BABY BOOMERS: WILL THEY AGE SUCCESSFULLY?

by

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In partial fulfilment of the requirements

for a

Master of Education

at the

Faculty of Education

Lakehead University

February 2002

Abstract

The purpose of this study was to examine factors considered likely to predict whether or not baby boomers are likely to age successfully. Data were obtained from a secondary analysis of selected items from a healthy aging questionnaire. Baby boomer responses were compared with those of the current generation of seniors. Significant differences were found in regards to exercise, life satisfaction and financial preparation for retirement. The study suggests that baby boomers will age successfully in part because of their tendency to score higher on measures of education and health.

Acknowledgments

I gratefully acknowledge the following individuals in the achievement of this thesis:

Dr. Alan Bowd, Faculty of Education, who was my advisor and committee chairperson. His professional guidance, efficient manner, and encouragement made the completion of this thesis a reality.

Dr. Michael Stones, Department of Psychology, who graciously allowed me to use his data and facilitated the analysis of it.

Dr. John Jamieson, Department of Psychology, who took the time to tutor me in the analysis of the data, as well as provided feedback regarding the design and results.

Dr. D. Li and Dr. W. Huang, Department of Mathematics, who helped shed light on ANOVA statistics.

Patrick Brady, Assistant Professor, Faculty of Education, for his constructive review.

Dr. Jane Taylor, Department of Kinesiology, for her earlier contribution and ideas in the origins of this research.

Administrative Assistants: Diana Mason, for her ongoing assistance, recognition and support of my needs as a mature student; and Sheila Wilson, for the presentation and formatting of this finished work.

My husband, Alex, for his assistance on the 'home front', and my children Matthew and Jordan, for allowing me the room to grow in a new direction.

This thesis is dedicated to the memory of my late parents and educators, Ruth and Oswald Anderson. I am forever grateful that they instilled in me, from a very early age, the value of and an appreciation for, higher education.

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Chapter 1

Introduction

Aging baby boomers are the topic of much speculation and anxiety. Headlines and media reports warn of an impending crisis about the "greying"of this huge cohort. There is a widespread perception that society cannot support this unique generation as they age (Northcott, 1994). Added to these fears are concerns regarding the ability of the health care system to effectively accommodate the needs of this aging population. The challenge is to effectively address the expectations of what Torres-Gil (1992) referred to as a "trend generation" (p. 127), "notorious for moving in herds" and "through life like locusts"(Schachter, 1995, p. 22). To what extent a culture of individualism (Light, 1988; Russell, 1993) created from their sheer numbers is in conflict with the needs of the larger community, and contributes to the perceived aging crisis, is unclear. An analysis of this cohort's characteristics is proposed to offer some insight into whether or not the baby boomers will successfully age. Rowe and Kahn (1998) proposed a model of successful aging based on interdisciplinary research from the MacArthur Study Foundation. This model provides a basis for this research study because it focusses on the positive aspect of aging and examines the many factors which allow people to effectively function in later life (Rowe & Kahn, 1998). Successful aging is a combination of three key behaviours: avoidance of disease and disability, maintenance of cognitive and physical function and sustained engagement with life (Rowe & Kahn, 1998).

Occurrence

The Canadian Oxford dictionary defines baby boom as "a temporary marked

increase in the birth rate" and a baby boomer as "a person born during a baby boom, especially after the war of 1939-45" (1998, p. 91). The baby boom generation refers to the huge cohort of people born in the United States and Europe after World War II, between 1946 and 1964 (Bartlett, 1999; Bouvier & De Vita, 1991; Cornman & Kingson, 1996; Easterlin, Macdonald & Macunovich, 1996; Kingson, 1996; Light 1988; Poulos & Nightingale, 1997; Russell, 1993; Schachter, 1995; Tice & Perkins, 1996; Torres-Gil, 1992). Denton and Spencer (1995), regarded 1945 as the beginning of the baby boom in Canada, ending in the first half of the sixties. Novak (1997), indicated 1946 to the early 1960s as the time frame for this cohort in Canada. Other Canadian authors suggest it occurred a year later, 1947 to 1965 (Schachter, 1995) or 1966 (Foot & Stoffman, 1996), because the Canadian troops returned home after the American troops did (Foot & Stoffman, 1996). In Canada, in 1945, births were 300,000, and the boom reached its peak in 1959 with 480,000 births (Denton & Spencer, 1995). For the purposes of this study, the time period 1945 to 1964 will be used. This period of marked increase in birth rate ended with the increased availability of oral contraception and women reentering the workforce (Foot & Stoffman, 1996; Russell, 1993).

Number in cohort

The effect of the baby boom was even stronger in Canada, the United States (U.S.), Australia and New Zealand because these Western countries received immigrants who also were in their childbearing years (Foot & Stoffman, 1996). Canadian women were averaging four children each at the height of the baby boom. This was the largest fertility rate in the industrialized world at that time (McPherson, 1998).

Edwards, Lhotsky and Turner (1999), indicated one third of North Americans belong to the baby boom generation. Most estimates for this cohort are in the range of 75 to 80 million in the United States (Bouvier & De Vita, 1991; Cornman & Kingson, 1996; Kingson, 1996; Light 1988; Russell, 1993; Tice & Perkins, 1996 & Torres-Gil, 1992). In Canada, it is estimated this cohort will number 8.36 million or 22% of the population by 2031 when the last baby boomer turns 65 years old (Dalziel, 1996). It is anticipated the baby boom generation will remain relatively large throughout its lifetime (Denton & Spencer, 1995). Canada's baby boom was proportionately the largest in the industrialized world and today occupies one third of the Canadian population (Foot & Stoffman, 1996).

To date, this generation, because of its sheer numbers, has had a profound impact on the economy and reshaped society. Growth in industry and the demand for consumer products has parallelled the life cycle of this generation. Their size alone has influenced labour and housing markets, public policy and government (Bouvier & De Vita, 1991; Tice & Perkins, 1996; Torres-Gil, 1992). Their numbers continue to precipitate change and influence lifestyle. The generation as a whole, has been stereotyped by its affluence, activism, idealism, and its high expectations (Torres-Gil, 1992). Bartlett (1999) cautioned "these 77 million aging revolutionaries will transform health care with their nontraditional expectations" (p. 44). She predicted the baby boomers will influence health care because of their numbers and sophistication and added they are the "most dynamic, willful, educated and irritating consumer in history" (p. 47). A convincing example of this transformation is the increased interest in alternative health care (Astin et

al., 1998; Beyerstein, 1997; Eisenberg et al., 1993; Eisenberg et al., 1998; Kelner & Wellman, 1997; Krauss et al., 1998; Millar, 1997; Mitchell, 1993).

Diversity and education

However, within this cohort, there is diversity (Bouvier & De Vita, 1991; Foot & Stoffman, 1996; Kingson, 1996; Light, 1988; Russell, 1993; Tice & Perkins, 1996; Torres-Gil, 1992), with the front-end boomers generally more advantaged, than those at the back-end (Foot & Stoffman, 1996; Light, 1988; Poulos & Nightingale, 1997; Schachter, 1995; Tice & Perkins, 1996; Torres-Gil, 1992).

This diversity, adds to the generation's complexity, (Tice & Perkins, 1996) which in turn has captured the interests of politicians, policy-makers, journalists and health care professionals (Dalziel, 1996). In addition to the diversity, this generation has become the most highly educated cohort in history (Bartlett, 1999; Bouvier & De Vita, 1991; Light, 1988; Poulos & Nightingale, 1997) with one in three having at least some college education (Tice & Perkins, 1996; Torres-Gil, 1992). Light reported the baby boomers are unequalled by any generation before or after them in regards to education. For example, in the U.S., only six percent of the baby boomers' grandparents completed college, and a majority never finished high school; whereas, close to 90 percent of the baby boomers finished high school and 22 percent graduated from college. In Canada, enrollment in colleges and universities increased from 90,000 students in 1951 to almost one million in 1993. In addition, between 1973 and 1993, the number of men in their forties with a completed university degree increased from 10 to 26 per cent, and similarly the number of women with a university degree increased from 5 to 17 per cent (Schellenberg & Clark, 1996).

Successful aging and lifestyle

It is anticipated the baby boomers with their different educational backgrounds, labour market histories and sources of income will differ from today's seniors (Schellenberg & Clark, 1996). Moreover, they may even be healthier given the emphasis on healthy lifestyles and preventative medicine (Schellenberg & Clark, 1996). For example, the MacArthur Studies indicated people are more likely to age well (Rowe & Kahn, 1998). Furthermore, many research studies indicated there is an accelerated reduction in disability among older people for all ages, and older people have a positive view of their own health (Rowe & Kahn, 1998). The baby boomers approach to mid-life is both positive and negative. Access to education and economic prosperity have enabled many boomers to live longer healthier lives. However, self-preoccupation and denial of aging conflict with other realities of mid-life, including physical and psychological changes and the need to find enduring meaning and purpose (Edwards et al., 1999).

Resources

It is proposed that because this generation is the most educated in history, many will successfully age because of the positive correlation between education and health. The older or front-end baby boomers will be the best prepared to successfully age because of their inner and external resources. These resources include attitude, support systems and socioeconomic status. Furthermore, this group, because of their personal resourcefulness, and assertiveness, will also have higher expectations than its' parents' generation. However, it is also anticipated that because of the diversity within the group,

other baby boomers will not age as successfully. For example, baby boomers with less education will not experience the same economic opportunities. Others in the cohort (without the necessary family or friends) will experience less support. And those without their own personal sense of control will make less effective lifestyle decisions.

Research question

In order to study whether or not the baby boom cohort might successfully age, a profile analysis of a sample of baby boomers will be undertaken to determine if these assumptions are true. A secondary analysis of data, which originally were obtained for a 1999 Manulife survey on healthy aging, will be conducted on 768 English speaking respondents. The original survey involved 1005 participants, ages 18 to 65. In addition, the front-end (older) boomers will be compared to the back-end (younger) boomers, and the element of diversity will be explored. The front-end boomers were ages 45 to 54 years in the original survey, and the back-end boomers were ages 35 to 44 years. These age divisions are consistent with what Light (1988) described as "the old wave, born from 1946 to 1954, and the new wave, born from 1955 to 1964" (p.77). Questions concerning the baby boomers' attitudes (about health, lifestyle, leisure), social supports, education and economic status will be considered.

The question therefore, is whether the baby boomer in reality is consistent with the popular stereotype. On a more conceptual level, is the question of whether the culture of individualism contributes to the perceived aging crisis rather than the "greying" of the generation as a whole. This culture, which is fuelled by high expectations from the more educated and affluent in the cohort, directly influences present and future resource

systems such as health care. As a result, the perceived aging crisis may have more to do with the climate of expectations affecting utilization. Consequently, the regard for the larger picture, community, becomes uncertain.

It is anticipated the profile of the baby boomers will be consistent with the literature, and the culture of individualism will be evident. The challenge will be for the baby boomers to develop the necessary insight in order that they may successfully age. It is also quite probable the baby boomers will challenge the status quo as they face their own mortality in the same way they have challenged other major life events. Bartlett (1999) proposed that, as a consumer of tomorrow's health care, the baby boomer "will differ significantly from past patient models" (p. 51). A selected review of the literature in the next chapter, illustrates the many issues, which distinguish this cohort from its predecessors.

Chapter 2

Review of the Literature

There are characteristics about the baby boom generation that add to its uniqueness. Uppermost is the diversity which characterizes the baby boomers themselves (Bouvier & De Vita, 1991; Kingson, 1996; Tice and Perkins, 1996; Torres-Gil, 1992). This feature adds to the generation's complexity (Tice & Perkins, 1996) and is more apparent as its members head into middle age (Bouvier & De Vita, 1991). Tice and Perkins outlined issues which present a challenge for the baby boomers as they grow older. These include: multiple careers, lifelong education, extended retirement, varied family structure, diversity in aging and poverty. The baby boomers also experience conflict between their individual needs and the needs of society (Light, 1988; Russell, 1993). It is anticipated the baby boomers will contribute to the aging process as they previously have throughout their life stages (Tice & Perkins, 1996; Torres-Gil, 1992). For example, Torres-Gil suggested baby boomers will become more interested in senior's issues because, when caring for their aging parents and grandparents, they "will discover the gaps in and fragmented nature of such services" (p.132). The increase in popularity of alternative and complementary medicine is another example where the baby boomers seek solutions and take charge of their own health. The following review offers new insights into these challenges and effects, which distinguish this cohort from its predecessors.

