | 3 | 2 | 1 | | 45 | During the past year I have been so sick | т | 5 | ~ | |
| 15 | I have enough money to meet my | • | 5 | ~ | | | 15. | I was upable to carry on my usual | | | | |
| 13. | regular daily expenses | ⊿ | 3 | 2 | 1 | | | activities | Λ | 3 | 2 | 1 |
| 16 | Llose sleep over worry | 4 | 3 | 2 | 1 | | 46 | Strangers look at me critically | 1 | 2 | 2 | 1 |
| 10. | My overall health is excellent | 4 | 2 | 2 | 1 | | 40. | I can visit a friend or relative who lives | - | 5 | ~ | ' |
| 17. | I believe Lam being plotted against | 7 | 2 | 2 | 1 | | ч/. | out of town for overnight or longer | 4 | 2 | р | 1 |
| 10. | I do my own laundry | 7 | 2 | 2 | 1 | | 48 | My mind is just as sharp as ever | 4 | 2 | 2 | 1 |
| - 19. - 20 | have trouble remembering the names | -7 | 5 | 4 | | | 70. 70 | If something went wrong, no one | 4 | J | 2 | 1 |
| 20. | of people 1 know | 1 | 2 | 2 | 1 | | 49. | would come to my assistance | 1 | 2 | า | 1 |
| 21 | There is comeaned can talk to about | 7 | J | 2 | | | 50 | Luce food stamps | 4 | ン っ | 2 | 1 |
| 21. | important desisions | 4 | 2 | ъ | 1 | | 50. | have more uns and downs then most | 4 | 3 | 4 | I |
| 22 | Important decisions. | 4 | 2 | 2 | 1 | | 51. | nave more ups and downs than most | 4 | ъ | 2 | 1 |
| 22. | I need infancial help. | 4 | З | 2 | ţ | | F 0 | people. | 4 | 3 | 2 | 1 |
| 23. | Tam bothered by thoughts I can't get | | ъ | ъ | 1 | | 52. | During the past year I have been to a | | 2 | 2 | 4 |
| 24 | out of my nead. | 4 | 3 | 2 | | | - | doctor fewer than 4 times. | 4 | 3 | 2 | 1 |
| 24. | My health is better than it was 5 years | | 2 | 2 | 4 | | 53. | i see things when others do not. | 4 | 3 | 2 | 1 |
| 0 - | ago. | 4 | 3 | 2 | 1 | | 54. | l visit friends in their nomes. | 4 | 3 | 2 | 1 |
| 25. | Someone has it in for me. | 4 | 3 | 2 | 1 | | 55. | I forget to take medicine when I am | | | ~ | |
| 26. | Getting around town is a problem for | | ~ | ~ | | | - (| supposed to. | 4 | 3 | 2 | 1 |
| a - | me. | 4 | 3 | 2 | 1 | | 56. | I do not have close relationships with | | | ~ | ~ |
| 27. | I lose my train of thought in the middle | | ~ | ~ | | | | other people. | 4 | 3 | 2 | 1 |
| | of a conversation. | 4 | 3 | 2 | 1 | | | | | | | |
| 28. | There is no one I feel comfortable | | | | | | | | | | | |
| | talking about problems with. | 4 | 3 | 2 | 1 | | | | | | | |

| iender | (circle | one): | Female | | Male | Age on | last bi | rthday |
|-------------|---------|-------|---------|------------|------|--------|---------|--------|
| T | 60 | ** | | | | ~ | ~~ | T |
| cores 70 | ER | | PM | 10 | MU | | | 70 |
| - | | | | | | | | - |
| - | | | 32 | | | 32 | | - |
| - | | | | | | ~~ | | - |
| 65- | | 20 | 31 | | | 24 | | -65 |
| - | | 32 | 30 | | | 31 | | - |
| - | | 31 | 29 | | | 30 | | - |
| - 60 | | | 28 | - 32 - | 32- | 29- | | 60 |
| | 32 | | 27 | | | 28 | | |
| - | 31 | 29 | 28 | | 31 | 27 | 32 | - |
| - | | 28 | 25 | • | | • / | | - |
| 55- | 30 | 27 | 24 | | 30 | 26 | 31 | -55 |
| - | 29 | 28 | 23 | 31 | 79 | | 30 | - |
| - | 28 | | 22 | | 28 | 24 | | - |
| - 50 | 27 | -25 | 21 | - 30- | 27- | 23- | 29- | 50 |
| | | 24 | | | | | | |
| - | 26 | 77 | 20 | 20 | 26 | 22 | 78 | - |
| - | | 20 | 14 | 29 | 25 | 21 | | - |
| 45- | 24 | 22 | 18 | | 24 | 20 | 27 | -45 |
| - | 23 | 21 | 17 | 28 | 23 | 19 | | - |
| - | 22 | 20 | 16 | | | | 28 | - |
| 40 | 21 | - 19 | 15 | -27- | 21- | 18 | 25- | 40 |
| - | • · | | 14 | | • • | | | - " |
| - | 20 | 18 | 13 | 26 | 20 | 16 | 24 | - |
| - | 13 | 17 | 12 | 20 | 19 | 15 | 24 | - |
| 35- | 18 | 16 | 11 | | | | 23 | -35 |
| - | 17 | 15 | 10 | 25 | 18 | 14 | | - |
| - | 16 | | 9 | | 17 | 13 | 22 | - |
| - | 15 | 14 | 8 | 24 | 16 | 12 | 21 | - 30 |
| - | | 13 | ÷ | • • | 15 | 11 | - · | - " |
| • | 14 | | | 22 | | | 20 | - |
| - | 13 | 14 | | 23 | 14 | 10 | 20 | - |
| 25- | 12 | 11 | | | 13 | 9 | | -25 |
| - | 11 | 10 | | 22 | 12 | 8 | 19 | - |
| - | 10 | 9 | | | •• | | 18 | - |
| - | 9 | 8 | | 21 | 11 | | 17 | - 20 |
| | 3 | 5 | | • ' | .0 | | 17 | - |
| - | 8 | | | 20 | 9 | | 48 | - |
| - | | | | 20 | 8 | | 10 | - |
| 5- | | | | | - | | | - 15 |
| - | | | | 19 | | | 15 | - |
| - | | | | | | | 14 | - |
| <u>_</u> | | | | 10 | | | 13 | - 10 |
| ·- | | | | 10 | | | 13 | - 10 |
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| 0 | | | | 15- | | | 9 | 0 |

