2006

A three part study on the relationship between retirement planning and health

Linda Christine Albert
University of South Florida

A Three Part Study on the Relationship Between Retirement Planning and Health

by

Linda Christine Albert

A dissertation submitted in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
Department of Aging Studies
College of Arts and Sciences
University of South Florida

Major Professor: Sandra L. Reynolds, Ph.D.
Murray E. Cohen, Ph.D.
Cathy L. McEvoy, Ph.D.
Marilyn Myerson, Ph.D.
Larry Polivka, Ph.D.

Date of Approval:
February 13, 2006

Keywords: retirement decision making, retirement self-efficacy, push factors, health outcomes, health promotion

Acknowledgments

I would like to express my sincere thanks to Dr. Sandra L. Reynolds for her guidance and support throughout my tenure in the Ph.D. in Aging Studies Program, and particularly for her persistence in seeing me through to the finish line. I also wish to thank my dissertation committee members, Drs. Cathy L. McEvoy, Marilyn Myerson, Larry Polivka, and Murray E. Cohen, for their time, for their marked interest in my dissertation topic, and most important, their insightful commentary on the subject.

Finally, I wish to express my gratitude to my husband for his continued encouragement and support throughout this process.

Table of Contents

List of Tables

List of Figures

A Three Part Study on the Relationship between Retirement Planning and Health

Linda Christine Albert

ABSTRACT

Researchers consistently conclude that finances and health are the two most significant factors associated with retirement decision-making and a successful retirement experience. Retirement planning is one mechanism by which individuals prepare for the retirement transition; however, retirement planning routinely emphasizes financial concerns, often to the exclusion of health or other significant aspects of retirement. Retirement planning is an increasingly relevant topic at a time when the population is aging, company-sponsored pensions and retiree benefits have diminished significantly, and reform is being sought for the long-standing social programs that have provided support for generations of older Americans.

From a financial perspective, few would question the positive benefits associated with retirement planning; however, preparing for a healthy retirement is equally important. If a relationship between retirement planning and health status were to be established, Americans might find increased public and private support for individual retirement planning efforts, particularly among more vulnerable populations such as minorities and women.

This dissertation explores the notion that engagement in retirement planning is associated with health status through three studies. Utilizing data from the Health and Retirement Study (HRS), the first article explores prevalence of plans for retirement among worker and retiree respondents, and compares health and other key characteristics associated with planning among the two sub-samples. The second and third articles focus on time order relationships between health status and retirement planning, with article two addressing the question of whether onset of poor health precedes planning for retirement and article three examining health status of planners versus non-planners, over time, to determine whether those who engage in retirement planning are more likely to realize better health outcomes. A brief review of the health, retirement, and retirement planning literature provides the theoretical framework for these research questions and related hypotheses.

This dissertation consists of five chapters. Chapter 1 is an introduction to the retirement planning and health literature, Chapters 2-4 describe the series of three studies conducted, and Chapter 5 discusses the overall conclusions as well as future directions for research.

Chapter One

Overview

Introduction

Considerable research has been conducted, focusing on the determinants of retirement and implications for subsequent retirement adjustment. Researchers consistently conclude that finances and health are the two most significant factors associated with both retirement decision-making and a successful retirement experience.

Retirement planning is one mechanism by which individuals prepare for the retirement transition; however, retirement planning routinely emphasizes financial concerns, often to the exclusion of health or other significant aspects of retirement. As retirement has evolved from a life stage experienced by few, and of short duration, to one experienced by many, and occupying a long interval of the life span, health status during this extended period of old age remains as significant a policy concern as financial status. The viability of entitlement programs that provide support for older Americans is in question, and individuals are finding themselves increasingly responsible for effective planning for their own retirement. From a financial perspective, few would question the positive

benefits associated with retirement planning; however, preparing for a healthy retirement is equally important. If health status benefits are also realized through retirement planning, Americans might find increased public and private support for individual retirement planning efforts, particularly among more vulnerable populations such as women and minorities.

Why might retirement planning play a role in influencing health status? Health status is often interpreted as absolute; however, the literature on the role of health in retirement decision-making suggests that health status may in fact be somewhat elastic, and therefore subject to individual interpretation. Elasticity of health status suggests that health may be influenced by any number of factors. Retirement planning, couched as an educational intervention, may play a role in influencing health status, with planners experiencing better health status over time than non-planners.

This dissertation explores the notion that engagement in retirement planning is positively associated with health status through three studies. Utilizing Wave 1 (1992) data from the Health and Retirement Study (HRS), the first study explores the prevalence of plans for retirement among worker and retiree respondents, and compares health and other key characteristics associated with planning among the two sub-samples. Utilizing the same dataset and subsequent waves of the HRS, the second and third studies focus on time order relationships between health status and retirement planning. The second study addresses the question of whether declines in health status appear to provide an incentive for workers in poor health to initiate plans for retirement. Study three examines the

health status of planners versus non-planners, over time, to determine whether those who engage in retirement planning are more likely to realize better health outcomes, and addresses the question of whether planners more likely to engage in health promoting behaviors. A brief review of the health, retirement, and retirement planning literature provides the theoretical framework for these research questions and related hypotheses.

Health as an Outcome of Retirement

A long-standing myth holds that retirement has an adverse effect on health (Atchley, 1976; Shaw, Patterson, Semple & Grant, 1998). Ekerdt (1987) suggests that this notion persists due to the inappropriate causal association of significant life events with other large, recent life events, i.e., a recent retirement and a concomitant health episode. Negative views of retirement may also make sense in a society that idealizes work as the central source of self-identity (Ekerdt, 1987). Atchley (1976) suggests it is poor health that results in retirement, rather than the reverse. Subsequent studies report that mortality rates for early retirees were higher than expected, with survival rates correlated with pre-retirement health status (Haynes, McMichael & Tyroler, 1978). Palmore, Fillenbaum & George similarly report poor health is a precursor to rather than a consequence of retirement (1984), and Shaw and colleagues found no support among the best-controlled studies of health and retirement for the hypothesis that retirement increases risk of health decline or death (Shaw et al., 1998).

Few studies have examined retirement and positive health outcomes. One such study, conducted by Ekerdt, Bosse, & LoCastro (1983) examined claims of improved health status attributed to retirement. While half of the study respondents reported that retirement had no effect on health, 38% claimed improved health in retirement; however, respondent self-reports of improved health were not corroborated by objective health status data. The authors suggest that the perception of improved health derived from reduced job demands, and for those in sedentary jobs, an opportunity to engage in increased levels of activity.

Retirement per se does not appear to contribute to health decline, nor for that matter, improvement. Perception of health pre and post retirement may be a more salient issue, while pre-retirement health status may be the strongest predictor of post retirement health status.

Health as a Reason to Retire

The literature pertaining to health as a reason to retire generally supports three variable findings: 1) health problems legitimately limit work ability and necessitate labor force withdrawal; 2) health problems may hinder work ability but other factors also play a role in the decision to retire; and, 3) post-retirement, health is cited as a primary reason for retirement because of the social acceptability of labor force withdrawal due to poor health.

A variety of factors influence the retirement decision; however, health consistently emerges as not only a significant predictor of retirement (Mutran,

Reitzes & Fernandez, 1997), but perhaps the single most important factor in retirement decision-making, second only to chronological age (Taylor & Shore, 1995). Economic circumstances being equal, older workers in poor health are more likely to retire earlier than workers in good health (Sammartino, 1987), and retirees experiencing chronic conditions were more likely to state that health was an important factor in the decision to retire than those without chronic conditions (National Academy on an Aging Society, 2000). Poor health is cited as a major reason for early retirement (Palmore, Burchett, Fillenbaum, George, & Wallman, 1985), and among those who retire early due to poor health, younger retirees may have more substantial health problems (Parnes, 1983).

Health is as significant a contributor to retirement decision-making for women as it is for men; however, gender variations in the role of health on retirement are apparent. Until recently, health conditions afflicting men and women varied significantly, with men more likely to suffer from acute illnesses and women more likely to suffer from chronic diseases or conditions (Hanson & Wapner, 1994). Acute illnesses were more likely to necessitate labor force withdrawal whereas managed chronic conditions did not. Women are also more likely to retire due to the health of a family member (Matthews & Brown, 1988), particularly a spouse's illness (Szinovacz & Davey, 2005).

Health continues to play a key role in the retirement decision-making process; health trend data among older adults may explain why. Data from the 1970s and early 1980s suggests that older adults experienced a dramatic decline in acute diseases; however, they simultaneously experienced a rise in chronic

conditions (Crimmins, Saito, & Ingegneri, 1997; Verbrugge, 1984). Through the remainder of the 1980s and into the early 1990s, researchers reported evidence of improvements in selected health conditions, while other health conditions appeared to worsen (Reynolds, Crimmins, & Saito, 1998; Crimmins, Saito, & Reynolds, 1997). Thus, improvements in some measures of health status were offset by deterioration in others, resulting in health concerns remaining a significant reason for retirement.

Data from the 1996 Survey of Income and Program Participation revealed that 34% of adults claimed they were not working due to a chronic disease or disability (U.S. Census Bureau, 1996), and among adults aged 55 to 64 in 1997, 36% reported having a disability with 24% of them indicating the disability was severe (U.S. Census Bureau, 1997). Census disability data mirror retirement due to health data, which similarly indicate roughly one quarter to one third of retirement research study respondents retire for health reasons.

Earlier diagnosis, disease accommodation, and increased social support for the disabled may be implicated in the increase in reported chronic conditions, but may also enable those diagnosed with chronic conditions to function more effectively (Verbrugge, 1984). The issue as it relates to retirement decision-making is perhaps not validation of the presence or absence of disease or disability among those who retire due to poor health, but rather a question of the inherent variability of disabilities (Dwyer & Mitchell, 1999), subjective interpretation of the severity of a disability, and the ability or inability to manage a

disability that may account for the apparent differing effects of chronic conditions on the retirement decision.

It is therefore not surprising that a self-selection process may be evident among workers who opt to retire due to health reasons. Henretta, Chan, & O'Rand (1992) remind us that retirement is but one of several possible outcomes of poor health. Many with health limitations continue to work (Myers, 1983), and individuals in good health, who are physically able to continue to work may retire because they feel financially able to do so, or wish to prevent health problems associated with work related stressors (Cavanaugh & Blanchard-Fields, 2002; Richardson, 1993). Among those who retire due to health reasons, a significant number seek post-retirement employment that is more suitable in light of their health limitations, i.e., a less physically or mentally demanding job, or fewer or more flexible work hours (Richardson, 1993).

Ex post rationalizations of retirement decisions may also be significant in assessing health as a reason to retire. Bazzoli (1985) found that study respondents who indicated the decision to retire was influenced by several factors at the time of retirement, later reported that poor health was the most significant reason for retiring. Similarly, Shultz, Morton, & Weckerle (1998) examined the relative influence of negative, or 'push' factors such as poor health, and positive, or 'pull' factors such as a desire for leisure, on retirement decision-making and found push factors were the more salient variables after retirement. Having examined the role of health in labor force exit behavior relative to the influence of age, economic and family circumstances, Mutchler, Burr, Massagli, &

Pienta (1999) concluded that health status was not an isolated factor in determining labor force exits. Rather, exit behavior was influenced in combination with health status by potential for increased non-work related income, older age, and a presence of a nonworking spouse.

Thus, while health is often cited as a singularly significant variable in retirement decision-making, health status as it relates to retirement is a complex matter, subject to influence by a broader spectrum of considerations, including but not limited to characteristics and implications of health problems, social acceptability of health as a reason for retirement, financial, and familial circumstances.

Retirement Planning

Retirement is characterized as both a major life event and a lengthy, multidimensional life stage, the adjustment to which is complex and influenced by any number of factors. Uncertainty, lack of preparedness, and unrealistic expectations can create problems during the retirement transition (Gall & Evans, 2000). While retirement planning is primarily associated with financial outcomes, retirement planning may help mitigate retirement adjustment problems; multiple studies have demonstrated that retirement planning is significantly and positively associated with affective aspects of retirement adjustment particularly as regards measures of life satisfaction and psychological well-being (Taylor & Doverspike, 2003). Given the relationship between emotional and physical health, particularly among older adults (Gall & Evans, 2000), interventions that might influence

emotional health status may also have long-term implications for physical health status.

Retirement planning may include formal or informal modalities. The most common type of formal planning involves company-sponsored programs, of limited duration (Lynch, 1997), offered to employees nearing retirement. These programs tend to take a ‘one size fits all’ approach to planning, with little consideration given to individual needs or circumstances (Glass & Kilpatrick, 1998). Content is often exclusively, or predominantly, oriented toward financial aspects of retirement (Richardson, 1993; Siegel, 1986), when a more comprehensive approach would also include information on health, interpersonal relations and leisure pursuits (Dennis, 1984).

A less researched topic is informal retirement planning. Ekerdt, Kosloski, & DeViney (2000) describe informal modes of retirement planning as having the intention to retire, and thinking, talking, or reading about retirement. The authors found that workers have a normative and extended involvement with the notion of retirement, engaging in informal retirement planning processes as early as fifteen years in advance of the retirement date. Further, the relationship between informal planning and time to retirement was found to be linear with engagement in planning increasing with proximity to retirement (Ekerdt et al., 2000). Given the potential extended duration of pre-retiree engagement in informal planning, this mode of planning may have a more significant bearing than formal planning on some post retirement outcomes.

Minorities and those with lower levels of education are less likely to engage in retirement planning (Ferraro, 1990), as are individuals with low incomes (Richardson, 1993). Analysis of 1998 SIPP data indicates that men, and white workers are more likely to have pension coverage than women and nonwhites (American Association of Retired Persons, 2005). Lack of access to discretionary funds during the work life often leads to lack of saving for retirement, and subsequent lack of planning for retirement. While women's retirement experiences are generally acknowledged to differ from that of men, retirement research continues to rely on the "male model" of retirement transition, confounding efforts to understand women's retirement experiences (Szinovacz & Washo, 1992, p. S191). Women are less likely to have access to retirement education (Perkins, 1995) and continue to be plagued by labor force experience and earnings differentials. These differentials have resulted in two thirds of females over the age of sixty-five having no retirement funds other than Social Security (Women's Institute for a Secure Retirement, 2005).

Other factors that lessen the likelihood of engaging in retirement planning include small company size and quality of work life. Workers in smaller organizations are less likely to have access to formal retirement planning programs (Riker & Myers, 1990), and among those with access, few participate. Workers whose jobs offered high levels of intrinsic reward or opportunity to engage in positive social relations were also less likely to report having plans for retirement (Kosloski, Ekerdt & DeViney, 2001).

Retirement Planning and Health

Literature on the relationship of health and retirement planning is mixed, with several studies reporting that poor health is associated with increased participation in retirement planning activities (Ekerdt, DeViney, & Kosloski, 1996; Taylor & Shore, 1995), and other studies concluding that planners tended to report no major health problems (Campione, 1988). It stands to reason that if socioeconomic status plays a significant role in retirement planning, and socioeconomic status is linked to health status, then those in good health would be more likely to engage in planning.

In terms of health outcomes, measurement issues can be problematic. Not only are outcome measures characterized by tremendous variability, but retirement planning research to date has focused largely on outcomes of studies based on formal, voluntary, employer-based retirement planning programs. In these studies, issues of self-selection bias (Campione, 1988), program structure inconsistencies, reliance on self-reporting mechanisms and a tendency to focus on retrospective data hinder the ability to comfortably generalize results to the population of workers at large. Regardless of measurement issues, outcomes attributed to retirement planning are consistently positive, warranting further research into the potential non-finance related implications of engagement in retirement planning activities.

Thus far, the literature reviewed on health, retirement, and retirement planning suggests the following: 1) retirement in and of itself, does not impact health status; 2) health, particularly poor health, continues to play an important

role in retirement decision-making; 3) health status as it relates to retirement decision-making is a complex variable, subject to influence by external factors and individual interpretation; 4) the role of health in retirement planning is mixed as it appears both those in good and poor health plan for retirement; and 5) despite its limitations, outcomes associated with retirement planning are consistently positive.

This study aims to take the discussion of the role of health in retirement planning to the next level by attempting to tease out the relationship between health status and inclination to plan for retirement, and the relationship of retirement planning to physical health outcomes. The supposition that retirement planning might impact physical health status is not without merit as retirement is a significant developmental transition characterized by several tasks, including the development of a sense of health maintenance (Antonovsky & Sagy, 1990). Pre-retirees engaged in normative, informal, retirement planning processes as proposed by Ekerdt, Kosloski, & DeViney (2000) are likely to factor in to consideration current and anticipated health status. Effective planning may improve the odds of realizing long-term health benefits. Literature on health models aids in providing support for the conceptual model that will be utilized in the proposed study.

Health Models

Hypothesizing that retirement planning influences health assumes that health status is potentially elastic, malleable in light of internal and external

factors. Several health models, including health promotion, health care utilization, and disablement process models lend themselves to inclusion of retirement planning as a potentially influential factor.

Health promotion models focus on pre-need, emphasizing the use of education oriented interventions to promote healthful behaviors. Individual level interventions might include counseling, health education or behavioral interventions designed for those at risk, or already experiencing disease or chronic conditions, while population-based applications might target work or community environs and focus on health promotion, disease prevention and disease management efforts (Orleans, 2000). At the macro-level, initiatives may take the form of nationwide public education, or policy incentives that support healthful behaviors. Retirement planning vis-à-vis this particular health promotion model is best characterized as an educational intervention that may play a role in influencing health outcomes.

Retirement planning, similarly characterized as an education oriented intervention, also fits well into the Andersen model of health care utilization. The model incorporates predisposing, enabling and need characteristics to explain health care use (Krause, 1990). Factors predisposing individuals to health care use include demographic characteristics, social structure, and health beliefs, while enabling characteristics include income, health insurance, and access to regular sources of health care. Need characteristics include illness or the possibility of illness. At-risk populations, predisposed to health care use, might benefit from education oriented interventions that encourage health promoting

behaviors. Retirement planning programs that incorporate health promotion information might also impart the significance of obtaining or retaining health insurance coverage, including long-term care insurance, to the extent participants are financially able to do so.

Finally, Verbrugge & Jette's model of disablement (1994) suggests that the disablement pathway begins with pathology, which leads to impairment and functional limitations, and ultimately, disability. While described as a process, the process is not unidirectional. The authors emphasize that disability represents a gap between personal capability and environmental demands, and that functional limitations lead to disability when no extra or intra individual factors intervene. Risk factors such as demographic, social structure characteristics and lifestyle may predispose individuals to the risk of functional limitations and disability. Interventions that might retard or reverse dysfunction include extra individual factors such as medical or rehabilitative care, medications, assistive devices and external supports. Intra individual factors include lifestyle, behavioral and psycho-social attributes, coping mechanisms and activity accommodation (Verbrugge & Jette, 1994).

Formal planning for retirement might play an influential role in enhancing both extra and intra individual factors, while informal planning is likely to have a greater influence on intra individual factors. Planning long term for health concerns might involve lifestyle or behavioral changes such as increased engagement in health promoting behaviors, acquisition of appropriate insurance, or acquiring a less demanding job.

Conceptual Model

Utilizing the model proposed by Verbrugge & Jette (1994) as a guideline, we devised a simplified version of the model to depict the conceptual framework for the proposed analyses. The focal point of these studies is the relationship of

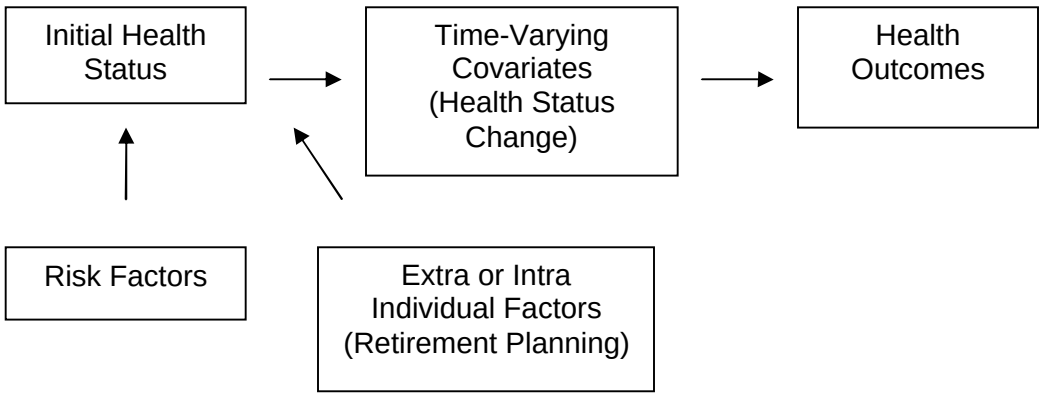

Figure 1. Initial Conceptual Model of Retirement Planning and Health Outcomes

health to retirement planning and initial health status is a key model component. Retirement planning research suggests certain factors predispose individuals to plan for retirement. The initial analysis will assess risk factors and initial health status differentials between planners and non-planners. The second analysis will incorporate time varying covariates, namely, health status changes, the objective being to determine whether declines in health status affect likelihood of planning for retirement. The third analysis examines health outcomes attributable to retirement planning, couched as an educational intervention, while controlling for initial health status and associated risk factors.

Measurement Issues

A number of measurement issues arise in retirement and health research including variability in definitions of retirement and health, use of self-rated health measures, use of retrospective data, self-selection bias in formal retirement planning participation, and a general lack of information on informal retirement planning.

Health is frequently assessed with self-rated health status questions. The skepticism expressed with regard to use of self-rated health indicators in retirement research stems from the concern that the social acceptability of labor force withdrawal under the guise of poor health may significantly influence research outcomes. Quinn, for example, found that a substantial percentage of study respondents who cited health as the primary reason for retirement, reported no actual health limitations (as cited in Quinn & Burkhauser, 1990). Palmore, Fillenbaum, & George (1984) analyzed data from several longitudinal studies and similarly concluded that retirees exaggerated claims of poor health to justify retirement. In contrast to the aforementioned, others report that studies with more objective health measures validate self-reported health measures (Muller & Boaz, 1988), and that functional limitations are as good an indicator of health as self-report measures (Dwyer & Mitchell, 1999). What goes unstated in this ongoing dialogue is that data obtained for retirement and retirement planning research is typically retrospective in nature. Retirees are often queried post-retirement about the retirement decision, and in the case of formal retirement planning programs, participants typically complete post-program evaluations.

An additional measurement issue focuses on limiting survey respondents to selection of only one criterion as reason for retirement. Henretta, Chan, & O'Rand (1992) cross-tabulated respondents' primary reasons for retirement with their secondary reasons for retirement and found that while 25% of survey respondents indicated that health was their primary reason for retirement, their secondary reasons included wanting to retire (25%), pension eligibility (13%), and social security eligibility (12%). These findings hint at the complexities inherent in retirement research, complexities that perhaps, cannot be captured by limited survey measures. In the same vein, what constitutes retired or retirement? Either term lends itself to a variety of interpretations. Health and Retirement Study respondents, for example, are asked to respond to measures of current employment status, i.e., working, laid-off, unemployed, disabled, retired, or other. If a respondent retired from a company or career, yet works part-time to 'keep busy', is she or he retired or working?