The model

Rowe and Kahn (1998) outlined a model which is relevant to this research and

literature review because it was developed from interdisciplinary research, 'The MacArthur Foundation of Successful Aging' (Rowe & Kahn, 1998). The MacArthur Foundation originated in 1984 and involved a group of sixteen scholars from major disciplines. This study involved dozens of individual research projects and examined the many factors influencing "successful aging" (Rowe & Kahn, 1998, p. xii). Their research emphasised the positive aspects of aging and developed a conceptual basis necessary to understand the biological, psychological and social aspects of aging. The MacArthur Foundation Study differed from earlier attempts to define successful aging because it proposed a research-based model of successful aging. The essential findings from their research found successful aging went beyond the absence of disease or disability, to suggest the way people live, not necessarily their genes, determines health. For example, many of the factors influencing successful aging are dependent on individual choices and behaviours. These researchers noted that "successful aging does not refer to prosperity, although poverty makes its attainment more difficult" (Rowe & Kahn, 1998, p. 37).

Novak (1997) also discussed the importance of an interdisciplinary approach to the study of aging. He suggested research studies should examine psychosocial as well as physiological measures of functioning and should look for the links between these findings. Novak suggested biologists' focus on intrinsic processes has led to a more precise description of normal aging, but does not explain the differences in function among older people. For example, influences such as the environment, lifestyle and habits affect physical functioning (Novak, 1997).

The model outlined by Rowe and Kahn (1998) has three major components with a

kind of hierarchical ordering. Pictorially, their model resembles three intersecting ellipses merging at the centre. Each 'wing' of the ellipse represents a major component of the model: avoiding disease; maintaining high cognitive and physical function; and engagement with life. Where these three components merge, an overlapping area or link is created, "successful aging". Absence of disease and disability makes it easier to maintain mental and physical function which in turn enables (but does not guarantee) active engagement with life (Rowe & Kahn, 1998). The combination of these three components represents the concept of successful aging.

"How we live also determines how we age"(Rowe & Kahn, 1998, p. 43). This statement is especially pertinent to this research study because of the many factors influencing the baby boomers as they age. Higher education, diversity and alternative health care are some examples of lifestyle change for the baby boomer generation. As well, changes in the traditional family, employment and retirement also influence how the baby boomers age. The model proposed by Rowe and Kahn focuses on the larger picture. It suggests successful aging is more than the absence of disease and disability. It examines risk factors as well. Furthermore, the MacArthur research studies suggested many of the fears about functional losses are exaggerated, much functional loss can be prevented and many functional losses can be regained. For example, Rowe and Kahn indicated only a small percentage (10%) of people over age sixty-five have Alzheimer's disease; the majority (90%) do not. Exercise has mental as well as physical benefits. It negates the adverse effects of other risk factors such as high blood pressure and the benefits appear to be cumulative. And lastly, engagement with life involves maintaining

close relationships with others as well as remaining involved in meaningful and purposeful activities. In short, successful aging means aging well. The model proposed by Rowe and Kahn is consistent with many of the findings in the following literature review.

The Structure of Successful Aging

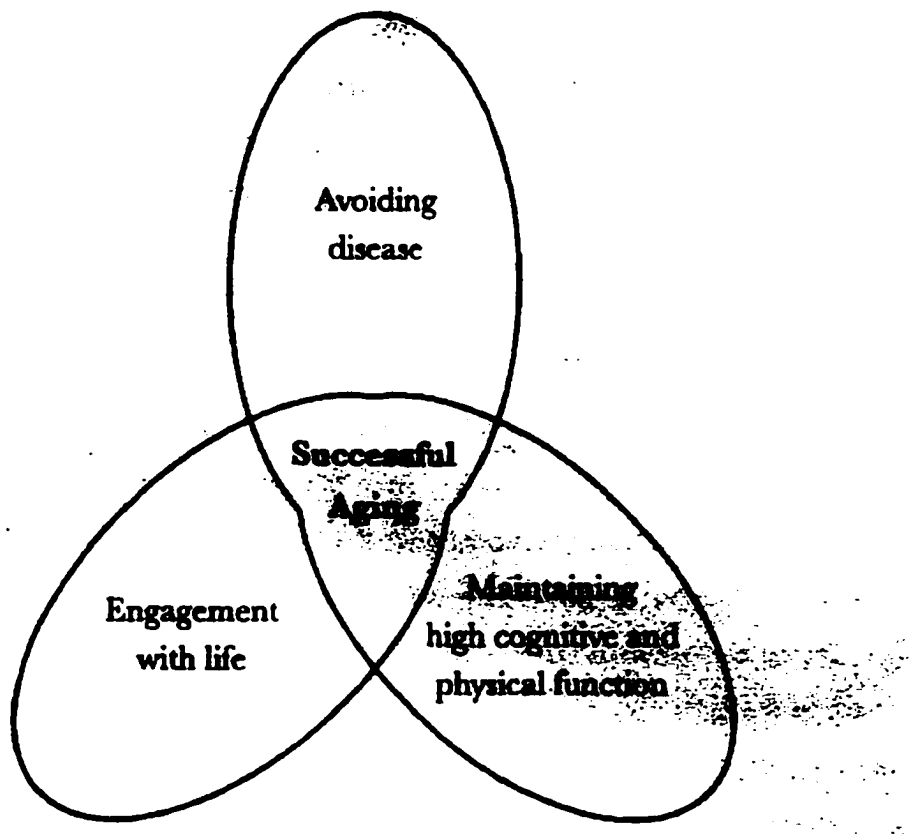

Figure 1. Components of Successful Aging (Rowe & Kahn, 1998, p. 39)

Education

Education is perhaps the most significant factor influencing how this cohort ages. It accounts for most of the differences in income among subgroups of baby boomers as well as the differences between the baby boomers and their parents' generation (Poulos & Nightingale, 1997). Education influences attitudes, values, behaviour, friendships, job opportunities and incomes throughout the life cycle, particularly in Western nations (McPherson, 1998).

It is quite possible that members of the baby boom generation, because they are more educated, will have the personal resourcefulness needed to "successfully age" (Rowe & Kahn, 1998). Successful aging is dependent on individual choices and behaviours (Rowe and Kahn, 1998). Silverstone (1996) predicted "as more educated consumers"(p. 30), baby boomers will isolate the conditions that create functional disability and seek interventions (environmental, therapeutic and prosthetic) to address them. In addition, their comfort with technology will compensate for deficits. "Passivity to disability will be the exception, not the norm, and disability will be far less likely to translate into dependency"(p. 30). Moreover, Torres- Gil (1992) predicted the baby boomers will recognize the benefit of research and therefore support increased funding for research in the areas of chronic illnesses, including dementias.

Education and health

There is a considerable number of large research studies demonstrating a relationship between education and better health (Doombos & Kromhout, 1990; Mackenbach, Looman & van der Meer, 1996; Mirowsky & Ross, 1998; Ross & Wu,

1996; Ross & Wu, 1995). There is also an important relationship between education and health care utilization (Gutzweiiler, La Vecchia, Levi, Negri & Wietlisbach, 1989; La Vecchia, Negri, Pagano & DeCarli, 1987). In addition, other studies explored the interrelationship between education, income and health (Schrijvers, Stronks, van de Mhenn & Mackenbach, 1999; Stronks, van de Mheen, van den Bos & Mackenbach, 1997). Still further studies explored the growing use of alternative health care in regards to education, age, socioeconomic status and health status (Eisenberg et al., 1993; Eisenberg et al., 1998; Kellner & Wellman, 1997; Millar, 1997).

A significant study which illustrated the interrelationship between education and health was done in the Netherlands by Doornbos and Kromhout (1990). This was a longitudinal investigation of 78,505 participants followed for 32 years. The data originated from a cohort of young 18-year-old men examined for military service. The variables height, body mass index (BMI), systolic blood pressure, resting heart rate, region of residence and a general health score were measured. In a separate analysis the relationship between coronary heart disease, cancer and accidents were examined. The researchers found a consistent universal association between education and mortality; the higher the education level, the lower the risk for mortality. The considerably large number of participants and the length of time studied made this study particularly noteworthy and gives credibility to the link between education and physical health.

Ross and Wu (1995) found a strong and positive association between education and health. They tested their model using a cross-sectional approach with two national data sets; the Work, Family and Well-Being (WFW) sample and the Health Practices

(HP) sample. In the second sample, they also used longitudinal analysis that examined changes in health over time. Both sets were relatively large with very similar replications of measurement of health behaviours. Both were obtained from telephone surveys (national probability samples) of U.S. households. The WFW data set (1990) had 2031 participants ranging from 18 to 90 years of age. The HP data set had 3025 respondents in 1979 and 2436 participants who were re-interviewed in the follow up study in 1980. Ross and Wu used these same WFW and HP data sets in a 1996 follow up study to examine the cumulative advantage education had on health. They found that education significantly affected age-based health, even after adjusting for income and its interactions with age. The well educated successfully postposed impairment and poor health until very late in life. Ross and Wu (1996) concluded that focussing on education was the key to successful aging. Furthermore, the positive impact of education on health, increased with age. Because these results used relatively large data samples, and the results were replicated, further support was given to the relationship between education and better health. A persuasive case was shown for the influence of education on health.

These studies are relevant because they have implications for postponing sickness and disability. This association is similar to the compression of morbidity hypothesis which envisions prolonged active life and delayed disability of older people (Novak 1997; Rowe & Kahn, 1998). Simply stated, this is an optimistic theory which suggests advances in medical research will produce longer life and less disease and disability in old age. A contrasting theory suggests our population will become older and sicker (Rowe & Kahn, 1998).

Education and health producing behaviour

Mirowsky and Ross (1998) used data from a 1995 telephone probability sample of U.S. households with 2,592 respondents, ages 18 to 95. This study built on the previously mentioned studies of Ross and Wu (1995, 1996). Mirowsky and Ross found that education was the vehicle or means needed to develop a lifestyle that promotes health. Moreover, education enabled people to practise more positive health producing behaviours. This adoption of a healthier lifestyle gave people a greater sense of personal control over outcomes. As well, they found that these positive lifestyle behaviours were modelled to their children. These researchers described people as becoming "effective agents" (p. 437) when they gained a greater sense of control of their health by developing a healthy lifestyle. This efficacy has even more importance, considering the baby boomers will experience lifelong education (Tice & Perkins, 1996) and are trend setters (Torres-Gil, 1992). In addition, Mirowsky and Ross' study also illustrated the importance modelling behaviour has on future generations. The emphasis on prevention, which historically has proven to be the most cost effective strategy in promoting health, was another significant component in this study.

Mirowsky and Ross' (1998) work supported previous studies (Ross & Wu, 1995, 1996) suggesting there was substantial evidence indicating educational attainment leads to better health. Furthermore, Mirowsky and Ross illustrated how education enabled people to coalesce health-producing behaviours into a coherent lifestyle. In addition, they demonstrated a sense of control over outcomes in one's own life encourages a healthy lifestyle and conveys much of education's effect. Similarly, educated parents pass on a

healthy lifestyle to their offspring. The association between higher education and improved health was measured as better self-reported health and physical functioning. The baby boomers' commitment to future generations is also commented on by Light (1988). He suggested "some of the fortitude and patience the baby boomers will need can come from a commitment to their children". Moreover, because of this commitment to future generations, "the baby boomers may be able to find the will and endurance to deal with their own problems" (p. 267).

La Vecchia, Negri, Pagano and DeCarli (1987) utilized data from the 1983 Italian National Health Survey, based on a random sample of 58,462 individuals aged 25 or over, to evaluate the relationship between education, prevalence of 17 chronic diseases and the pattern of health care utilization. They found that almost all of the diseases (except for allergy) were more prevalent in less educated individuals. Visits to general practitioners and hospital admissions were higher for the less educated but specialist consults were higher (from a preventative perspective) for those who were better educated. Similar findings were found when occupation was substituted as the indicator for social class. These results confirmed and provided quantitative assessment of health and health care utilization according to indicators of social class. The substantially large sample makes this study worthy of attention. This research also raises other issues including access, namely are people with more education better able to access more specialized services?