Figure 1: Iowa Self Assessment Inventory Profile Form

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APPENDIX C

QUESTIONNAIRE AS IT WENT OUT TO STUDY PARTICIPANTS



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DIFFERENCES BETWEEN PARTICIPANTS AND NON-PARTICIPANTS OF A COMMUNITY BASED SENIOR HEALTH EDUCATION PROGRAM

Information about who participates or does not participate in community health education programs, and why they make that choice, is important to those who organise such services so that participants can obtain maximum benefit from the service.

The National Health Research and Development Program (NHRDP) has funded a study through the University of British Columbia Department of Health Care and Epidemiology, to determine whether there are differences between seniors who participate in the Kerrisdale Senior Center Health Drop In Program, and those who don't. The names of the persons conducting the study are Dr. Samuel Sheps and Shannon Berg, and they can be reached at UBC (604) 822-3910.

You are being asked, along with a sample of community residents, to participate by filling out two questionnaires which answer some questions about why you do or do not participate in the Drop In program. The questionnaires should take approximately one hour to complete. They will be left with you overnight for you to complete and will be collected the next day.

You do not have to participate if you do not want to, and if you choose not to, this will in no way jeopardise any services that you receive at the Kerrisdale Senior Center. If you complete and return the questionnaire, researchers at UBC will assume you are consenting to participate. Do not place your name on the questionnaire. Your identity will remain anonymous.

The questionnaire will only be seen by Dr. Sheps and Shannon Berg. All questionnaires will be destroyed after the study is completed.

Thank you for your time and effort in assisting us to determine reasons for participation in health education programs.

If you would like to receive a summary of the results of this study, please provide your name and address below. This information will be kept separate from your questionnaire to ensure that your identity remains confidential.

I wish to receive a summary of the study results: Yes_____ No _____

If "yes", please provide your name and address:

IOWA SELF ASSESSMENT INVENTORY1

DIRECTIONS

The statements on the following pages are about things that can affect our lives in one way or another. We ask you to describe your own situation using these statements.

Please use the following key in rating each statement:

- 1 True
- 2 More often true than not
- 3 More often false than not]
- 4 False

Please read each statement carefully and then circle the number corresponding to the answer that **best** applies to you. We realise that some of the statements may not apply directly to you all the time, but try to do the best you can. Do not worry about giving exactly the right answer; your answer may simply mean the statement is true or false to some degree.

Please try to circle an answer for every statement.

^{1 © 1985} by Woodrow W. Morris and Kathleen C. Buckwalter

1 = TRUE

2 = MORE OFTEN TRUE THAN NOT 3 = MORE OFTEN FALSE THAN NOT

4 = FALSE

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| , | 1. | I have enough money to meet unexpected |
|---|-----|---|
| | | emergencies |
| | 2. | I sometimes get tense as I think of the day's |
| | | happenings |
| | З. | I have no physical disabilities or illnesses at |
| | | this time |
| | 4. | People secretly say bad things about me 1 2 3 4 |
| | 5. | I need a cane, crutches, walker, or |
| | | wheelchair to get around |
| | 6. | I have trouble remembering things that |
| | | happened recently |
| | 7. | There is no one I can turn to in times of |
| | | stress |
| | 8. | I have enough money to buy those little |
| | | extras |
| | 9. | I frequently find myself worrying |
| | 10. | I take 3 or more medicines each day 1 2 3 4 |
| | 11. | Friends are disloyal to me behind my back 1 2 3 4 |
| | 12. | I do my own shopping without help |
| | 13. | I forget where I put things |
| | | |

