AN ABSTRACT OF THE THESIS OF

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Being old and female in America often means being alone and poor. To offset this outcome financial preparation for retirement should begin in the pre-retirement years. The purpose of this exploratory study was to assess the financial preparedness of mature, single women as they approach retirement by examining the relationships of economic, demographic and attitudinal variables to net worth. Data were drawn from the National Longitudinal Surveys: Survey of Work Experience of Mature Women for a sample of white and black women who were single during the 15 year period and who were in the labor force in 1967. Analysis of Variance, t-tests, simple linear and segmented, step-wise multiple regression analyses were used to analyze the data. Race was a significant factor throughout the study. For regression analyses, previous income, education, attitude toward women working if it is necessary to make ends meet, and the respondent's job category were all significant variables. The findings indicate that this

mature female sample does not accumulate assets at a rate that would suggest economic self-sufficiency in retirement. Recommendations include educational programs that address women's attitudes toward working and saving.

A Longitudinal Analysis of Single, Female Labor Force Participants' Net Worth: Balance Sheet in the Pre-Retirement Years

by

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Typed by Sandra Warren for Heather V. Emberson

This thesis is
dedicated to my father,
Richard Maury Emberson, PhD
April 1914 - July 1984

Touch me
And I will touch another
With a hand that's partly yours

And if
All others feel my touch
And reach and touch another

It was
Your hand, in touching mine,
That reached and touched
Eternity.

-Anon

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STATEMENT OF THE PROBLEM

Being old and female in America often means being alone and poor. Despite the variety of living arrangement patterns of women during their early and mid-life years, and despite a female labor force participation rate identified as 55 percent in 1985 (U.S. Department of Labor, 1985), there is a trend toward equifinality[1] where women tend to retire to isolation with inadequate financial resources to maintain a satisfactory level of financial well-being.

Retirement implies a previous relationship with work. Therefore, one way to study financial preparedness for retirement is to study the financial decisions made just prior to retirement. Because financial decisions are not made in a vacuum, a study of this kind should also include an examination of the larger environment in which decisions are made and from which decisions may be influenced.

JUSTIFICATION FOR THE STUDY

As an exploratory study, this research has the potential to contribute to the "base of knowledge" in these ways:

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[1]Equifinality is defined as the arrival at similar conclusions or situations having begun with very different initial circumstances or conditions (Deacon and Firebaugh, 1981).

(1) surveys of retirement literature point to a gender bias in the underpinnings or assumptions of theories of retirement preparation, transition and adjustment. There is good reason to suspect that theories developed for men do not apply to women whose social development and experiences are different. This and similar research have the potential to initiate assessment the life cycle Hypothesis (LCHo) relative to women. Such research is important due to the many retirement policies based on findings from the LCHo.

(2) the research on saving behavior often employs aggregate or single-period data. These data types can measure neither temporal changes nor consequences. The LCHo has been used with each, but neither of these data types adequately explains the individual's saving function over time. Use of longitudinal data is suited to this analysis and may provide information which is more useful to professionals in education, extension and government.

(3) present retirement literature provides little information on the retirement preparation of women. What is provided is often on the basis of small, non-representative samples which yield partially generalizable information. A study using a representative, national sample of mature women would narrow this research gap.

(4) it is becoming increasingly evident that women must take more responsibility for their economic security before and after retirement. Educators, extension specialists and public policy legislators could benefit from micro-level data which identify factors or conditions that could be influenced to motivate a change in personal saving and thereby the financial position of women in retirement.

Further justification for the study stems from a variety of sources and disciplines, and will be elaborated in the following chapter.

GENERAL RESEARCH OBJECTIVES

The mission of this study is to contribute to the body of knowledge based on the following seven organizational theories.

(1) to ascertain the level of current net worth of a selected sample of prospective female retirees

(2) to investigate differences in net worth of women based on two sub-categories: marital status (never married, widowed and divorced) and race (white, black)

(3) to determine whether or not the women in the sample exhibit behavior in keeping with predictions of the LCHo over a 15 year period

(4) to determine which economic, demographic and/or attitudinal variables are related to highest levels of net worth for women

(5) to determine which variables have the greatest influence on saving behavior in addition to the financial and demographic variables

(6) to gain insight into the possibility that women will attain higher levels of net worth, assuming some minimum level of assets and income, through educational programs directed toward attitudinal variables

(7) to draw policy implications from the research findings.