In a 1989 Swiss study by Gutzwiller, LaVecchia, Levi, Negri and Wietlisbach, education was also selected over occupation (as an indicator of social class) since data on occupation were not meaningful for a large proportion of homemakers or retired persons.

This study involved 4,255 individuals from the 1981-1983 Swiss National Health Survey, a sample which was representative of the entire Swiss population. Data were collected by a self administered questionnaire and a personal interview for each participant. Only diseases that required medical attention in the one year prior to the interview were considered. Their findings confirmed education was an important correlate of mortality, morbidity and health care utilization. There were lower frequencies of general practitioner visits for the more educated but a higher frequency of specialist consults.

This study gave support to the previously mentioned 1987 Italian study. The authors concluded there was a similarity in patterns in a number of countries. This replication of results gave credence to a relationship between education and social class in predicting mortality and morbidity and also health service utilization. Again, the large data sample supports these logical and persuasive results.

Self-report data

In 1996, Mackenbach, Looman and van derMeer, utilized data from a 1991 health interview survey in the Netherlands to review the effects of differences in the misreporting of chronic conditions according to the respondents' level of education. The 2,857 respondents answers were compared to diagnostic questionnaires in the same survey and the diagnoses that were given by their general practitioners. The researchers found that misreporting varied by level of education and there was a dominant pattern of under reporting by the less educated individuals. This is an important consideration to take into account when reviewing any of these research studies, since many rely on self-reports.

Education, socioeconomic factors and health

Utilizing the same data from the above Dutch cohort study on socioeconomic health differences, further analysis was done by Stronks, van de Mheen, van den Bos and Mackenbach (1997) on a study population of 13,391 respondents aged 25 to 64. In contrast to previous studies, these researchers found the association between income and health was stronger than between occupation or education and health.

In their next study Schrijivers, Stronks, van de Mheen and Mackenbach (1999) explored this relationship further by examining the role of behavioural and material factors in explaining educational differences in mortality. A large sample of 15,451 respondents from the same 1991 data was used. Mortality was found to be higher in lower educational groups. Material factors had a more significant influence than behavioural factors in explaining the differences. These researchers concluded that if the material circumstances were improved, then the educational differences in mortality might be reduced. The findings from this study may be relevant in regards to the aging baby boomers because lack of income is a major concern for baby boomers (Tice & Perkins, 1996).

Results from the literature regarding the baby boomers' economic future and implications drawn from these findings, is mixed. Kingson (1996) suggested it is reasonable to expect much diversity in their standards of living and in their ability to finance their health and long-term care needs. Some researchers predicted that the baby boomers will enter "old age" (p.776) in a better economic position than their predecessors (Easterlin, Macdonald & Macunovich, 1990). Factors such as deferred marriages,

reduced childbearing and increased labour force participation of women have compensated for low wage rates (Easterlin et al., 1990). These authors also acknowledged however, that although the baby boomers may reach retirement with a higher average income than their predecessors, there is also greater inequality, and consequently a more severe problem of supporting the elderly poor (Easterlin et al., 1990). Other researchers indicated the future economic outlook for this baby boom cohort is not as clear because of differences in education, occupation, employment and earnings (Bouvier & De Vita, 1991). Bouvier and De Vita suggested it is a recurring question as to whether or not the baby boom generation is doing as well financially as their parents' generation, partly because of the tenuousness of marriage and the uncertain future economic outlook. Other authors also supported this view that many of tomorrow's seniors will face economic insecurity because of marital breakdown and changing family composition (Schellenberg & Clark, 1996). Poulos and Nightingale (1997) pointed out that while baby boomers generally have done better than their parents' generation in terms of education and income, the later group of baby boomers have not done as well as the earlier group. They suggested the less educated and less skilled will face greater problems as maturing workers than previous generations.

The growth of an older population and a decrease in the younger population is creating what some people perceive as a prospective economic crisis because of the larger number of dependent older people (Novak, 1997). The concern regarding the fair and even distribution of resources amongst generations is referred to as generation equity (Novak, 1997; Torres-Gil, 1992). A major disadvantage for the baby boomers is the

competition for jobs, education, homes and retirement benefits because of their sheer numbers (Torres-Gil, 1992).

In a Canadian study of 443 adult respondents (18 years of age and older), Northcott (1994) reviewed the perception there would be a crisis with the aging population. A representative sample from Edmonton, Alberta were asked to agree or disagree with statements about issues relating to the economic support of elderly persons in Canada and the possibility of an aging crisis. Northcott proposed there are two inter-related issues; the demographic and the economic. He found that the "general public" (p. 75) shared the expectation that there is an emerging crisis with regards to the aging population. He also found that the general public was willing to accept increased taxation, was divided on the issue of targeting benefits to lower income seniors, and was opposed to across-the-board cuts in the levels of benefits paid to seniors.

Health care utilization

Northcott (1994), in explaining the term, "population aging" described a "phenomenon with social, cultural and economic dimensions" (p.67). He proposed that much of the perceived crisis that is associated with the increase in the number of older people is often described in economic terms. He made the observation that part of this speculation may be overstated and other factors such as health care utilization are more relevant. This is certainly a valid argument as there is well documented research supporting this hypothesis (Barer, Evans & Hertzman, 1995; Black, Roos, Havens & MacWilliam, 1995; Dalziel, 1996; Demers, 1996).

Access to physicians

A 1995 Manitoba study (Black et al.) examined survey and physicians' claims data to assess changes in health status and utilization. This research was done by doing a secondary analysis of representative samples from the Manitoba Longitudinal Study on Aging. Patterns of utilization for ambulatory, consultative and non-consultative care by age and health status, were reviewed at two points in time for persons aged 65 and over. The samples were large: 3,562 people in 1971 and 3,617 people from 1983. The results indicated that a large percentage of the increase in utilization of services was related to increased numbers of elderly. Per capita utilization of both consult and non consult services increased across all categories. There was a greater increase in utilization for older persons and those in poor health. However, the majority of the increased servicing was directed to individuals in good health. One of the most significant results in this study, therefore, demonstrated the increased intensity of servicing , particularly to the elderly in good health. The authors proposed possible questions which would need to be further explored in future research. These included further study into the types of interventions. For example, were these additional services or substitutes for hospital care, and did they represent cohort or system effects?

In 1996, Demers, conducted a retrospective study utilizing 1982 and 1992 data from Quebec government claim files for payment of physician services. The numbers examined were large: 589,800 in 1982 and 803,600 in 1992. The study was limited to those aged 65 and over. This research found that growth of physician service costs occurred more because of increased utilization rather than demographic factors (aging and population growth). Results indicated more costly services and specialist visits, as

well as higher rates of hospital admission and surgery. Demers acknowledged that other factors such as new drugs, diagnostic equipment and surgical procedures have made it more possible to treat older people and therefore may have added to the increased cost.

Health care use

Barer et al. (1995) did an extensive review of health care services in British Columbia, and then examined their results in comparison to those of other Canadian provinces. This review involved studies of hospital, medical and pharmaceutical use from different jurisdictions and time periods. These researchers concluded that population aging was not the issue, but health care utilization was, as it had increased substantially over the past three decades. These researchers concluded that appropriate care is the issue, not an aging population and that this should be "a central issue for health care policy and management" (p. 220). They proposed that health care utilization has less to do with more seniors, and more to do with what is being done "to (and for) them" (p.194) than was the case a decade earlier.

Alternative health care

The baby boomers have, since their birth, influenced markets. Specific examples include the diaper industry, the demand for shoes, photographs and baby food. In addition there was growth in elementary and secondary schools, the labour force, home construction and home gadgets, ranging from electric can openers to entertainment centres (Tice & Perkins, 1996). This baby boom generation is "quickly approaching the age of bifocals" (Tice & Perkins, 1996, p. 199).

Consistent with the baby boomers' image of influencing markets, there has been a

surge in alternative health care as illustrated by Bartlett (1999).

> Boomers will reshape health care in the 2000s just as they sculpted education in the 1960s, housing in the 1970s, the workplace in the 1980s and the stock market in the 1990s. By dint of their sheer numbers, their wallets, and their consuming sophistication, baby boomers will leave no stone unturned in the health care world. (p. 48)

There is a growing interest in alternative and holistic health as publishers focus on aging, eating and alternative medicines for this cohort (Hammond, 1999). There is compelling research demonstrating a significant increase in the utilization of complementary or alternative medicine (CAM) for the baby boomer generation, especially those with more education and higher incomes (Blais, Maïga, & Aboubacar, 1997; Eisenberg et al., 1993; Eisenberg et al., 1998; Kelner & Wellman, 1997; Millar, 1997; Mitchell, 1993). The added costs of CAMS are not covered by many health plans and only those with higher incomes or extended insurance plan coverage, can afford them. In addition, an increasing number of physicians are either referring patients or practising some of the more prominent and well known forms of CAM (Astin et al., 1998; Blair, 1995; Verhoef & Sutherland, 1995). Astin et al. came to this conclusion after reviewing 19 international studies. Vernhoef and Sutherland found proportionately Canadian physicians knew the most about alternative approaches compared to doctors in other countries.

Factors relating to use of CAM

However, Krauss, Godfrey, Kirk and Eisenberg (1998) found a significant positive relationship between the use of alternative therapies and education and income,

but not age. Astin (1998) discovered education, but not income or age was a predictor of alternative use. The use of alternative therapies was higher for those individuals with physically disabling conditions (Krauss et al., 1998), poorer health status (Astin, 1998; Astin et al., 1998) and more chronic health problems (Blais et al., 1997; Eisenberg et al., 1993, 1998; Kelner & Wellman, 1997; Millar, 1997; Mitchell, 1993). Beyerstein (1997) offered an insightful comment when he suggested even though clients of alternative medicine tend to have more years of education compared to nonusers, it is quite possible they are not necessarily more informed about basic science.

A salient theme in the literature points to the growing use of CAM because it is congruent with a holistic orientation to health (Astin, 1998; Astin et al., 1998; Kelner & Wellman, 1997; Ullman, 1993; Vincent & Furnham, 1996; Mitchell, 1993). This is consistent with the proactive and positive approach many baby boomers have in regards to their own health care. This philosophical congruence is more likely the reason for use of CAM, than dissatisfaction with conventional or orthodox medicine (Astin, 1998; Vincent & Furnham, 1996). However other researchers found that those who make the choice to use an alternative therapy have a less positive view of conventional medicine in general (McGregor & Peay, 1996). Nevertheless, it would appear the use of CAM is consonant with the baby boomers consuming interest in issues that directly affect them (and their aging parents). Examples include the desire to avoid treatment with adverse effects as well as a greater knowledge of nutrition, emotional and lifestyle factors (Astin et al., 1998).

A significant U.S. study in 1993 (Eisenberg et al.) demonstrated that one in three

respondents reported using at least one unconventional therapy in the past year, primarily for chronic conditions, with the highest use reported by non-black persons ages 25 to 49 years with more education and higher incomes. In this study, unconventional therapies were defined as "medical interventions not taught widely at U.S. medical schools or generally available at U.S. hospitals. Examples include acupuncture, chiropractic and massage therapy" (p. 246).

This research was based on telephone interviews of 1539 adults, from a national sample of adults 18 years of age or older. Respondents were asked to report on their use of conventional medical services and then were asked about their use of 16 unconventional therapies. The number of visits to CAM providers was greater than the number of visits to all primary care physicians. One inference the researchers made in this study was that a substantial amount of unconventional therapy is used for nonserious medical conditions, health promotion, or disease prevention. This supported the previous literature review regarding education and the proactive approach that baby boomers have taken towards their own health. In addition, it demonstrated baby boomers have modelled a healthier lifestyle to their children. The researchers concluded that there was an "enormous presence" (p. 251) of unconventional therapy in the U.S. health care system (Eisenberg et al., 1993). This meant there was a substantial increase in alternative medicine use and expenditures, primarily because the numbers of persons seeking alternative therapies had increased, rather than increased visits per patient.