1 = TRUE 2 = MORE OFTEN TRUE THAN NOT 3 = MORE OFTEN FALSE THAN NOT 4 = FALSE

| 14. | There is no one I can depend on for aid if I |
|-----|---|
| | really need it |
| 15. | I have enough money to meet my regular |
| | daily expenses |
| 16. | I lose sleep over worry |
| 17. | My overall health is excellent |
| 18. | I believe I am being plotted against 1 2 3 4 |
| 19. | I do my own laundry |
| 20. | I have trouble remembering the names of |
| | people I know |
| 21. | There is someone I can talk to about |
| | important decisions |
| 22. | I need financial help |
| 23. | I am bothered by thoughts I can't get out of |
| | my head |
| 24. | My health is better than it was 5 years ago 1 2 3 4 |
| 25. | Someone has it in for me |
| 26. | Getting around town is a problem for me 1 2 3 4 |
| 27. | I lose my train of thought in the middle of a |
| | conversation |

•

1 = TRUE 2 = MORE OFTEN TRUE THAN NOT 3 = MORE OFTEN FALSE THAN NOT 4 = FALSE

| 28. | There is no one I feel comfortable talking |
|-----|--|
| | about problems with |
| 29. | My finances at the present time are excellent. 1 2 3 4 |
| 30. | I am a very nervous person |
| 31. | My ability to carry on my daily activities is |
| | worse than it was 5 years ago |
| 32. | I am sure I am being talked about 1 2 3 4 |
| 33. | I am not able to prepare my own meals 1 2 3 4 |
| 34. | Learning new things is harder for me than it |
| | used to be |
| 35. | No one shares my concerns |
| 36. | My monthly expenses are so high I cannot |
| | always pay my bills |
| 37. | I get upset over things |
| 38. | I have fewer health problems than most older |
| | people I know |
| 39. | Someone is controlling my thoughts 1 2 3 4 |
| 40. | I walk without help |
| 41. | I forget appointments |
| 42. | I know people I can depend on to help me if I |
| | really need it |
| | |

1 = TRUE 2 = MORE OFTEN TRUE THAN NOT 3 = MORE OFTEN FALSE THAN NOT 4 = FALSE

| | 1 2 3 4 |
|-----|--|
| 43. | I have some savings and/or investments 1 2 3 4 |
| 44. | I worry over past mistakes |
| 45. | During the past year I have been so sick I |
| | was unable to carry on my usual activities 1 2 3 4 |
| 46. | Strangers look at me critically |
| 47. | I can visit a friend or relative who lives out of |
| | town for overnight or longer |
| 48. | My mind is just as sharp as ever |
| 49. | If something went wrong, no one would |
| | come to my assistance |
| 50. | receive the GIS (Guaranteed Income Supplement).1 2 3 4 |
| 51. | I have more ups and downs than most |
| | people |
| 52. | During the past year I have been to a doctor |
| | fewer than 4 times |
| 53. | I see things when others do not |
| 54. | I visit friends in their homes |
| 55. | I forget to take medicine when I am |
| | supposed to |
| 56. | I do not have close relationships with other |
| | people |
| | |

QUESTIONNAIRE RE PARTICIPATION/NON-PARTICIPATION IN A COMMUNITY BASED SENIORS HEALTH EDUCATION PROGRAM

| 1) | What | is your birthdate | e? | | |
|-----|----------------|-------------------------------|------------------------------|--|---|
| • | | . • | Month | Day | Year |
| 2) | Sex | М | F | | |
| 3) | What | is the highest g | rade you comp | pleted in sch | 1001? |
| 4) | Do yo | u live: | with another | with a sp relative or fr | alone ouse riend other |
| 5) | Do γο ι | u live in an: | single family other (plea | apartment _ residence _ ase specify) | |
| 6) | Do you | u know about th | e Health Drop | In Program | at Kerrisdale Seniors Center? |
| | | | | Yes | No |
| 7) | Have y | ou ever attende | ed the program | 1? Yes | No |
| 8) | lf so, fo | or how long? | | 0 | |
| | | More than | n once but less 3 m M | onths to 1 yo ore than 1 yo | nce hths vear ear |
| 9) | Do γοι | u attend the Hea Yes No | aith Drop in at (go to | Kerrisdale S | Senior Center now? 4) |
| ſ | | | | | |
| 10) | What | do you participa | ate in: | | |
| | E | xercise program | · | Blood I Neck and 8 of 10- | Pressure Monitoring Shoulder Massage |

11) How did you hear about the Kerrisdale Senior Center Drop In?

| Read about it | Public health nurse |
|------------------|---------------------|
| A friend told me | My doctor told me |
| Other (specify) | |

12) How frequently do you attend the Health Drop In at Kerrisdale Senior Center?