In an effort to contend with controllable measurement issues in the proposed study several measures of health status will be included in each analysis, including self-reported health, presence and number of diseases/chronic conditions, and presence and number of functional limitations. Where possible, analysis of results derived from use of retrospective data will be compared with prospective respondent data. The sample used in the initial analysis will enable comparisons of factors predisposing individuals to engage in formal or informal planning, while subsequent prospective time order analyses focus on informal plans for retirement.

Preliminary Study Results

Partial support for the hypothesis that retirement planning is associated with physical health outcomes derives from a preliminary study that examined self-rated physical and emotional health of retirees who engaged in retirement planning (Albert & Reynolds, 2002). Results from the cross-sectional hierarchical logistic regression analyses found that retirement planning was significantly related to self-reported positive emotional health status ($p = .05$), but only to the extent that retirees reported that they engaged in both formal and informal modes of retirement planning. Similarly, results for the likelihood of self-reported positive physical health in relation to retirement planning were significant only for retirees who engaged in both modes of retirement planning; however, the strength of the association was greater ($p = .001$) than that for emotional health. The proposed study will expand significantly on the preliminary findings with regard to the relationship between physical health and retirement planning, while controlling for demographic, financial, and baseline physical health status.

Conclusion

Given the current political environment, wherein Social Security reform is a key initiative, further research on the subject of retirement planning could not be more timely. It is conceivable that if policy makers are successful in further shifting the burden of financing retirement to the individual, health care legislation might follow suit, perhaps through incentives for engaging in health promoting behaviors, or disincentives for engaging in risky health behaviors.

Retirement planning has been primarily associated with financial concerns; however, there is sufficient evidence to suggest that retirement planning may also provide the impetus to influence health related behaviors and consequently, health outcomes. Collins, Estes, & Bradsher (2001) suggest that income influences “important individual choices concerning independence and well-being”; thus, improving the financial circumstances of older adults “may be the most beneficial health policy strategy” (p. 163). As these authors infer, if retirement planning does not directly influence health outcomes, then it may indirectly influence health outcomes via improved financial status of planning participants.

Chapter Two

Factors Associated with Retirement Planning

Abstract

Retirement planning is an increasingly relevant topic at a time when the population is aging, company-sponsored pensions and retiree benefits have diminished significantly, and reform is being sought for the long-standing social programs that have provided support for generations of older Americans. The individual is increasingly responsible for ensuring his or her financial and health security in old age. The purpose of this study was to determine whether the prevalence of retirement planning was greater in a more recent cohort of workers than their retired predecessors, and to compare demographic, socioeconomic and health characteristics associated with the propensity to plan between the two groups. Additional analyses compared factors associated with retirement planning by gender. The study used the first wave of data from the Health and Retirement Study and focused on two samples, workers and retirees as of 1992.

Bivariate results suggested that workers were more likely to have informal plans, but less likely to have formal plans for retirement than retirees. Female workers were less likely to have informal plans for retirement than men. African

American workers, and Hispanic workers and retirees were less likely to have any plans for retirement when compared with their white peers. Married workers and retirees were significantly more likely than unmarried respondents to have both informal and formal plans for retirement. Results of multivariate regression revealed that socioeconomic variables, including being married, number of assets and having a pension plan, were significant predictors of informal and formal retirement planning among workers. Marital status was significantly associated with formal planning among male workers, and retirement in conjunction with a spouse was a significant factor in retiree planning models, yet neither proved significant in female worker plan models. Among retirees, number of assets and pension plan access increased the likelihood of having formally planned for retirement, and being married, of having informally planned for retirement. Hispanic retirees were significantly less likely to have planned informally for retirement. Among women, health variables emerged significant in only the formal plan models, and with mixed results. Among men, chronic conditions were positively associated with planning, while more acute illnesses were negatively associated with planning. Retirees who retired due to poor health were less likely to have informally planned for retirement. Few variables appear to influence informal planning among women; among workers - number of assets and years remaining until retirement, and among retirees - a pension plan and a spouse's retirement. Factors associated with formal planning among male workers were more numerous and diverse than those associated with formal planning among male retirees.

Introduction

As the population ages, company-sponsored pensions and retiree benefits have significantly diminished, and the viability of old age certainties such as Social Security and Medicare are in question, retirement planning is an increasingly relevant concern for workers of all ages. The individual is ever more responsible for ensuring his or her financial and health viability in old age and this trend is not likely to be reversed.

Two factors that consistently emerge as significantly associated with retirement decision-making and retirement satisfaction are health and finances. Logic would suggest that they are also significantly associated with the propensity to plan for retirement. Retirement planning research suggests, however, that a broader range of demographic and socioeconomic characteristics are also related to retirement planning including age, gender, race, education level, marital status, and pension eligibility (Kosloski, Ekerdt, & DeViney, 2001). Less is known about the relationship between health status and the propensity to plan for retirement.

Workforce demographics have changed significantly over the past few decades, in particular, the increased labor force participation rates of women. This, combined with an increasing emphasis on individual responsibility for planning, may have resulted in changes to the profiles of those who plan for retirement. This study utilizes a large, nationally representative sample drawn from the Health and Retirement Study to assess prevalence of plans for

retirement, and the demographic, socioeconomic and health characteristics associated with retirement planning among two sub-samples, workers and retirees as of 1992. The study focuses on comparisons from three perspectives: informal versus formal plans for retirement, prospective versus retrospective plans for retirement, and characteristics associated with planning by gender. In addition, the study incorporates specific measures of health rather than the self-reported measure of health status, the latter being more commonly utilized in retirement planning research.

Background

The few empirical studies done on retirement planning suggest that demographic and socioeconomic characteristics such as gender, race, education and financial status may predispose individuals toward planning for retirement (Ferraro, 1990; Kosloski, Ekerdt, & DeViney, 2001; Richardson, 1993). The likelihood of planning for retirement is greater among males, whites, those who are better educated and have greater financial resources. While the anticipation of, and planning for retirement is a normative experience for many workers (Ekerdt, Kosloski, & DeViney, 2000), socioeconomic status differentials, stemming largely from labor market advantages and disadvantages (Pampel, 1998), may delineate who does and does not plan for retirement.

Retirement Planning

The term ‘retirement planning’ is most frequently applied to consultations with professionals, typically a financial planner, or participation in a company-sponsored program. However, retirement planning encompasses informal modalities as well. Informal modes of retirement planning include having the intention to retire, thinking about retirement, and talking or reading about retirement (Ekerdt, Kosloski, & DeViney, 2000). Ekerdt and colleagues report that workers have a normative and extended involvement with the notion of retirement, engaging in informal retirement planning processes as early as fifteen years in advance of the retirement date (Ekerdt, et al., 2000). Further, the relationship between informal planning and time to retirement has been determined to be linear - engagement in planning increases with proximity to retirement. Given the potential for an extended engagement in the retirement planning process, informal planning may play a more significant role in retirement preparation and adjustment than formal retirement planning.

Retirement planning data tends to focus on participation in formal modes of planning, particularly employer or company-sponsored programs. Evaluations of post participation outcomes are customary, and often geared toward assessing affective outcomes, particularly measures of life satisfaction and psychological well-being (Taylor & Doverspike, 2003). These programs are, however, often of limited duration, offered only to employees nearing retirement (Lynch, 1997), and tend to be generic, with little consideration given to individual needs or circumstances (Glass & Kilpatrick, 1998). Content tends to be

exclusively, or predominantly oriented toward the financial aspects of retirement (Richardson, 1993; Siegel, 1986), when more comprehensive approaches might address health issues, interpersonal relationships, and leisure pursuits in retirement (Dennis, 1984). Relying on study findings from company-sponsored retirement planning programs is problematic, as success after retirement may be attributed to program participation or may be the by-product of participant self-selection (Campione, 1988).

Regardless of planning foci, outcomes associated with retirement planning are consistently positive. Planning has been associated with successful adjustment to retirement (Lo & Brown, 1999), higher levels of life satisfaction and social adjustment (Lynch, 1997), increased quality of life (Maule, Cliff, & Taylor, 1996), and decreased psychological distress (Sharpely & Layton, 1998). Given the relationship between emotional and physical health, particularly among older adults, interventions that affect emotional health may have implications for long-term physical health (Gall & Evans, 2000).

Retirement Planning and Health

Early retirement has been associated with poor health (Szinovacz, 2003), and poor health with increased participation in planning for retirement (Ekerdt, DeViney, & Kosloski, 1996; Taylor & Shore, 1995). On the other hand, good health has also been linked to retirement planning. Campione (1988) found that retirement planning participants generally reported no major health problems, and preliminary analysis of Health and Retirement Study data found that retiree

respondents who planned for retirement were almost twice as likely to report they were in good physical health compared to those who did not plan for retirement (Albert & Reynolds, 2002).

Health information solicited from formal retirement planning program participants is typically comprised of self-rated, global measures of health status. While self-rated measures of health often correlate well to actual health status, the implications for retirement decision-making are not clear. Individuals diagnosed with arthritis or heart disease, for example, do not uniformly retire. The severity of a specific disease or disability may be quite variable, dictating whether individuals are able to continue employment in their current or an alternative capacity.

The issue may be further complicated by individuals using health as a justification for retirement. Bazzoli (1985) and Palmore, Fillenbaum, and George (1984) concluded that the effect of health on retirement decision-making is overstated, with the social acceptability of labor force withdrawal under the guise of poor health significantly influencing research outcomes. Health status vis-à-vis retirement decision-making may be influenced by any number of factors, including the spouse's work status and other familial circumstances, economic incentives to retire, and a desire for leisure. Thus, health status as it pertains to retirement decision-making may be open to individual interpretation, making it difficult to effectively assess how health status relates to retirement planning.

Gender

The literature suggests that likelihood of planning for retirement is greater among males than females; however, the comparison is not necessarily an equitable one. While women's retirement experiences are generally acknowledged to differ from that of men, the literature that comprises women's retirement research is sparse, and continues to rely on the use of a male model of retirement to understand retirement transitions (Szinovacz & Washo, 1992).

Women's labor force experiences influence their transitions to and experiences of retirement, and these often differ dramatically from that of their male counterparts. Divided between two modes of work - the paid labor force and the responsibilities of home life (Ferree, 1990), women tend to enter the labor force later, spend less time in the workforce, and are more likely to experience discontinuous work histories than men, due primarily to caregiving responsibilities. Caregiving responsibilities are not limited to young dependents, as women also commonly provide unpaid home care for family members in ill health. While personal health is as significant a contributor to the retirement decision for women as it is for men, women are more likely than men to retire due to the health of a family member (Matthews & Brown, 1988; Szinovacz & Davey, 2005). In contrast, men are more likely to continue to work despite the ill health of family members (Reitzes, Mutran, & Fernandez, 1998). This apparent gender differentiated labor force behavior in light of a family member's illness may be due to adherence to traditional role responsibilities of women as caregivers and men as breadwinners. Alternatively, given that men frequently

earn more than women, it may be the result of seemingly sound financial decision-making.

Variations in labor force experiences translate to financial resource differentials between men and women in retirement. In addition to the likelihood of spending fewer years in the workforce than men, women are also more likely to be employed in lower paying, lower status occupations. This often results in reduced overall savings for retirement, decreased likelihood of private pension access or eligibility, and reduced public pension benefits (Browne, 1998). From a planning perspective, women are less likely to have access to retirement education (Perkins, 1995). Marital status may positively influence women's financial status in retirement, so long as the marriage is intact; divorce or widowhood is likely to trigger loss of retirement income attributed to a former husband's social security or pension income. Marital status may also negatively influence women's financial status in retirement, as married women are less likely to continue working if their spouse retires, thereby further diminishing their retirement earnings potential (Mutchler, Burr, Massagli, & Pienta, 1999).

Race/Ethnicity

Minorities often experience lifelong patterns of work disruptions and ongoing economic need, resulting in a lack of identification with the retiree role (Gibson, 1991). Discontinuous work patterns over the life span result in a lack of distinction between the work years and retirement years. Not only are minority group members more likely to experience job displacement, and be more

adversely affected by it (Reitzes, Mutran, & Fernandez, 1998), but Hispanics and African Americans are also less likely than whites to be employed in the years approaching retirement age. Early retirement due to poor health is more common among minorities than among whites, and older African Americans are two to three times more likely than older whites to cite health as the reason for not being in the labor force (Wallace, 1991).

If employed, older minorities are more likely to be employed in jobs with bridge characteristics, such as being self-employed, or employed part-time on a new job (Quinn & Kozy, 1996). Lack of sufficient income and benefits in old age due to employment in lower-level occupations and lower wage earnings throughout the life span, results in larger proportions of ethnic minorities dependent upon government programs for subsistence in old age (Jackson, Lockery, & Juster, 1996), and often in the necessity for continued employment beyond the normative age of retirement (Gibson & Burns, 1992). As a result of these types of labor force experience differentials, minorities and individuals with low-incomes are less likely to participate in retirement planning activities or to prepare adequately for retirement (Ferraro, 1990; Richardson, 1993).

This study explores several aspects of retirement planning, initially focusing on prevalence of informal and formal planning among workers and retirees as of 1992. In addition to examining cohort differences between the two sub-samples and comparing informal to formal planning results, subsequent analyses will attempt to determine whether demographic, socioeconomic and health characteristics associated with informal and formal planning vary between

workers and retirees. Of particular interest is whether gender differences emerge, and whether specific diseases or chronic conditions appear to be associated, or not, with retirement planning. Based on the literature, the following research questions and hypotheses are posited:

Research Question 1: Is prevalence of informal or formal retirement planning greater among workers prospectively reporting plans for retirement than retirees who retrospectively reported they planned for retirement?

Hypothesis 1: Given the increased emphasis on individual responsibility for retirement planning, it is anticipated that reports of both informal and formal planning will be more prevalent among workers than retirees.

Research Question 2: Do demographic, socioeconomic and health status characteristics associated with informal or formal planning differ between workers prospectively planning for retirement and retirees who retrospectively reported they planned for retirement?

Hypothesis 2: Due to changes in workforce demographics, it is anticipated that demographic, socioeconomic and health status variables associated with planning will differ between workers and retirees, with demographics playing a lesser role in predicting planning among workers than among retirees. Further, owing to labor force experience differentials between men and women, it is expected that socioeconomic variables will play a lesser role in retirement planning among women than men.

Methods

The Sample

Data for the analyses were drawn from the first wave (1992) of the Health and Retirement Study (HRS). The HRS is a nationally representative panel survey of the health and economic status of individuals ages 51 to 61 and their spouses, regardless of the spouse's age (Juster & Suzman, 1995). The initial sample was comprised of 12,652 respondents in 7,000 households. The HRS contains an over sampling of African Americans, Hispanics and Floridians and sample weights were applied to the analyses to adjust for unequal selection probabilities. Two sub-samples were selected as being of interest to this study, respondents who indicated that they were either working or retired as of 1992. The distinction is made between the two samples because workers were queried prospectively about plans for retirement while retirees responded retrospectively about having engaged in retirement planning prior to retirement. Given the differences in the time order of questioning, i.e., prospective versus retrospective, separate analyses were conducted on the two samples.

The number of respondents indicating they were working in 1992 was 8,003. The worker sample was reduced to 5,402 by including only those respondents who reported that they were working and not previously retired, and who indicated that the number of years remaining until retirement was greater than zero. The number of respondents indicating they were retired in 1992 was 1,580. The retiree sample was reduced to 1,569 by including only those

respondents who reported the duration of their retirement was thirty years or less.

The initial HRS study sample included a number of particularly young worker and elderly retiree respondents, likely to be the spouses of core study respondents. Owing to the age susceptibility of the outcome variables in these analyses, i.e., formal and informal planning for retirement, these sub-samples were further reduced in size by applying age parameters to both groups. Limiting age of respondents to within three standard deviations from the sample mean netted a worker sample of 5,333 respondents with an age range of 40-70 years and a retiree sample of 1,561 with an age range of 45-78 years. Missing data in the response or explanatory variables further reduced the sample sizes for logistic regression analyses as indicated in the respective results tables.

Measures

Outcome variables. Workers and retirees were queried about informal and formal plans for retirement plans. While the questions were the same, respondent perspectives differed, with workers responding about prospective plans for retirement and retirees responding retrospectively about plans made for retirement prior to the actual event. Three questions were posed that assessed engagement in informal retirement planning. They included: 1) (Before you retired) how much had/have you thought about retirement; 2) (Before you retired) how much had/have you discussed retirement with your husband/wife/partner; and, 3) (Before you retired) how much had/have you discussed retirement with

your friends and co-workers. Response options included ‘a lot’, ‘some’, ‘a little’, and ‘hardly at all’. Responses were recoded to dichotomous variables, with responses of ‘a lot’ and ‘some’, recoded to (1) indicating the respondent participated in informal retirement planning, and responses of ‘a little’ and ‘hardly at all’, recoded to (0) indicating they did not. A positive response to any one or more of the three questions was subsequently coded to indicate the respondent participated in informal planning for retirement. A fourth retirement planning question pertained to formal retirement planning efforts. Respondents were asked whether they had attended any meetings on retirement or retirement planning. Positive responses were coded (1) indicating the respondent had participated in formal planning for retirement.

Variables of interest. A description of predictor variables, coding, percents and means are presented in Table 1. Demographic variables are of significant interest owing to their potential relationship to the outcome variable, retirement planning. The age variable is continuous with workers aged 40-70, and retirees aged 45-78. Gender was recoded to a dichotomous variable with (1) indicating female and (0) indicating male.

Based on the literature, two race/ethnic groups were included in the analyses, non-Hispanic African Americans, and Hispanics, the referent group being non-Hispanic whites. Education, a continuous variable with a range of 0-17 years, was highly correlated with assets in both sub-samples (retirees r = 0.43; workers r = 0.42) and therefore not included in subsequent analyses.

Table 1. Description of the Sample, Percents and Means

Variables	Description/Coding	Percent	Mean (S.D.)	Percent	Mean (S.D.)
Demographic Factors					
Age	Continuous; Worker Range 40-70; Retiree Range 45-78		54.80 (4.04)		61.17 (4.61)
Female	1 - yes; 0 – no	50.76		26.86	
African American	1 - yes; 0 – no	10.08		10.85	
Hispanic	1 - yes; 0 – no	4.91		3.94	
Education	Continuous; Range 0-17		12.81 (2.45)		12.48 (2.71)
Socioeconomic Factors					
Married	1 – yes; 0 – all others	79.92		86.95	
Assets	Continuous; Range 0-8; Count of type of assets owned including real estate, IRAs, stocks, bank accounts, certificates of deposit, bonds, trusts, or other assets		2.73 (1.48)		3.04 (1.57)
Pension	Included in a pension or retirement plan with current employer or at last job held? 1 – yes; 0 – no	72.78		73.89	
Retirement Related Factors					
Years until retirement	Continuous; Worker Range 1-34		8.49 (4.46)		
Years since retirement	Continuous; Retiree Range 1-30				5.79 (4.20)
Anticipate retirement due to health	Chance health will limit work activity during the next ten years - greater than 38.5% 1 - yes; 0 – no	54.85			
Retired due to health	1 - yes; 0 – no			34.60	
Will retire with spouse	(If married) Do you expect your spouse to retire at about the same time as you do? 1 - yes; 0 – no	45.57			
Retired with spouse	1 - yes; 0 – no			13.12	
Retired due to family member's health	1 - yes; 0 – no			15.68	
Diseases or Chronic Conditions					
Hypertension	Has a doctor ever told you that you have high blood pressure? 1 - yes; 0 – no	34.21		44.71	
Diabetes	Has a doctor ever told you that you have diabetes? 1 – yes; 0 – no	7.67		13.28	
Cancer	Has a doctor ever told you that you have cancer? 1 – yes; 0 – no	4.25		7.01	
Lung Disease	Not including asthma, has a doctor ever told you that you have lung disease, such as chronic bronchitis or emphysema? 1 - yes; 0 – no	5.61		9.78	

Table 1 (Continued)

Heart Condition	Has a doctor ever told you that you had coronary heart disease, a heart attack, angina, congestive heart failure, or other heart problems? 1 - yes; 0 – no	9.91	19.14	
Stroke	Has a doctor ever told you that you had a stroke? 1 – yes; 0 – no	1.28	4.70	
Arthritis	Have you ever had, or has a doctor ever told you that you have arthritis, or rheumatism? 1 - yes; 0 – no	33.28	42.18	
Psychological Problems	Has a doctor ever told you that you had emotional, nervous or psychiatric problems? 1 - yes; 0 – no	6.77	8.41	
Functional Impairments	Continuous; Range 0-6; Count of number of activities that are difficult to perform, i.e., walking one block, pushing or pulling large objects, rising from a sitting position	0.37 (0.73)		0.74 (1.16)

The literature also suggests that socioeconomic variables play a significant role in the propensity to plan for retirement and this analysis includes three measures, marital status, assets and pension. Marital status can be an important indicator of socioeconomic status for women, and this variable was limited by coding only those responses indicating that the respondent was married as of the 1992 questionnaire as one (1); other responses, including living with a partner, were coded (0). The assets variable is constructed of a continuous count (0-8) of financial assets owned including real estate (other than primary residence), IRAs, stocks, bank accounts, certificates of deposit, bonds, trusts and other assets. Pension was based on a direct inquiry of whether workers were included in a pension plan with their current employer, or among

retirees, whether they were included in a pension or retirement plan at their last job.

Several retirement specific variables are included in the multivariate models owing to their potential relationship to retirement planning. The first is applicable to the worker sample, namely, the number of years remaining until retirement. Study findings suggest that workers become increasingly engaged in retirement planning as the event draws near (Ekerdt, et al., 2000). Based on the assumption that there is a concomitant decline in relevance of retirement planning post event, the number of years since retirement is included in the analyses of the retiree sample.

While a number of variables may influence retirement decision-making, health is an oft cited factor. Both workers and retirees in the Health and Retirement Study were asked about the role poor health played in their respective plans for retirement. Workers were asked - what about the chances that your health will limit your work activity during the next ten years? Response options ranged from zero to ten, with zero indicating absolutely no chance, and ten indicating respondents were absolutely certain health would limit their ability to work. Mean level of response to this inquiry was 3.85. The variable was subsequently recoded such that responses of 3.85 or greater were coded (1) to indicate the respondent anticipated health related work limitations, and responses of less than 3.85 were coded (0) to indicate work limitations were not expected. Retirees were asked how important a role poor health played in their decision to retire. Responses of ‘very important’, ‘moderately important’ and

‘somewhat important’ were recoded to (1) indicting retirement was due in part to poor health. Responses indicating poor health was ‘not important at all’ in retirement decision-making were recoded to zero (0).

The retirement of a spouse or a family member’s ill health may affect retirement decision-making among women, and as such are included in the analyses for females. Among workers, information regarding a family member’s prospective health status was not available; however, workers were asked whether they expected to retire at about the same time as their spouse. Retirees were asked whether retirement was due in part to a family member’s health or a spouse’s retirement. Responses indicating these factors played a ‘very important’, ‘moderately important’ or ‘somewhat important’ role in the decision to retire were coded to (1) indicating a family member’s health or a spouse’s retirement contributed to the respondent’s retirement decision. Responses indicating these factors were ‘not important at all’ were coded to (0).