Trends in use of CAM

In a 1997 follow-up survey, Eisenberg et al. (1998) investigated this presumption

and documented trends in alternative medicine prevalence, costs, disclosure of use to physicians and use since 1990. These researchers parallelled their previous 1990 nationally representative telephone survey to ask respondents aged 18 years or older about their use of alternative therapies during the previous 12 months. In 1997 the number of respondents was 2055, compared to the previous sample of 1539 in 1990. There was a significant increase in the use of alternative therapies from 33.8% in 1990 to 42.1% in 1997. Use was highest amongst people aged 35 to 49 years (one in two) and those who had some college education and a higher annual income. These patterns of use were consistent with the previous 1990 survey and demonstrated the increase in utilization of CAM for the baby boom cohort.

Krauss et al. (1998) investigated the use of alternative therapies by individuals with physical disabilities with a cross-sectional convenience telephone sample of "401 working- age individuals" (p.1441) aged 18 years or older. This team of researchers used a survey which was almost identical to the one conducted by Eisenberg et al. (1993), however their results showed some interesting differences. For example, more than half (57.1%), used alternative therapies compared to the 34% in Eisenberg's earlier study. Again, education and income were associated with using alternative therapies, but there was not a significant relationship with ethnicity, gender or age. In this study, the respondents reported a higher proportion of chronic pain and depression. The researchers concluded that although this was a much smaller sample, individuals with physical disabilities were more likely to use alternative therapies than the general population and to see providers for them. As well, these same individuals had their use of alternative

therapies recommended by their physicians and were reimbursed by their health insurance plan. This study is significant and has implications for the future direction of health care utilization considering the size of the baby boom cohort that is aging.

In Canada, an estimated 15% of Canadians aged 15 and over have accessed some form of alternative health care (Millar, 1997). Millar's research utilized data from a 1994-1995 National Population Health Survey with a total of 17,626 respondents. In his research, Millar found that alternative health care was most prevalent amongst women, persons aged 45 to 64, higher income groups and those with a higher level of education. There were significant regional differences, with the lowest rates in the maritime provinces and the highest in the western provinces (which included British Columbia). Millar suggested that the regional differences may in fact be related to funding under the various health insurance plans. For both men and women, there was a significant positive relationship between the number of diagnosed chronic illnesses and use of alternative therapies. Millar compared the results from his study to Eisenberg et al. (1993) and indicated there are patterns of similarities between the U.S. and Canada, where utilization of CAM tends to be higher among women, the more highly educated, those with higher income, and in the west. In particular, women in British Columbia had the highest utilization rate (Millar, 1997). When comparing his results to Eisenberg et al. (1993), Millar acknowledged that the questions in the surveys were similar but not identical. Eisenberg et al. (1998) in comparing their results to Millar's, suggested the wide difference in the results could also be attributed to the disparity in definitions of alternative therapy and the selection of therapies assessed. Millar cautioned that with an

aging population and the prevalence of multiple chronic diseases increasing with age, there could be a demand for alternative therapies, which could result in higher health care costs.

Kelner and Wellman (1997) found the demographic profile of people who use alternative practitioners was consistent with other research in North America and the United Kingdom. Users of four kinds of alternative health care were more likely female, younger (with a mean age of 44), more highly educated, in higher level occupations, and had higher incomes. These researchers conducted face to face interviews in 1994 to 1995 with 300 patients, 60 from each mode of treatment from five different types of practitioners; family practitioners and four alternative practitioners. The significant findings in this research included a proactive approach by users of alternative health care to select specific kinds of practitioners for particular problems, and a conscious action to exert active control over their own health problems. The consumer profile in this research is consistent with the educated and more affluent baby boomers who actively seek their own answers and pay primarily out of pocket for these alternative therapies.

Changes in the traditional family

The baby boomers have changed the traditional understanding of marriage and family. They married later in life, ended marriage more frequently than the previous generation, delayed having children and had fewer children (Bouvier & De Vita, 1991) or no children (Wattenberg, 1986). Changes in the traditional family were also as a result of the introduction of the birth control pill, more relaxed divorce laws and women entering the labour force (Foot & Stoffman, 1996; Wattenberg, 1986). As well, many women

worked outside the home when they still had infants (Wattenberg, 1986). In addition there were more single-parent and dual-earner households (Poulos & Nightingale, 1997). Furthermore, baby boomers were not shy about asserting their rights. There was a shift to recognize the legal and economic benefits of traditional families in same sex partnerships (Foot & Stoffman, 1996).

These changes are significant because marital status influences living arrangements, economic status, informal support systems and the use of formal help in later years (Novak, 1997; McPherson, 1998). Moreover, married people have a higher life expectancy than single people (Novak, 1997; McPherson, 1998).

Divorce and its consequences

Novak (1997) found there was limited research on divorced older people. Research has indicated divorced men have the smallest social network, weakened family ties and the lowest life satisfaction of any marital group (Kingson, 1996; Novak, 1997). Conversely, McPherson (1998) suggested women may experience more stress and losses, primarily because of financial hardship. An increasing number of baby boomers may live alone during their retirement, with fewer children to provide support (Poulos & Nightingale, 1997).

Silverstone (1996) predicted there will be multiple scenarios of reconfigured families and a richer fabric of social relationships that will develop with peers. In addition, more four generation households are anticipated (Kingson, 1996; Tice & Perkins, 1996; Torres-Gil, 1992). The presence or absence of family and friends is important because some baby boomers will reside alone and need to develop support

systems to supplement traditional reliance on the family (Tice & Perkins, 1996). Kingson (1996) discussed the weakening of filial obligation in blended families and the question of who is responsible for parental and step-parental care.

Rowe and Kahn (1998) indicated how important close relationships with family or friends are in the role of successful aging. For example, in the MacArthur studies, social support improved mental and physical functioning if it was appropriate to the situation and suited to the individual's needs (Rowe & Kahn, 1998).

Caregiver role

In the U.S. it is anticipated that long-term care will be a primary health care concern for the aging baby boomers and their parents because of the high cost and low quality of nursing home care (Torres-Gil, 1992). There is a greater need for formal care and less opportunity for informal family care if there are fewer children (Easterlin, Macdonald, & Macunovich, 1990). Wallhagen and Strawbridge (1995) examined how the current generation of child caregivers may soon need to receive care themselves. They also focussed on adult child caregivers' expectations should they become dependent. Interestingly, they found that approximately half of the adult child caregivers rejected the form of care for themselves that they provided for their parents. One of the conclusions in this study was that if family care is emphasized, improvements in nursing home care will not occur. This is an insightful observation and is worthy of future study considering the emphasis for funding continues to be on community care. Another one of the key findings illustrated in this research, was the emphasis on the need for options.

Employment and retirement

Unlike their parents and grandparents, baby boomers cannot expect lifetime employment with one organization or career (Tice & Perkins, 1996). The financial security and benefits which their parents enjoyed, are no longer available for this cohort. However, with multiple careers come advantage including transferable skills, flexibility and opportunities for a varied work experience (Tice & Perkins, 1996).

There are unprecedented numbers of female baby boomers in the workforce. This increase in the number of women employed outside the home, can be attributed to higher levels of education, delayed marriage, greater likelihood of divorce, and inflationary pressures (Bouvier & De Vita, 1991). Furthermore, cumulative disadvantages negatively affect retirement financing. These include divorce, employment ceilings, child care responsibilities, and widowhood (Tice & Perkins, 1996). The most likely baby boomers to have pension coverage are men, those with higher education and income levels, and those who have worked in large companies (Poulos & Nightingale, 1997). However, compared to their predecessors, baby boomer women will have access to a wider range of private income sources in retirement than their predecessors (Schellenberg & Clark, 1996).

Retirement

The highest job growth has been in professional and managerial occupations (Schellenberg & Clark, 1996). The benefits for boomers employed in these positions include higher wages, less physically demanding work and high levels of job satisfaction. In addition, the range of retirement ages is quite wide (Schellenberg & Clark, 1996), with some estimates of retirement spanning 10 to 20 years (Tice & Perkins, 1996).

This range of retirement will again reflect the diversity of the baby boom cohort. Those with prior employment in professional and managerial jobs are most likely to return to work with retirement not being viewed as a single event, but rather a process undertaken over time (Schellenberg & Clark, 1996). Foot and Stoffman (1996) predicted demographics will impose a system of gradual retirement because of rising life expectancies and a "flexible workforce" (pp. 77-78). These authors proposed that older workers should be able to ease their way out of the workforce in the same way younger worker ease their way in. They also suggested compulsory retirement will come under attack when the baby boomers start to turn 65, around 2012. This will occur because "the most knowledgeable and experienced workers are too valuable to be put out to pasture before they are ready" (Foot & Stoffman, p. 1996, p.77).

For some, planning for retirement will be the dominant issue (Torres-Gil, 1992). In addition, volunteer activities by seniors will further blur the line between employment and retirement and possibly be more prevalent, since the tendency to volunteer increases with levels of education and household income (Schellenberg & Clark, 1996). Part time employment for older workers creates a transition to retirement and also provides a source of income and socialization (Novak, 1997; McPherson, 1998). In addition, it allows individuals to remain productive, gradually retire with dignity, mentor younger workers and help reduce the pressure on the Canada Pension Plan (Foot & Stoffman, 1996). This transition has worked successfully in countries where workers are allowed to receive a partial government pension (McPherson, 1998).

Poulos and Nightingale (1997) suggested a potentially larger equity problem may

occur because only those with economic resources can adequately afford to retire earlier. Furthermore, they anticipated that raising the normal age of retirement will be likely to increase poverty rates among the aged baby boomers, especially (single surviving spouses) widows.

Individualism versus community

What then, makes the baby boomers different from previous generations? Inherent in any discussion regarding the baby boomers is the concept of a culture that is different from its predecessors; certainly, as a generation, they are more educated, and education is linked to economic achievement (Light, 1988). However, "the power of the baby boom does not stem from a conscious generational identity, but from numbers alone" (Russell; 1993, p.15). The baby boomers were socialized differently in part because of their sheer numbers: crowded classrooms, changes in child rearing philosophies, television and advertising were just some of the factors that influenced their expectations (Light, 1988). Light cited examples such as family size, standardized housing and school plans which "may have provoked the drive for individualism and tolerance of diversity that distinguishes the baby boom from its parents and grandparents today" (p.111). Russell also identified individualism as a predominant characteristic of the baby boomers. She cautioned however, that the individualism of the baby boom generation may be at odds with community responsibilities, which in turn prevent them from resolving many important issues such as health care, education and ultimately, their own aging. Russell further explained the term individualism is too general, and a more accurate description is the term "free agent" (p.22) often used to describe the culture that

the baby boomers helped create. Russell cited many other examples, based on several studies, which include a preference for leisure, a healthy lifestyle, materialism, self interest, redefined retirement, matriarchal families and "being happily married" versus "being married to the same person for life" (p.101). Russell, like Light, also acknowledged a tolerance for diversity as being a predominant characteristic.

Differences within the generation

The characteristics of diversity, affluence, education, preference for leisure, healthier lifestyles and changes in retirement patterns may more accurately describe the front-end boomers than the back-end boomers. Light (1988) compared the front-end boomers (born 1946 to 1954) to firstborns in families, with back-end boomers (born 1955 to 1964), to those born later in a family. Varying social, political, historical and economic events socialized each group differently. Light indicated the front-end boomers have always achieved better than their siblings because "they got a headstart" (p.79). He further added different child-rearing philosophies contributed to the differences in the two groups. With reference to the first group, he indicated "This combination of nurturance and freedom may have given these first baby boomers a sense of protected individualism, a feeling that they could explore the limits of life without fear" (p. 81).

The outlook and issues for the baby boom generation are diverse. This review of the literature implies those who are well educated, have sufficient personal and economic resources, and supportive relationships, should age successfully. In addition, it is anticipated that this group will be healthier consistent with the model proposed by Rowe and Kahn (1998), namely the characteristics of successful aging are the low risk of

disease and disability, high mental and physical function and active engagement with life. With these positive factors it is anticipated that there should not be an aging crisis for this particular cohort and future planning should focus on appropriate utilization of health care services as well as the increasing popularity and role of alternative and complementary medicine. This positive expectation is more likely to be realized for front-end baby boomers. For others, and those baby boomers born toward the end of the cohort, the outlook may not be as optimistic. This less optimistic forecast can be attributed to several influencing factors, including the size and competition within the generation itself, changes within family compositions and socioeconomic variables.