Every week _____ On a regular basis (for example, every 2 weeks) _____ Not on a regular basis _____

13) Why do you attend the Health Drop In at Kerrisdale Senior Center? (select all appropriate)

| Health is important to me | Have lots of time |
|-----------------------------|--|
| To make friends | Center is close and easy to get to |
| Need the exercise | I'm good at exercise |
| Want to stay active | I go to other activities so I'm there |
| To participate with a group | I want to continue living at home |
| Enjoy exercising | My doctor told me to go |
| Relief from boredom | To be accepted by others |
| Break in routine | My friends and/or spouse go |
| | To participate/volunteer in community work |
| | I'm interested in learning how to keep healthy |

Others (please list)_____ Please go to question 15

14) Why don't you attend the Health Drop In at Kerrisdale Senior Center? (select all appropriate responses)

| Don't know about it | Not interested |
|--------------------------|--|
| Would not enjoy it | Not enough time |
| Too far to center | Don't know anyone there |
| Can't do exercise | Poor health |
| Don't like to leave home | Health is not important to me |
| Won't do me anv good | My friends and/or spouse think its silly |
| Can't afford it | My friends and/or spouse don't go |
| My doctor says not to | I don't feel welcome there |
| Don't need it | No transportation |
| | |

Others (please list) _____

15) What other community activities are you involved in and in what capacity?

| Program | Attend | Leader or volunteer |
|---|--------|--|
| Other programs at Kerrisdale Seniors Center West Main Health Unit activities Attendance at church Church groups, organizations | | |
| Attend Symphony, opera, etc. | | |
| Recreational activities | | |
| Other Senior center, organizations | | |
| Community Center | | |
| Others: | | ······································ |
| | | |

16) On average, during one week, how many hours do you spend on the following activities:

| household activities | |
|-------------------------------|--|
| exercise | |
| hobbies | |
| visiting friends or relatives | |
| community activities | |
| gardening _ | |
| sleep | |
| | |

Thank you for completing these questionnaires.

LIST OF "OTHER" ACTIVITIES SPECIFIED BY RESPONDENTS UNDER COMMUNITY ACTIVITIES

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APPENDIX D

APPENDIX D

LIST OF SPECIFIED COMMUNITY ACTIVITIES IN THE "OTHERS" CATEGORY

A) PARTICIPANTS:

- Art and Choir
- Board Member for Kiwana's Neighbourhood House
- Board Member of False Creek Recreation Association
- Board member for A.S.K.
- · Board member for apartment building
- Board member for Operating Committee
- Bowling
- Children's Hospital Auxiliary for 40 years
- Entertain seniors in nursing homes, etc.
- Garden Clubs
- Golf Club
- Hospital volunteer (2)
- · Piano lessons
- Rotary Club
- South Slope YMCA
- · University Women's Club of Vancouver
- · Whist at different churches on Saturday nights

B) NON-PARTICIPANTS

- Arbutus Club
- Ballroom dancing
- Boundary Bay Flying Club (2)
- Bridge (5)
- •Carpet Bowling

- Chess
- Classes at centres
- Family gatherings, visit family out of town, etc. (3)
- Golf (2)
- Help a "hard of seeing" friend
- · Keep in contact with some elderly people
- Library (3)
- Night school courses
- Recorder group
- Red Cross
- Royal Canadian Legion
- RCMP Veteran's Ladies Auxiliary
- Seminars: New Age Group
- Square dancing
- Volunteer Canadian Cancer
- Volunteer work for hospitals (2)
- Volunteer for Meals on Wheels (2)
- Woodpen Club
- Work part-time