CHAPTER II: REVIEW OF LITERATURE

Chapter two is a presentation of the theoretical background of the study and rationale for the use of variables in the study. This chapter contains three parts: part one outlines the life-cycle model of saving behavior; part two surveys the retirement literature with particular emphasis on women's retirement; and part three considers economic, socio-demographic and outlook characteristics of pre-retired women.

LIFE-CYCLE HYPOTHESIS

The life cycle hypothesis is based on the view that although people save for many reasons --- for example, to provide for contingencies, to build up an estate, and to finance children's education --- the primary reason for saving is to provide resources for retirement. During their working years, people "build up savings in the form of real assets (such as housing) and financial assets (such as stocks and bonds), ...(and) then draw (the savings) down toward zero during retirement to finance consumption" (Lesnoy and Leimer, 1985: p. 15).

This model of saving behavior will be more fully discussed below. Discussion will focus on a description of the model, an overview of research using the model, and some controversial findings.

The Life Cycle Model

The basic model of consumption behavior can be traced to Irving Fisher (1930) who suggested that households engage in borrowing and lending (dissaving and saving) in order to cause the household's consumption to be level. Harrod (1948) contributed to this model by relating it to stages of the life-cycle and by exploring its implications for macroeconomics. In 1954, Modigliani and Brumberg elaborated on the model to provide more general analyses and to examine the effect of wealth on consumption. Friedman (1957) suggested that consumption depends on the life-time expected income, or permanent income. Ando and Modigliani (1963) formulated what has since become known as the life-cycle theory of saving and consumption, or the life-cycle hypothesis (hereafter, LCHo). Tobin (1963) contributed to the theory by introducing the possibility that a family may dissave in young adulthood, and save later in working life to cater to retirement when savings are drawn down (see Figure 1). Thus, a family can maintain a level stream of lifetime consumption and reach zero net worth at death. The theory assumes that people decide how much to consume and to save by looking at present and future resources and present and future needs. An increase in future resources (e.g., social security and pensions) is then seen as causing a rise in current consumption, just as the increase in lifetime resources leads to increased consumption at each stage in life. (Diamond and Hausman, 1984).

In summary, the life-cycle hypothesis "has been the centerpiece of the modern, mainstream theory of aggregate consumption and saving

behavior" (Danziger, Van der Gaag, Smolensky, and Taussig, 1982-83:p. 208). It is a generalized LCHo which assumes that current consumption spending depends on current wealth and life-time income so that the maximum stock of assets is reached at retirement (Dornbusch and Fisher, 1981), and that excludes all other motives for saving except retirement consumption.

Review of Research using LCHo

Research using the LCHo primarily utilizes macro-level, time-time-series data or micro-level cross-sectional data. Of the techniques used to analyze saving behavior with the LCHo, time-series data have been tested "with limited success because of the unavailability of data on net worth of consumers (which has) made empirical verification ...difficult and indirect" (Ando and Modigliani, 1963; p. 55).

Although the LCHo is the premiere theory of saving behavior, there are "doubts about the ability of the model to explain the bulk of personal saving" (Danziger, et al., 1982-83; p. 20). A survey of the empirical evidence on the LCHo indicates that the results are is mixed and ambiguous. Mirer (1979) has documented the conflicting studies to date and Alicia Munnell (1981) provides an excellent summary.

Work to test the model's implications for the distribution of household wealth over the life cycle has gone virtually untested using micro-data. Wolff comments that the deficiency is surprising since it is the process of household wealth accumulation that is presumed to explain the aggregate saving behavior of the economy. "Any failure of