Chapter 3

Design of the Study

It was suggested in the previous chapter that baby boomers have unique attributes including more education and higher income than any other cohort to date together with a healthy lifestyle, preferences for leisure, flexible employment and retirement. Changes from the traditional family structure have been noted along with conflicting needs and a proactive and holistic philosophy regarding their own health care. For example, the baby boomers' preoccupation with themselves and denial of aging are at odds with accepting the physical and psychological changes that occur at mid-life (Edwards et al., 1999). As well, this preoccupation affects their ability to prepare for the future and the need to find more meaningful pursuits. However, with medical advances and healthier lifestyles, it is anticipated the baby boomers will live longer than previous generations (Edwards et al., 1999). While it is not possible to have a single measure of successful aging, it is considered likely that some of these characteristics may be correlates of successful aging.

Secondary analysis

The present study is based on a secondary analysis of existing data from a 1999 Manulife study of healthy aging (Stones, 1999). A factor in choosing to work with this data was the large sample size represented. The Manulife survey included 11 health and lifestyle items within the original questionnaire. An analysis of the demographic descriptors was proposed to determine whether some of the baby boomer characteristics would distinguish them from the current generation of seniors. This study was also designed to review demographic differences within the cohort itself, namely between the

front-end and back-end boomers.

Participants

The participants in the original telephone survey were 1005 persons aged 18 years or older, who were at home at the time of the phone call and whose birthday came soonest after the survey date. If the person was not home, a call back was arranged. The response rate was 65% for the English-speaking provinces resulting in a total of 768 respondents aged 18 to 65 (Stones, 1999). For the purposes of the present study, responses from English-speaking respondents only were analyzed since the response rate was lower for French-speaking participants (Stones, 1999).

The original data are reviewed in the four age groups previously discussed: front-end and back-end baby boomers (ages 45 to 54 years and 35 to 44 years respectively) and the older generation (i.e., current groups of seniors aged 55 to 64 years and 65 years or older).

Method

In the Manulife survey, Telenation (the research group employed by Market Facts of Canada Ltd) used computer-generated telephone numbers incremented to produce a probability sample of all telephone households, including unlisted phone numbers. Up to two attempts were made to access each sample member to eliminate not-at-home bias. Interviews were conducted out of four central locations in Toronto, Peterborough, Montreal and Vancouver. Each interview was restricted to a maximum of 25 minutes (Stones, 1999).

The Manulife poll was conducted for Manulife Financial to provide data for

advertising purposes (Stones, 1999). The items in the survey pertained to healthy aging and the contents of the survey were under the direction of Dr. Michael Stones, Director of the Northern Educational Centre for Aging and Health at Lakehead University. The data were provided with his permission.

The Manulife survey was organized into three sections. The first section was the introduction in which the individuals conducting the survey introduced themselves by name and explained that they were calling from Telenation, a consumer opinion company. In the introduction, they explained they were calling people all over the country requesting opinions about a variety of topics. The surveyors did not mention Manulife Insurance.

The language of the interview (English or French) was noted. The interviewer asked how many people were living in the household 18 years or older. (If there were none the survey was terminated). The interviewer then asked to speak to the person who was 18 years of age or older and who was at home, and whose birthday came soonest after the day of the interview. If this person was not home, a call back was arranged. The interviewer completed this introductory section by entering the codes for the population size, province and sex of the respondent. Respondents were asked if they were the male or female head of the household.

The second section of the Manulife survey contained 14 items regarding health and lifestyle. The questions varied. Most were designed using a Likert scale format in which the interviewer read the options, except for the last response for each question ('don't know'). For four questions, the interviewer did not read the option. These

questions were recorded as 'yes', 'no', or 'don't know'.

The third section of the questionnaire pertained to demographics. Items requested information about age, last level of education completed, home ownership, numbers and ages of people living in the household, employment status of respondent and spouse, occupation, marital status, and total household income before taxes in 1998. The city of the interview was also recorded.

Design of study in relation to the model

The items selected were considered congruent with the model by Rowe and Kahn (1998) as outlined in Chapter 2. Rowe and Kahn defined successful aging as the ability to maintain three key behaviours: avoiding disease, maintaining high cognitive and physical function and engagement with life.

A review of the selected items which reflect the model follows. The number in the original questionnaire is indicated in parentheses following the item. The complete list of items is outlined in Appendix A.

Selected health and lifestyle items

The following items were selected from the original Manulife questionnaire:

1. Would you say that you worry about your own health (Q1)?

   Never, rarely, occasionally, regularly or often.

   Don't know.

2. Compared to other people your age, would you describe your current health as very good, good, fair, poor, or very poor (Q10)?

   Very good, good, fair, poor, or very poor.

Don't know.

3. How often do you socialize outside your family circle, or attend community groups or clubs? Would you say more than twice a week, every week, every month, every three months or every year (Q11a1)?

   More than twice a week, every week, every month, every three months, every year.

   Don't know.

4. How often do you engage in activities that stimulate your mind such as writing, arts, crafts, or other hobbies? Would you say more than twice a week, every week, every month, every three months or every year (Q11a2)?

   More than twice a week, every week, every month, every three months, every year.

   Don't know.

5. How often do you engage in at least thirty minutes of vigorous physical exercise? Would you say three times a week or more, at least weekly, a few times a month, a few times a year or rarely or never (Q11b)?

   Three times a week or more, at least weekly, a few times a month, a few times a year, rarely/never.

   Don't know.

6. Do you believe you have a suitable support network if you were to become seriously ill (Q12)?

   Yes, no, don't know.

Do you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree with the following statements?

7. If you take the right actions, you can stay healthy (Q13a).

   Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

   Don't know.

8. You are satisfied with your life (Q13b).

   Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

   Don't know.

9. When you are under stress, you try to come up with a strategy to reduce it (Q13c).

   Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

   Don't know.

10. You often feel depressed, downhearted or blue (Q 13d).

    Strongly agree, agree, neither agree nor disagree, disagree, strongly disagree.

    Don't know.

The last question pertained to planning for the future in retirement.

11. Financially, how prepared are you for later life? Would you say you are . . . very prepared, prepared, not very prepared or not at all prepared (Q14)?

    Very prepared, prepared, not very prepared, not at all prepared.

    Don't know.

Relationship between the model and the selected questions

The model proposed by Rowe and Kahn (1998) employed three intersecting ellipses merging at the centre. This model, based on interdisciplinary research, was

previously described in Chapter 2. The three wings of the model overlapped at the centre, "successful aging." Like the model, some of the selected items have aspects that overlap with the theme of healthy aging. The model depicts a type of hierarchy. The first level in the model is avoiding disease and disability. This is reflected in items 1 (Q1); 2 (Q10); 5 (Q 11b); 7 (13a); and 9 (Q 13c). These items reflect basic health status. The second level, maintaining high cognitive and physical function, is symbolized in items 4 (Q11a2); 5 (Q11b); 7 (Q13a); 8 (Q13b) and 9 (Q13c) as these items illustrate more specific health practices. The last level, engagement with life, is more complex. It encompasses and overlaps many of the selected items. For example, items 3 (Q11a1); 4 (Q 11a2); 6 (Q12); 7 (Q 13a) and 8 (Q13b); 9 (Q13c); 10 (Q13d) and 11 (Q14) include issues related to support systems, coping strategies and foresight.

In addition to the above items, demographic information regarding sex, employment status, marital status, income and education was reviewed in association with age.

Expectations

In the following expectations, members of the so called "baby boomers" refers to both front-end (ages 45 to 54 years) and back-end (ages 35 to 44 years) "baby boomers". "Older generation" refers to the current generation of seniors (55 to 64 years and 65 years or older).

It is anticipated that:

1. The baby boomers will differ from the older generation in their responses to the selected health and lifestyle items.

2. The baby boomers will differ from the older generation in regards to frequency of exercise (Q11b).
3. The baby boomers will differ from the older generation in demonstrating more proactive behaviours (e.g., believing if you take the right actions, you can stay healthy) (Q13a).
4. The baby boomers will differ from the older generation in demonstrating more self- reliant behaviours (e.g., developing a strategy to reduce stress) (Q13c).
5. The baby boomers will differ from the older generation in regard to highest level of education achieved.
6. The baby boomers will differ from the older generation in regard to current income level.
7. The baby boomers will differ from the older generation in regards to financial preparation for retirement (Q14).
8. The baby boomers will differ from the older generation in regard to marital status (i.e., there will be a higher number of separated or divorced baby boomers compared to the older generation).
9. There will be a difference between the baby boomers and the older generation regarding life satisfaction (Q13b).
10. There will be differences in income between the front-end baby boomers in comparison to the back- end baby boomers (the front-end members will have higher incomes).
11. There will be differences in employment status between the front-end baby

boomers in comparison to the back-end baby boomers (more front-end members will be employed).

Data analysis

The Statistical Package for Social Sciences (SPSS) version 10 software was used in analysing the data for the present study. Analysis of variance (ANOVA) was used to compare group means between the four groups for the eleven selected health and lifestyle items. The four groups consisted of the back-end (ages 35 to 44 years) and front-end (ages 45 to 54 years) baby boomers and the older generation (the younger 'older' group (ages 54 to 65 years) and the oldest group (ages 65 years or older). *Post hoc* comparisons (using the Bonferonni correction for the p value) were employed. Chi square tests were conducted for demographics (sex, employment and marital status, education and income) of the four age groups. Chi square tests were repeated to compare the back-end and front-end baby boomers.

Chapter 4

Results

Front-end and back-end baby boomers were compared to the current generation of seniors using one-way analysis of variance (ANOVA). ANOVA was chosen as the method of analysis in order to compare the means of the four groups: two groups of baby boomers (ages 35 to 44 years and 45 to 54 years) and two older generations (ages 55 to 64 years and 65 years or older). Significant between group differences were found for three items relating to frequency of exercise, life satisfaction and financial preparation for retirement. These are presented in Table 1. There were no significant differences for the remaining items relating to health and lifestyle.

Post hoc comparisons (using the Bonferroni correction) were employed to determine where the significant differences occurred. These analyses showed that the oldest group (65 years or over) exercised significantly less and were significantly less satisfied with their life than the back-end baby boomers (ages 35 to 44 years). As well, the oldest group was significantly more prepared financially for retirement than the other three groups. No other differences were significant (see Table 2).

Chi square tests were conducted to examine relationships between age and demographic descriptors (sex, employment status, martial status, income and education) for both the baby boomers and the older generation of seniors. These are presented in Tables 3 through 7. Chi square tests were also performed to compare the above demographic descriptors between the front-end and back-end baby boomers. These are presented in Tables 8 through 11.

Table 1

One-way ANOVA of health and lifestyle behaviours amongst baby boomer groups and older generations of seniors

	Item		df	F
Q1.	Extent respondent worries about own health	Between groups Within groups	3 670	.32 (1.46)
Q10.	How respondent would rate own health compared to other people their age	Between groups Within groups	3 673	1.05 (.71)
Q11a1.	How often respondent socializes outside their family circle, or attends community groups	Between groups Within groups	3 645	.88 (1.88)
Q11a2.	How often respondent engages in activities that stimulate their mind such as writing, arts, crafts, or other hobbies	Between groups Within groups	3 655	1.40 (1.47)
Q11b.	How often respondent engages in 30 minutes of vigorous exercise	Between groups Within groups	3 666	3.18* (2.01)
Q12.	Respondent believes they have a suitable support network if they become seriously ill	Between groups Within groups	3 633	.19 (.12)
Q13a.	Respondent agrees with statement if they take the right actions, they can stay healthy	Between groups Within groups	3 674	.91 (.72)
Q13b.	Respondent agrees with statement they are satisfied with their life	Between groups Within groups	3 674	4.22** (.62)
Q13c.	Respondent agrees with statement when under stress they try to come up with strategy to reduce it	Between groups Within groups	3 661	.44 (.75)
Q13d.	Respondent agrees with statement they often feel depressed, despondent or downhearted.	Between groups Within groups	3 669	.48 (1.16)
Q14.	How prepared financially respondent is for later life	Between groups Within groups	3 661	15.16** (.55)

Note. Values enclosed in parentheses represent mean square errors.