APPENDIX E

MEANS OF RESPONSES FOR PARTICIPANTS CHOOSING EACH REASON COMPARED TO MEANS FOR ALL PARTICIPANTS

| APPENDIX E1: Means of Responses for Participants Choosing Each Reason | | | | | | | | | | | | | |
|---|-----------|---------|--------|------|-------|-------|------|-------|--|--|--|--|--|
| | AGE (vrs) | ISAL SC | CALES: | | 00100 | / | | | | | | | |
| | | BR BB | | PH | то | MO | cs | SS | | | | | |
| ALL PARTICIPANTS | 74.8 | 30.1 | 24.4 | 24.4 | 30.1 | 29 | 24.2 | 29.3 | | | | | |
| | | | | | | - | | | | | | | |
| PREDISPOSING (n = 51) | 74.4 | 30.2 | 24.3 | 23.8 | 30.8 | 28.9 | 24 | 29.5 | | | | | |
| Do volunteer work $(n = 7)$ | 73.9 | 30.4 | 24.9 | 22.7 | 30.9 | 30 | 25.1 | 30.9 | | | | | |
| Health important to me (n = 39) | 73.4 | 30.2 | 24.2 | 24.2 | 30.7" | 28.9 | 24 | 29.9 | | | | | |
| Health learning interest (n = 21) | 73.6 | 29.5 | 24.5 | 23.6 | 30.4 | 29.1 | 23.6 | 29.7 | | | | | |
| Want to stay home $(n = 19)$ | 77.5 | 29.9 | 25 | 24.4 | 31.2† | 28.6 | 24.7 | 29 | | | | | |
| Want to stay active $(n = 28)$ | 74.1 | 29.9 | 24.5 | 24.5 | 30.3 | 29.2 | 23.8 | 29.1 | | | | | |
| Need the exercise $(n = 24)$ | 73.8 | 29.7 | 24.7 | 24.6 | 30.5 | 29.6 | 23.3 | 29.1 | | | | | |
| | | | | | | | | | | | | | |
| ENABLING (n = 26) | 75.3 | 30.7 | 25.3 | 24.8 | 30.6 | 29.6 | 23.8 | 29.4 | | | | | |
| Good at exercise (n = 14) | 76 | 30.6 | 25.1 | 26.2 | 30.9 | 29.9 | 23.2 | 30 | | | | | |
| Centre close (n = 22) | 75.4 | 30.8 | 25.5 | 25.5 | 30.7 | 29.3 | 24.7 | 29 | | | | | |
| There for other activity (n =10) | 74.2 | 30.5 | 25.7 | 24.9 | 30.3 | 30 | 22.8 | 29.7 | | | | | |
| Lots of time $(n = 9)$ | 73.4 | 31.3 | 24.1 | 26.9 | 30.1 | 28.7 | 22.8 | 27.3 | | | | | |
| | | | | | | | | | | | | | |
| REINFORCING (n = 37) | 74.6 | 29.8 | 24.3 | 24.6 | 30 | 28.6 | 24.6 | 29.1 | | | | | |
| Enjoy exercising (n = 19) | 74.4 | 30.3 | 23.7 | 25.7 | 30.4 | 29.1 | 23.1 | 28.8 | | | | | |
| Dr. said to go (n = 6) | 77.5 | 31.2 | 26.8 | 24.2 | 30.6 | 26.8 | 22 | 29.2 | | | | | |
| Relief from boredom $(n = 7)$ | 73.4 | 29.1 | 23.6 | 23.9 | 30.6 | 26.9 | 21.7 | 26.4^ | | | | | |
| Break in routine (n = 7) | 72.3 | 29.9 | 21.6 | 25.7 | 29.6 | 27.1 | 23.1 | 25.9 | | | | | |
| Participate with group (n = 16) | 75.6 | 30.1 | 23.9 | 25.1 | 31 | 29.9" | 24.7 | 29.6 | | | | | |
| Friends/Spouse go (n = 15) | 76 | 30.2 | 25.7 | 24.9 | 30.1 | 28.4 | 25.2 | 29.6 | | | | | |
| Be accepted by others $(n = 2)$ | 71 | 24.5 | 22.5 | 19 | 32 | 22.5^ | 24.5 | 23.5 | | | | | |
| Make friends (n = 14) | 72.6 | 28.6 | 23.5 | 24.7 | 29.7 | 28 | 23.9 | 27.7^ | | | | | |
| | | | | | | | | | | | | | |

APPENDIX E

"Significantly higher using Mann Whitney U tests at the p \leq .05 level

†Significantly higher using Mann Whitney U tests at the $p \le .01$ level

^ Significantly lower using Mann Whitney U tests at the $p \le .05$ level Means for respondents choosing each reason are compared to the overall participant group means.