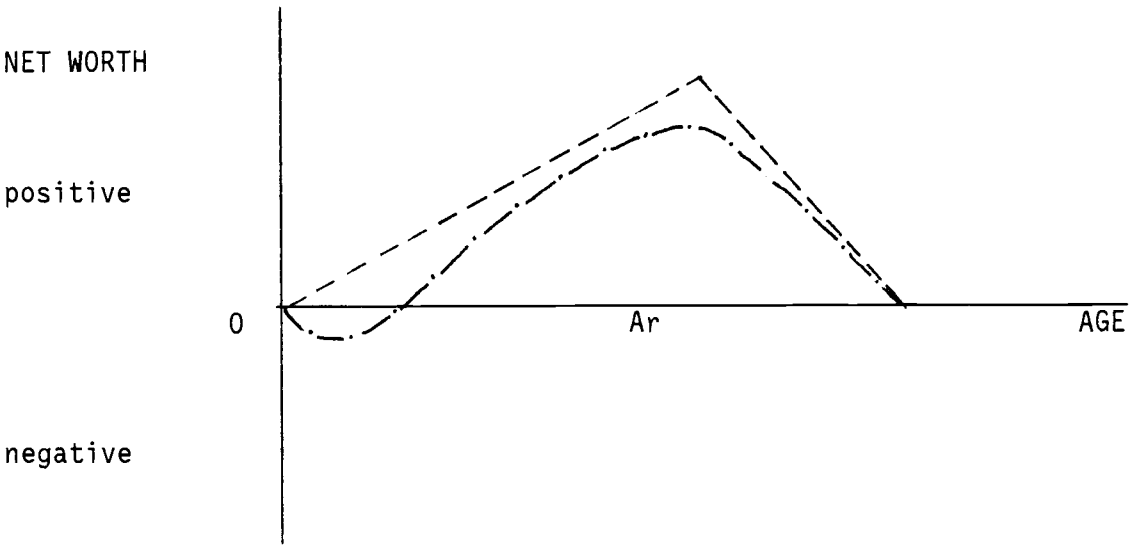
FIGURE I

Life Cycle Wealth Profiles

Modilgliani and Brumberg - - - -

Tobin -·-·-·-·

Ar = Age of retirement



Source: Wolff, 1981; p. 76

the life-cycle model to account for the household distribution of wealth would then cast serious doubt on the model's validity in explanation of savings behavior" (Wolff, 1981; p. 75). Longitudinal, or panel, data for individual households might be an appropriate form of data to test the LCHo, especially since the model refers to the behavior of individuals and families over time.

Wolff (1981) used a synthetically created micro-data base to analyze the variation of wealth holdings among households using the LCHo; King and Dicks-Mireaux (1982) used the Canadian micro-data, Income, Assets and Debts of Economic Families and Unattached Individuals to examine the behavior of wealth-holding over the life-cycle; Mirer (1980) used the Federal Reserve Survey of Financial Characteristics of Consumers and the Survey of Changes in Family Finances to examine the saving or dissaving behavior of the retired aged; and Blinder, Gordon and Wise (1983) used the 1971 wave of the Longitudinal Retirement History Survey to econometrically analyze the asset holdings of American men near retirement. Displayed in Figure II is the full national balance sheet for the household sector. Those assets used by each researcher are marked with his initials.

Most commonly omitted from the asset list are the following: household inventories (semi-durables); state and local government securities; cash surrender value of insurance; pension rights; and social security entitlements.

The authors comment on the omissions, suggesting that they either represent a small percent of total household assets (e.g., inventories, insurance and pensions); may be unrelated to the life-cycle wealth accumulation process (e.g., trust funds and government securities); and/or the proper valuation of non-marketable assets (e.g., pensions and social security) is debatable and difficult to determine. Regarding the last omission, Wolff stated:

> Like human capital which also represents a claim to future income but is not a title to or a claim on disposable assets net (except in a slave society), social security should not be included within the household portfolio. (Wolff, 1981: p.93).

FIGURE II

Assets of the National Balance Sheet for the Household Sector as Used by Selected Researchers

I. ASSETS	
Tangible Assets	
owner occupied housing	W K M B
other real estate	W K M B
automobiles	W K
other consumer durables	W
inventories	
Financial Assets	
demand deposits and currency	W K M B
time and savings deposits	W K M B
federal securities	W K M B
state and local government securities corporate and foreign bonds, mortgages, open market paper, and other instruments	W K M B
corporate stock	W K M B
farm business equity	W K M
unincorporated non-farm equity	W K M
trust fund equity	
insurance and pension reserves	B
II. LIABILITIES	
mortgage debt	W K M B
consumer credit	W K M B
other debt	W K M B
III. NET WORTH	

Source: Wolff, p. 81

In a recent article, Blinder, et al. (1983) studied the asset holdings of white American men near retirement age. They reported "assets as conventionally defined show no tendency to decline with age, in

apparent contradiction to the life cycle theory of saving. However, a broadened concept of assets (which includes expected future pension benefits and expected future earnings) does decline more or less as predicted by the theory" (Blinder, et al., 1983: p. 89). This conclusion might also pertain to an earlier time in the life cycle, for example mid-life, and might also apply to a different sample, for example women, and thus support use of a broader definition of assets.