*p<.05, **p<.01

As shown in Table 1, ANOVA resulted in significant differences for three items. Question 11b asked how often the respondent engaged in at least 30 minutes of vigorous exercise. Responses offered ranged from 'three times a week or more', 'at least weekly',

'a few times a month', 'a few times a year' to 'rarely/never'. For this item (regarding how often the participant vigorously exercised) there was a statistically significant difference existing between the groups, ($\underline{F}$ (3, 666) = 3.18, $p<.05$).

Question 13b inquired if the respondent agreed with the statement "you are satisfied with your life." Responses tendered in a 5-point Likert format ranged from 'strongly agree' (1) to 'strongly disagree' (5). There was a statistically significant difference existing between the groups, $\underline{F}$ (3, 674) = 4.22, $p<.01$ regarding how satisfied the respondents were with their lives.

The last item for which a significant result was obtained was Question 14 which asked the question, "Financially, how prepared are you for later life?" Four responses suggested ranged from 'very prepared' to 'not at all prepared'. A statistical significant difference was obtained, ($\underline{F}$ (3,661) = 15.16, $p<.01$).

The remaining selected health and lifestyle items did not result in significant F values. These items and results are also outlined in Table 1.

Table 2

Post hoc comparisons (using the Bonferonni correction) of health and lifestyle behaviours amongst baby boomer groups and older generations of seniors

	Item	Age of respondent	Age of respondent	Mean difference
Q11b.	How often respondent engages in 30 minutes of vigorous exercise	35 to 44 years	45 to 54 years	-.28
			55 to 64 years	-.24
			65 years or over	-.44*
		45 to 54 years	55 to 64 years	.035
			65 years or over	-.16
		55 to 64 years	65 years or over	-.20
Q13b.	Respondent agrees with statement they are satisfied with their life	35 to 44 years	45 to 54 years	-.12
			55 to 64 years	-.18
			65 years or over	-.28**
		45 to 54 years	55 to 64 years	-.062
			65 years or over	-.16
		55 to 64 years	65 years or over	-.10
Q14.	How prepared financially respondent is for later life	35 to 44 years	45 to 54 years	-.041
			55 to 64 years	-.21
			65 years or over	-.48***
		45 to 54 years	55 to 64 years	-.17
			65 years or over	-.44***
		55 to 64 years	65 years or over	-.27*

Note. *p<.05, **p<.01, ***p<.001

Table 2 illustrates where the significant differences were found with Post Hoc comparisons (using the Bonferonni correction). Item 11b inquired how often the respondents vigorously exercised. This analysis demonstrated a significant mean difference of -.44, $p<.05$ between the oldest group and the youngest baby boomer group. This result indicated the oldest group exercised less.

Item 13b concerned the degree of satisfaction the respondents had with their lives. A mean difference of -.28, $p<.01$ was found between the same two groups mentioned

above. This analysis showed the oldest group was the most dissatisfied with their life.

Item 14 illustrated the oldest group, in comparison to the other groups, was the most prepared financially for later life. A mean difference of -.48, $p<.001$ was found between the oldest group and the youngest baby boomer group. A mean difference of -.44, $p<.001$ was found between the front-end baby boomers and the oldest group. A mean difference of -.27, $p<.05$ was found between the younger older and the oldest group.

Chi square tests

Chi square tests are reported in tables 3 to 7. For the purposes of reporting these results the age groups are as follows. The younger or back-end baby boomers are aged 35 to 44 years. The older or front-end baby boomers are aged 45 to 54 years. The younger older group are aged 55 to 64 years, and the oldest group are aged 65 years or over. When comparing results, unless otherwise stated, groups will be described from the youngest to the oldest.

Table 3

Relationship between age and gender

Gender	Age of respondent				Total
	35 to 44 years	45 to 54 years	55 to 64 years	65 years of over	
Male	110	89	57	71	327
Female	110	90	58	95	353
Total	220	179	115	166	680

Table 3 illustrates that the proportion of males and females in the four age groups were not significantly different (χ^2 (3, N = 680) = 2.49, NS). The proportion of males and

females in the four age groups are equally distributed (50%) in both baby boomer groups and the younger older group. For the oldest group the proportion was 45% male and 57% female.

Table 4

Relationship between age and employment

Employment status	Age of respondent				Total
	35 to 44 years	45 to 54 years	55 to 64 years	65 years or over	
Full time	153	110	33	7	303
Part time	31	29	14	7	81
Not at all	36	38	67	153	294
Total	220	177	114	167	678

Table 4 illustrates that employment status was associated with age (x^2 (6, N = 678) = 274.74, p<.001). For those in the two baby boomer age groups, the majority were employed full time, while for those in the two older age groups the majority were not employed. More specifically, 70% of the back-end baby boomers and 62% of the front-end baby boomers were employed full time, whereas 29% of the younger older group and only 4% of the oldest group, were employed full time. Part time employment was more evenly distributed amongst the two baby boomer groups and the younger older group. These were 14% for the back-end baby boomers, 16% for the front-end baby boomers and 12% for the younger older group. The percentage for the oldest group employed part time (4%) was unchanged from the percentage working full time.

Sixteen percent of back-end baby boomers were not employed, 21% of front-end

baby boomers were not employed, 59% of the younger older group were unemployed and 92% of the oldest group were unemployed.

Table 5

Relationship between age and marital status

Marital status	Age of respondent				Total
	35 to 44 years	45 to 54 years	55 to 64 years	65 years or over	
Single, never married	34	19	5	12	70
Married or living common law	157	126	86	84	453
Divorced or separated	26	30	13	12	81
Widowed	2	3	10	58	73
Total	219	178	114	166	677

Table 5 illustrates marital status was associated with age (x^2 (9, $\underline{N}$ = 677) = 150.57, $p<.001$). The most striking difference was the high proportion of widowed in the oldest age group (35%) in comparison to 1% in the younger baby boomer group, 2% in the front-end baby boomer group and 9% in the younger older group.

The highest percentage of single, that is, never married people were in the younger (back-end) baby boomer group (16%), followed by 11% of the older (front-end) baby boomers, 4% of the younger older group and 7% of the oldest group.

The majority of respondents were married or living common law in each age group. As well, for the baby boomers and the younger older group, there were similar results. These were 72% of the back-end baby boomers, 71 % of the front-end baby

boomers and 75% of the younger older group were married or living common law. About half (51%) of the oldest group were married or living common law.

There were no marked differences in regards to divorce or separation. Twelve percent of the younger baby boomers, 17% of the front-end baby boomers, 11% of the younger old group and 7% of the oldest group were divorced or separated.

Table 6

Relationship between age and total household income before taxes

Household income before taxes	Age of respondent				Total
	35 to 44 years	45 to 54 years	55 to 64 years	65 years or over	
< $20,000	20	22	17	35	94
$20,000 to < $30,000	13	11	10	23	57
$30,000 to < $40,000	22	21	15	25	83
$40,000 to < $50,000	24	20	11	16	71
$50,000 to < $70,000	67	46	18	16	147
$70,000 to < $100,00	33	20	19	7	79
Total	191	157	93	125	566

Table 6 illustrates that total household income before taxes for 1998 was associated with age (x^2 (18, N = 566) = 68.21, p<.001). Generally, higher incomes ($40,000 or more) were found in both the baby boomer groups (71% for the back-end boomers and 66% for the front-end boomers), compared to 54% for the younger older

group and 34% for the oldest group. The oldest group had the lowest income less than $40,000 for the three salary ranges less than $40,000. More specifically, 28% of the oldest group had less than $20,000. This is in comparison to 10% of the back-end baby boomers, 14% of the front-end baby boomers, 18% of the youngest older group for total income less than $20,000.

In the $20,000 to $30,000 range the salary ranges were 7% for both groups of baby boomers, the younger older group was 11% and the oldest group was 18%.

For the $30,000 to $40,000 range, the percentages ranged from 12% for the youngest baby boomers, 13% for the front-end baby boomers, 16% for the younger older group and 20% for the oldest group.

In the $40,000 to $50,000 range, percentages were fairly evenly distributed (13% for both baby boomer groups and the oldest group) and 12% for the younger older group.

In the $50,000 to $70,000 range, greater differences were shown. The two baby boomer groups had higher incomes (35% of the back-end boomers and 29% of the front-end baby boomers) followed by 19% of the younger older group and 13% of the oldest group.

In the $70,000 to $100,000 range the back-end boomers were again the largest income earners (17%). The front-end boomers were 13%, the younger older group 20% and the oldest 6%. In the highest income group (more than $100,000) were 11% of the front-end boomers compared to 6% of the back-end boomers, 3% of the youngest oldest group and 2% of the oldest group.

Table 7

Relationship between age and education

Education	Age of respondent				Total
	35 to 44 years	45 to 54 years	55 to 64 years	65 years or over	
No formal education				1	1
Some grade school	1	1	5	8	15
Completed grade school	4	4	9	10	27
Some high school	18	28	19	41	106
Completed high school	62	39	32	40	173
Some tech/ trade/ community college	21	17	4	9	51
Completed tech/trade/ community college	61	32	21	23	137
Some university	7	9	2	8	26
Completed university	37	37	21	20	115
Post graduate	9	11	2	5	27
Total	220	178	115	165	678

Table 7 illustrates education is associated with age (x^2 (27, $\underline{N}$ = 678) = 70.86, $p<.001$). The largest group to complete high school or above was the back-end baby boomers (90%) followed by 82% of the front-end baby boomers, 71% of the younger older group and 64% of the oldest group. The baby boomers were almost evenly distributed (52% for the back-end and 50% for the front-end) in regards to completion of a technical, trade or community college or higher. Forty percent of the younger older group and 34% of the oldest group completed this level of education.

The largest group to complete university or above was the front-end baby boomers

(27%). This is in comparison to 21% of the back-end baby boomers, 20% of the younger older group and 15% of the largest group. Similarly, the front-end baby boomers were the largest group to complete post graduate studies (6%) in comparison to 4% of the back-end baby boomers, 2% of the younger older and 3% of the oldest group.

Comparisons of employment, marital status, education and total household income between the front-end and back-end baby boomer groups

Chi square tests were carried out to determine if there were any significant differences between the two baby boomer groups. Analysis of employment status, marital status, education and total household income of the respondent by age were all repeated between the two baby boomer groups. There were no significant differences for any of the variables between the two groups (see Tables 8 through 11).

Table 8

Relationship between age and employment status (between baby boomers)

Employment status	Age of respondent		Total
	35 to 44 years (%)	45 to 54 years (%)	(%)
Full time	153 (69.5)	110 (62.1)	263 (66.2)
Part time	31 (14.2)	29 (16.4)	60 (15.2)
Not at all	36 (16.3)	38 (21.5)	74 (18.6)
Total	220 (55.5)	177 (44.5)	397 (100.0)

Table 8 illustrates there were no significant differences between the two baby boomer groups regarding employment status and the age of the respondent; x^2 (2, N =397) = 2.52, NS.

Table 9

Relationship between marital status and age (between baby boomers)

Marital status	Age of respondent		Total
	35 to 44 years (%)	45 to 54 years (%)	(%)
Single, never married	34 (15.4)	19 (10.9)	53 (13.4)
Married or living common law	157 (72.0)	126 (70.8)	283 (71.5)
Divorced or separated	26 (11.8)	30 (16.7)	56 (14.0)
Widowed	2 (.8)	3 (1.5)	4 (1.1)
Total	218 (55.0)	178 (45.0)	396 (100.0)

Table 9 illustrates there were no significant differences between the two baby boomer groups in regards to marital status; $x^2(3, \underline{N} = 396) = 3.74$, NS.

Table 10

Relationship between age and education (between baby boomers)

Education	Age of respondent		Total
	35 to 44 years (%)	45 to 54 years (%)	(%)
Some grade school	1 (.4)	1 (.7)	2 (.5)
Completed grade school	4 (1.6)	4 (2.1)	7 (1.9)
Some high school	18 (8.2)	28 (15.6)	46 (11.5)
Completed high school	62 (28.3)	39 (22.2)	102 (25.6)
Some technical/ trade	21 (9.4)	17 (9.6)	38 (9.5)
Completed technical/ trade	61(27.8)	32 (17.9)	93 (23.4)
Some university	7 (3.4)	9 (4.8)	16 (4.0)
Completed university	37 (16.8)	37 (21.0)	74 (18.7)
Post graduate	9 (4.0)	11 (6.1)	20 (1.9)
Total	221 (55.4)	178 (44.6)	399 (100.0)

Table 10 illustrates there were no significant differences between the two baby boomer groups in regards to education; x^2 (8, N = 399) = 12.78, NS.