| APPENDIX E2: Means of Responses for Participants Choosing Each Reason | | | | | | | | | | | | | | | | | |
|---|--------------------|----------|---------|----------|--------------------|-----------|-------|----------------------|---------------------------------|--------|---------------|------------------------|----------------|-------------------------|----------------------|------------------|----------|
| Compared to Means for All Participants (Hours of Activity and Community Activity) | | | | | | | | | | | | | | ty) | | | |
| | Hour | s of | Act | tivity | (hrs | s.) | | 1 | Community Activity (proportion) | | | | | | | | |
| | Household Activity | Exercise | Hobbies | Visiting | Community Activity | Gardening | Sleep | Total Hours Activity | Kerrisdale Sen. Centre | Church | Church Groups | Cultural Organisations | Symphony, etc. | Recreational Activities | Other Senior Centres | Community Centre | Other |
| TOTAL PARTIC. | 11.5 | 5.6 | 5.1 | 5.8 | 2.9 | 2.1 | 47 | 76.3 | 0.3 | 0.3 | 0.2 | 0.1 | 0.4 | 0.3 | 0.2 | 0.1 | 0.2 |
| PREDISPOSING (51) | 11.9 | 5.1^ | 4.7^ | 6 | 2.9 | 2.2^ | 48.6 | 76.7 | 0.3 | 0.3 | 0.3 | 0.2 | 0.5 | 0.4 | 0.1 | 0.1 | 0.2 |
| Volunteer work (7) | 12.1 | 4.4 | 4.6 | 3.3 | 7.71 | 2.7 | 43.5 | 73.3 | 0.91 | 0.4 | 0.4 | 0.1 | 0.7 | 0.4 | 0.3 | 0 | 0.3 |
| Health important (39 | 12.4 | 5.9 | 5.4 | 5.1 | 3.5 | 2 | 49.9 | 80.3 | 0.3 | 0.3 | 0.3 | 0.2 | 0.5 | 0.4 | 0.2 | 0.1 | 0.2 |
| Health learning (21) | 11.0 | 4.3 | 1.3 | 4.3 | 3 | 2.1 | 51.8 | 70.4 | 0.4 | 0.4 | 0.3 | 0.1 | 0.4 | 0.4 | 0.3 | 0.1 | 0.2 |
| To stay home (19) | 12.7 | 5 | 4.0 | 4.1 | 2.2 | 2.9 | 51.0 | 70.4 | 0.3 | 0.3 | 0.2 | 0.1 | 0.4 | 0.3 | 0.3 | 0.1 | 0.2 |
| 10 stay active (28) | 0.1 | 5 | 5.5 | 6 1 | 2.1 | 2.4 | 767 | 70.5 | 0.4 | 0.3 | 0.3 | 0.2 | 0.4 | 0.4 | 0.2 | 0.1 | 0.2 |
| Need exercise (24) | 9.1 | 5.0 | 4 | 0.1 | 2 | | 40.7 | 71.0 | 0.3 | 0.3 | 0.2 | 0.2 | 0.5 | 0.4 | 0.2 | 0.2 | 0.2 |
| ENABLING (n = 26) | 10.1 | 6 | 4.9 | 3.8 | 1.8 | 2 | 49.2 | 74.5 | 0.4 | 0.4 | 0.2 | 0.2 | 0.5 | 0.4 | 0.3" | 0.2 | 0.2 |
| Good at exer. (14) | 12.8 | 8.2 | 5.5 | 4.8 | 2.2 | 2.2 | 49.4 | 85 | 0.4 | 0.4 | 0.2 | 0.1 | 0.5 | 0.4 | 0.2 | 0.2 | 0.1 |
| Centre close (22) | 9.9 | 5.8 | 4.6 | 4 | 1.6 | 1.3 | 49.4 | 73 | 0.3 | 0.4 | 0.2 | 0.1 | 0.6 | 0.3 | 0.2 | 0.1 | 0.2 |
| There (10) | 14 | 8.6 | 5.8 | 5.1 | 4 | 3.1 | 48.8 | 91.6 | 0.8† | 0.2 | 0.2 | 0.2 | 0.4 | 0.3 | 0.5† | 0.2 | 0.2 |
| Lots of time (n = 9) | 14.4 | 5.7 | 8.6 | 3.7 | 1.6 | 1.7 | 49.1 | 86.9 | 0.4 | 0.2 | 0.2 | 0.2 | 0.6 | 0.2 | 0.1 | 0.2 | 0 |
| REINFORCING (37) | 10.4 | 6 | 5.1 | 4.7 | 2.3 | 1.9 | 47.3 | 73.5 | 0.3 | 0.3 | 0.3 | 0.2 | 0.4 | 0.4 | 0.2 | 0.1 | 0.1 |
| Enjoy exercise (19) | 11.9 | 6.8 | 5.8 | 4.8 | 1.9 | 2.1 | 50.2 | 81.8 | 0.4 | 0.2 | 0.3 | 0.2 | 0.5 | 0.3 | 0.2 | 0.2 | 0.2 |
| Dr. said to go $(n = 6)$ | 10.4 | 9.8 | 6 | 7.8 | 8.2 | 1 | 47.4 | 90.6 | 0.5 | 0.2 | 0 | 0 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| Relieve boredom (7) | 11.7 | 7.1 | 5.1 | 5.3 | 1.7 | 1.3 | 52 | 87.1 | 0.6 | 0 | 0.1 | 0.1 | 0.6 | 0.1 | 0.1 | 0.1 | 0 |
| Break in routine (7) | 12.4 | 3.6 | 9.1 | 3 | 0.3 | 1.7 | 51.5 | 77.1 | 0.4 | 0.4 | 0.1 | 0.1 | 0.4 | 0 | 0.1 | 0.3 | 0 |
| Partic. in group (16) | 12.5 | 6.5 | 2.6 | 4.8 | 3.3 | 1.5 | 49.6 | 74.8 | 0.5 | 0.3 | 0.3 | 0.2 | 0.6 | 0.3 | 0.3 | 0.1 | 0.1 |
| Fr./Spouse go (15) | 9.2 | 5.1 | 6 | 4.5 | 0.9^ | 2.3 | 46.6 | 75.9 | 0.2 | 0.3 | 0.2 | 0.1 | 0.3 | 0.5 | 0.2 | 0.2 | 0.1 |
| Be accepted (2) | 15 | 1.5 | 0 | 0 | 0 | 4 | 63 | 83.5 | 0 | 0 | 0.5 | 0 | 0.5 | 0 | 0 | 0 | 0 |
| Make friends (14) | 12.6 | 6.6 | 5 | 4.3 | 1.3 | 2.3 | 51.6 | /6.8 | 0.4 | 0.2 | 0.1 | 0.1 | 0.3 | 0.3 | 0.2 | 0.1 | <u> </u> |
| | | r | | | | | | | | | | | | | | | . 1 |

"Significantly higher at the $p \le .05$ level.

 \dagger Significantly higher at the p \leq .01 level.

^ Significantly lower at the $p \le .01$ level. Mann Whitney U test used for hours of activity; Contingency table analysis used for Community activities. Means for respondents choosing each reason are compared to the overall participant group means.