In brief, the life-cycle hypothesis was initially proposed to explain aggregate saving behavior. Few studies have been done using the model to explain individual households' saving behavior. Additionally, few have been longitudinal in design or have included a wide variety of assets and liabilities in defining net worth.

Auxiliary Findings and "Controversy"

Many researchers question the applicability of the LCHo. Wolff (1981) and King and Dicks-Mireaux (1982) provide clear explanations of the limits to the LCHo. Essentially the complaint is that the model's validity is limited to white, urban, educated, middle-class men who accumulate standard forms of middle-class wealth. Wolff suggests that a proper model must be a three-class model.

> The first class is the capitalist class, whose wealth takes the form of capital wealth... the second class, which may be called the primary working class, is one whose wealth takes the form of life-cycle wealth, ... and the third class, which may be called the secondary work force, is one whose lifetime income is too low to permit any significant accumulation, except in the form of durables. (Wolff, 1981; p. 94)

Additionally, the theory suggests a substitution effect. Some evidence indicates that the propensity to save is decreased in the

presence of future income (Katona, 1964; Cagan, 1965). But, on an aggregate level, social scientists are skeptical about the suggested substitution effect of, for example, social security. Prior to establishment of the social security system many retired workers were supported by their children. Social security may have substituted a system of mandatory public transfers from young to old for a voluntary private transfer from young to old. For a fuller discussion of these private, voluntary, inter-generational transfers, see Robert Barro (1978).

Lesnoy and Leimer (1985) suggest that the applicability of the LCHo is limited. They say the role of savings to meet contingencies or to leave bequests has been underestimated in the research in favor of an overemphasis on saving for retirement. Greenwood (1984) criticizes the theory saying that by making assumptions which are necessary to make a theory more widely applicable, those assumptions cloud the "rich and irregular parts of human interaction" (Greenwood, 1984: p. 665), which might be displayed in saving behavior other than for retirement.

Diamond and Hausman (1984) identified some reasons why individuals may not be able to increase consumption based on future resources as the LCHo would suggest. Some individuals are unable to convert income into current consumption. They are constrained consumers without sufficient current wealth (or access to credit) to permit current consumption to rise in response to additional future income. Another reason is that the theory may inaccurately assume that

individuals are forward-looking in making consumptions decisions rather than backward-looking.

Summarizing, the LCHo assumes individuals save during working years and dissave during retirement. However, there are some who reject the hypothesis because they doubt that individuals save rationally. "According to this alternative view, individuals are myopic and save irrationally, if at all" (Feldstein, 1983: p. 6). Also women's saving behavior may be less predictable using the LCHo due to the suggested bias of the model. Consequently women may be more vulnerable in retirement due to lower levels of income and wealth, but also policies which do not accurately address their needs. For that reason, it is important to test the theory broadly, and with varying data sets and definitions of assets.

RETIREMENT RESEARCH

For many years it was thought that men retire and that women continue to be housewives. While white, middle-class men remain the primary subjects of retirement research, the literature does provide some general findings for both men and women.

The components of retirement research which will be addressed in this section include a review of retirement research findings using male and/or female samples, and a discussion of the extent to which women have been specifically addressed or neglected in retirement research.

Review of Retirement Research

In 1954, Friedmann and Havighurst found an inverse relationship between work attitude and anticipation of retirement. That is, the more one likes work, the less one looks forward to retirement. This was reiterated in 1966 by Philip Ash who found a negative stigma associated with retirement. Glamser (1976) found a lack of statistical relationship between attitude toward retirement and commitment to work in both hourly and salaried industrial workers. Streib and Schneider (1971) suggested that a positive or negative attitude toward retirement is related to one's own prospects and expectations.