Table 11

Relationship between age and total household income before taxes (between baby boomers)

Total household income before taxes	Age of respondent		Total
	35 to 44 years (%)	45 to 54 years (%)	(%)
< $20,000	20 (10.4)	22 (13.9)	42 (12.0)
$20,000 to < $30,000	13 (6.9)	11 (6.8)	24 (6.8)
$30,000 to < $40,000	22 (11.7)	21(13.5)	43 (12.5)
$40,000 to < $50,000	24 (12.4)	20 (13.0)	44 (12.7)
$50,000 to < $70,000	67 (35.0)	46 (29.2)	112 (32.4)
$70,000 to < $100,00	33 (17.3)	20 (12.8)	53 (15.3)
$100,00 or more	12 (6.3)	17(10.8)	29 (8.3)
Total	191 (54.9)	157 (45.1)	347 (100.0)

Table 11 illustrates that there were no significant differences between the two baby boomer groups in regards to total household income before taxes; x^2 (6, N = 347) = 5.27, NS.

Chapter 5

Discussion and Conclusions

The baby boomers' responses were compared to responses from the current generation of seniors, in a secondary analysis of a healthy aging survey. Questions regarding health and lifestyle, and demographic descriptors were reviewed. Significant differences were found in regards to amount of exercise, life satisfaction and financial preparation for retirement. Similar concerns regarding exercise, stress and finances were revealed in a recent Newsweek poll on aging (Kantrowitz, 2001). These comparable findings demonstrate these are relevant issues to be addressed in a discussion of successful aging. Chi square tests showed that age was associated with employment, marital status, income and education. These results were expected and are consistent with the literature and the normal developmental stages of adulthood. Contrary to the literature review, there were no significant differences between the front-end and back-end baby boomer groups.

In this study's introduction the concept of individualism, a characteristic of the baby boomers, was also reviewed. The question was previously posed as to whether the culture of individualism contributes to the perceived aging crisis, as compared to the sheer number of baby boomers who are aging. That is, do the cohort's expectations of entitlement influence how resources are utilized, and thereby affect the needs of the larger community? Are the baby boomers' self-interests in conflict with society's interests? There was no direct way to test this assumption in the secondary analysis. Instead, this concept will be discussed in the implications section of this chapter.

This chapter will review the expectations from this study and discuss the results. Limitations and implications for future research will also be addressed.

Review of expectations

Three health and lifestyle items from the questionnaire produced statistically significant results. Statistically significant differences were found between the back-end baby boomers and the oldest group regarding frequency of exercise and life satisfaction. Statistically significant differences were also found among all of the age groups in regards to financial preparation for retirement.

Activity and exercise

The results were anticipated. For example, the youngest group would be expected to be physically active. If compared to the model proposed by Rowe and Kahn (1998), the youngest group would naturally have the least disease or disability, have the highest physical and cognitive function and be the most actively engaged with life. As well, naturally occurring physiological changes would influence the frequency and amount of exercise for older adults. In addition to biological changes, the oldest group would have psychological and emotional factors to contend with. For example, motivation to exercise may be influenced by companionship. Furthermore, this item inquired about vigorous exercise. It did not ask about the amount of less strenuous exercise some seniors engage in such as recreational walking or golf.

Life satisfaction

The second item that was found to be statistically significant concerned the degree of satisfaction the respondents had with their lives. This result indicated the oldest group

was the least satisfied. The question however, did not explore the source of the dissatisfaction. Certainly, negative life experiences such as declining health, the 'empty nest' syndrome and the loss of significant others influence life satisfaction and would be proportionately much greater for the oldest group. Physiological changes such as reduced vision, hearing and mobility affect activities of daily living. Learning new information, multitasking and retrieving old information present challenges because the brain's older neurons process signals more slowly (Begley, 2001). Therefore there is a physiological explanation as to why it sometimes takes longer for an older person to learn a new skill in comparison with someone younger. For example, the oldest groups are least familiar with computers and technology because they have had less exposure in the workplace or classroom. Being unaccustomed to change can create isolation and dissatisfaction.

These results regarding life satisfaction are congruent with the human development model of theorist Erik Erikson. Erikson (1963) proposed a model of eight stages of psychosocial development. At each stage in the model, there is a crisis that must be dealt with in order to successfully move on to the next stage. If the person has not had the opportunity to resolve each crisis, then this can negatively impact the next stage of psychosocial development. The model begins with infancy (trust versus mistrust) and ends with old age (ego integrity versus despair). The eighth and final stage is a period of retrospection. In the last stage, the person reflects back on their life, evaluates their accomplishments, deals with the loss of loved ones and prepares for their own death. People who can reflect on a life which has been fulfilling achieve ego integrity, those who have not, have despair. It would seem logical therefore, that the

oldest group would be the least satisfied because of the accumulation of physical, emotional and psychological losses.

As well, "a once pleasing sight or a once joyous memory might not inspire the same level of pleasure it once did, when dopamine receptors were more numerous" (Begley, 2001, p. 28). In relation to the model (Rowe & Kahn, 1998), the oldest group would therefore be the least satisfied because they would have acquired more chronic diseases and disabilities, experienced more loss of physical and cognitive functions and had less opportunity to stay actively engaged with life.

Financial planning and retirement

The last item inquired about financial preparation for retirement. This item indicated that the oldest group was the most prepared financially in comparison to the other groups. However, more detailed information defining financial preparation was not provided. For example, did this question refer to assets, investments or planning for long term care? It is a logical assumption the oldest group would be the most financially prepared because major purchases such as a house or vehicle would be paid for. Furthermore, the oldest group would no longer worry about additional expenses such as child care or tuition. With fewer family members, there would be a reduction in living expenses. As well, many seniors opt for a smaller home or apartment in their retirement years when their family size is reduced. Rowe and Kahn (1998) indicated that "successful aging does not refer to prosperity, although poverty certainly makes its attainment more difficult "(p. 37).

Proactive health behaviours

There were no significant differences for the item indicating "If you take the right actions, you can stay healthy." It was anticipated that the baby boomers might respond differently to this statement because the literature review indicated the baby boomers were more proactive. For example, the literature review outlined several studies of the cohort's interest in complementary and alternative medicine (CAM). However, this interest in alternative health practices was not explored because there were no items pertaining to CAM in the original survey. The questionnaire did not allow for other options to be solicited. That is, the survey did not ask the participants for specific examples of how they stayed healthy.

Self-reliance

Similarly, the survey did not seek details regarding self-reliant behaviours. The results showed no significant differences for the selected item. For example, the participants were asked if they had a strategy to reduce stress, but were not asked what it was. In fact, the word 'strategy' itself may have influenced the results if the participant felt this required a novel approach or specific plan. Another option might have been to ask the respondents what coping methods they used. For example, did they talk to a friend or significant other, exercise, or seek other forms of assistance such as counselling when they experienced stress?

Education

There were no surprising outcomes in regards to education. Education was associated with age. The results were consistent with the literature which reported the

baby boomers as the most educated cohort to date. The baby boomers were the largest group to complete high school, post secondary education and graduate education. This result supports a positive prediction for the baby boomers to age successfully because the literature review demonstrated a strong positive correlation between education and health. The introduction of more flexible arrangements to pursue post secondary education at universities and community colleges have made it possible for some baby boomers to continue their education. As well, some employers today assist their employees with tuition costs. Moreover, mobility in many job markets, including many managerial positions, is often dependent on education as well as experience. Although there were differences between the baby boomers and the older generation of seniors, there were no significant differences between the front-end and back-end baby boomers.

Income

Income status was also associated with age. The baby boomer groups had the highest incomes compared to the two senior groups, with the lowest income found in the oldest group. This is not a surprising result considering many baby boomers have been in the workforce for a number of years, have experience and are at the peak of their careers. This result also occurred because the vast majority of the oldest groups are receiving pensions. The literature indicated more front-end baby boomers would be employed and have higher incomes. In this study, the front-end baby boomers did have the highest incomes (more than $100,000). However, the back-end boomers had higher incomes than the front-end boomers in two other salary ranges ($50,000 to $70,000 and $70,000 to $100,000). As well, the literature indicated the cohort is the most affluent

generation to date. This outcome would support successful aging for the baby boomers. However, this study did not show any significant differences between the two baby boomer groups.

Marital status

There were no significant differences regarding separation and divorce. The majority of the respondents were married or living common law in each age group. There were similar results among the two baby boomer groups and the younger, older group. Approximately half of the oldest group were married or living common law. This survey however, did not ask if this was a second or subsequent marriage. The oldest group had the highest proportion of widowed persons in comparison to the baby boomers and the younger, older group. This would be expected because life expectancy decreases as people age, and women, on average, live longer than men. When the two baby boomer groups were compared to each other, there were no significant differences. These results would support successful aging because support systems improve mental and physical functioning if they are appropriate to the situation (Rowe & Kahn, 1998).

Employment

Employment status was associated with age. The majority of baby boomers were employed full time, whereas for those in the two older age groups, the majority were not employed. Part time employment was more evenly distributed amongst the baby boomers and the younger, older group. Current trends toward gradual retirement may account for this latter result. Again, there were no significant differences between the front-end and back-end baby boomers. The majority of the oldest groups were not employed most

likely as a result of past practices regarding mandatory retirement, as well as declining physical and cognitive health. This would also be a positive predictor for successful aging because many health care services are frequently paid through employers extended health care benefits.

Limitations

The chief limitation of this study results from the secondary analysis of data. As a consequence, several baby boomer characteristics as outlined in the literature were not investigated. For example, questions pertaining to health care utilization, retirement trends and use of complementary and alternative medicine were not included. Ideally, a questionnaire specifically designed for this study may have more aptly reflected some of the characteristics previously discussed. Several baby boomers' attributes were not fully explored because of the limited number of questions utilized from the survey.

The original survey was conducted from four major urban centres. The results might have differed if the sample was more geographically representative of Canada. Certainly there are differences in regards to socioeconomic status, access to health care and health insurance plans dependent on where the respondent lives.

Many factors can influence the results in a telephone survey. The refusal rate was not recorded, however if high it would bias results. Other factors include the participant's level of interest and personal knowledge of the subject matter. As well, human factors such as personal experiences and biases can influence the respondent's level of participation.

Genetics

This study did not examine the role genetics has on successful aging. A very recent research study indicates the likelihood that there exists a gene or genes which exert a substantial influence on the ability to achieve exceptionally old age (Puca et al., 2001). The researchers were able to specifically identify a region on chromosome four in a study of 308 individuals belonging to 137 families who demonstrated an exceptional longevity. Puca et al. argued that genetic factors may represent an important component in disease resistance and survival advantage. The implications from this study contrast with the model proposed by Rowe and Kahn (1998). As well, scientists are discovering similar results with longevity genes in experiments involving fruit flies, worms and mice (Begley, 2001). Begley suggests that although we are "aging healthily and successfully"(p.82), we are nevertheless "still aging" (p. 82) and our life span is at least partly beyond our control because it is shaped by the genes we inherited from our parents.

Longitudinal research

This research produced a 'snapshot' of a sample of baby boomers. Although it was beyond the scope of this particular study, a longitudinal study would produce more detailed information over time regarding the descriptive demographics and the health and lifestyle items previously outlined. For example, Springen (2001) described the results of a 25-year study about women's health and longevity, the Harvard Nurses' Health Study.

The initial intent of the Harvard Nurses' Health Study was to study the long-term safety of the birth control pill (Springen, 2001). The study involved more than 120,000 nurses between the ages of 30 and 55 years of age. Today, there are more than 100,000 of

the original subjects still actively involved. The large sample size has allowed scientists to control for the many medical variables, bypass socioeconomic concerns and focus directly on the effects of lifestyles. The outcome was five basic rules for staying healthy: don't smoke, watch your weight, exercise, eat right and take a daily multivitamin. Interestingly the study also showed only 3 percent of the participants were following all five guidelines. This nurses' health study also demonstrates proactive behaviours are influential in avoiding disease and disability.