Finally, with regard to respondent health, physical health status was assessed by two measures, presence and number of diseases or chronic conditions, and number of functional impairments. Respondents were asked whether they had ever had, or had a doctor ever told them they had any of the following diseases or chronic conditions: hypertension, diabetes, cancer, lung disease, a heart condition, stroke, psychological problems, or arthritis. Number of functional impairments, was assessed by a count (0-6) of the number of activities that respondents reported they had difficulty performing. These activities included: walking one block, getting up from a chair after sitting two hours,

climbing a flight of stairs without resting, extending their arms above shoulder level, pushing or pulling large objects, and stooping, kneeling or crouching. Responses indicating respondents found any of these activities very difficult, or that they could not or did not perform these activities were coded (1) indicating an impairment in that particular activity. Responses indicating respondents had some, a little or no difficulty with these activities were coded (0).

Statistical Analysis

Prevalence of planning in the two samples, workers and retirees, was assessed using cross-tabulation of data and chi square tests of significance. Of interest was whether informal or formal retirement planning was more prevalent among a more recent cohort of workers, and whether gender, race/ethnicity, and marital status characteristic differences were apparent in relation to propensity to plan for retirement.

A second set of analyses utilized hierarchical logistic regression to examine the probability of having planned for retirement, while controlling for demographic and socioeconomic characteristics, retirement related factors, and health status as measured by diseases, chronic conditions, and functional status. In all, twelve separate hierarchical logistic regression analyses were conducted. Outcome variables included informal and formal plans for retirement. Samples included all workers, male workers, female workers, all retirees, male retirees and female retirees. While each analysis was conducted hierarchically, only the final model results, those being the most relevant, are presented here.

In each analysis Model 1 incorporated demographic variables, including age (retiree sample only), gender and race/ethnicity. The 'age' variable was excluded in the worker analyses. Workers were asked about the usual age of retirement for individuals employed in their line of work and the tendency of respondents to select either age 62 or 65 produced a bimodal distribution of the data resulting in the worker's ages being highly correlated with the number of years remaining until retirement (r=-0.78).

Model 2 added socioeconomic status variables including marital status, assets, and pension. Model 3 incorporated retirement related factors including number of years until retirement and the anticipation that health would limit work activity in the worker analyses, and length of time retired and retirement was due to poor health in the retiree analyses. Additional retirement related variables pertinent to women were included in the female worker and retiree analyses. The female worker model incorporates the expectation of retiring with one's spouse, and the female retiree model incorporates retirement due to the health of a family member and retired due to a spouse's retirement. Model 4 in each analysis incorporated diseases, chronic conditions and functional impairments.

Thus, the final model in all logistic regression analyses takes the form: $\{\log (P/1-P) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4\}$, where P represents the probability of having engaged in informal or formal retirement planning as of 1992, X_1 is a vector of demographic variables, X_2 represents the addition of socioeconomic variables, X_3 retirement related variables, and X_4 health status variables. Odds ratios with 95% confidence intervals are presented with significance levels.

Model fit statistics are presented in the -2 Log Likelihood, the adjusted R-square, the receiver operating curve (roc) statistic and the Hosmer-Lemeshow test for model fit.

Results

The Sample

Characteristics of the two samples used in the analyses, workers and retirees, are detailed in Table 1. Responses are weighted. Among workers, the larger of the two samples numbering 5,333 respondents, we find a mean age of 55 years. Females comprised 51% of worker respondents, 10% were African American and 5% were Hispanic. Mean education level was 12.8 years. Among retirees, a sample numbering 1,561, the mean age was 61 years. Female respondents who self-identified as retired comprised 27% of the sample, 11% were African Americans, and approximately 4% were Hispanic. Mean education level was slightly less than that of the worker sample at an average of 12.5 years.

Eighty percent of workers and 87% of retirees indicated that they were married. Workers reported slightly fewer assets than retirees at 2.7and 3.0 assets respectively. Pension or retirement plan inclusion rates differed only slightly between the two groups with an average of 73% of workers and 74% of retirees reporting pension or retirement plan coverage with a current or former employer.

On average, workers reported having an additional 8.5 work years remaining until retirement, while retirees reported having been retired for about six years. Several variables focused on reasons for retirement. Among workers, just over half (55% of respondents) anticipated that there was roughly a 40% chance or greater that health might limit their ability to work within the next ten years, while poor health was a substantial factor in the decision to retire among 35% of retirees. Among married workers, 46% indicated they expected to retire at the same time as their spouse. By contrast, only 13% of retirees reported that the retirement of a spouse influenced their retirement decision. The health of a family member was a contributing factor toward retirement for 16% of retirees.

These analyses included a number of diseases and chronic conditions as variables of interest and as expected the percentage of workers indicating that they had a particular disease or chronic condition was less than that of retirees reporting presence of a like disease or chronic condition in every health category analyzed. Of the eight health conditions measured, hypertension and arthritis were, in that order, the most frequently cited health problems by both worker and retiree respondents. Thirty four percent of workers and 45% of retirees reported that they had hypertension, while 33% of workers and 42% of retirees reported having arthritis. Retirees similarly reported having higher rates of functional impairments than workers; however, for both groups the mean number of functional impairments was less than one.

Prevalence of Plans for Retirement

The first hypothesis suggested that both informal and formal plans for retirement would be more prevalent among workers than retirees. Comparisons of informal and formal planning among workers and retirees are presented in Table 2. The percentage of workers that indicated they informally planned for retirement is in fact greater than that of retirees at 67% and 53% respectively; however, the percentage of workers indicating that they formally planned for retirement (19%) was less than that of the retiree sample (35%). Thus, the first hypothesis, that retirement planning would be more prevalent among workers than retirees is only partially confirmed.

Table 2. Prevalence of Plans for Retirement: Percentages and Chi-Square Results of Significance

	Workers Plans for Retirement				**Retirees Plans for Retirement**			
	Informal		**Formal**		**Informal**		**Formal**	
Total	66.7%		18.5%		52.5%		35.3%	
Men	69.7%		19.4%		51.8%		36.0%	
Women	63.9%	***	17.6%		54.4%		33.7%	
African American	60.9%	***	15.7%	*	48.2%		36.9%	
Hispanic	50.9%	***	9.3%	***	25.8%	***	14.8%	***
White	67.8%		19.2%		53.3%		35.1%	
Married	67.9%	***	19.1%	*	54.8%	***	36.9%	**
Unmarried	62.3%		16.3%		38.9%		25.6%	

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Further analysis reveals several significant differences within the samples. Among workers, chi-square tests of significance suggest that women were significantly less likely than men to report having informal plans for retirement (p

≤ .001), yet no gender differences were apparent for formal planning. African American and Hispanic workers were also less likely to report having informal plans for retirement when compared with white workers. Sixty eight percent of white workers reported that they had informal plans for retirement versus 61% of African American workers and 51% of Hispanic workers. Results were similar for formal planning with African American workers ($p \leq .05$) and Hispanic workers ($p \leq .001$) less likely to report having formally planned for retirement when compared with white workers. Nineteen percent of white workers reported having formal plans for retirement compared with 16% of African American workers and 9% of Hispanic workers. Married workers were significantly more likely than their unmarried counterparts to report having both informal and formal plans for retirement with 68% of married workers reporting that they had informal plans and 19% reporting that they had formal plans for retirement versus 62% (informal) and 16% (formal) of unmarried workers.

Among retirees, differences in planning prevalence were less evident than among workers. Hispanic retirees were significantly less likely than white retirees to report having planned either informally or formally for retirement ($p \leq .001$), and married retirees were more likely than their unmarried peers to report having planned both informally ($p \leq .001$) and formally ($p \leq .01$) for retirement.

Probability of Planning for Retirement

The second hypothesis suggested that demographic, socioeconomic and health status variables associated with planning would differ between workers

and retirees, with demographics playing a lesser role in predicting planning among workers than among retirees, and that socioeconomic variables would play a lesser role in retirement planning among women than men. Results of hierarchical logistic regression analyses for workers and retirees are presented in Tables 3 and 4 respectively.

Beginning with the results for workers as presented in Table 3, we find that socioeconomic factors play a key role in informal planning for retirement. Married workers, those who had a higher number of assets, and access to a pension plan were significantly more likely to have had informally planned for retirement. As expected, the number of years remaining until retirement was negatively associated with informal plans for retirement; with each additional year remaining until retirement, workers were 11% less likely to have informally planned for retirement. With regard to health status, workers with hypertension were 34% more likely to report having informal plans for retirement and among those with functional impairments the likelihood of having informally planned for retirement increased by 16% with each additional impairment.

Not surprisingly, the likelihood of formal planning among workers was also largely driven by socioeconomic factors. With each additional asset, workers were 35% more likely to indicate that they formally planned for retirement, and those with access to a pension plan were twice as likely to report having formally planned for retirement. The only other variable of significance in the formal plan model was the number of years remaining until retirement. With each additional year remaining until retirement, workers were 6% less likely to

report having formally planned for retirement. None of the health variables proved significant in the formal plan model for workers.

Table 3. Logistic Regression Results for the Probability of Planning for Retirement Among Workers

	Informal Plans (n = 2,886)			Formal Plans (n=2,885)		
	Odds Ratio		95% CI	Odds Ratio		95% CI
Female	0.84		(0.68, 1.03)	0.96		(0.77, 1.21)
African American	0.81		(0.60, 1.10)	1.20		(0.84, 1.73)
Hispanic	0.69		(0.45, 1.06)	0.94		(0.52, 1.70)
Married	1.34	**	(1.09, 1.67)	1.10		(0.86, 1.42)
Assets	1.18	***	(1.10, 1.26)	1.35	***	(1.26, 1.44)
Pension	1.34	**	(1.08, 1.67)	2.03	***	(1.51, 2.73)
Years to Retirement	0.89	***	(0.87, 0.91)	0.94	***	(0.92, 0.97)
Anticipate Retirement Due to Health	1.00		(0.82, 1.21)	0.90		(0.72, 1.10)
Will Retire With Spouse	---		---	---		---
Hypertension	1.31	*	(1.06, 1.61)	0.85		(0.68, 1.07)
Diabetes	0.93		(0.65, 1.34)	0.96		(0.64, 1.45)
Cancer	1.39		(0.84, 2.31)	0.77		(0.45, 1.33)
Lung Disease	1.10		(0.71, 1.71)	0.83		(0.50, 1.36)
Heart Condition	1.07		(0.77, 1.48)	0.82		(0.58, 1.17)
Stroke	0.60		(0.28, 1.28)	0.98		(0.39, 2.45)
Psychological Problems	1.32		(0.90, 1.96)	0.84		(0.53, 1.34)
Arthritis	0.98		(0.79, 1.21)	1.08		(0.86, 1.36)
Functional Impairments	1.16	*	(1.01, 1.32)	1.01		(0.87, 1.17)
-2 Log L	2520.97			2184.59		
Adj R^2	0.13			0.10		
C statistic	0.704			0.697		
H-L	5.990	p= .6484		9.718	p = .2854	

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

While only the final models are presented, each successive model showed a decrease in the -2 Log Likelihood. The adjusted R-square and roc statistics

indicated reasonable explanatory value of the models with 13% of variance accounted for in the informal model and 10% of variance accounted for in the formal model. The Hosmer-Lemeshow test indicated good model fit for both informal and formal retirement planning.

Table 4. Logistic Regression Results for the Probability of Planning for Retirement Among Retirees

	Informal Plans (n = 640)			Formal Plans (n = 638)		
	Odds Ratio		95% CI	Odds Ratio		95% CI
Age	0.99		(0.93, 1.04)	0.96		(0.92, 1.00)
Female	0.65		(0.35, 1.21)	0.94		(0.55, 1.61)
African American	1.12		(0.52, 2.42)	1.46		(0.74, 2.89)
Hispanic	0.20	**	(0.07, 0.58)	0.67		(0.19, 2.34)
Married	2.64	**	(1.41, 4.97)	1.81		(0.98, 3.35)
Assets	1.16		(0.99, 1.36)	1.30	***	(1.15, 1.48)
Pension	1.28		(0.71, 2.31)	1.82	*	(1.01, 3.28)
Years Retired	0.89	***	(0.84, 0.94)	0.95		(0.90, 1.01)
Retired Due to Poor Health	0.41	**	(0.24, 0.73)	0.74		(0.44, 1.23)
Retired Due to Family Health	---		---	---		---
Spouse Retired	---		---	---		---
Hypertension	1.09		(0.65, 1.80)	1.07		(0.71, 1.61)
Diabetes	0.75		(0.40, 1.42)	0.65		(0.35, 1.20)
Cancer	0.36	*	(0.16, 0.83)	1.05		(0.49, 2.27)
Lung Disease	0.78		(0.38, 1.59)	0.95		(0.49, 1.86)
Heart Condition	0.73		(0.41, 1.30)	1.27		(0.75, 2.15)
Stroke	0.71		(0.25, 2.03)	0.88		(0.31, 2.49)
Psychological Problems	1.79		(0.78, 4.10)	0.95		(0.43, 2.10)
Arthritis	0.75		(0.45, 1.26)	1.07		(0.69, 1.64)
Functional Impairments	1.02		(0.84, 1.24)	0.87		(0.71, 1.05)
-2 Log L	429.80			586.40		
Adj R^2	0.25			0.15		
C statistic	0.773			0.709		
H-L	15.545	p=.0494*		5.805	p=.6691	

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 4 depicts the results for retiree respondents. Among retirees, Hispanic retirees were 80% less likely than white retirees to have informally planned for retirement, and married retirees were 2.6 times more likely to indicate they had informally planned for retirement. The number of years retired proved significant with retirees who had been retired longer being less likely to indicate they informally planned for retirement. With regard to health status, respondents who retired due to poor health and those who had cancer were roughly 60% less likely to report having made informal retirement plans.

In reviewing the results for formal retirement planning among retirees, only assets and pension proved significantly associated with planning. Each additional asset yielded a 30% increase, and pension plan access an 82% increase in likelihood of having formally planned for retirement. Similar to the results in the worker formal plan model, none of the health variables proved significantly associated with formal planning. Each successive model showed a decrease in the -2 Log Likelihood. The roc statistics and Adjusted R^2 indicated reasonable explanatory value of the models, and the Hosmer-Lemeshow test indicated good model fit for formal retirement planning; however, model fit for informal retiree planning was questionable.

In comparing worker and retiree results, only one demographic variable was significant in either model - Hispanic origin in the informal retiree plan model. Socioeconomic variables played a significant role in planning for both groups; however, the associations were stronger in the worker models. Two health measures proved significant in the worker and retiree informal plan models, with

contradictory results. Hypertension and functional impairments increased the likelihood of worker's having planned informally for retirement, while the poor health that precipitated retirement, and cancer, decreased the likelihood of having planned informally for retirement among retirees. Thus, the second hypothesis, that demographic, socioeconomic and health status variables associated with planning would differ between workers and retirees, with demographic characteristics playing a lesser role in predicting planning among workers than among retirees proved somewhat correct.

Subsequent analyses detailed in Tables 5 and 6 focus on gender variations in planning among workers. Of interest, being married increased the likelihood of formal planning for retirement among male workers by 58%, but proved insignificant in the female worker plan models. Number of assets increased likelihood of informal and formal planning for retirement among both men (18% and 35% respectively) and women (35% and 56% respectively). Pension access proved significantly associated with informal planning for men and formal planning for both men and women, though the association with formal planning was much stronger for women than men.

In the formal planning model, both male and female workers with pensions were more likely to have formally planned for retirement, although the effect appears to be stronger for females. The number of years remaining until retirement proved significant and negatively associated with planning in all models. The influence of health varied widely. Men with hypertension were 50% more likely to indicate they had informally planned for retirement, while those with

Table 5. Logistic Regression Results for the Probability of Planning for Retirement Among Male Workers

	Informal Plans (n = 1, 533)			Formal Plans (n = 1, 532)		
	Odds Ratio		95% CI	Odds Ratio		95% CI
African American	0.87		(0.54, 1.42)	1.25		(0.72, 2.16)
Hispanic	0.71		(0.40, 1.28)	1.10		(0.54, 2.27)
Married	1.26		(0.90, 1.77)	1.58	*	(1.06, 2.36)
Assets	1.18	***	(1.07, 1.29)	1.35	***	(1.23, 1.48)
Pension	1.55	**	(1.12, 2.16)	1.58	*	(1.05, 2.37)
Years to Retirement	0.87	***	(0.84, 0.90)	0.94	***	(0.91, 0.97)
Anticipate Retirement Due to Health	1.00		(0.75, 1.32)	0.83		(0.63, 1.10)
Will Retire With Spouse	---		---	---		---
Hypertension	1.49	**	(1.11, 2.00)	0.89		(0.66, 1.19)
Diabetes	1.05		(0.64, 1.73)	0.89		(0.53, 1.49)
Cancer	1.68		(0.55, 5.07)	0.50		(0.18, 1.44)
Lung Disease	1.23		(0.64, 2.36)	0.80		(0.41, 1.57)
Heart Condition	1.12		(0.72, 1.72)	0.62	*	(0.39, 0.98)
Stroke	0.69		(0.24, 2.02)	0.37		(0.08, 1.67)
Psychological Problems	1.71		(0.89, 3.28)	1.21		(0.64, 2.31)
Arthritis	0.89		(0.65, 1.23)	1.10		(0.80, 1.52)
Functional Impairments	1.21		(0.97, 1.51)	1.14		(0.93, 1.40)
-2 Log L	1275.87			1244.13		
Adj R^2	0.15			0.11		
C statistic	0.718			0.697		
H-L	8.297	p= .4051		5.833	p= .6659	

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

a heart condition were less likely to have formally planned for retirement. Women who had experienced a stroke were 9.6 times more likely to have formally planned for retirement, while those who reported having psychological problems were less likely to have formally planned for retirement.

Table 6. Logistic Regression Results for the Probability of Planning for Retirement Among Female Workers

	Informal Plans (n = 691)			Formal Plans (n = 691)		
	Odds Ratio		95% CI	Odds Ratio		95% CI
African American	0.71		(0.39, 1.31)	1.41		(0.64, 3.09)
Hispanic	0.64		(0.27, 1.55)	0.59		(0.11. 3.01)
Married	0.60		(0.13, 2.80)	2.73		(0.14, 53.47)
Assets	1.35	***	(1.17, 1.55)	1.56	***	(1.33, 1.82)
Pension	1.13		(0.74, 1.73)	2.52	**	(1.36, 4.69)
Years to Retirement	0.92	***	(0.89, 0.96)	0.95	*	(0.91, 1.00)
Anticipate Retirement Due to Health	1.05		(0.70, 1.58)	1.00		(0.62, 1.61)
Will Retire With Spouse	1.09		(0.73, 1.64)	0.71		(0.43, 1.17)
Hypertension	0.99		(0.62, 1.59)	0.75		(0.42, 1.34)
Diabetes	0.96		(0.41, 2.27)	0.94		(0.30, 2.93)
Cancer	2.21		(0.83, 5.89)	1.15		(0.44, 2.96)
Lung Disease	0.73		(0.32, 1.68)	0.74		(0.25, 2.19)
Heart Condition	1.29		(0.64, 2.60)	1.81		(0.85, 3.87)
Stroke	0.76		(0.14, 4.06)	9.61	*	(1.53, 60.27)
Psychological Problems	1.01		(0.48, 2.14)	0.29	*	(0.09, 0.97)
Arthritis	1.05		(0.69, 1.61)	0.78		(0.47, 1.29)
Functional Impairments	1.11		(0.87, 1.41)	0.95		(0.68, 1.34)
-2 Log L	600.96			451.54		
Adj R^2	0.14			0.20		
C statistic	0.716			0.757		
H-L	7.755	p=.4578		4.999	p=.7577	

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Fifteen percent of variance was accounted for in the model for informal planning among male workers, and 11% in the formal planning model. Fourteen percent of variance was accounted for in the model for informal planning among female workers, and 20% in the formal planning model. Both informal and formal planning analyses demonstrated decreases in the -2 Log Likelihood with each progressive model, steadily rising roc statistics and good model fit as measured by the Hosmer-Lemeshow test.

Table 7. Logistic Regression Results for the Probability of Planning for Retirement Among Male Retirees

	Informal Plans (n = 487)			Formal Plans (n = 485)		
	Odds Ratio		95% CI	Odds Ratio		95% CI
Age	0.98		(0.92, 1.04)	0.94	*	(0.90, 0.99)
African American	1.03		(0.39, 2.74)	1.12		(0.49, 2.58)
Hispanic	0.20	**	(0.06, 0.65)	0.68		(0.19, 2.43)
Married	3.29	**	(1.40, 7.71)	1.34		(0.61, 2.98)
Assets	1.24	*	(1.03, 1.49)	1.29	***	(1.12, 1.48)
Pension	0.88		(0.40, 1.93)	1.34		(0.66, 2.73)
Years Retired	0.87	***	(0.81, 0.93)	0.97		(0.91, 1.03)
Retired Due to Poor Health	0.41	**	(0.21, 0.80)	0.81		(0.45, 1.44)
Retired Due to Family Health	---		---	---		---
Spouse Retired	---		---	---		---
Hypertension	1.21		(0.66, 2.22)	1.14		(0.73, 1.81)
Diabetes	0.79		(0.37, 1.68)	0.63		(0.32, 1.25)
Cancer	0.33	*	(0.11, 0.95)	1.00		(0.39, 2.54)
Lung Disease	0.81		(0.34, 1.96)	1.13		(0.53, 2.43)
Heart Condition	0.75		(0.38, 1.50)	1.15		(0.64, 2.05)
Stroke	0.84		(0.26, 2.72)	1.00		(0.32, 3.08)
Psychological Problems	3.31	*	(1.01, 10.80)	0.86		(0.33, 2.24)
Arthritis	0.64		(0.34, 1.18)	1.05		(0.65, 1.72)
Functional Impairments	1.01		(0.79, 1.27)	0.81		(0.65, 1.02)
-2 Log L	305.90			462.35		
Adj R^2	0.28			0.14		
C statistic	0.787			0.698		
H-L	22.928	p=.0035**		10.347	p=.2415	

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

The final set of analyses presented in Tables 7 and 8 detail hierarchical logistic regression results for planning among retirees by gender. In comparing results for male and female retirees, the most notable difference is that among male respondents two variables were significantly associated with formal plans for retirement – age and assets. Among female respondents six variables were

significantly associated with formal plans for retirement – being married, assets, and pension were positively associated with formal planning, and number of years retired, retired due to poor health and a spouse's retirement were negatively associated with formal planning among female retirees.