In considering retirement, economic variables are identified as the most significant factors. Sufficient income ranks first and the other economic factors are identified by Barfield and Morgan (1969) as number of dependents, house equity and expected income from assets. They stated that realistic appraisal of the present situation is impor-tant, and that pre-retirees who expect economic deprivation are less willing to retire.

Gratton and Haug (1983) commented that "since older women are more likely than men to be poor, lack of financial resources is an important predictor of female dissatisfaction about retirement" (p. 63).

Men and women who are eligible for social security and private pensions are more likely to stop work than are workers without these sources of income, according to Henretta and O'Rand (1980). However, women are less likely to be eligible for private pensions, and so do not have the same financial inducement as men to retire (Treas, 1981),

and it has been well documented that women are not likely to receive large social security allotments due to their own earnings (cf., Withers, 1979; AHEA 1980; Women's Studies Program and Policy Center, 1981).

Health is the second most frequently mentioned factor influencing the decision to retire. O'Rand and Henretta (1982) found that for unmarried women as for men, both health and potential income after retirement are major factors influencing the retirement decision. Levy (1980-81) stated that health appears to have different effects on the adjustment of males and females, while other studies have reported contradictory findings on the direction of the gender differences. Motley (1976) reported that, rather than being injurious to people's health, retirement is healthful -- indeed, some workers may be leaving work to safeguard their health.

The number of dependents has been found to influence retirement decisions (Hall and Johnson, 1980), as well as have other demographic variables such as education, occupation, and marital status. Regarding education, Schwab (1976) stated that although men with less education were more likely to have withdrawn early from the labor force than men with more schooling, education alone was not a statistically significant factor in the retirement decision. However, it should be noted that education does partly determine occupational status, which does relate to retirement planning.

Shanas (1972) reported that blue collar workers were more likely than white collar or agricultural workers to report missing the receipt of money related to jobs; and that professional level workers

(those with the highest salaries) reported not missing anything related to their jobs after retirement.

Marital status has implications for work and retirement finances. Keith (1985) states that, "being widowed, divorced, or never married in old age represents different role transitions and/or decisions over life course" (p. 410). Also, Gratton and Haug (1983) have shown that retirement is collaboratively determined within the marriage.

To recapitulate, the retirement event is a time of transition and adaptation for both men and women. Recent work suggests that satisfaction with the transition is primarily related to income sufficiency and health status. Additional factors also influence the retirement decision. Since accumulated savings prior to retirement influence the amount of savings upon retirement, research is needed to identify the amounts and allocations of assets prior to retirement as a means of assisting adaptation during retirement.

Gaps in the Research on Women's Retirement

In 1968, George Maddox commented that "the significance of retirement for the female as compared with the male has not been systematically explored and currently remains a matter of conjecture" (p. 70).

Little has changed in the past 15 years. Prentis (1980) repeated the same theme saying:

> little is known about the American working woman in terms of her work or retirement. Attention has been devoted almost exclusively to the male worker. This neglect is apparent in the assumptions, misinformation, and stereotyped views about the working woman. (p. 90).

Two opposing assumptions about women's retirement from paid employment are that (a) it is of little significance due to their greater involvement in family roles and (b) that it is similar to that of men's so little need exists to compare it as a separate process. Both support the position that research on women is not a salient research issue.

Documentation of this gap in retirement research on women is partially provided by a survey of the papers presented at the meetings of the Gerontological Society between 1970 and 1981 (Szinovacz, 1982). Szinovacz concludes that prior to 1975 there was virtually no research using female only samples. When investigations did include females, researchers relied on small, non-representative samples.

This neglect is further expressed by Odendahl and Griffen (1984) who comment that "...research on women's concerns is still not funded, conducted or published to nearly the same extent as studies with primarily male samples" (p. 1).

Daniels (1975) provides an excellent summary of research gaps. In her discussion she states "the issue is that ...women, and the world in which they live, are rarely if ever taken seriously enough to warrant systematic study by either men or women" (p. 368).

> Mere intellectual thoroughness demands that attention be given to the distinct adult dilemmas and issues experienced by women. Until this is done, one cannot be sure that the categories of analysis and theories of development are not somehow flawed by attention to only half the human race. (Giele, 1982; p. 2).

Without research on retirement using female samples, investigators may misrepresent women in the retirement transition and make inappropriate policy and behavioral recommendations.