APPENDIX F

MEANS OF RESPONSES FOR NONPARTICIPANTS CHOOSING EACH REASON COMPARED TO MEANS FOR ALL NONPARTICIPANTS

| APPENDIX F1: Means of Responses for Nonparticipants Choosing Each Reason Compared to Means for All Nonparticipants | | | | | | | | | | | | | | |
|---|------------------------|------------|-------|-------|-------|-------|-------|-------|--|--|--|--|--|--|
| | AGE (yrs) ISAI SCALES: | | | | | | | | | | | | | |
| | | B R | EB | PH | то | MO | CS | SS | | | | | | |
| ALL NONPARTICIPANTS | 77.1 | 29 | 26 | 21.3 | 30.8 | 27.2 | 24.9 | 29.9 | | | | | | |
| | | | | | | | | | | | | | | |
| PREDISPOSING (n = 50) | 76.4 | 29.7 | 27.3" | 23.2† | 30.9 | 28.2 | 25.9" | 30.6 | | | | | | |
| Don't like to leave home $(n = 3)$ | 80.3 | 21.3° | 28.3 | 26 | 26.3 | 26.3 | 25 | 25.7 | | | | | | |
| Health not important $(n = 1)$ | 76 | 32 | 29 | 27 | 32 | 27 | 27 | 29 | | | | | | |
| Won't do me any good $(n = 2)$ | 74.5 | 26 | 26.5 | 19 | 28.5 | 23 | 28.5 | 26.5 | | | | | | |
| Would not enjoy (n = 14) | 79.3 | 29.5 | 26.6 | 24.7" | 31.2 | 26.7 | 24.9 | 29.3 | | | | | | |
| Not interested $(n = 27)$ | 76.8 | 29.9 | 27.8" | 22.2 | 31.3 | 28.3 | 26.2 | 30.9" | | | | | | |
| Don't need it $(n = 25)$ | 76.1 | 29.9 | 27.4 | 25.6† | 31.4" | 29.8" | 25.8 | 30.2 | | | | | | |
| | | | | | | | | | | | | | | |
| ENABLING (n = 70) | 77.2 | 28.7 | 25.7 | 20.9 | 30.8 | 26.3^ | 25.1 | 29.8 | | | | | | |
| Not enough time (n = 22) | 74.5 | 29.6 | 26.7 | 24.7† | 31 | 28.1 | 26.5 | 31.1 | | | | | | |
| Don't know about it (n = 43) | 75.8 | 29.1 | 25.4 | 20.2 | 30.8 | 26.9 | 25.1 | 29.4 | | | | | | |
| Too far to centre $(n = 1)$ | 88 | 25 | 16 | 19 | 31 | 21 | 19 | 29 | | | | | | |
| No transportation (n = 8) | 86.4† | 29.8 | 25.9 | 19.8 | 31.3 | 21.5° | 22.4 | 29.5 | | | | | | |
| Can't afford it (n = 4) | 81.3 | 15° | 23.3 | 23.7 | 29.3^ | 27.7 | 25.3 | 25.7 | | | | | | |
| Poor health (n = 9) | 82.1 | 26.4 | 23.2° | 12.9° | 30.6 | 18.1° | 21.7^ | 29.4 | | | | | | |
| Can't do exercise (n = 14) | 82† | 27.5 | 24.6 | 17.2° | 30.5 | 21.4° | 22.2^ | 23.2^ | | | | | | |
| | | | | | | | | | | | | | | |
| REINFORCING (n = 33) | 80.7† | 28.2 | 24.8 | 20.1 | 30.2 | 24.0° | 24.1 | 27.5° | | | | | | |
| Don't know anyone there (n =19) | 81 " | 27.4 | 24.3^ | 20.2 | 30.1 | 23.3° | 24.3 | 26.4° | | | | | | |
| Friends/Spouse don't go (n = 7) | 78.4 | 30.7 | 26.7 | 21.7 | 30.7 | 28.1 | 23.3 | 29.6 | | | | | | |
| Don't feel welcome (n = 3) | 79.3 | 28.3 | 27.7 | 23.3 | 29 | 25.3 | 28.7 | 28 | | | | | | |
| Fr/Sp think its silly $(n = 2)$ | 69.5 | 32 | 26 | 24.5 | 31 | 28 | 26.5 | 30.5 | | | | | | |
| | | | | | | | | | | | | | | |

"Significantly higher using Mann Whitney U tests at the $p \le .05$ level

† Significantly higher using Mann Whitney U tests at the p≤ .01 level

° Significantly lower using Mann Whitney U tests at the $p \le .01$ level

^ Significantly lower using Mann Whitney U tests at the $p \le .05$ level Means for respondents choosing each reason are compared to overall nonparticipant group means.