Table 8. Logistic Regression Results for the Probability of Planning for Retirement Among Female Retirees

	Informal Plans (n = 153)			Formal Plans (n = 153)		
	Odds Ratio		95% CI	Odds Ratio		95% CI
Age	1.08		(0.92, 1.26)	1.10		(0.93, 1.30)
African American	0.63		(0.13, 2.99)	4.01		(0.80, 19.98)
Hispanic	0.14		(0.01, 5.71)	---		---
Married	1.35		(0.43, 4.23)	8.32	**	(2.07, 33.40)
Assets	0.86		(0.60, 1.23)	1.57	*	(1.04, 2.38)
Pension	3.90	*	(1.24, 12.25)	3.53	*	(1.01, 12.39)
Years Retired	0.92		(0.80, 1.05)	0.78	**	(0.64, 0.93)
Retired Due to Poor Health	0.48		(0.13, 1.71)	0.23	*	(0.06, 0.99)
Retired Due to Family Health	0.91		(0.26, 3.18)	3.00		(0.92, 9.74)
Spouse Retired	8.52	*	(1.12, 64.68)	0.25	*	(0.06, 0.98)
Hypertension	0.73		(0.23, 2.36)	0.67		(0.21, 2.18)
Diabetes	0.48		(0.10, 2.20)	1.97		(0.31, 12.46)
Cancer	0.40		(0.08, 1.99)	0.92		(0.16, 5.34)
Lung Disease	0.43		(0.09, 2.17)	0.44		(0.07, 2.71)
Heart Condition	0.56		(0.15, 2.14)	4.55		(0.92, 22.55)
Stroke	0.33		(0.02, 6.70)	0.51		(0.02, 15.00)
Psychological Problems	0.45		(0.11, 1.89)	2.37		(0.36, 15.74)
Arthritis	1.90		(0.60, 5.98)	1.26		(0.41, 3.89)
Functional Impairments	0.99		(0.68, 1.46)	0.91		(0.58, 1.45)
-2 Log L	103.57			100.71		
Adj R^2	0.32			0.41		
C statistic	0.801			0.833		
H-L	13.772	p=.0879		11.255	p=.1877	

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

For informal planning, the results were reversed with seven variables of significance in the male retiree informal plan model – being of Hispanic origin, number of years retired, retired due to poor health and cancer were negatively associated with informal plans for retirement, while being married, assets, and psychological problems increased the likelihood of having informally planned for retirement. In the corresponding female retiree informal plan model, two variables were significantly and positively associated with planning - pension and the retirement of one's spouse.

The only variable of significance in both male and female retiree plan analyses was assets. With each additional asset owned male retirees were 29% more likely to indicate they had formally planned for retirement. Marital status proved significant for informal planning among male retirees, with married respondents 3.3 times more likely to indicate they planned informally for retirement. Pension was an insignificant factor in the male retiree models. Health characteristics proved significant in the informal male retiree model with cancer decreasing likelihood of planning and psychological problems increasing likelihood of planning.

With each additional asset owned female retirees were 57% more likely to report they had formally planned for retirement. Marital status proved significant for formal planning among female retirees, with married respondents 8.3 times more likely to indicate they formally planned for retirement. Pension was significant in both the informal and formal female retiree plan models. Female respondents whose spouse's had retired were 8.5 times more likely to have

informally planned for retirement and 75% less likely to have formally planned for retirement. Among female respondents, women who retired due to poor health were almost 80% less likely to have formally planned for retirement.

In both male and female retiree analyses, each successive model showed a decrease in the -2 Log Likelihood. Twenty eight percent of variance was accounted for in the informal male retiree plan model and 14% in the formal male retiree plan model. For female retirees, the informal plan model yielded an Adjusted R^2 of .32 and 41% of variance was accounted for in the formal plan model. The roc statistics indicate good explanatory value of the models and the Hosmer-Lemeshow test proved insignificant in all but for the final informal model for male retirees, suggesting that model fit was adequate in the plan models, but questionable in the final informal male retiree model.

In comparing the results of workers to retirees, among males, socioeconomic characteristics appear to be slightly more important in predicting propensity to plan for retirement among workers than retirees, and health characteristics figure more prominently in the retiree models than in the worker model, particularly with regard to informal planning. Among female respondents, socioeconomic factors figure more prominently in the retiree models. Marital status and a spouse's retirement were significant predictors of formal and informal planning (respectively) among female retirees, yet neither variable proved significant in the female worker models. Health appeared to influence propensity to plan formally for retirement among both female retirees and workers, though results varied. Among female retirees, health factored negatively

in relation to formal planning; among workers, having had a stroke increased likelihood of formal planning for retirement, while psychological problems decreased likelihood of planning.

The second hypothesis also proposed that socioeconomic variables would play a lesser role in retirement planning among women than men, and that finding was partially supported. Socioeconomic variables played a slightly lesser role in planning for female workers when compared to male workers; however, they played a more significant role in planning among female retirees when compared to male retirees. For both male and female workers and retirees, socioeconomic variables played a more significant role in formal planning models than in informal planning models.

Discussion

As American workers are increasingly burdened with the responsibility of ensuring their own financial and health well-being in retirement, the first question raised by this research is whether or not a more recent cohort of workers were any more actively engaged in retirement planning than a prior cohort of workers. These findings suggest that more recent cohorts of workers may be more actively engaged with the idea of retirement and less involved in formal retirement planning activities than prior cohorts of workers. The explanation for this may be twofold.

First, the literature supports the increasing salience of retirement and retirement planning as the event draws near, and as these results suggest, the corresponding decline in significance of retirement planning post event. Workers in this sample averaged 8.5 years remaining until retirement. Thus, they may have been engaged in informal planning for retirement, but perhaps had yet to attend any formal meetings on retirement or retirement planning. The specific formal planning participation criterion posed to study sample respondents was attendance at any meetings on retirement or retirement planning. Employer sponsored retirement planning events are often not made available to pre-retirees until very near the retirement date. This may in part explain the lower rates of worker participation in formal planning when compared to retiree participation in formal planning. The question does not lend itself to considering other formal planning activities respondents may have participated in, such as consultations with a financial planner. Regardless of the length of time remaining until retirement, workers should be involved early on in formal retirement planning activities, employer sponsored or not.

Second, medical advances have enabled older adults to live longer and in better health. In conjunction with the increased potential for physical vitality in old age, options for retirement have likewise increased. It is possible that more current cohorts of workers are more actively engaged in anticipating and exploring their retirement options - essentially planning informally for retirement, than their predecessors, for whom retirement was not only inevitable, but predictable.

Of additional concern in the prevalence analyses is the significant lack of informal planning for retirement among female workers when compared with male workers and the significant lack of informal or formal planning among African American and Hispanic workers when compared with their white counterparts. Among retirees, the differences are less pronounced with only Hispanics significantly less likely to have informal or formal retirement plans in place when compared with white retirees. These results suggest that women and African American workers are less likely to have plans for retirement than their predecessors, and that Hispanic workers have gained no ground in terms of planning for retirement when compared with white workers. The results for women and African Americans may in part be due to the lack of proximity to the retirement event. Perhaps as women and African Americans approach retirement they become as actively engaged in planning as their white male peers. Alternatively, due to the labor force experience disparities of women and minorities vis-à-vis white male workers, these results may reflect their lack of identification with the retirement experience and the retiree role. As these results are based on cross-sectional analysis, the ability to confirm these suggestions is limited. The emergence of marital status as a key indicator of informal and formal planning participation in both the worker and retiree samples suggests the significance of socioeconomic dimensions of retirement planning in subsequent analyses.

The second hypothesis suggested that due to the increased diversity of the workforce, demographics would play a lesser role in predicting propensity to

plan for retirement among workers than retirees, and that socioeconomic variables would play a lesser role in the propensity to plan among females than males. All things being equal, demographic characteristics appeared to play a relatively insignificant role in association with planning among workers. No demographic characteristics emerged as significant in the final worker informal and formal plan models, and being of Hispanic origin was the only demographic variable of significance in the informal retiree model.

What did play a large role in predicting propensity to plan were socioeconomic factors, which in these analyses included marital status, number of assets and pension plan inclusion. The association of socioeconomic factors to planning was slightly stronger in the worker sample than the retiree sample, and figured more significantly in analyses for male workers than female workers, but less significantly among male retirees than female retirees. The significance of socioeconomic variables, particularly assets and pension in informal plan models was unanticipated. Interpretation of these results is speculative due in part to the cross-sectional nature of the data; however, they may be indicative of an increased emphasis on socioeconomic variables as predictors of planning among workers. The retirement planning literature suggests that those who have the financial resources to do so, plan for retirement. If socioeconomics variables are increasingly significant factors in informal and formal planning among workers, then these results suggest that there may be a growing gap between the ‘haves’ and ‘have nots’, and it is therefore reasonable to assume that women

and minorities will continue to lag behind their white male peers in terms of adequate planning for retirement.

Alternatively, these findings may be the result of the time order of questioning such that socioeconomic factors figure more prominently in the pre-retirement phase than in the post retirement phase. As retirees settle into retirement, emphasis on the economic aspects of retirement and retirement planning may wane post event, giving way to other concerns such as health maintenance, familial, social and leisure pursuits. Recall is another salient issue in evaluating survey responses post event. Longitudinal analysis of factors associated with retirement planning among workers pre and post retirement may help clarify the issue.

Consistent with the literature, the number of years remaining until retirement was significantly associated with planning. The more distant the retirement date, the less likely workers were to have planned for retirement. Number of years since retirement proved similarly significant in retiree models. The longer respondents had been retired, the less likely they were to indicate they planned for retirement. Proximity of an event heightens individual interest in planning or preparing for the event and this is the challenge faced by interests attempting to induce Americans to plan and prepare for retirement well in advance of the retirement age.

With regard to health status among workers and retirees, health variables emerged as significant in only the informal plan models. Workers with hypertension and functional impairments were more likely to have informally

planned for retirement, while retirees who retired due to poor health and who had cancer were less likely to have informally planned for retirement. Thus, poor health appears to be positively associated with informal planning among workers and negatively associated with informal planning among retirees.

Among women, health variables emerged significant in only the formal plan models, and with mixed results. Among men, managed diseases or chronic conditions were positively associated with planning, while more acute illnesses were negatively associated with planning. The only variable common to both male and female results of significance was psychological problems. Psychological problems decreased the likelihood of formal planning among working women, and increased the likelihood of informal planning among retired males.

Interpretation of such contradictory results is difficult. However, it is reasonable to suggest that dealing with managed diseases or chronic conditions may encourage workers to think informally about retiring, while more acute illnesses or the poor health that hastens retirement may discourage or pre-empt individuals from planning informally for retirement. Further analysis of health status variables and their relationship to retirement planning would be required to test this hypothesis. Overall, these results suggest socioeconomic factors and proximity to retirement play a more significant role in retirement planning than demographic or health status factors.

Gender comparisons yielded several interesting findings. First, marital status increased the likelihood of formal plans for retirement among male

workers; the variable proved insignificant in the female worker models. Likewise, anticipation of retiring with one's spouse proved insignificant in the female workers models. Marital status was significant in the informal male retiree model plan and in the formal female retiree model. Retirement with one's spouse significantly increased the likelihood of informal planning among female retirees and decreased the likelihood of formal planning. Thus, while results are somewhat mixed, notably absent in both female worker plan models is planning in conjunction with one's spouse, a factor that figures much more prominently in the retiree results.

Second, prevalence of planning analyses for women suggested that female workers were less likely than their male counterparts to have informal plans for retirement. Hierarchical logistic regression results may explain why. Few variables appear to influence propensity to plan informally among women; among workers it was assets and the number of years remaining until retirement. Among retirees it was access to a pension plan and a spouse's retirement. Assets and a pension were significant in formal planning models for both female workers and female retirees. Overall, these results suggest a decline in the significance of marital status in relation to the propensity to plan for retirement among women, perhaps owing in part to the increased labor force participation rates of women, and reveal the consistent significance of economic factors in propensity to plan both informally and formally among women.

Finally, only two variables emerged significant in the results for formal planning among male retirees, age and assets. Among male workers, five

variables proved significant, including being married, assets, pension, the number of years remaining until retirement and having a heart condition. The increased number and diversity of factors associated with formal planning among male workers, results in the formal male planning model looking more similar to those for formal planning among women (both workers and retirees). These results may be due to variations in pre and post retirement perceptions of men and the factors of significance in formal planning, or may reflect a change such that factors influencing formal retirement planning for men have become more numerable and diverse.

This study has two primary limitations. First, the study is exploratory in nature as cross sectional analyses are applied to an active process. Future analysis of retirement planning should include multiple waves of the Health and Retirement Study, ideally tracking workers pre and post retirement to determine whether variables associated with planning change over time. Second, as in any research using secondary data, lack of control over study design and measures imposes limitations on the nature of research questions posited. These results rest on responses to four questions about retirement planning. A more thorough protocol would address retirement preparedness in the realm of finances, health, social and leisure activities, and provide more concrete information about specific activities untaken by respondents to plan and prepare for retirement.

Initial efforts to reform existing social programs for older Americans have focused on the financial aspects of retirement. Social Security is the last leg of the so-called ‘three legged’ stool of retirement. Older women and minorities rely

heavily on the income provided by Social Security, and for many, it is the sole source of income. Policy makers need to have an accurate assessment of who plans for retirement so that at-risk populations might be properly identified, properly educated about the significance of retirement planning, taught effective mechanisms for planning, and monitored carefully for progress. Health status among older Americans is as significant a policy concern as financial status, and health care programs that support older Americans are also likely to undergo reform. The question of how health relates to retirement decision-making and retirement planning remains a significant one. Future generations of Americans may be called upon to work later in life and their health status, particularly chronic conditions and functional limitations, may limit work ability. Retirement planning is as important for those in poor health as it is for those in good health. Regardless of the outcome of the current social policy reform efforts, the trend toward individual responsibility for ensuring viability in old age is not likely to abate, necessitating that retirement planning be encouraged for all Americans.

Chapter Three

Is Declining Health a Push Factor in Retirement Planning?

Abstract

Poor health is often cited as a reason for retirement and as such is characterized as a push or negative factor influencing the retirement decision-making process (Shultz, Morton, & Weckerle, 1998). Individuals in poor health are arguably in greater need of plans for retirement than those in good health. This study attempted to verify whether poor health was also a push factor in planning for retirement. Using Waves 1 through 4 of the Health and Retirement Study data, the health status of workers with no plans for retirement in 1992 was tracked through 1998 to ascertain whether declining health status as measured by increased numbers of diseases, chronic conditions, and functional impairments or a decline in affect preceded the onset of informal plans for retirement. Results of hierarchical logistic regression analysis suggest that workers in declining health were no more likely to have implemented informal plans for retirement over time, than their healthier peers.

Introduction

Early research on the relationship between health and retirement focused largely on whether poor health brought about retirement or retirement brought about poor health. Numerous studies and several decades later, the consensus is the former rather than the latter; poor health is an oft cited precursor to retirement (Sherman, 1985; Sammartino, 1987) and retirement in and of itself does not appear to have an adverse impact on health (Palmore, Fillenbaum, & George, 1984; Shaw, Patterson, Semple & Grant, 1998).

Retirement planning research suggests that workers engage in an extended period of informal planning for retirement beginning as early as fifteen years before the retirement event (Ekerdt, Kosloski, & DeViney, 2000). The retirement planning literature also suggests, however, that those most in need of planning for retirement are least likely to do so (Campione, 1988; Ferraro, 1990). Poor health often leads to retirement, particularly early retirement (Kingson, 1982) and as such is classified as a push or negative factor influencing the retirement decision-making process (Shultz, Morton, & Weckerle, 1998). Individuals in poor health are arguably in greater need of plans for retirement than those in good health. What remains open to question is whether poor health is also a push factor in the retirement planning process. This study attempts to tease out the relationship between health and retirement planning by examining whether a decline in health status is associated with the onset of plans for retirement.

Background

Despite substantial declines in acute diseases, poor health continues to emerge as a significant predictor of retirement. This may be due in part to an associated rise in chronic health conditions, as retirees experiencing chronic conditions were more likely to state that health was an important factor in the decision to retire than those without chronic conditions (National Academy on an Aging Society, 2000). Alternatively, the consistency with which health is cited as a reason for retirement may be owing to the complex role health plays in retirement decision-making.

Health and Retirement

Health is a commonly cited reason for retirement or inability to work. Among National Longitudinal Survey respondents retired between 1967 and 1978, 35% indicated they retired due to poor health (Parnes, 1983), and 27% of the 1982 New Beneficiary Survey respondents indicated they retired because of health reasons (Sherman, 1985). Analysis of data from the 1994 National Health Interview Survey found that labor force participation rates were lower among respondents reporting chronic conditions than among those reporting no chronic conditions, and that low income respondents were more adversely impacted by chronic conditions than those with higher incomes (National Academy on an Aging Society, 2000). U.S. Census Bureau disability data for 1996 indicated that 34% of adults claimed that they were not able to work due to a chronic disease or

disability (U.S. Census Bureau, 1996). Census Bureau data for the following year similarly indicated 36% of adults aged 55 to 64 had a disability, 24% of whom indicated that the disability was severe (U.S. Census Bureau, 1997).

Excluding instances of debilitating diseases, health conditions or functional impairments, however, health status vis-à-vis work ability or retirement decision-making may be open to individual interpretation. Szinovacz (2003) aptly describes this interpretational flexibility as the extent of leeway an individual has in the retirement decision-making process, and the associated cost-benefit ratio of retiring at any given time. For example, Mutchler, Burr, Massagli, & Pienta (1999), examined the role of health in labor force exit and reentry behavior, relative to the influence of age, economic and family circumstances. The authors found that health status was not an isolated factor in determining labor force exits, rather, that exit behavior was influenced in combination with health status by the potential for increased non-work related income, older age, and the presence of a nonworking spouse. The authors concluded that health may not be a singularly significant predictor of labor force behavior, but rather part of a broader spectrum of personal considerations.

These findings further highlight an issue that emerges in the health and retirement literature, namely, limiting survey respondents to the selection of only one criterion as a reason for retirement. Henretta, Chan, & O'Rand (1992) examined primary and secondary reasons for retirement with response options including: wanted to retire, poor health, lost job, retirement was compulsory, Social Security or pension eligibility, needed to care for others, didn't like the job,

and spouse was retired or retiring. Respondents selected one primary reason for retirement and as many secondary reasons as they felt applicable. Of the 25% of survey respondents indicating health was the most important reason for retirement, prominent secondary reasons included wanting to retire (25%), pension (13%) and Social Security (12%) eligibility.

Studies on the role of health in retirement decision-making may be further limited by the use of global measures of health status. Research on the topic has relied heavily on respondent self-report (Richardson, 1993), yet, questions remain about the accuracy of self-reported health status vis-à-vis retirement decision-making. Quinn and Burkhauser (1990) suggest that researchers lack an understanding about the relationship between the two variables, and that the social acceptability of labor force withdrawal under the guise of poor health may significantly influence research outcomes. Bazzoli (1985) similarly concluded that the effect of health on retirement decision-making is overstated, and that individuals justifying retirement on the basis of poor health compromise the health and retirement data.

In contrast, several researchers report that the few studies with more objective health measures validate self-reported health measures and their respective relationship to retirement. Muller & Boaz (1988) for example, compared use of medical services and self-reports of work limiting health conditions among a sample of 1,600 men. They reported poor health is not a rationalization, but a bona fide reason for retirement. They added however, that adults aged 65 or less, were more likely than their older (65+) counterparts to use

poor health as a justification for retirement. A later study, conducted by Dwyer and Mitchell (1999) examined the justification hypothesis, i.e., the use of health as a justification for early retirement, and found that objective measures of functional limitations were as good an indicator of health as self-report measures. The authors further noted finding differential effects of chronic conditions on retirement, for example, that circulatory problems accelerated retirement, while nervous disorders did not.

Ex post rationalizations of retirement due to health may be equally important in assessing health as a reason to retire. Shultz and colleagues (1998) examined the relative influence of push and pull (positive) factors on retirement decision-making and the subsequent adjustment to retirement, and found that push factors were more salient than pull factors after retirement. Bazzoli (1985) similarly found that respondents, who cited several reasons for retiring when polled in pre-retirement, reported in post-retirement that poor health was the most significant reason for retiring.

Health and Retirement Planning

The supposition that a relationship exists between health status and retirement planning is not without merit: health remains a significant predictor of retirement; workers have an extended involvement with the notion of retirement, (Ekerdt et al, 2000); and health status and health maintenance become increasingly salient issues with age, particularly as individuals approach retirement (Antonovsky & Sagy, 1990). While the literature on health and

retirement is expansive, fewer empirical studies have focused on the subject of retirement planning. Taylor and Shore (1995) suggest this may in part be due to the limited understanding of the theoretical basis for retirement planning.

Among studies in which health status was included as a factor related to retirement planning, findings are mixed. Some results suggest that those in poor health are more likely to have plans in place for retirement (Ekerdt, DeViney, & Kosloski, 1996), or to have a particular age or date in mind for retirement (Taylor & Shore, 1995). Other findings suggest that individuals without health limitations are more likely to engage in planning for retirement (Campione, 1988), and in post-retirement, more likely to report they were in good physical health when compared to non-planners (Albert & Reynolds, 2002).

Comparisons of retirement planning research results can be challenging as the type of retirement planning process and specific outcomes being measured vary between studies. Ekerdt and colleagues analyzed informal plans for retirement with data sourced from a national longitudinal study, while Taylor and Shore analyzed planned retirement age with survey data from respondents working for a multinational company; Campione focused specifically on participation in formal retirement planning programs.

The distinctions are important. Informal planning is described in terms of thinking, talking, or reading about retirement. Formal planning is typically comprised of financial preparations for retirement, individually, with the assistance of a financial advisor, or through education oriented programs, particularly employer sponsored retirement planning programs. Minorities and

those with lower levels of education are less likely to engage in planning for retirement (Ferraro, 1990), as are low-income individuals (Richardson, 1993). Women are less likely to have access to retirement education (Perkins, 1995), as are workers in smaller organizations (Riker & Myers, 1990). Among individuals with access to such programs, participation rates tend to be low (Ferraro, 1990).

There is a bias toward self-selection of participants in formal retirement planning activities, leaving open the question of the health status of participants relative to non-participants (Campione, 1988). Employer sponsored retirement planning programs often take place within two to five years of the employee's retirement date. Workers who participate in retirement planning programs may therefore be in better health than their counterparts who exited the workforce at an earlier date.

Poor health may be the result of a chronic or acute health condition. Individuals with manageable health conditions may anticipate that health might eventually limit their ability to work, and begin planning for retirement more earnestly and at an earlier age that those without health problems. Thus, poor health may be an incentive to plan for retirement. Alternatively, an acute health incident may necessitate a sudden labor force exit, leaving an individual grappling with health issues with no opportunity to plan for retirement. In the latter case, poor health may be an incentive to retire, but not an incentive to plan for retirement.

Retirement due to poor health is perceived as an involuntary retirement and the voluntariness of retirement plays an important role in attitudes about

retirement pre and post retirement. Hanisch (1994) found that individuals who retired due to poor health were less likely to have planned for activities and events to pursue in retirement, and suggested they may be the hardest group of retirees to assist or counsel pre or post retirement. Shultz and colleagues (1998) found retirees who indicated that their retirement was involuntary demonstrated lower self ratings on physical and emotional health, and lower ratings on life satisfaction than those who indicated they retired voluntarily.