Of note, in the nurses' study, there were other interesting observations. For example, widowed or divorced participants rated their quality of life higher than their married colleagues (Springen, 2001). This is in contrast to the literature which presented the negative impact from a marriage breakdown. The study also found that friendships and an active social life were helpful in aging "gracefully" (Springen, 2001, p.53). This finding is consistent with successful aging and the 'active engagement with life' concept proposed by Rowe and Kahn (1998).

Focus groups

Alternatively, a focus group might have highlighted some of the significant issues for this cohort. Connaway (1996) suggested the focus group interview was more useful than a questionnaire when the researcher required in-depth and detailed responses. As a qualitative research method, it can be integrated with other research procedures or used alone to gather information. Sim and Snell (1996) made a similar assertion, but added that the focus group interview was less likely to be representative of a particular population. In a questionnaire, the participant's choice of response is more limited to that

of the researcher's predetermined concepts. In a focus group, respondents have more flexibility to express their own views. In the present study, a focus group may have identified some of the significant issues or concerns neglected in a survey. These ideas in turn could be implemented when designing questions for future surveys.

Implications

Certainly, healthy aging involves many aspects, many of which are beyond the scope of this study. This discussion will focus on the role education has in regards to the results of this study, successful aging and the implications for a healthier community. Education has previously been influential in changing behaviours. For example, education has influenced perceptions about the dangers of smoking and second hand smoke, drinking and driving and practising safe sex. Education has also promoted positive changes in prenatal care, workplace safety practices and exercise programs such as Participaction.

Healthier behaviours.

Baby boomers were described as the most educated generation to date in the literature review. Furthermore, the literature review illustrated that there was a strong positive correlation between education and health. Since the baby boomers are more educated than their parents and grandparents, it is plausible that they will practise healthier behaviours and exercise more. In this study, it was demonstrated that the younger baby boomers exercised more than the oldest group. This would foster successful aging. This prediction is supported in other recent findings. For instance, in the Newsweek poll, 55% of the respondents exercised at least three times a week and

20% had a daily fitness routine (Kantrowitz, 2001). These Newsweek results originated from a comparable sample size, 801 adults age 45 to 65 years old, surveyed in a random national telephone sample.

Health education.

Health education and prevention have been proven to reduce health care costs. Examples are immunization programs and wearing a seat belt in a motor vehicle. However, funding for health promotion programs has sometimes been reduced in times of cutbacks or restraints because prevention has not always been regarded as an essential service. Public educations regarding the benefits of prevention need to be given a higher priority. Programs such as Participaction were successful in increasing awareness of the benefits of exercise. However, future health promotion strategies will need to emphasize the rationale for baby boomers in order that they might 'buy into' the benefits of a regular exercise program. For example, baby boomers will be more likely to participate in programs of weight training and strengthening if they understand these activities will help them climb stairs or rise more easily out of a chair as they get older.

Corporations might be more amenable to health promotion strategies within their workplace if they recognize the benefits of reduced sick time and disability costs. If baby boomers actively make changes to incorporate more health producing behaviours such as exercise, this will reduce disease and disability, help maintain cognitive and physical function and keep them more actively engaged with life. This is consistent with the model from Rowe and Kahn (1998).

Individualism and community.

Addressing the baby boomers needs is a challenge because it necessitates the cohort learning to balance their own needs and that of the larger community. For baby boomers, this is difficult because of the concept of individualism. Russell (1993) indicated the individualism of the baby boomers may conflict with community responsibilities, which in turn influences how they cope with important issues such as health care, education and their own aging. For instance, baby boomers will need to remind themselves that there are finite resources and their needs need to be balanced with those of other generations. A practical example might be the desire to have their children's schools and local hospitals stay open instead of amalgamating resources within the larger community.

Lifelong public education.

Ongoing public education regarding appropriate use of health care resources is essential. For example the literature review indicated there has been an increase in specialist services. Further study regarding why this increase has occurred might explain the reasons why. For instance, is it because the baby boomers are more educated and request another opinion or is it an example of want versus need? Coincident with demands for increased service, will be the retirement of many baby boomer health care professionals. This will further tax the health care resources. Future studies will need to explore the role of complementary and alternative medicine (CAM) to prove their efficacy and how they can best be utilized in our present health care system. In addition there will be a need for more public education to utilize alternative health care resources. For example, programs such as Telehealth (where clients phone a health professional for

consultations) help address the shortage of health care professionals.

Future studies and spirituality.

Edwards et al. (1999) suggested the baby boomers have a renewed interest in spirituality. They give examples of renewed interests in angels, enormous book sales about the soul and new-age theories and the popularity of writers such as Jack Canfield ('Chicken Soup for the Soul'). Some baby boomers have returned to their childhood religions and others are finding new ways to reach out such as social action (Edwards et al., 1999). Future studies exploring this renewed interest in spirituality may illustrate its role in successful aging.

Achieving a balance.

Future studies might also focus on factors that create life satisfaction. Rowe and Kahn (1998) suggest successful aging will involve the allocation of education, work and leisure over the life course and the major life activities that define it. More specifically, they propose better integration of paid employment, lifelong education, homemaking and parenting, voluntarism and informal support and leisure. They further add that this requires a vision and goal and identification of the barriers and incentives to achieving it. Acquiring this involves lifelong learning and major institutional change. As an example, they point to Japan, where gradual retirement has been influential in successful aging.

Although this study was not conclusive in its findings regarding whether or not baby boomers will age successfully, it is reasonable to conclude that they will because of the strong correlation between lifelong education and health. Many baby boomers will become advocates for their parents and their children. "They will create more demand for

new answers and science will keep trying to respond" (Kantrowitz, 2001, p.9). Education has enabled them to be more creative, demonstrate leadership, and to look for solutions addressing the challenges they face as they grow older in comparison with previous generations. The baby boomers may be a "generation that refuses to grow old" and "they will undoubtedly reshape the way we think about aging and the limits of body and mind" (Kantrowitz, 2001, p.6).

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APPENDIX A

Questions from Manulife Survey

Introductory questions:

Language of Interview

English__ French__

S1. For this study we can only talk to one person in each household. How many people are there living in your household, 18 years of age or older?

__

S2. May I speak to the person (male/female) in your household, 18 years of age or older, who is home at the present time and whose birthday comes soonest after today?

Yes__ No__

S4a. Are you the male head of household?

Yes__ No__

S4b. Are you the female head of household?

Yes__ No__

Telenation Questions #G014

1. Would you say that you worry about your own health? (READ LIST-ENTER ONE)

never__ rarely__ occasionally__ regularly__ or often__

(DO NOT READ) don't know__

2. How long do you want to live, ideally? (READ LIST-ENTER ONE)

To 75__ to 85__ to 95__ to 100__ or older than 100__

(DO NOT READ) don't know__

3. Do you believe you will live to this age? (DO NOT READ-ENTER ONE)

   Yes__ No__

   don't know__

4. Which of the following statements best applies to you? (READ LIST-ENTER ONE)

   You feel and look older than you really are__

   You feel and look your age__ or

   You feel and look younger than you really are__

   (DO NOT READ) don't know__

5. Which of the following do you think will be the biggest health risk to Canadians in the new millennium? (READ LIST-ENTER ONE)

   Cancer__ Heart disease__ Stroke__ Aids or HIV__ or Stress- related illness__

   (DO NOT READ) don't know__

6. Do you plan to live a healthier lifestyle in the new millennium? (DO NOT READ-ENTER ONE)

   Yes__ No__

   don't know__

7. How interested are you in obtaining information on how to live a healthier lifestyle? Would you say you are...(READ LIST-ENTER ONE)

   very interested__ interested__ neither interested or disinterested__ disinterested__ or very disinterested__

   (DO NOT READ) don't know__

8. If a booklet containing a short quiz that helped you assess your health were available,

how interested would you be in completing a quiz like this? Would you say you are...(READ LIST-ENTER ONE)

very interested__ interested__ neither interested nor disinterested__ disinterested__ or very disinterested__

(DO NOT READ) don't know__

9. Do you believe that an individual who takes steps to a healthier lifestyle, such as improving their diet or exercising regularly, should pay less for their life insurance than other individuals? (DO NOT READ-ENTER ONE)

Yes__ No__

don't know__

10. Compared to other people you age, would you describe your current health as... (ENTER ONE)

very good__ good__ fair__ poor __ or very poor__?

(DO NOT READ) don't know__

11a. i) How often do you socialize outside your family circle or attend community groups or clubs? Would you say more than twice a week__ every week__ every month__ every 3 months__ or every year__? (ENTER ONE)

(DO NOT READ) don't know__

ii) How often do you engage in activities that stimulate your mind such as writing, arts, crafts, or other hobbies? Would you say more than twice a week__ every week__ every month__ every 3 months__ or every year__? (ENTER ONE)

(DO NOT READ) don't know__

11b. And how often do you engage in at least 30 minutes of vigorous physical exercise? Would you say 3 times a week or more__ at least weekly__ a few times a month__ a few times a year__or rarely or never__? (ENTER ONE)

(DO NOT READ) don't know__

12. Do you believe you would have a suitable support network if you were to become seriously ill? (DO NOT READ-ENTER ONE)

Yes__ No__

don't know__

13. Do you strongly agree, agree, neither agree nor disagree, disagree, or strongly disagree with the following statements? (READ LIST-ENTER ONE FOR EACH)

a. If you take the right actions, you can stay healthy.

Strongly agree__ agree__ neither agree nor disagree__ disagree__ or strongly disagree__

(DO NOT READ) don't know__

b. You are satisfied with your life.

Strongly agree__ agree__ neither agree nor disagree__ disagree__ or strongly disagree__

(DO NOT READ) don't know__

c. When you are under stress you try to come up with a strategy to reduce it.

Strongly agree__ agree__ neither agree nor disagree__ disagree__ or strongly disagree__

(DO NOT READ) don't know__

d. You often feel depressed, downhearted or blue.

Strongly agree__ agree__ neither agree nor disagree__ disagree__ or strongly disagree__

(DO NOT READ) don't know__

14. Financially, how prepared are you for your later life? Would you say you are... (READ LIST-ENTER ONE)

very prepared__ prepared__ not very prepared__ or not at all prepared__

(DO NOT READ) don't know__

Telenation demographic questions

A. May I please have your age as of your last birthday? (DO NOT READ LIST UNLESS RESPONDENT HESITATES-ENTER ONE ONLY)

18 to 24 years__ 25 to 34__ 35 to 44__ 45 to 54__ 55 to 64__ 65 years and over__

(DO NOT READ) refused__

B. What was the last level of education you completed? (DO NOT READ LIST-ENTER ONE ONLY)

No formal education__ some grade school__ completed grade school__ some high school__ completed high school__ some technical/trade school/community college/ CEGEP__ some university__ completed university__ post graduate work__

refused__

C. Do you own or do you rent your home?

Own__ rent__ other__

refused__

D. Including yourself and any babies, how many people live in your household?

One__ two__ three__ four__ five__ six or more__

refused__

E. How many people living in your household, in any, are under 10 years of age?

None__ one__ two__ three__ four or more__

refused__

F. How any people living in your household, if any, are 10 to 17 years of age?

None__ one__ two__ three__ four or more__

refused__

G. Are you employed...(READ LIST-ENTER ONE ONLY)

full time__ part time__ or not at all__

(DO NOT READ) refused__

And what is your occupation, that is, what type of work do you do?

__

H. Are you...

Retired__ a student__ a homemaker__ or unemployed__

(DO NOT READ) disabled/on sick leave__

(DO NOT READ) refused__

I. Are you...

Single, that is, never married__ married or living common law__

divorced or separated__ or widowed__

(DO NOT READ) refused__

J. Is your spouse or partner employed...(READ LIST-ENTER ONE)

Full time__ part time__ or not at all__

(DO NOT READ) refused__

K. Was your total household income before taxes in 1998 OVER or UNDER $40,000?

IF UNDER $40,000: Was that: (READ LIST-ENTER ONE)

Under $20,000__ $20,000 to less than $30,000__ or $30,000 to less than $40,000__

IF OVER $40,000: Was that: (READ LIST-ENTER ONE)

Under $50,000__ $50,000 to less than $70,000__ $70,000 to less than $100,000__

or $100,000 or more__

(DO NOT READ) don't know__

(DO NOT READ) refused__

L. City of Interview

Montreal__ Vancouver__ Toronto__