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APPENDIX F2: Means of Responses for Nonparticipants Choosing Each Reason Compared to Means for All Nonparticipants (Hours of Activity and Comm. Activity)

| | Hours of Activity (hrs.) | | | | | | | | Community Activity | | | | | (proportion) | | | | |
|---|--------------------------|-------------|----------|----------|--------------------|--------------|-----------------------|----------------------|------------------------|--------|---------------|------------------------|----------------|-------------------------|----------------------|------------------|-------|--|
| | Household Activity | Exercise | Itobbics | Visiting | Community Activity | Gardening | Sleep | Total Hours Activity | Kerrisdale Sen. Centre | Church | Church Groups | Cultural Organisations | Symphony, etc. | Recreational Activities | Other Senior Centres | Community Centre | Other | |
| TOTAL NON-PAR. | 13.7 | 4.3 | 8.2 | 7.2 | 3.7 | 3.7 | 51.5 | 88.3 | | | | | | | | | | |
| PRED. (50) No leave home (3) | 13.3 | 5.4 | 7.5 | 5.8 0 | 0.6^ | 4.5 0 | 53.1 64.3 | 89.6 93.3 | 0.1 | 0.3 | 0.2 | 0.1 | 0.3 | 0.2 | 0 | 0.1 | 0.3 | |
| Health not NB $(n = 1)$ | 31 | 4 | 24 | 0 | 0 | 0 | 39 | 98 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | |
| Do me no good $(n = 2)$ | 3 | 0 | 5 | 2 | 0 | 0 | 50 | 60 | 0.5 | 0 | 0 | 0 | 0.5 | 1 | 0 | 0 | 0 | |
| Would not enjoy $(n = 14)$ | 9.6 | 6.2 | 12.8 | 4.8 | 0 | 5.5 | 48.5 | 88.2 | 0 | 0.4 | 0.3 | 0 | 0.3 | 0.1 | 0.1 | 0.1 | 0.3 | |
| Not interested $(n = 27)$ | 15.2 | 4.8 | 8.3 | 5.7 | 0.6 | 4.5 | 53.1 | 90.2 | 0.1 | 0.4 | 0.3 | 0 | 0.3 | 0.3 | 0 | 0.1 | 0.3 | |
| Don't need it $(n = 25)$ | 12.1 | 5.9 | 8.5 | 7 | 0.5 | 5.9 | 50.2 | 90.6 | 0.1 | 0.4 | 0.3 | 0.1 | 0.3 | 0.2 | 0 | 0.1 | 0.3 | |
| ENABLING (n = 70) Not enough time (n = 22) | 11.4 | 4.1 | 10.1 | 5 4 8 | 1.4 | 4.4 7.1" | 49.1 ° 49.3 | 84.9 84.8 | 0.1 | 0.4 | 0.2 | 0.1 | 0.3 | 0.2 | 0.1 | 0.1 | 0.3 | |
| No knowledge (n = 43) | 14.4 | 3.8 | 10.9 | 5.2 | 1.4 | 4.3 | 49.3 | 89.8 | 0^ | 0.3 | 0.1 | 0.1 | 0.3 | 0.1 | 0.1 | 0.1 | 0.3 | |
| Too far to centre $(n = 1)$ | 3 | 0 | 0 | 0 | 0 | 1 | 49 | 53 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 1 | |
| No transportation $(n = 8)$ | 12.3 | 2.1 | 17.1 | 3.1 | 0 | 2.1 | 44.4 | 79.9 | 0 | 0.3 | 0 | 0 | 0.1 | 0 | 0.1 | 0.3 | 0.3 | |
| Can't afford it $(n = 4)$ | 8.3 | 2.3 | 8.8 | 2 | 0 | 2.5 | 49.8 | 73.5 | 0.3 | 0.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | |
| Poor health $(n = 9)$ | 4.2^ | 1^ | 5.8 | 5.8 | 0 | 0.2 | 48.4 | 57.3^ | 0.1 | 0.3 | 0.1 | 0 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | |
| Can't exercise $(n = 14)$ | 6.5° | 2.8 | 7.8 | 4 | 0 | 1.8 | 45.2^ | 64.2° | 0.2 | 0.4 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | |
| REINFORCING $(n = 33)$ | 10.3 | 3.2 2.5^ | 9.2 | 4.3 | 0° | 1.3° 1.5^ | 48.1 | 73.7^ | 0.1 | 0.3 | 0.1 | 0 | 0.1 | 0.1 | 0 | 0.1 | 0.2 | |
| Fr/Sp don't so $(n = 7)$ | 11.5 | 4.3 | 47 | 61 | 0 | 0.1^ | 47 1 | 74 | 0.3 | 0.6 | 0.4 | 0 | 0.4 | 0.3 | 0 | 0.1 | 0.2 | |
| No feel welcome $(n = 3)$ | 23.5 | 9.5 | 27" | 7.5 | 0 | 4 | 51 | 122 | 0.3 | 0 | 0 | 0 | 0 | 0.3 | 0 | 0 | 0.3 | |
| Fr/Sp think silly $(n = 2)$ | 29.5 | 5 | 14 | 6 | 0 | 0 | 47.5 | 102 | 0 | 0.5 | 0.5 | 0 | 0 | 0.5 | 0 | 0 | 1 | |
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Significantly higher at the $p \le .05$ level.

 \dagger Significantly higher at the p \leq .01 level.

^ Significantly lower at the $p \le .01$ level.

° Significantly lower at the $p \le .01$ level.

Mann Whitney U test used for hours of activity; Contingency table analysis used for Community activities. Means for respondents choosing each reason are compared to the overall nonparticipant group means.