These researchers further note that push factors may be more influential on retirement effects because of the instability of push factors over the life span. A sudden health decline or change in financial status, for example, may override years of planning for a healthy, financially secure retirement. Individuals who prepare for retirement may view the event with an increased sense of self-efficacy (Taylor & Shore, 1995); illness or general health instability may compromise feelings of retirement self-efficacy.

Health considerations aside, Ekerdt and colleagues suggest retirement may not be inevitable and older workers who are uniformly mindful of retirement may not be the norm (Ekerdt, Hackney, Kosloski, & DeViney, 2001). Using data from the Health and Retirement Study, the authors tested whether having uncertain plans for retirement was an artifact of the survey process or a legitimate stance toward retirement. Logistic regression analysis was utilized to assess changes in plans for retirement between 1992 and 1994, while controlling for baseline retirement planning opportunity structure characteristics and changes to the opportunity structure as measured by a job change, a marital

status change, or worsening health. The authors found that dependent upon the question asked, 10% to 40% of workers did not state when or how they would retire. Of interest, workers who reported that they had no plans for retirement in 1992 and 1994, were more likely to be (among other factors) female, and to report no health limitations. The authors further concluded that worse or worsening health focused retirement intentions as workers who had no plans for retirement in 1992, but had plans for retirement in 1994, were more likely to report that their health was worse than it was 2 years ago; however, the results were based on a single self-reported evaluation of respondent health status and the results were not statistically significant ($p < .10$).

This study examines the role of health in retirement planning by examining whether declining health precedes onset of plans for retirement. While the purpose of the study differs from that of Ekerdt and colleagues (2001), it expands on findings regarding health status and plans for retirement by incorporating specific measures of health status, and adding additional waves of data such that changes in plan status are monitored over a longer period of time.

Based on a review of the literature the following research question is posed: Are workers who experience declines in health status more likely to plan for retirement than workers in good health?

Hypothesis: Individuals in poor health should be actively engaged in planning for retirement. However, given the involuntary nature of retirement due to poor health and the relative influence of push versus pull factors over the life span, it is

anticipated that individuals in poor or declining health are less likely to anticipate and plan for retirement that individuals in good health.

Methods

Data

Data for this study were obtained from the Health and Retirement Study (HRS) provided by the University of Michigan's Institute for Social Research. The HRS is a nationally representative panel survey of the health and economic status of individuals aged 51 to 61in 1992, contains a series of questions regarding plans for retirement (Juster & Suzman, 1995). The initial sample was comprised of 12,652 respondents in 7,000 households. The sub-sample of interest for the purpose of this study was comprised of respondents, who indicated that they were working as of 1992, had not previously retired, and who reported that the number of years remaining until retirement was greater than zero (n=5,402). As the analyses tracked 1992 respondents from waves one (1992) through four (1998), the sample was further limited to respondents who were alive and not in a nursing home as of the 1994, 1996 and 1998 HRS study measurement dates. While the percentage of respondents deceased or disabled between 1992 and 1998 was small (3.96% and 0.08% respectively), exclusion of cases where the respondent's status was unknown, or for whom data were missing, resulted in the reduction of the effective sample size to 3,898. Attrition issues are further addressed in the results section. As the HRS contains an

oversampling of African Americans, Hispanics and Floridians, sample weights were applied to the analyses to adjust for unequal selection probabilities.

Measures

Variables of interest. The 1992 HRS respondents were asked several questions regarding work and retirement. Questions geared toward gauging worker's prospective plans for retirement were limited and focused on the timing and form of retirement. For the purpose of this analysis, we elected to utilize an inquiry about respondents plans regarding their employment status upon reaching a particular date or age to formulate the outcome variable 'onset of plans for retirement'. Specifically, respondents were asked - are you currently planning to stop working altogether or work fewer hours at a particular date or age, to change the kind of work you do when you reach a particular age, have you not given it much thought, or what? The full complement of responses to the question included: stop work altogether, never stop work, not given it much thought, no current plans, work fewer hours, change kind of work, work for myself, or other (i.e., go back to school). The precedent for use of this question to gauge pre-retiree engagement in informal retirement planning was established by Ekerdt et al. (2001). The two responses that indicated workers had not given much thought to retirement or had no current plans for retirement were coded zero (0) to indicate respondents had no plans for retirement. All other responses were coded to one (1) indicating respondents had informal plans in place for retirement. Ekerdt et al. (2001) further provide support for the 'never stop

working' response being appropriately categorized as a specific retirement intention rather than an indication of lack of retirement plans.

This question was repeated in subsequent waves of the HRS allowing for monitoring of the onset of plans for retirement over time. Worker responses indicating they had no plans for retirement in 1992 and 1994, but had plans for retirement in 1996, were subsequently coded (1) indicating the onset of plans for retirement as of that time of measurement. The same criteria were used for the 1998 data with responses indicating no plans for retirement in 1992, 1994 or 1996, but plans for retirement as of 1998 coded (1) indicating the onset of plans for retirement as of that wave of data.

Baseline measures. A description of predictor variables, coding, percents and means are presented in Table 9. Prior research suggests demographic and economic factors may play a role in propensity to plan for retirement and are included in the analysis; the descriptive statistics are at baseline (1992 wave of data). Working respondents ranged in age from 29-68. The range is broader than the focal range of 51 to 61 year olds initially targeted as a group of interest in the HRS, as the HRS also included respondent's spouses (if married) in the study, regardless of the spouse's age. Age was excluded from subsequent analyses in lieu of use of the variable number of years remaining until retirement, as the two factors were highly correlated ($r = -0.82$). Gender was recoded to a dichotomous variable with (1) indicating female and (0) indicating male.

Table 9. Description of the Sample, Percents and Means

Variables	Description/Coding	Percent	Mean (S.D.)
Demographic, Socioeconomic and Retirement Related Factors			
Age			54.23 (4.30)
Female	1 - yes; 0 – no	48.35	
African American	1 - yes; 0 – no	8.69	
Hispanic	1 - yes; 0 – no	4.43	
Education	Continuous; Range 0-17		13.01 (2.46)
Married	1 - yes; 0 - all others	80.43	
Assets	Continuous; Range 0-8; Count of type of assets owned including real estate, IRAs, stocks, bank accounts, certificates of deposit, bonds, trusts, or other assets		2.80 (1.50)
Pension	Are you included in a pension or retirement plan with current employer? 1 - yes; 0 – no	76.19	
Years Until Retirement	Continuous; Range 1-36 Years		9.08 (4.52)
Anticipate Health Problems	Chance health will limit work activity during the next ten years - greater than 38.5%; 1 - yes; 0 – no	54.27	
Baseline Health Factors			
Hypertension	Has a doctor ever told you that you have high blood pressure? 1- yes; 0 – no	33.28	
Diabetes	Has a doctor ever told you that you have diabetes? 1 - yes; 0 – no	6.79	
Cancer	Has a doctor ever told you that you have cancer? 1 - yes; 0 – no	4.02	
Heart Condition	Has a doctor ever told you that you had coronary heart disease, a heart attack, angina, congestive heart failure, or other heart problems? 1- yes; 0 – no	9.54	
Lung Disease	Not including asthma, has a doctor ever told you that you have lung disease, such as chronic bronchitis or emphysema? 1 - yes; 0 – no	4.88	
Stroke	Has a doctor ever told you that you had a stroke? 1 - yes; 0 – no	1.44	
Arthritis	Have you ever had, or has a doctor ever told you that you have, arthritis or rheumatism? 1 - yes; 0 – no	32.36	
Psychological Problems	Has a doctor ever told you that you had emotional, nervous or psychiatric problems? 1 - yes; 0 – no	7.20	
Functional Impairments	Continuous; Range 0-6; Count of number of activities that are difficult to perform, i.e., walking one block, pushing or pulling large objects, rising from a sitting position		0.35 (0.71)
Negative Affect	Continuous; Range 0-6; Count of positive responses to the following: During the past week I felt depressed, sad, lonely, could not get going, felt everything I did was an effort or my sleep was restless		1.77 (1.49)

Table 9 (Continued)

Decline in Health Between 1992 and 1994		
Increase in:		
Major Diseases	Number of major diseases including cancer, stroke, heart or lung disease is greater in 1994 than in 1992; 1 - yes; 0 – no	3.76
Chronic Conditions	Number of chronic conditions including hypertension, diabetes, arthritis or psychological problems is greater in 1994 than in 1992; 1 - yes; 0 – no	6.71
Functional Impairments	Number of functional impairments is greater in 1994 than in 1992; 1 – yes; 0 – no	34.00
Negative Affect	Negative affect score is greater in 1994 than in 1992 by more than one s.d. of the mean affect score in 1992; 1 – yes; 0 – no	4.30
Decline in Health Between 1992 and 1996		
Increase in:		
Major Diseases	Same as above; 1 - yes, count of major diseases is greater in 1996 than in 1992; 0 - no increase in number of diseases	8.68
Chronic Conditions	Same as above; 1 - yes, count of diseases is greater in 1996 than in 1992; 0 - no increase in number of diseases	22.34
Functional Impairments	Same as above; 1 - yes, count of functional impairments is greater in 1996 than in 1992; 0 - no increase in number of functional impairments	32.81
Negative Affect	Same as above; 1 - yes, increase in negative affect between 1992 and 1996; 0 - no increase in negative affect between 1992 and 1996	5.19

Two race/ethnic groups were identified as appropriate for inclusion in these analyses, non-Hispanic African Americans, and Hispanics, the referent group being non-Hispanic whites. Minority labor force and retirement experiences often differ from that of their white counterparts. Minority workers are more likely to experience life long patterns of work disruptions (Gibson, 1991), and are less likely to be employed in the years approaching retirement age, or to be employed in jobs with bridge characteristics, i.e., self employed, or employed part time on a new job (Quinn & Kozy, 1996). Minority workers are also more likely to exit the labor force early due to poor health (Wallace, 1991). These differential work force

experiences tend to result in a lack of identification with the retiree role (Gibson, 1991), with African Americans and Hispanics in particular, less likely to participate in retirement planning activities (Ferraro, 1990; Richardson, 1993).

Education, a continuous variable with a range of 0-17 years, was excluded from subsequent analyses due to a high correlation with assets ($r = 0.42$). Marital status often emerges as a significant predictor of retirement planning and only those responses indicating workers were married were coded one (1), with all other responses coded (0). Economic factors may also play a role in propensity to plan for retirement and this study included two indicators, assets and pension. The assets variable was constructed of a continuous count (0-8) of financial assets owned including real estate (other than primary residence), IRAs, stocks, bank accounts, certificates of deposit, bonds, trusts and other assets. Pension was based on a direct inquiry of whether respondents were included in a pension, retirement, or tax-deferred plan with their current employer.

Research suggests that individuals become increasingly engaged in retirement planning as the event draws near (Ekerdt, et al., 2000); thus, the number of years remaining until retirement is included in the analyses. The variable was calculated by subtracting chronological age as of the 1992 HRS questionnaire from what the respondent indicated was the usual age of retirement for workers in his or her respective occupation. As the literature suggests, poor health remains a significant factor in retirement decision-making, and may play a role in prompting individuals to plan for retirement. Workers in the HRS study sample were asked - what about the chances that your health will

limit your work activity during the next ten years? Response options ranged from zero indicating absolutely no chance to ten indicating respondents were absolutely certain health would limit their ability to work. Mean level of response to this inquiry was 3.85, thus, the variable was subsequently recoded such that responses of 3.85 or greater were coded (1) to indicate the respondent anticipated health related work limitations, and responses of less than four were coded (0) to indicate work limitations were not expected.

Three categories of health status variables are presented in Table 9, baseline health factors, increases in health problems between 1992 and 1994, and increases in health problems between 1992 and 1996. Baseline health status was assessed via presence of specific diseases or chronic conditions, number of functional impairments, and level of negative affect. Respondents were asked whether they have ever had, or whether a doctor ever told them they had hypertension, diabetes, cancer, lung disease, a heart condition, a stroke, psychological problems, or arthritis. The number of functional impairments, was assessed by a count (0-6) of the number of activities that respondents reported they had difficulty performing, including walking one block, getting up from a chair after sitting for two hours, climbing a flight of stairs without resting, extending their arms above shoulder level, pushing or pulling large objects, and stooping, kneeling or crouching.

Finally, given the relationship between emotional and physical health, particularly among older adults (Gall & Evans, 2000), a measure of negative

affect was included and assessed by using a count of depressive symptoms with zero being no negative affect and six being the highest rating of negative affect. This varies from the psychological problems inquiry in diseases and chronic conditions in that negative affect attempts to gauge level of depression, while the psychological problems inquiry specifies presence of emotional, nervous, or psychiatric problems. Specifically, respondents were asked whether during the past week, they had felt depressed, lonely, or sad, whether they felt that everything they did was an effort, and whether they had experienced restless sleep or had trouble 'getting going'. While additional questions were available as indicators of negative affect in the 1992 questionnaire, these six items were the only ones available in the 1994 and 1996 waves of data. Wave 1 responses of all or almost all of the time, most of the time, and some of the time were coded (1) as indicators of negative affect, while responses of none or almost none of the time were coded (0). In subsequent waves respondents were asked to think about the past week and indicate with a yes or no response whether much of the time they felt depressed, their rest was sleepless, etc. Positive responses were coded (1) as indicators of negative affect and negative responses were coded (0).

Time-varying covariates. Initial attempts were made at assessing changes to baseline health status by measuring individual disease or chronic condition onset between 1992 and 1994; however, an insufficient number of observations of the onset of several health conditions precluded use of this measure as a time varying covariate. Only 1.7% of respondents indicated they

developed diabetes between 1992 and 1994, 1.1% developed cancer and 2% indicated they had developed a heart condition.

Seeking to allow enough time to lapse for disease onset to occur, we extended the time frame for the occurrence of disease onset from baseline to the 1996 wave of data. This allowed four years rather than two for the onset of a disease or a chronic condition. Similarly, too few instances of onset of cancer, heart disease, stroke or psychological problems were evidenced to effectively analyze the 1992 to 1996 change data. Thus, changes to baseline health status between 1992 and 1994, as well as 1992 and 1996, were assessed by pooling diseases and chronic conditions into two categories, and then measuring declines in health status as evidenced by increases in major diseases and chronic conditions, increase in number of functional impairments and increase in negative affect over time.

Major diseases included cancer, stroke, and heart and lung disease. Chronic conditions included hypertension, diabetes, arthritis and psychological problems. If the count of major diseases reported by a respondent was greater in 1994 than at the baseline, then an increase in major diseases between Time 1 and Time 2 was coded (1); otherwise, an increase in major diseases was coded (0). Chronic conditions were coded likewise. Functional impairments at Time 1 were assessed by a count of activities respondents indicated were difficult to perform. If the count of functional impairments was greater in 1994 than at baseline, then the increase in functional impairments was coded (1), and otherwise coded (0). If the negative affect score at Time 2 (1994) was greater

than one standard deviation of the mean negative affect score at baseline, then an increase in negative affect was coded (1); if not, an increase in negative affect was coded (0). These same criteria were utilized when analyzing changes to health status between 1992 and 1996.

Statistical Analysis

The proposed analysis initiates efforts to better understand the relationship between health status and the propensity to plan for retirement by attempting to determine whether a decline in health status as measured by an increase in number of diseases or chronic conditions, increase in number of functional impairments, or decline in affect is associated with onset of plans for retirement. Logistic regression analysis was utilized to examine the probability of the onset of plans for retirement among workers in the 1992 wave of the HRS, while controlling for demographic, economic and retirement related factors typically associated with retirement planning, as well as baseline health status as measured by presence and number of diseases and chronic conditions, functional status and negative affect.

In each analysis Model 1 incorporated demographic, economic and retirement related factors, as well as baseline health measures. Model 2 added time varying covariates, which in the first analysis was represented by increased health problems between 1992 and 1994, and in the second analysis by increased health problems between 1992 and 1996. Time varying covariates included an increase in the number of major diseases, chronic conditions, or

functional impairments, and/or an increase in negative affect. The model described takes the form of: $\{\log (P/1-P) = \alpha + \beta_1 X_1 + \beta_2 TVC_2\}$ where P represents the probability of having no plans for retirement in 1992 and 1994, but plans for retirement in 1996 (i.e., onset on retirement planning), X_1 is a vector of demographic, economic, retirement related and baseline health status variables, and TVC is a vector of time-varying covariates between Time 1 (1992) and Time 2 (1994). The second set of logistic regression analyses were similarly structured; however P represents the probability of having no plans for retirement in 1992, 1994, and 1996, but plans for retirement in 1998, and TVC represents a vector of time-varying covariates between Time 1 (1992) and Time 3 (1996). Odds ratios with 95% confidence intervals are presented with significance levels. Model fit statistics are presented in the -2 Log Likelihood, the adjusted R-square, the receiver operating curve (roc) statistic and the Hosmer-Lemeshow test for model fit.

Results

The Sample

The sample was comprised of 3,898 working respondents who had not previously retired. Characteristics of the sample are detailed in Table 9. The mean age of sample respondents was 54 years. Females comprised 48% of the sample, 9% were African American and 4% were Hispanic. Mean education level was 13 years and 80% of workers reported they were married. Workers

reported an average of 2.8 assets owned and 76% indicated they were included in a pension or retirement plan with their current employer. On average, workers had an additional nine years remaining until reaching retirement age, and 54% anticipated health problems might limit their ability to work within the next ten years.

Among baseline measures of diseases or chronic conditions, workers most frequently cited having hypertension (33%) and arthritis (32%). Among major diseases, presence of a heart condition was most common, with 9.5% of respondents indicating they had some type of heart related problem. The rate of functional impairment was low with a mean number of impairments at less than one (0.35). Mean negative affect was 1.8 on a scale of 6.

Onset of Plans for Retirement

The percentage of respondents indicating they had plans for retirement in 1992 was 59%. In 1994 it was 64%, and in 1996, 61%. Of the roughly 40% of respondents without plans for retirement in 1992 and 1994, 5% indicated they had plans for retirement as of 1996. In 1998 that number was smaller, with only 3% of respondents without plans in 1992, 1994 and 1996, indicating that they had made plans by 1998.

These analyses attempted to determine whether health decline might have played a role in the change in status from having no plans for retirement to having plans for retirement. We hypothesized that individuals with declining health would be less likely to be motivated to plan for retirement than their

healthier counterparts and therefore less likely to experience the onset of plans for retirement over time than individuals in good health. Results of hierarchical logistic regression analyses are presented in Tables 10 and 11. Table 10 reflects the results of onset of plans in 1996, and Table 11 reflects the results of onset of plans in 1998.

In the results depicted in Table 10, the only variable significantly associated with onset of plans for retirement in 1996, was number of years remaining until retirement. The variable proved significant ($p \leq .01$) at the baseline measure as well as in Model 2 which included the time-varying covariates. With each additional year remaining until retirement, respondents were 6% more likely to experience the onset of plans for retirement between 1992 and 1996. Thus, presumably younger respondents, those with more time remaining until retirement were more likely to engage in planning in the time frame assessed. Despite the percent of respondents who experienced mild to moderate increases in the presence and number of major (3.8%) or chronic conditions (6.7%), equally moderate increases in negative affect (4.3%), and substantial increases in level of functional impairments (34%), none of these health related time varying covariates proved significant in the final analysis. While the successive models showed a slight decrease in the -2 Log Likelihood, the roc statistic indicated poor explanatory value of the model with an Adjusted R^2 of .03, and the Hosmer-Lemeshow test proved significant in the second model suggesting inadequate model fit.

Table 10. Logistic Regression Results on the Probability of Onset of Plans for Retirement Between 1992 And 1996

	Workers as of 1992 (n=3,898)					
	Model 1			Model 2		
	Odds Ratio		95% CI	Odds Ratio		95% CI
Female	1.13		(0.72, 1.78)	1.12		(0.71, 1.77)
African American	0.66		(0.31, 1.43)	0.67		(0.31, 1.44)
Hispanic	1.27		(0.51, 3.18)	1.26		(0.50, 3.17)
Married	0.69		(0.43, 1.10)	0.69		(0.43, 1.09)
Assets	0.94		(0.82, 1.09)	0.95		(0.82, 1.09)
Pension	1.03		(0.62, 1.70)	1.04		(0.62, 1.72)
Years Until Retirement	1.06	**	(1.02, 1.11)	1.06	**	(1.02, 1.11)
Anticipate Health Related Work Limitations	0.92		(0.60, 1.42)	0.92		(0.60, 1.41)
Baseline Health Status						
Hypertension	0.88		(0.55, 1.40)	0.85		(0.53, 1.36)
Diabetes	0.90		(0.37, 2.19)	0.89		(0.36, 2.17)
Cancer	0.74		(0.22, 2.43)	0.72		(0.22, 2.37)
Heart Condition	0.85		(0.39, 1.86)	0.83		(0.38, 1.82)
Lung Disease	1.34		(0.54, 3.31)	1.32		(0.53, 3.27)
Stroke	1.31		(0.24, 7.16)	1.29		(0.24, 7.10)
Arthritis	1.15		(0.73, 1.82)	1.09		(0.68, 1.75)
Psychological Problems	0.72		(0.30, 1.74)	0.69		(0.29, 1.68)
Functional Impairments	0.89		(0.66, 1.22)	0.90		(0.66, 1.23)
Negative Affect	0.93		(0.81, 1.07)	0.94		(0.82, 1.08)
Changes to Baseline Health Status						
Increase in Major Diseases				0.39		(0.08, 2.03)
Increase in Chronic Conditions				0.54		(0.19, 1.54)
Increase in Functional Impairments				1.04		(0.66, 1.64)
Deterioration in Affect				1.19		(0.46, 3.03)
-2 Log L	722.99			719.69		
Adj R^2	0.03			0.03		
C statistic	0.618			0.627		
H-L	5.160	p= .7404		15.978	p=.0427	

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Table 11. Results of Logistic Regression on the Probability of Onset of Plans for Retirement Between 1992 and 1998

	Workers as of 1992 (n=3,898)					
	Model 1			Model 2		
	Odds Ratio		95% CI	Odds Ratio		95% CI
Female	2.81	**	(1.45, 5.45)	2.91	**	(1.49, 5.67)
African American	1.41		(0.59, 3.36)	1.42		(0.60, 3.41)
Hispanic	1.16		(0.30, 4.48)	1.23		(0.32, 4.76)
Married	1.28		(0.66, 2.46)	1.27		(0.66, 2.46)
Assets	0.97		(0.79, 1.18)	0.95		(0.78, 1.17)
Pension	0.72		(0.38, 1.38)	0.73		(0.38, 1.40)
Years Until Retirement	1.01		(0.96, 1.08)	1.01		(0.95, 1.08)
Anticipate Health Related Work Limitations	0.90		(0.50, 1.62)	0.93		(0.51, 1.67)
Baseline Health Status						
Hypertension	1.14		(0.61, 2.12)	1.21		(0.65, 2.27)
Diabetes	0.42		(0.08, 2.22)	0.46		(0.09, 2.42)
Cancer	1.87		(0.63, 5.54)	1.89		(0.63, 5.69)
Heart Condition	0.78		(0.24, 2.49)	0.79		(0.24, 2.52)
Lung Disease	0.70		(0.13, 3.67)	0.77		(0.14, 4.09)
Stroke	0.76		(0.04, 13.20)	0.85		(0.05, 14.74)
Arthritis	0.72		(0.37, 1.40)	0.80		(0.41, 1.59)
Psychological Problems	0.89		(0.28, 2.81)	1.02		(0.32, 3.27)
Functional Impairments	0.97		(0.64, 1.45)	0.95		(0.64, 1.42)
Negative Affect	0.99		(0.83, 1.19)	0.98		(0.82, 1.18)
Changes to Baseline Health Status						
Increase in Major Diseases				0.27		(0.04, 1.97)
Increase in Chronic Conditions				1.00		(0.47, 2.10)
Increase in Functional Impairments				0.57		(0.28, 1.15)
Deterioration in Affect				0.34		(0.04, 2.55)
-2 Log L	426.15			418.45		
Adj R^2	0.05			0.07		
C statistic	0.663			0.707		
H-L	9.581	p= .2957		9.654	p= .2902	

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

The results depicted in Table 11 are for onset of plans for retirement as of 1998. The only variable that proved significant in the analyses was gender. Gender was significantly ($p \leq .01$) associated with onset of plans at the baseline measure with females 2.8 times more likely to initiate plans than males. The inclusion of the time-varying covariates resulted in little change in Model 2 where females were 2.9 times more likely than males ($p \leq .01$) to have initiated plans for retirement by 1998. As in the previous analysis, health factors proved insignificant despite more substantial increases in health problems. Nine percent of respondents reported an increase in major diseases and 22% an increase in chronic conditions over baseline. Negative affect increased in 5% of respondents and 33% reported an increase in functional impairments. The models showed a decrease in the -2 Log Likelihood, the adjusted R-square and roc statistic indicated reasonable explanatory value of the model with 7% of variance accounted for and the Hosmer-Lemeshow test indicated good model fit.

Alternative models were run to verify the results. These included varying the grouping of diseases and chronic conditions such that: 1) only those diseases and chronic conditions in which there were sufficient cases of onset were included in the models; 2) diseases and chronic conditions in which there were sufficient cases of onset were included individually and those in which there were insufficient cases of onset were grouped together as one or more variables; and 3) diseases and chronic conditions were paired such that stroke and cancer comprised one variable, heart and lung disease another variable, etc. In no alternative model did the results vary.

Attrition

As of 1998, 3.96% of the sample had died (n = 196). Assessment of the baseline statistics associated with the deceased revealed the following. The deceased were more likely to be male, to be slightly older than the sample (1.9 years older), slightly less educated (12.1 versus 13 years), and in possession of slightly fewer assets (2.3 versus 2.8). From a health perspective, the deceased had higher rates of functional impairments and higher negative affect scores on average than the sample. Results of chi-square tests of significance revealed the deceased were more likely to anticipate retirement due to health limitations, to have hypertension, diabetes, a heart condition, lung disease and to have had either a stroke or cancer. Clearly, poorer health was implicated in attrition due to death; however, at baseline, none of these respondents had plans for retirement. Too few respondents entered a nursing home over the study period to analyze differences in baseline characteristics (n = 4).

Attrition due to retirement was also assessed. As of 1998 26.4% of the sample had retired. Multivariate analyses were conducted without retirees included in the sample and the results did not vary from those presented in which retirees were included in the sample.

Discussion

Results of these analyses are sparse; however, neither analysis lends support to the hypothesis that individuals in declining health are any more likely

to initiate retirement planning efforts than individuals in comparatively good health. Thus, while poor health is a push factor in retirement decision-making, it does not appear to be a push factor in retirement planning. What constitutes a push or pull factor is dependent upon an individual's perception of their particular circumstances (Shultz et al., 1998). While retirement due to poor health is involuntary, and may impact attitudes about retirement pre and post event, the upside to retirement due to poor health i.e., the pull factor, might include, for example, the anticipation of release from the stressors of work, or increased leisure time to focus on improving health. Such pull factors might offset some of the negative aspects of retirement due to poor health, and provide motivation for those in poor health to plan for retirement in numbers equal to their healthy peers.

Findings that suggest a relationship between number of years remaining until retirement and propensity to plan for retirement are consistent with Ekerdt's theory of a normative and extended period of pre-retirement planning (Ekerdt et al., 2000). Of interest in particular, was that the number of years remaining until retirement was positively associated with the onset of retirement planning as of 1996. Thus, individuals furthest from retirement were more likely to begin planning for retirement than those with fewer years remaining until retirement.

In the 1998 analysis number of years remaining until retirement was no longer a significant predictor of plan onset, but gender was, with females more likely than males to have plans for retirement as of 1998. One explanation for this might be that females in the study sample were 2.5 years younger on

average than males. That translated to 59 years of age on average for women in 1998, and 61.4 years of age for men, putting males right on the brink of traditional retirement age, and affording little time to initiate planning for retirement.

Finally, few respondents in the current analysis experienced plan onset: 5% as of 1996, and 3% as of 1998. The percentage of respondents indicating they had no plans for retirement in 1992, 1994, 1996 and 1998, hovered consistently at 40%. For many older workers, a lack of, or uncertain plans for retirement is a bona fide approach to retirement (Ekerdt et al., 2001). Given the mean age of respondents in this study, those who intended to plan for retirement theoretically would have implemented plans during the time frame studied; respondents who did not implement plans for retirement over the study duration may exemplify those non planners as described by Ekerdt.

Comparisons of baseline characteristics of planners and non-planners revealed few differences, with non-planners more likely to be younger, female and to have fewer assets when compared to respondents with plans for retirement. No health differentials were apparent. This suggests that the propensity to plan for retirement may be largely driven by age or time to retirement, socioeconomic factors, and/or some yet to be ascertained factor or factors.

In any study using secondary data, lack of control over study design and measures imposes limitations on the nature of research questions posited. The primary limitation in this study is a reliance on one question regarding informal

plans for retirement to formulate the outcome variable, onset of plans for retirement. Ideally, a more thorough protocol would address plans for retirement from multiple perspectives, and factor in the relative significance of formal planning for retirement.

Health remains a significant but complex component in retirement decision-making. While the results of this particular analysis do not support the role health supposedly plays in retirement planning, it may be owing to other equally complex factors in retirement planning. A number of studies have assessed the relative influence of push and pull factors such as work and finances, familial circumstances, and social and leisure activities on retirement decision-making; yet, far fewer studies have attempted to incorporate these factors into studies aimed at analyzing propensity to plan for retirement. In light of the increased emphasis on individual responsibility for ensuring a secure retirement, continued research should focus on understanding the determinants of retirement planning with a goal of finding ways to motivate individuals, particularly those most in need of doing so, to plan for retirement.

Chapter Four

Is Retirement Planning Good for Your Health?

Abstract

Retirement planning is commonly associated with economic advantages in retirement; however, a body of literature suggests retirement planning may also provide psychological benefits in retirement. Given that emotional and physical health are closely related, especially among older adults (Gall & Evans, 2000), this study sought to determine whether retirement planning might also play a role in influencing physical health outcomes. Utilizing data from the Health and Retirement Study, the study tracked workers from wave one (1992) through wave four (1998) to determine whether respondents who had formal or informal plans for retirement experienced better health outcomes over time. Results of hierarchical logistic regression analysis revealed that formal retirement planning was positively associated with self-rated health over time; however, informal retirement planning was positively associated with the development of functional impairments over time. Neither mode of planning demonstrated a relationship to ADL impairment or death over time. Additional cross section analysis examined the relationship between health promoting activities and retirement planning;

results suggest non-smokers and individuals with health insurance were more likely to have planned formally and informally for retirement.

Introduction

Few would question the economic benefits of planning for retirement; however, the retirement planning literature suggests additional benefits may be realized through planning, particularly as they pertain to psychological well-being and life satisfaction in retirement. Given that emotional and physical health are closely related, especially among older adults (Gall & Evans, 2000), retirement planning may play a role in influencing physical health. This study explores the relationship of retirement planning and physical health by attempting to determine whether planners are more likely to engage in health promoting behaviors than non-planners and by examining the long-range physical health outcomes of planners to determine if individuals who plan for retirement experience better long-term health outcomes than their non-planning peers.

Retirement is a significant developmental transition characterized by several tasks, including the development of a sense of health maintenance (Antonovsky & Sagy, 1990). Pre-retirees engaged in normative, informal, retirement planning processes as described by Ekerdt, Kosloski, & DeViney (2000) are likely to factor in to consideration current and anticipated health status in retirement. Effective planning may improve the odds of realizing long-term health benefits by increasing an individual's sense of retirement self-efficacy,

promoting engagement in healthful behaviors, and/or encouraging the acquisition or retention of adequate health and long-term care insurance coverage in retirement. Retirement planning viewed from this perspective is best described as an educational intervention. Several health models provide support for the potential role of retirement planning in health outcomes.

Background

Retirement Planning

Formal planning for retirement typically encompasses financial planning for retirement, individually or with the assistance of a financial advisor, and education oriented programs, particularly employer sponsored retirement planning programs. Limitations associated with measuring outcomes of formal retirement planning include variations in timing and length of formal planning programs, variations in participation criterion and a self-selection bias among program participants. Informal retirement planning is described as having the intention to retire, thinking about retirement, and talking or reading about retirement (Ekerdt, Kosloski, & DeViney, 2000). Outcomes associated with informal retirement planning are equally difficult to measure. Despite limitations associated with either mode of planning, outcomes associated with retirement planning are consistently positive.

Retirement planning has, for example, been associated with successful adjustment to retirement (Lo & Brown, 1999), increased satisfaction with

retirement over time (Kamouri & Cavanaugh, 1986), and post retirement life satisfaction and social adjustment (Lynch, 1997). Early retirees who participated in retirement planning programs reported experiencing higher levels of quality of life (Maule, Cliff, & Taylor, 1996), and decreased psychological distress (Sharpely & Layton, 1998). Mutran, Reitzes, & Fernandez (1997) found pre-retirees active in the retirement planning process possessed more positive attitudes about retirement.

Health and Retirement

Retirement in and of itself, does not appear to impact health status (Palmore, Fillenbaum, & George, 1984; Shaw, Patterson, Semple, & Grant, 1998); however, poor health continues to play an important role in retirement decision-making (Sammartino, 1987; Sherman, 1985). Health status as it relates to retirement decision-making is a complex matter, subject to influence by external factors and individual interpretation (Henretta, Chan, & O'Rand, 1992; Mutchler, Burr, Massagli, & Pienta, 1999). Disabilities vary, as do individual perceptions of the severity of any given disability (Dwyer & Mitchell, 1999); however, earlier diagnosis, disease accommodation, and increased social support for the disabled may enable those diagnosed with chronic conditions to function more effectively (Verbrugge, 1984). Retirement is but one outcome of poor health. Many workers in poor health continue to work (Myers, 1983), selecting employment that may be more suitable in light of their health limitations,

i.e., a less physically or mentally demanding job, or a job with fewer or more flexible work hours (Richardson, 1993).

Individuals who report they retired due to poor health often have other significant reasons for retiring. Mutchler, Burr, Massagli, & Pienta (1999), for example, found respondents who indicated they retired due to poor health were more likely to be older, to have a non working spouse, and an increased opportunity for non-work related income. Ex post rationalizations of retirement decisions may also be significant in assessing health as a reason to retire. For example, Bazzoli (1985) found that study respondents who indicated that the decision to retire was influenced by several factors at the time of retirement, later reported (post-retirement) that poor health was the most significant reason for retiring. Retirement due to poor health is a socially acceptable rationale for retirement, more so perhaps than retirement due to job stress, or a spouse's retirement. Similarly, Shultz, Morton, & Weckerle (1998) examined the relative influence of negative, or 'push' factors such as poor health, and positive, or 'pull' factors such as a desire for leisure, on retirement decision-making and found push factors were the more salient variables after retirement.

Health is often cited as a singularly significant factor in retirement decision-making; however, health status demonstrates a degree of elasticity in relation to retirement, subject to influence by a broader spectrum of considerations, including, but not limited to the nature and severity of health problems, the social acceptability of health as a reason for retirement, financial, and familial circumstances. If health status is elastic, then retirement planning,

couched as an educational intervention, may play a role in influencing health status, with planners experiencing better health over time than non-planners.

Health Models

Several health models, including health promotion, health care utilization, and disablement process models lend themselves to the inclusion of retirement planning as a factor that may potentially influence health status. Health promotion models focus on pre-need, emphasizing the use of education oriented interventions to promote healthful behaviors at the individual, population-based and macro levels (Orleans, 2000). Individual level interventions may include individual counseling, health education and behavioral interventions designed for those at risk, or already experiencing disease or chronic conditions, while population-based applications may take the form of the inclusion of health promotion or disease prevention information in work or community based settings (Orleans, 2000). Companies might for example, offer health screenings, or reduced rate health club memberships as a benefit to their employees. At the macro-level, initiatives might take the form of public education, or policy incentives that support healthful behaviors, such as increased excise taxes on tobacco or alcohol products, or in the case of retirement planning, tax incentives for companies that provide retirement planning programs for their employees.

Retirement planning, similarly characterized as an education-oriented intervention, may influence health care utilization as proposed by the Andersen model of health care utilization. The model integrates predisposing, enabling and

need characteristics to explain health care use (Krause, 1990). Factors predisposing individuals to health care use include demographic characteristics, social structure, and health beliefs. Enabling characteristics include income, health insurance, and access to regular sources of health care. Need characteristics include illness or the possibility of illness.

Analysis by Wolinsky & Johnson (1991) found that need is the most significant predictor of health care utilization. If utilization is driven by need, then prevention is the key. At-risk populations, identified by predisposing demographic or social structure characteristics, might benefit from education oriented interventions that encourage health promoting behaviors. Taylor & Shore (1995) suggest that retirement planning may increase retirement self-efficacy, the belief in one's ability to successfully adjust to retirement. Retirement self-efficacy may in turn boost health self-efficacy, as comprehensive retirement planning programs incorporate information on health in retirement (Dennis, 1984). Ideally, health information imparted in retirement education programs would expand beyond the basics of Medicare eligibility and coverage to emphasize the benefits of health promoting behaviors, and to the extent that participants are financially able to do so, of obtaining or retaining supplemental health and long-term care insurance coverage in retirement.

Alternately, Collins, Estes, & Bradsher (2001) suggest that improving the financial circumstances of older adults may be the most beneficial health policy strategy. If retirement planning does not directly influence health outcomes, then it may indirectly influence health outcomes by improving the financial status of

retirement planning participants, thereby enabling them to have greater access to appropriate health care. While health promotion and health care utilization models capture the potential benefits of retirement planning from a formal or education oriented perspective, neither adequately addresses the implications for informal retirement planning.

By contrast, Verbrugge and Jette's model of disablement (1994) allows for consideration of the potential impact of informal retirement planning on health in retirement. The authors suggest that the disablement pathway begins with pathology, which leads to impairment, functional limitations, and ultimately, disability. Factors such as demographic, social and lifestyle characteristics may predispose individuals to risk of functional limitations and disability. Disability represents the gap between personal capability and environmental demands, and it results when no extra or intra individual factors intervene in the disablement process. Dysfunction may be delayed or reversed by extra individual factors such as medical or rehabilitative care, medications, assistive devices and external supports, or by intra individual factors including lifestyle, behavioral and psycho-social attributes, coping mechanisms and activity accommodation (Verbrugge & Jette, 1994).

Within the context of retirement planning, formal planning may play an influential role in enhancing both extra and intra individual factors, while informal planning is likely to have a greater influence on intra individual factors including lifestyle or behavioral changes, increased retirement self-efficacy (coping mechanisms), or activity accommodation via the acquisition of a less physically

or emotionally demanding job. Individuals who plan for retirement may be more capable of addressing personal capability versus environmental gaps, as retirement planning constitutes strategic planning, and individuals who anticipate and plan for the contingencies of later life should be better able to cope with aging related challenges.

Conceptual Model

Utilizing the model proposed by Verbrugge and Jette (1994) as a guideline, a simplified version of the model is represented by Figure 2.

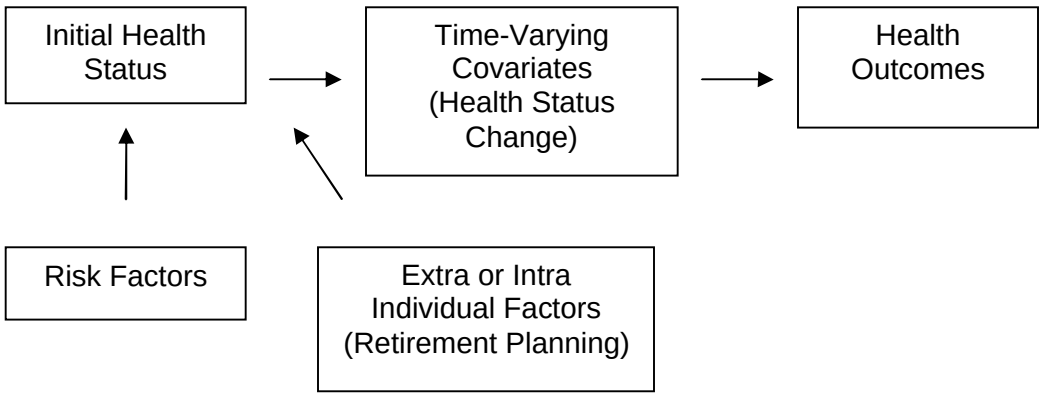

Figure 2. Model of Retirement Planning and Health Outcomes

The model depicts the conceptual framework for the proposed analysis. As the focal point of this study is the relationship between retirement planning and physical health outcomes, initial health status is a key model component. Additionally, there are risk factors thought to deter individuals from planning for retirement such as demographic characteristics. The model incorporates health

status changes over time, and retirement planning as an extra or intra individual factor that might influence health outcomes. Thus, the analysis will examine health outcomes attributable to retirement planning, couched as an extra or intra individual factor, while controlling for initial health status, associated risk factors and health status changes over time.

Partial support for the hypothesis that retirement planning may be associated with physical health outcomes derives from preliminary cross sectional analyses that examined the physical and emotional health status of retirees who planned for retirement versus retirees who did not plan for retirement (Albert & Reynolds, 2002). Results suggested that retirement planning was positively associated with self-rated emotional and physical health among retirees who had engaged in both formal and informal modes of retirement planning. The proposed study will expand significantly on the findings regarding the relationship between retirement planning and physical health status over time, while controlling for demographic factors and baseline physical health status.

Based on the literature, the following research questions and hypotheses are posited:

Research Question 1: Are workers who reported they have plans for retirement more likely to participate in health promoting behaviors than workers who have not planned for retirement?

Hypothesis 1: It is anticipated that workers who engaged in retirement planning are more likely to participate in health promoting behaviors than non-planners.

Research Question 2: Are workers who report they have plans for retirement more likely to experience positive long-term physical health outcomes when compared with workers who did not plan for retirement?

Hypothesis 2: It is anticipated that retirement planning will be positively associated with perceived health status over time; however, it is not expected that retirement planning will demonstrate any influence on more significant health outcomes such as the rates of death between planners and non-planners.

Methods

Data

Data for the analyses were drawn from the first four waves (1992-1998) of the Health and Retirement Study (HRS). The HRS is a nationally representative panel survey of the health and economic status of individuals ages 51 to 61 and their spouses, regardless of the spouse's age (Juster & Suzman, 1995). The initial sample was comprised of 12,652 respondents in 7,000 households. The HRS contains an over sampling of African Americans, Hispanics and Floridians and sample weights were applied to the analyses to adjust for unequal selection probabilities. The sample of interest for the purpose of this study was comprised of the 8,003 respondents who indicated that they were working as of 1992. The

sample was reduced by excluding respondents who had previously retired, died or entered a nursing home over the time period assessed. Further, observations with missing data for the response or explanatory variables were deleted from the analyses resulting in final samples sizes of 2,573 and 2,574 for the logistic regression analyses on the probability of formal or informal plans for retirement, respectively, and 5,031 for the logistic regression analyses on the probability of self-rated health, functional impairment and ADL impairment. Attrition due to death between 1992 and 1998 is addressed as an outcome variable in the results section (n=6,379). Attempts were made to analyze attrition due to nursing home placement, however, only four sample respondents were placed in a nursing home during the 1992 to 1998 study time frame.

Measures

Outcome variables. In the first analysis, formal and informal plans for retirement were outcome variables; in the second analysis they were predictor variables. Worker engagement in formal retirement planning efforts was gauged by responses to the question - have you ever attended any meetings on retirement or retirement planning? Positive responses were coded (1) indicating the respondent had participated in formal planning for retirement. Three questions were posed that assessed engagement in informal retirement planning. They included: 1) how much have you thought about retirement; 2) how much have you discussed retirement with your husband/wife/partner; and, 3) how much have you discussed retirement with your friends and co-workers.

Response options included ‘a lot’, ‘some’, ‘a little’, and ‘hardly at all’. Responses were recoded to dichotomous variables, with responses of ‘a lot’ and ‘some’, recoded to (1) indicating the respondent participated in informal retirement planning, and responses of ‘a little’ and ‘hardly at all’, recoded to (0) indicating they did not. A positive response to any one or more of the three questions was subsequently coded to indicate the respondent participated in some form of informal planning for retirement.

Health outcomes assessed included self-rated health, presence of functional impairments, presence of activity of daily living (ADL) impairments, and death as of 1998. Responses indicating that workers rated their physical health as good, very good or excellent in 1998 were coded (1); those indicating fair or poor self-rated health were coded (0). Responses indicating that workers had any functional impairments in 1998, as measured by difficulty walking one block, getting up from a chair after sitting for two hours, climbing a flight of stairs without resting, extending their arms above shoulder level, pushing or pulling large objects, or stooping, kneeling or crouching were coded (1). Similarly, responses indicating workers had difficulties with any ADL activity in 1998 including eating, dressing, bathing, or transferring to and from bed were coded (1). Responses indicating no functional impairments or no difficulty with ADL activities were coded (0). Death as of any HRS measurement date, up to and including 1998, was assessed in the longitudinal analysis.

Table 12. Description of the Sample, Percents and Means

Variables	Description/Coding	Percent	Mean (S.D.)
Age	Continuous; Range 26-82		54.67(4.45)
Female	1 - yes; 0 – no	50.14	
African American	1 - yes; 0 – no	9.94	
Hispanic	1 - yes; 0 – no	5.12	
Education	Continuous; Range 0-17		12.74 (2.50)
Married	1 - yes; 0 - all others	79.40	
Plans for Retirement			
Formal Plans	Have you ever attended any meetings on retirement or retirement planning? 1 - yes; 0 – no	18.05	
Informal Plans	How much have you thought about retirement, or discussed retirement with your spouse or co-workers? 1 - a lot or some; 0 - a little or hardly at all	63.72	
Health Promotion			
Non-Smoker	Do you smoke cigarettes now? 1 - no; 0 – yes	59.58	
Moderate Alcohol Intake	Have you ever felt you should cut down on your drinking? 1 - no; 0 – yes	81.62	
Regular Exercise	How often do you participate in light physical activity such as walking, dancing, gardening, golfing, bowling, etc.? 1 - once a week or more; 0 - once a month or less	75.67	
Health Insurance	Are you currently covered by any federal government health insurance programs? Or, do you have health insurance coverage through your employer (or spouse's employer), former employer or union? 1 - yes; 0 – no	82.55	
Supplemental Insurance	Do you have any type of health insurance coverage, Medigap or other supplemental coverage, or long-term care insurance? 1 - yes; 0 – no	17.51	
Life Insurance	Do you have any life insurance, including individual or group policies? 1 - yes; 0 – no	80.66	
Baseline Health Factors			
Hypertension	Has a doctor ever told you that you have high blood pressure? 1 - yes; 0 – no	32.98	
Diabetes	Has a doctor ever told you that you have diabetes? 1 - yes; 0 – no	7.45	
Cancer	Has a doctor ever told you that you have cancer? 1 - yes; 0 - no	4.63	
Heart Disease	Has a doctor ever told you that you had coronary heart disease, a heart attack, angina, congestive heart failure, or other heart problems? 1 – yes; 0 – no	9.87	
Lung Disease	Not including asthma, has a doctor ever told you that you have lung disease such as chronic bronchitis or emphysema? 1 - yes; 0 – no	5.76	
Stroke	Has a doctor ever told you that you had a stroke? 1 - yes; 0 - no	1.32	

Table 12 (Continued)

Arthritis	Have you ever had, or has a doctor ever told you that you have, arthritis or rheumatism? 1 - yes; 0 – no	32.49	
Psychological Problems	Has a doctor ever told you that you had emotional, nervous or psychiatric problems? 1 - yes; 0 – no	7.03	
Functional Impairments	Continuous; Range 0-6; Count of number of activities that are difficult to perform, i.e., walking one block, pushing or pulling large objects, rising from a sitting position		0.37 (0.74)
Activities of Daily Living	Continuous; Range 0-4; Count of number of activities of daily living that are difficult to perform, including dressing, bathing, eating or transferring to and from bed		0.02 (0.14)
Negative Affect	Continuous; Range 0-6; Count of positive responses to the following: During the past week I felt depressed, sad, lonely, could not get going, felt everything I did was an effort or my sleep was restless		1.83 (1.51)
Changes to Baseline Health Between 1992 and 1996			
Increase in:			
Major Diseases	Number of major diseases including cancer, stroke, heart, or lung disease is greater in 1996 than in 1992; 1 - yes; 0 – no	22.01	
Chronic Conditions	Number of chronic conditions including hypertension, diabetes, arthritis, or psychological problems is greater in 1996 than in 1992; 1 - yes; 0 – no	35.60	
Functional Impairments	Number of functional impairments is greater in 1996 than in 1992; 1 - yes; 0 – no	29.92	
Difficulty with Activities of Daily Living	Number of activities of daily living that are difficult to perform is greater in 1996 than in 1992; 1 – yes; 0 – no	4.10	
Negative Affect	Negative affect score is greater in 1996 than in 1992 by more than one s.d. of the mean affect score in 1992; 1 - yes; 0 – no	4.39	

Variables of interest. A description of predictor variables, coding, percents and means are presented in Table 12. Descriptive statistics are as of the baseline measurement (1992 wave of data). Working respondents who reported that they had not previously retired ranged in age from 26 – 82. The range is broader than the focal range of 51 to 61 year olds initially targeted as a group of interest in the HRS, as the HRS also included respondent's spouses (if married)

in the study, regardless of the spouse's age. Gender was recoded to a dichotomous variable with (1) indicating female and (0) indicating male.

Two race/ethnic groups were identified as appropriate for inclusion in these analyses, non-Hispanic African Americans, and Hispanics, the referent group being non-Hispanic whites. Minority labor force and retirement experiences often differ from that of their white counterparts resulting in a lack of identification with the retiree role (Gibson, 1991). African Americans and Hispanics in particular, are less likely to participate in retirement planning activities (Ferraro, 1990; Richardson, 1993). Minority workers are more likely to be adversely impacted by poor health, with early retirement due to poor health more common among minorities than among white workers. Older African Americans, for example, are two to three times more likely than older whites to cite health as the reason for not being in the labor force (Wallace, 1991).

Education, a factor that has demonstrated a relationship to both retirement planning participation and health outcomes, was a continuous variable with a range of 0-17 years. Marital status often emerges as a significant predictor of retirement planning and only those responses indicating workers were married were coded one (1), with all other responses coded (0). As previously discussed, retirement planning was incorporated as a predictor variable in the second set of analyses which examined health outcomes over time.

Health promotion. Several factors were selected to assess worker engagement in health promoting behaviors including being a non-smoker, moderate alcohol intake, and engaging in some level of regular exercise. HRS

respondents were asked if they currently smoked cigarettes, and if they ever felt that they should cut down on their drinking. Negative responses to both questions were coded (1). Respondents were also asked about exercise habits, specifically, how often they participated in light physical activity such as walking, dancing, gardening, golfing, etc. Response options indicating that workers engaged in light physical exercise at least once a week were coded (1). Responses indicating that workers participated in light exercise once a month or less were coded (0).

Health insurance coverage implies ready access to health care; thus, it was included in the analysis as a health promotion or disease prevention factor. Supplemental insurance incorporates coverage for health insurance gaps, and/or long-term care insurance. Possession of either augments the health care access continuum. Finally, possession of life insurance may be indicative long-range health planning, hence, its inclusion in the health promotion analysis. HRS respondents were asked whether they had health insurance coverage through a government program or an employer, whether they had supplemental or long-term care insurance, and whether they had life insurance. Positive responses to each were coded (1) indicating possession of the respective insurance.

Baseline health factors. Two distinct categories of health status variables are presented in Table 12, baseline health factors and changes to baseline health status as measured by declines in health status between 1992 and 1996. Baseline health status was assessed via presence of specific diseases or chronic conditions, number of functional and activity of daily living impairments, and level

of negative affect. Respondents were asked whether they had ever had, or whether a doctor had ever told them that they had hypertension, diabetes, cancer, a heart condition, lung disease, a stroke, arthritis or psychological problems. The baseline number of functional impairments was assessed by a count (0-6) of the number of functional activities that respondents reported that they had difficulty performing. Baseline number of activity of daily living (ADL) impairments was similarly assessed by a count (0-4) of activities that respondents reported that they had difficultly performing independently.

Given the relationship between emotional and physical health, particularly among older adults (Gall & Evans, 2000), a measure of negative affect was included and assessed by using a count of depressive symptoms with zero being no negative affect and six being the highest rating of negative affect. This varies from the psychological problems inquiry among diseases and chronic conditions in that negative affect attempts to gauge level of depression, while psychological problems refers more generally to the presence of emotional, nervous, or psychiatric problems. With reference to negative affect, respondents were asked whether during the past week, they had felt depressed, lonely, or sad, whether they felt that everything they did was an effort, and whether they had experienced restless sleep or had trouble 'getting going'. While additional questions were available as indicators of negative affect in the 1992 questionnaire, these six items were the only ones available in the 1994 and 1996 waves of data. Wave 1 responses of all or almost all of the time, most of the time, and some of the time were coded (1) as indicators of negative affect, while

responses of none or almost none of the time were coded (0). In subsequent waves respondents were asked whether they had experienced any negative affect indicators during much of the past week. Positive responses were coded (1) as indicators of negative affect and negative responses were coded (0).

Changes to baseline health status. Changes to baseline health status between 1992 and 1996, were assessed by pooling diseases and chronic conditions into two categories of four major diseases and four chronic conditions, and then measuring declines in health status as evidenced by an increase in the number of major diseases and chronic conditions, increase in the number of functional impairments or difficulties with activities of daily living, and increase in negative affect between 1992 and 1996. Major diseases included cancer, stroke, and heart and lung disease. Chronic conditions included hypertension, diabetes, arthritis and psychological problems. If the count of major diseases reported by a respondent was greater in 1996 than in 1992, then an increase in major diseases was coded (1); otherwise, an increase in major diseases was coded (0). Chronic conditions were likewise coded. Functional and ADL impairments in 1992 were assessed by a count of the activities respondents indicated they had difficulty performing. If the count of functional or ADL impairments was greater in 1996 than in 1992, then an increase in functional or ADL impairments was coded (1), and otherwise coded (0). If the respondent's negative affect score in 1996 was greater than one standard deviation of the mean negative affect score in 1992, then an increase in negative affect was coded (1); if not, an increase in negative affect was coded (0).

Statistical Analysis

The proposed analysis sought first to determine whether workers who planned for retirement were more likely to engage in health promoting behaviors, and second, whether retirement planning was associated with positive health outcomes over time. Logistic regression analysis was utilized in both analyses.

In the first analysis, Model 1 incorporated demographic variables, Model 2 added health promotion factors, and Model 3 added health and life insurance characteristics. The final model in the health promotion logistic regression analysis took the form of: $\{\log (P/1-P) = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3\}$, where P represented the probability of having engaged in either formal or informal retirement planning as of 1992, X_1 is a vector of demographic variables, X_2 represents the addition of health promotion factors, and X_3 the addition of health and life insurance variables. Odds ratios with 95% confidence intervals are presented with significance levels. Model fit statistics are presented in the -2 Log Likelihood, the adjusted R-square, the receiver operating curve (roc) statistic, and the Hosmer-Lemeshow test for model fit.

In the second analysis, Model 1 incorporated demographic variables, retirement plans and baseline health measures. Model 2 added time varying covariates, which were represented by increased health problems between 1992 and 1996. The time varying covariates applied to each analysis varied by outcome, but generally included an increase in the number of major diseases or chronic conditions, functional or ADL impairments, and/or an increase in negative affect. The model described takes the form of: $\{\log (P/1-P) = \alpha + \beta_1 X_1 + \beta_2 TVC_2\}$

where P represents the probability of a specific health outcome in 1998, including self-rated health, functional impairments, ADL impairments, and death, X_1 is a vector of demographic, retirement plan and baseline health status factors, and TVC is the vector of time-varying covariates, or an increase in health problems between 1992 and 1996. Results for demographic, baseline health and time-varying covariates, while included in each analysis, are not presented as the focal point of the analyses was the relationship between retirement planning and specific health outcomes. Results for formal and informal retirement planning are presented in the form of odds ratios with 95% confidence intervals and significance levels.

Results

The Sample

Characteristics of the sample are detailed in Table 12. Responses are weighted. The mean age of worker respondents was 55 years. Females comprised 50% of the sample, 10% were African American and 5% were Hispanic. Mean education level was 12.7 years. Seventy-nine percent of workers were married. Eighteen percent of respondents indicated that they had formally planned for retirement, while 64% indicated that they had informally planned for retirement. With reference to health promoting behaviors, 60% of workers indicated that they were non-smokers, 82% reported that they had never felt that they needed to cut down on their drinking, and 76% participated in light, but

regular physical exercise. Eighty-three percent of workers reported that they had health insurance coverage through an employer or a government program, 18% reported having some form of supplemental health insurance, and 81% had life insurance.

Of the eight diseases and chronic conditions assessed at baseline, approximately 33% of respondents reported that they had hypertension and the same percentage reported that they had arthritis. Ten percent of respondents reported that they had some form of heart disease. Workers were minimally impacted by functional of ADL impairments, and averaged 1.8 on a scale of 6 for negative affect.

Health Promotion

The first hypothesis suggested that workers who planned for retirement would be more likely to engage in health promoting behaviors. Results of the final formal and informal plan models are presented in Table 13. Results are weighted, and deletion of observations due to missing values for the response or explanatory variables reduced the final sample to 2,573 for formal plans for retirement and 2,574 for informal plans for retirement.

Of the demographic characteristics included in the analysis, workers who were older and workers with higher levels of education were more likely to have planned formally and informally for retirement. In both instances, each additional year of age increased the likelihood of having formally or informally planned for retirement by 3%. Each additional year of education increased the likelihood of

having formally planned for retirement by 24% and informally planned for retirement by 9%. In addition, workers who were married were almost 1.5 times more likely to have informal plans for retirement.

Table 13. Logistic Regression Results for the Probability of Planning for Retirement Among Workers: Health Promotion

	Formal Plans (n=2,573)			Informal Plans (n=2,574)		
	Odds Ratio		95% CI	Odds Ratio		95% CI
Age	1.03	*	(1.00, 1.06)	1.03	*	(1.00, 1.05)
Female	1.15		(0.87, 1.51)	0.86		(0.69, 1.06)
African American	1.26		(0.85, 1.86)	0.97		(0.72, 1.31)
Hispanic	1.04		(0.53, 2.06)	0.77		(0.49, 1.18)
Education	1.24	***	(1.18, 1.30)	1.09	***	(1.05, 1.13)
Married	1.27		(0.95, 1.70)	1.45	***	(1.17, 1.80)
Non Smoker	1.08	*	(1.01, 1.16)	1.08	**	(1.03, 1.13)
Moderate Alcohol Consumption	0.98		(0.92, 1.05)	0.97		(0.91, 1.02)
Light Exercise	0.85	**	(0.76, 0.95)	0.99		(0.92, 1.07)
Health Insurance	2.52	***	(1.55, 4.10)	1.58	**	(1.20, 2.09)
Supplemental Health Insurance	1.01		(0.93, 1.10)	0.97		(0.91, 1.04)
Life Insurance	0.91		(0.83, 1.00)	0.91	**	(0.85, 0.97)
-2 Log L	1743.05			2471.16		
Adj R^2	0.12			0.08		
C statistic	0.712			0.652		
H-L	4.027	p = .8546		14.389	p = .0722	

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Among the health promotion behaviors assessed, non-smokers were 8% more likely to have formal or informal plans for retirement, alcohol consumption proved insignificant, and respondents with formal plans for retirement were 15% less likely to be engaged in light physical exercise on a regular basis. Of the insurance related variables, health insurance proved significantly associated with

both formal and informal planning. Respondents with formal plans for retirement were 2.5 times more likely to have health insurance, and those with informal plans for retirement were 1.6 times more likely to have health insurance. Respondents with informal plans for retirement were 9% less likely to have life insurance.

Thus, the first hypothesis proved partially correct in that two health promoting factors were positively associated with both formal and informal planning, being a non-smoker and having health insurance. Two factors were negatively associated with planning: light exercise for formal planners and possession of life insurance for informal planners. While only the final models for formal and informal planning are presented, in each scenario, the -2 Log Likelihood decreased with each successive plan model, and the adjusted R-square and roc statistics indicated reasonable explanatory value of the models. The Hosmer-Lemeshow tests indicated good model fit in both instances.

Health Status

The second hypothesis suggested that retirement planning might influence perceived health status over time, but would not exhibit an association with more significant health outcomes such as rates of death among non-planners versus planners. Final model results of multivariate analysis on the probability of specific health outcomes including self-rated health, functional impairment, ADL impairment, and death in relation to plans for retirement are presented in Table 14. Deletion of observations due to missing values for the response or

explanatory variables, and attrition due to death or nursing home placement reduced the sample to 5,031 for self-rated health, functional and ADL impairment outcomes. Deletion of observations due to missing values for the response or explanatory variables and attrition due to nursing home placement reduced the sample to 6,379 for the death outcome. Responses were weighted and while results are presented for only those factors of interest, all models controlled for demographic and baseline health factors. Time-varying covariates varied by model based on predictor and outcome variable correlation results.

Table 14. Logistic Regression Results for the Probability of Selected Health Outcomes by Retirement Plan Type Among Workers

	Self Rated Health[1] (n=5,031)			Functional Impairment[2] (n=5,031)		
	Odds Ratio		95% CI	Odds Ratio		95% CI
Formal Plans for Retirement	1.40	*	(1.07, 1.85)	1.00		(0.83, 1.20)
Informal Plans for Retirement	1.16		(0.95, 1.41)	1.22	*	(1.05, 1.41)

	ADL Impairment[3] (n=5,031)		Dead[1] (n=6,379)	
	Odds Ratio	95% CI	Odds Ratio	95% CI
Formal Plans for Retirement	1.19	(0.81, 1.75)	1.00	(0.66, 1.50)
Informal Plans for Retirement	1.04	(0.76, 1.42)	0.94	(0.70, 1.27)

* $p \leq .05$, ** $p \leq .01$, *** $p \leq .001$

Note: All models included demographic and baseline health variables

1 Self-rated health and death models included the following time-varying covariates: Increases in major diseases, chronic conditions, functional and ADL impairments and increase in negative affect
2 Functional impairment model included the following time-varying covariates: increase in major diseases and chronic conditions
3 ADL impairment model included the following time-varying covariates: increases in major diseases and chronic conditions, increases in functional impairments

The focal point of these analyses was the relationship of formal and informal planning to specific health outcomes. The first results depicted are for self-rated health. Time-varying covariates in the self-rated health model included increases in major diseases and chronic conditions, increases in functional and ADL impairments, and increase in negative affect between 1992 and 1996. Eighty percent of sample respondents self-rated their health as good, very good or excellent in 1998 and multivariate analysis results suggest that workers who had formal plans for retirement in 1992 were 1.4 times more likely to self-rate their health as good to excellent in 1998. Informal planning demonstrated no relationship to self-rated health over time.

The second set of results depicts outcomes for functional impairments. Time-varying covariates in the functional impairment model included increases in major diseases and chronic conditions. Forty-two percent of the sample indicated that they had one or more functional impairment in 1998. The logistic regression results suggest that workers who had informal plans for retirement in 1992 were 22% more likely to report having had some functional impairment in 1998. Respondents who had formal plans for retirement were no more or less likely than non-planners to report having functional impairments in 1998.

The third set of results depicts outcomes for ADL impairments. Time-varying covariates in the ADL impairment model included increases in major diseases and chronic conditions, as well as increases in functional impairments. Only 7% of the sample indicated that they had an ADL impairment in 1998, and

neither formal nor informal plans for retirement in 1992 proved significantly associated with ADL impairment in 1998.

Finally, the fourth set of results depicts outcomes for death. Two-hundred and twenty-nine sample respondents died between 1992 and 1998, and similar to the results for ADL impairments, neither formal nor informal retirement planning proved significantly associated with death outcomes.

The second hypothesis proved partially correct. Formal retirement planning was positively associated with self-rated health over time; however, informal retirement planning was positively associated with functional impairments over time. Retirement planning proved insignificant in relation to the more serious physical health outcome of ADL impairment, and demonstrated no relationship to the outcome ‘death’.

Discussion

Generally, findings in the health promotion analyses were not surprising. Age and education are frequently associated with the increased probability of planning for retirement. Education is more commonly associated with formal planning for retirement, yet, these results suggest education is an equally significant factor in the propensity to plan informally for retirement. Married individuals often approach retirement planning as a joint venture, thus, the association of marital status and informal planning for retirement was anticipated.

Non-smokers were found to be more likely to have both formally and informally planned for retirement. From a health perspective, non-smokers could be described as more risk adverse than smokers, and risk takers are presumably less likely to have plans for retirement, choosing perhaps to leave future considerations to chance. Respondents with health insurance were also more likely to have both formally and informally planned for retirement. Health insurance ensures access to some form of regular health care, and individuals who monitor and maintain their health, be it through lifestyle, medications and/or preventative care, are more likely to anticipate an active, engaged future, and plan accordingly for it.

The finding that participants who had formally planned for retirement were less likely to participate in light, regular, physical exercise seemed unusual; however, the specific description included activities such as walking, dancing, gardening, and golfing, descriptions more befitting to retirees than workers. Other questions that explored HRS respondent participation in exercise related activities included a question about participation in ‘vigorous’ physical activity such as aerobics, running, swimming, or bicycling, and a question about how often respondents engaged in heavy housework, such as scrubbing floors or washing windows. Such exercise related tasks are highly differentiated which may have made it difficult for respondents to effectively describe their personal level of physical activity and highlights questionnaire limitations in the HRS. Future analyses might emphasize the regularity of exercise and allow respondents to select a range of physical activities engaged in, rather than

having to select from what is apparently (in the HRS) a high, mid, and low range of activity scale.

Comprehensive retirement planning should incorporate the thoughtful anticipation of all potential outcomes, including death. This logic suggests that individuals who have formally planned for retirement would be more likely to have life insurance, yet, life insurance was not significantly associated with formal planning in this analysis; more perplexing, it was negatively associated with informal planning. However, the criteria for informal planning included thinking about retirement, talking about retirement with one's spouse, friends and co-workers, and this suggests active engagement with the day to day notion of retirement, an activity which may leave little room for considering the alternative, namely, death.

The findings regarding health outcomes vis-à-vis retirement planning are of interest. Formal planning for retirement was positively associated with self-rated health over time. While not conclusive, the evidence suggests that formal retirement planning may play a role in influencing long-term perceptions of health, and more importantly, actual health status, as several studies of health and retirement decision-making found objective health measures validated self-reported health (Dwyer & Mitchell, 1999; Muller & Boaz, 1988).

Retirement planning constitutes strategic planning for later life and health is a significant late life component. The first analysis conducted in this study found that individuals who planned either formally or informally for retirement were more likely to have health insurance; access to extra individual factors such

as medical care, and perhaps by extension medications, rehabilitative care or assistive devices, can substantially influence health outcomes.

Likewise, individuals who anticipate and plan for retirement may experience an increased sense of retirement self-efficacy (Taylor & Shore, 1995). This may in turn positively enhance coping mechanisms and influence lifestyle choices, both of which constitute the intra individual factors that impede disability as proposed by Verbrugge & Jette (1994). Thus, retirement planning, couched as an intervening intra individual factor, may similarly influence perceptions of health or actual health over time.

In contrast to the self-rated health findings, workers who informally planned for retirement were more likely to report having functional impairments in 1998. However, baseline health status was worse for those who later reported having functional impairments, with those afflicted more likely to report having had chronic health problems at baseline. Individuals dealing with chronic health conditions may entertain the notion of retirement more earnestly than their healthier counterparts, with retirement viewed as an opportunity to escape the physical and emotional demands of work. From this perspective, informal retirement planning may be employed as a coping mechanism.

Further, it is not uncommon for individuals who retire due to poor health to seek post-retirement employment that is more suitable in light of their health limitations (Richardson, 1993). In that vein, informal retirement planning may lead to work activity accommodation, which may hinder disease progression, thereby influencing long-range health outcomes. Self-rated health and functional

impairment study results considered together suggest that formal and informal retirement planning incentives may differ, such that individuals in good health may be more likely to formally plan for retirement and those in poor health may be more likely to informally plan for retirement. This may in part explain the variability of research results regarding the relationship between physical health status and the propensity to plan for retirement.

While the self-rated health and functional impairment findings may have provided some support for the potential of retirement planning to influence health outcomes, retirement planning demonstrated no such potential for the more serious health outcomes assessed, ADL impairments and death. Respondents who had ADL impairments in 1998 and those who died over the study time frame were more likely to have had major health problems such as lung disease, heart disease or cancer at baseline. Clearly there is a distinction between major health problems and those of a more chronic nature that might be managed with the appropriate interventions.

In any study using secondary data, lack of control over study design and measures imposes limitations on the nature of research questions posited. An example already cited was the limit in choices of exercise factors. Few questions were available with which to formulate the variables of interest, formal and informal plans for retirement and there was no information provided about direct or indirect courses of action taken directly as a result of engagement in retirement planning. Ideally, an emotional health status measure would have been included in the analyses; however, self-rated emotional health measures

available in the early waves of HRS data were dropped in subsequent questionnaires.

Future research on the topic of retirement planning and health should explore the seemingly differential applications of formal and informal modes of planning vis-à-vis health status, namely, does good health increase one's propensity to plan formally for retirement, and poor health to plan informally for retirement? Augmenting quantitative retirement planning research with qualitative data may provide insight into the retirement planning process and outcomes specific to either mode of planning. The retirement planning literature provides fairly conclusive support for the relationship between retirement planning and emotional and psychological well-being in retirement. Emotional health can influence physical health. Further exploration of the relationship between physical health, emotional health and retirement planning may yield more substantiative information regarding the specific role retirement planning plays, if any, in influencing physical health status, and the relative influence of emotional health in the propensity to plan for retirement. Planning effectively for retirement is an increasingly relevant concern for aging Americans. Research that provides evidence in support of the benefits of retirement planning can only aid in efforts to increase participation in retirement planning activities.

Chapter Five

Conclusions and Future Directions

Conclusions

The primary purpose of this dissertation was to explore the notion that retirement planning is associated with health status through three studies. While the literature on the role of health in retirement decision-making is abundant, and numerous studies have determined that retirement planning is beneficial to emotional health or psychological well-being, there are few studies that have explored the relationship between physical health and retirement planning. Among those that have, the focal point has been the relationship of health status to the propensity to plan for retirement, and the results have been inconclusive.

Finances and health continue to be the two most significant factors associated with retirement decision-making and a successful retirement experience. Retirement planning is an increasingly salient issue as the population ages, companies are trimming or altogether foregoing retiree benefits, and reform is being sought for the social programs that have provided financial and health benefits to aging Americans for decades. Few would question the financial benefits of retirement planning, and this series of studies attempted to

add to the literature by examining whether there are health implications to retirement planning as well. All three studies utilized data from the Health and Retirement Study (HRS).

The first study, which was exploratory in nature, compared plans for retirement among two groups, workers and retirees as of 1992, to determine whether planning was more prevalent among a more recent cohort of workers, and whether health and other key characteristics associated with retirement planning differed between the two groups. The findings from the first analysis suggested that informal planning was more prevalent and formal planning less prevalent, among workers than among retiree respondents. In addition, females were less likely to have informal plans for retirement than male workers, and African Americans and Hispanics were less likely to have any plans for retirement when compared with white workers. These discrepancies were not as evident in the retiree sample, with the exception of the results for Hispanic retirees, who were also less likely to have plans for retirement than white retirees. Marital status was significantly associated with informal and formal planning in both samples.

The findings from the second set of analyses suggested that all things being equal, demographic characteristics played a negligible role in propensity to plan for retirement. Socioeconomic factors, including marital status, number of assets and pension plan access, were the strongest predictors of both informal and formal planning among workers. Among females, marital status and a spouse's retirement were significant predictors of retirement planning for retirees;

yet, neither characteristic emerged significant for female workers. The results for health status were mixed; however, workers with chronic conditions or functional impairments were more likely to have informal plans for retirement, and retirees who retired due to health problems were less likely to have planned informally for retirement.

Taken together, these results suggest that more recent cohorts of workers may be more engaged with thinking about retirement, but less engaged in concrete planning for retirement. Further, despite the lack of significance of demographic factors in relation to retirement planning, the emergence of socioeconomic factors as the strongest predictors of engagement in both informal and formal planning for retirement suggests implications for women and minorities, with both groups at greater risk for inadequately planning for retirement. Finally, individuals in poor health should be actively engaged in formal planning so as to ensure the availability of financial and health resources in retirement; yet, the relationship of poor health to informal planning was more pronounced. In general, these findings suggest that the dynamics of retirement planning and the profiles of those who plan for retirement may have undergone some changes, something policy makers need to be attuned to in order to make appropriate decisions regarding changes to the social programs that support older Americans in retirement.

Poor health is often cited as a reason for retirement and as such is characterized as a push or negative factor influencing the retirement decision-making process. The second study attempted to verify whether declining health

was also a push factor in planning for retirement. Utilizing data from Waves 1 through 4 of the Health and Retirement Study, the health status of workers with no plans for retirement in 1992 was tracked through 1998 to determine whether declining health, as measured by increased number of diseases, chronic conditions and functional impairments, or a decline in affect, preceded the onset of informal plans for retirement. The findings from this study suggested that workers who experienced declining health were no more or less likely than their healthier peers to implement plans for retirement. Thus, while health continues to play a significant role in retirement decision-making and a successful retirement experience, the relationship of health to retirement planning remains uncertain.

The literature suggests that retirement planning may positively influence psychological well-being in retirement, and the last study of this dissertation used a modified version of Verbrugge & Jette's (1984) disablement process model to explore the notion that retirement planning, characterized as an intervention, might also influence physical health outcomes over time. Utilizing data from Waves 1 through 4 of the Health and Retirement Study, the study tracked workers who had informal or formal plans for retirement in 1992, through 1998, to determine whether respondents with plans for retirement were in better health than their non-planning peers. Results were mixed; however, respondents who planned formally for retirement were more likely to better self-rate their health than non-planners, over time. Self-rated health may be considered an accurate barometer of actual physical health status. Further, as emotional and physical health are closely related, especially among older adults (Gall & Evans, 2000),

and retirement planning is purported to play a role in influencing psychological well-being, retirement planning may influence physical health status as well.

Additional results found that respondents who planned informally for retirement were more likely to report having functional impairments as of 1998. Neither mode of planning demonstrated a relationship to other outcomes assessed, ADL impairment or death over time. Taken together, these results suggest that from a health perspective, informal and formal retirement planning incentives may differ, such that individuals in good health may be more likely to plan formally for retirement and those in poorer health may be more likely to plan informally for retirement. A separate analysis examined planner's propensity to engage in health promoting behaviors, and non-smokers and respondents with health insurance were found to be more likely to have both informally and formally planned for retirement. These findings provide support for the notion that there is a relationship between health and retirement planning, but the nature of relationship remains unclear.

The findings from this dissertation suggest that researchers need to continue to focus on discerning what factors influence the propensity to plan both informally and formally for retirement, and what additional benefits might be realized from retirement planning, beyond those attributable to improved economic status. Retirement planning appears to have a positive impact on psychological well-being, and psychological well-being can be closely tied to physical well-being. If retirement planning does not directly influence physical health status, then perhaps it may indirectly influence physical health status

through improved psychological well-being in retirement. Understanding the full implications of planning for retirement may result in increased public and private support for, and participation in, retirement planning processes.

This dissertation attempted to address some important gaps in the retirement planning literature; however, there were limitations that warrant discussion. While one of the benefits of using the Health and Retirement Study dataset was access to a large, nationally representative survey of the health and economic status of older Americans, and multiple, biannual waves of follow-up data which allowed for the assessment of changes over time, the obvious drawback to utilizing secondary data for analysis is reliance on the measures included therein. Several examples of these limitations include: 1) inclusion of only one question regarding formal retirement planning program participation, and only in the 1992 wave of data; 2) inclusion of a self-rated emotional health measure in waves 1 and 2, but not in subsequent waves, leaving us unable to approximate the measure of intra individual factors such as self-esteem, mastery, or self-efficacy; and 3) the introduction of preventative behavior measures, i.e., health screenings, in 1996, but no such comparative measures in earlier waves of data. A more thorough protocol would address retirement preparedness in the realm of finances, health, social and leisure activities, and provide more concrete information about specific activities untaken by respondents to plan and prepare for retirement. Despite these limitations, retirement planning participation data from private companies is subject to any number of biases and is typically limited

to results for formal retirement planning. Thus, more recently published empirical studies on the topic of retirement planning have relied heavily on HRS data.

Future Directions

Taylor and Shore (1995) suggest that there is a limited understanding of the theoretical basis for retirement planning, which may in part explain the somewhat contradictory findings in this dissertation. The primary goal of retirement planning research should be the formulation of a theory of retirement planning behavior that incorporates social, psychological, economic, and health status factors. Theories on retirement decision-making incorporate such diverse factors; thus, it is not inappropriate to suggest such diverse influences on retirement planning behavior.

Distinctions between modes of planning need to be addressed, as the characteristics that predispose individuals to participate in formal planning appear to differ from those that predispose them to participate in informal planning, or to forego planning for retirement altogether. The emergence of socioeconomic factors as predictors for informal planning for retirement suggests that there may not be a distinction; however, study results for health outcomes over time suggest not only that there may be distinct mechanisms that predispose individuals to plan formally and informally for retirement, but distinct outcomes associated with each mode of planning as well. Further, retirement planning researchers need to factor into their analyses consideration of the

economic and social milieu at the time of measurement. For example, the finding that marital status and a spouse's retirement were significant predictors of retirement planning for female retirees, but not for female workers, may be the result of increased labor force participation among women, increased divorce rates, or owing to the time order of questioning, i.e., a recall issue or an ex-post rationalization for reason for retirement.

Results from several of the analyses included herein provide support for the notion that there is a relationship between physical health and retirement planning; however, the nature of the relationship remains unclear. It appears that health may play a role in predicting planning for retirement, but may function as an outcome of retirement planning as well. Further, this dissertation couched retirement planning as an intervention that might have a direct influence on intra or extra individual factors such as improved coping mechanisms or the acquisition of long-term care insurance. However, owing to the relationship between emotional and physical health, the relationship between health and retirement planning is likely to be much more complex. Future research should consider the potential effects of moderators such as emotional health status in the relationship between health and retirement planning.

Finally, researchers have found evidence to suggest that a significant number of older workers have no plans for retirement (Ekerdt, Hackney, Kosloski, & DeViney, 2001). Is there a distinct non-planner profile? Or, do individuals without plans for retirement operate similarly with regard to all aspects of their lives? Future research should consider the broader psychological aspects

of general planning behaviors to determine whether there might be potential applications for the study of retirement planning behavior.

References

American Association of Retired Persons (2005). *Retirement coverage of women and minorities: Analysis from SIPP 1998 data.* Retrieved on January 13, 2005 from, http://research.aarp.org/econ/dd92_98sipp.html

Albert, L. C., & Reynolds, S. L. (2002). Retirement planning and health outcomes In the health and retirement study. *The Southwest Journal on Aging, 18*, 5-16.

Antonovsky, A., & Sagy, S. (1990). Confronting developmental tasks in the retirement transition. *The Gerontologist, 30*, 362-368.

Atchley, R. C. (1976). *The sociology of retirement*. Cambridge, MA: Schenkman Publishing.

Bazzoli, G. J. (1985). The early retirement decision: New empirical evidence on the influence of health. *Journals of Human Resources, 20(2)*, 214-234.

Browne, C. V. (1998). *Women, feminism, and aging*. New York: Springer Publishing.

Campione, W. A. (1988). Predicting participation in retirement preparation programs. *Journals of Gerontology, 43*, S91-S95.

Cavanaugh, J. C., & Blanchard-Fields, F. (2002). *Adult development and Aging (4th ed.)*. Belmont, CA: Wadsworth/Thompson Learning.

Collins, C. A., Estes, C. L., & Bradsher, J. E. (2001). Inequality and aging. In C. L. Estes & Associates, *Social policy & aging: A critical perspective* (pp. 137-163). Thousand Oaks, CA: Sage Publications.

Crimmins, E. M., Saito, Y., & Ingegneri, D. (1997). Trends in disability-free life expectancy in the Untied States, 1970-90. *Population and Development Review, 23*, 555-572.

Crimmins, E. M., Saito, Y., & Reynolds, S. L. (1997). Further evidence on recent trends in the prevalence and incidence of disability among older Americans from two sources: The LSOA and the NHIS. *Journals of Gerontology, 52B*, S59-S71.

Dennis, H. (1984). *Retirement preparation*. Lexington, MA: Lexington Books.

Dwyer, D. S., & Mitchell, O. S. (1999). Health problems as determinants of retirement: Are self-rated measures endogenous? *Journal of Health Economics, 18*, 173-193.

Ekerdt, D. J. (1987). Why the notion persists that retirement harms health. *The Gerontologist, 27*, 454-457.

Ekerdt, D. J., Bosse, R., & LoCastro, J. S. (1983). Claims that retirement improves health. *Journals of Gerontology, 38(2),* 231-236.

Ekerdt, D. J., DeViney, S., & Kosloski, K. (1996). Profiling plans for retirement. *Journals of Gerontology, 51B*, S140-S149.

Ekerdt, D. J., Hackney, J., Kosloski, K., & DeViney, S. (2001). Eddies in the stream: The prevalence of uncertain plans for retirement. *Journal of Gerontology: Social Sciences, 56B*, S162-S170.

Ekerdt, D. J., Kosloski, K., & DeViney, S. (2000). The normative anticipation of retirement by older workers. *Research on Aging, 22*, 3-22.

Ferraro, K. (1990). Cohort analysis of retirement preparation, 1974-1981. *Journals of Gerontology, 45*, S21-S31.

Ferree, M. M. (1990). Between two worlds: German feminist approaches to working-class women and work. In J. M. Nielson (Ed), *Feminist Research Methods: Exemplary Readings in the Social Sciences*. Boulder, CO: Westview Press.

Gall, T. L., & Evans, D. R. (2000). Preretirement expectations and the quality of life of male retirees in later retirement. *Canadian Journal of Behavioral Science, 32,* 187-197.

Gibson, R. C. (1991). The subjective retirement of black Americans. *Journals of Gerontology, 46(4)*, S204-S209.

Gibson, R. C., & Burns, C. J. (1992). The health, labor force and retirement experiences of aging minorities. In E. P. Stanford & F. M. Torres-Gil (Eds.), *Diversity: New approaches to ethnic minority aging*. Amityville, NY: Baywood Publishing.

Glass, J. C., Jr., & Kilpatrick, B. B. (1998). Financial planning for retirement: An imperative for baby boomer women. *Educational Gerontology, 24,* 595-617.

Hanisch, K. A. (1994). Reasons people retire and their relations to attitudinal and behavioral correlates in retirement. *Journal of Vocational Behavior, 45,* 1-16.

Hanson, K., & Wapner, S. (1994). Transition to Retirement: Gender Differences. *International Journal of Aging and Human Development, 39(3),* 189-208.

Haynes, S. G., McMichael, A. J., & Tyroler, J. A. (1978). Survival after early retirement. *Journals of Gerontology, 33(2)*, 269-278.

Henretta, J. C., Chan, C. G., & O'Rand, A. M. (1992). Retirement reasons versus retirement process: Examining the reasons for retirement typology. *Journals of Gerontology, 47(1)*, S1-S7.

Jackson, J. S., Lockery, S. A., & Juster, F. T. (1996). Introduction: Health and retirement among ethnic and racial minority groups. *The Gerontologist, 36(3)*, 282-284.

Juster, F., & Suzman, R. (1995). The health and retirement study: An overview. *Journal of Human Resources, 30* (Suppl.), 7-56.

Kamouri, A. L., & Cavanaugh, J. C. (1986). The impact of preretirement education programmes on workers' preretirement socialization. *Journal of Occupational Behaviour, 7*, 245-256.

Kingson, E. R. (1982). Critique of early retirement study disputed. *Aging and Work*, 5, 93-110.

Kosloski, K., Ekerdt, D., & DeViney, S. (2001). The role of job related rewards in retirement planning. *Journals of Gerontology, 56B*, P160-P169.

Krause, N. (1990). Illness behavior in later life. In R.H. Binstock & L. K. George (Eds.), *Handbook of aging and the social sciences (3rd ed.,* pp. 227-244). San Diego, CA: Academic Press.

Lo, R., & Brown, R. (1999). Stress and adaptation: Preparation for a successful retirement. *Australian and New Zealand Journal of Mental Health Nursing, 8*, 30-38.

Lynch, K. J. (1997). *Retirement satisfaction of Florida police officers as related to pre-retirement training and other variables*. Unpublished doctoral dissertation. University of South Florida, Tampa.

Matthews, A. M., & Brown, K. H. (1988). Retirement as a critical life event. *Research on Aging, 9(4),* 548-571.

Maule, A. J., Cliff, D. R., & Taylor, R. (1996). Early retirement decisions and how they affect later quality of life. *Ageing and Society, 16*, 177-204.

Muller, C. F., & Boaz, R. F. (1988). Health as a reason or rationalization for being retired? *Research on Aging, 10(1)*, 37-55.

Mutchler, J. E., Burr, J. A., Massagli, M. P., & Pienta, A. (1999). Work transitions and health in later life. *Journals of Gerontology, 54B(5)*, S252-S261.

Mutran, E. J., Reitzes, D. C., & Fernandez, M. E. (1997). Factors that influence attitudes toward retirement. *Research on Aging, 19*, 251-273.

Myers, R. J. (1983). More about the controversy on early retirement study. *Aging and Work, 6(2)*, 105-109.

National Academy on an Aging Society. (2000). Workers and chronic conditions. *Data profiles: Challenges for the 21st century: Chronic and disabling conditions, 10*, 1-6.

Orleans, C. T. (2000). Promoting the maintenance of health behavior change: Recommendations for the next generation of research and practice. *Health Psychology, 19*, 76-83.

Palmore, E. B., Burchett, B. M., Fillenbaum, G. G., George, L. K., & Wallman, L. M. (1985). In A. S. Brown, *The social processes of aging and old Age (2nd ed.)*. Upper Saddle River, NJ: Simon & Schuster.

Palmore, E. B., Fillenbaum, G. G., & George, L. K. (1984). Consequences of retirement. *Journals of Gerontology*, 39, 109-116.

Pampel, F. C. (1998). *Aging, social inequality, and public policy*. Thousand Oaks, CA: Pine Forge Press.

Parnes, H. S. (1983). Health, pension policy and retirement. *Aging and Work, 6 (2)*, 93-103.

Perkins, K. (1995). Social insecurity: retirement planning for women. *Journal of Women & Aging, 7,* 37-53.

Quinn, J. F., & Burkhauser, R. V. (1990). Work and retirement. In R. H. Binstock & L. K. George (Eds.), *Handbook of aging and the social sciences (3rd ed.*, pp. 307-327). San Diego, CA: Academic Press.

Quinn J. F. & Kozy, M. (1996). The role of bridge jobs in the retirement transition: Gender, race and ethnicity. *The Gerontologist, 36(3),* 363-372.

Reitzes, D. C., Mutran, E. J., & Fernandez, M. E. (1998). The decision to retire: A career perspective. *Social Science Quarterly, 79(3)*, 607-619.

Reynolds, S. L., Crimmins. E. M., & Saito, Y. (1998). Cohort differences in disability and disease presence. *The Gerontologist, 38*, 578-590.

Richardson, V. E. (1993). *Retirement counseling: A handbook for gerontology practitioners*. New York: Springer Publishing.

Riker, H. C., & Myers, J. E. (1990). *Retirement counseling: A practical guide for action*. New York: Hemisphere Publishing Corporation.

Sammartino, F. J. (1987). The effect of health on retirement*. Social Security Bulletin, 50(2)*, 31-47.

Sharpley, C. F., & Layton, R. (1998). Effects of age on retirement, reason for retirement, and pre-retirement training on psychological and physical health during retirement. *Australian Psychologist, 33(*2), 119-124.

Shaw, W. S., Patterson, T. L., Semple, S., & Grant, I. (1998). Health and well-being in retirement. In M. Hersen & V. B. Van Hasselt (Eds.), *Handbook of clinical geropsychology* (pp. 383-409). New York: Plenum Press.

Sherman, S. R. (1985). Reported reasons retired workers left their last job: Findings from the New Beneficiary Survey. *Social Security Bulletin, 48(3)*, 22-30.

Shultz, K. S., Morton, K. R., & Weckerle, J. R. (1998). The influence of push and pull factors on voluntary and involuntary early retirees' retirement decision and adjustment. *Journal of Vocational Behavior, 53*, 45-57.

Siegel, S. R. (1986). Preretirement programs in the 80's. *Personnel Administrator, 31,* 77-83.

Szinovacz, M. E. (2003). Contexts and pathways: retirement as institution, process and experience. In G. A. Adams & T. A. Beehr (Eds.), *Retirement: reasons processes, and results*. New York:Spring Publishing.

Szinovacz, M. E., & Davey, A. (2005). Predictors of Perceptions of Involuntary Retirement. *The Gerontologist, 45(1),* 36-47.

Szinovacz, M. & Washo, C. (1992). Gender differences in exposure to life events and adaptation to retirement. *Journal of Gerontology: Social Sciences, 47(4),* S191-S196.

Taylor M. A., & Doverspike D. (2003) Retirement planning and preparation. In G.A. Adams & T.A. Beehr (Eds.), *Retirement: reasons, processes and results* (pp. 53-82). New York: Springer Publishing.

Taylor, M., & Shore, L. (1995). Predictors of planned retirement age: An application of Beehr's model. *Psychology and Aging, 10*, 76-83.

U.S. Census Bureau (1996). *Current Population Reports: Reasons People do not Work*. Retrieved April 10, 2003, from http://www.census.gov/prod/ 2001pubs/p70-76.pdf

U.S. Census Bureau (1997). *Americans with Disabilities: 1997*. Retrieved April 10, 2003, from http://www.census.gov/hhes/www/disable/sipp/ disabl97/ds97tl.html

Verbrugge, L. M. (1984). Longer life but worsening health? Trends in health and mortality of middle-aged and older persons. *The Millbank Fund Quarterly/Health and Society, 62*, 475-519.

Verbrugge, L. M., & Jette, A. M. (1994). The disablement process. *Social Science and Medicine, 38*, 1-14.

Wallace, S. P. (1991). The political economy of health care for elderly blacks. In M. Minkler & C. L. Estes (Eds.), *Critical perspectives on aging: The political and moral economy of growing old*. Amityville, NY: Baywood Publishing.

Wolinsky, F. D., & Johnson, R. J. (1991). The use of health services by older adults. *Journals of Gerontology, 46(6)*, S345-357.

Women's Institute for a Secure Retirement (2005). *Women & Pensions: An Overview.* Retrieved January 15, 2005, from http://www.wiser.heinz.org/pensions_overview.html

About the Author

Linda Christine Albert received a Bachelor's Degree in Sociology from Oakland University in 1986 and a Master's Degree in Gerontology from the University of South Florida in 2000. She has held various administrative, human resources and training positions, primarily in the banking industry.

During her tenure in the Ph.D. in Aging Studies Program at the University of South Florida, Ms. Albert was employed as a Graduate Research Assistant for the State Data Center on Aging, a Graduate Teaching Assistant in the School of Aging Studies, and was the Associate Director for the USF Sarasota/Manatee Senior Academy, an Elderhostel affiliated program for lifelong learning. She has authored articles on the topic of retirement planning and has presented her research at national conferences.