The literature suggests that research on women's retirement has been pursued only during the past decade. Influenced by assumed gender-based differences in work commitment, most retirement research designs have excluded women, or when included have sampled younger women and/or administered abbreviated questionnaires. Because of poor research designs, "research has largely been based on small convenience samples or occupational samples from which generalization is hazardous" (Gratton and Haug, 1983: p. 60). This sparcity of information could be rectified by conducting studies designed for and focusing on women and their retirement experiences.

CHARACTERISTICS OF MID-LIFE WOMEN

For women in the middle years, there is a variety of issues and prospects affecting the quality of their lives. Obvious and fundamental needs include an adequate income (pre- and post-retirement), social interaction and comfortable environment and positive self-regard, among others (Markson, 1985). These needs influence women's behavior.

The characteristics of mid-life women will be more fully discussed below. Discussion will focus on economic, socio-demographic and attitudinal aspects of pre-retirement age women.

Women and Income Issues

Women are increasingly assuming provider roles. Single, divorced and some widowed women often have to work to support themselves and their children. For these women, gainful employment constitutes their

major source of income, and insufficient retirement benefits (from public and private sources) force some women to remain working beyond the usual retirement years. When there is little money, there is little money to save.

The Women's Bureau (U. S. Dept. of Labor) recently published information on working women's current wages and salaries, as well as evidence suggestive of women's economic need to work (see Tables I and II). Both Bergmann (1983) and Sherman (1974) concluded that institutional constraints in the labor market ultimately lower women's wages, as described more fully by Watchel (1973). Further, the earnings gap between men and women has not narrowed in the past 15 years. The percent difference in earnings was 62 percent in 1967, and had only risen to 64 percent by 1981 (Mellor and Stamas, 1982).

Income constitutes one of the most potent determinants of retirement adjustment and morale after retirement. For most individuals, retirement involves a significant reduction in income (Fox, 1979; Friedman and Sjorgren, 1981; Schwab and Irelan, 1981). Even though the reduction in absolute income is highest for married men and lowest for nonmarried women, given the different absolute levels of income this reduction means a substantial economic loss, particularly to unattached women (Friedman and Sjogren, 1981).

TABLE 1

Median Wage or Salary Income of Full-Time, Year-Round Workers, by Sex and Race, 1981.

	INCOME		INCOME
All Women	$12,172	All Men	$20,682
White	12,287	White	21,260
Black	11,312	Black	15,119

TABLE 2

Percent of All Women in the Labor Force, by Marital Status, March 1977.

-never married	widowed, divorced, separated	Married, husband present: Husband's Income: under $7,000	$7,000-9,999	$10,000-14,999	$15,000 & over
24%	19%	12%	9%	16%	20%

Source for Tables: U.S. Department of Labor, 1982.

In general, never married people earn less money than those in any other marital status group (U.S. Bureau of the Census, 1977). Not only are women's incomes considerably lower than men's, women also possess fewer net assets than both married and non-married men. In 1975, the median net worth was $19,359 for married men as compared to $5,621 for non-married men and $4,908 for non-married women; and the assets owned by non-married women were more likely to be tied up in home equities than those of either married or non-married men (Friedman and Sjogren, 1981).

Sherman (1976) indicated that while almost 90 percent of the elderly reported owning assets, very few older people owned assets of any great value other than their homes. This was substantiated by Withers (1979) who said that "most old people are relying mainly on social security (for retirement income) and their main asset is some kind of dwelling, a house they bought with their savings, a mobile home, or a trailer" (Withers, 1979; p. 56). And again by Diamond and Hausman (1984) who said:

> the net wealth holdings of a large fraction of the population are primarily in homeownership. While people can use their homes as collateral for further borrowing to finance consumption ... the wealth tied up in a house probably does not reflect wealth that will be used to finance consumption changes to the same extent as wealth in financial assets. (Diamond and Hausman, 1984; p. 82).

Eleanor Smeal stated in 1980 that "women in mid-life, whether married, divorced, widowed, or single, find that their opportunities for employment and economic security are severely limited and their futures precarious and uncertain" (U.S. House of Representatives, 1980: p. 5). For women in the labor market, their wages and salaries

are often lower than those of men due partly to the occupations in which women predominate, partly to their bi-modal labor force participation pattern, and partly, simply, to sex discrimination.

One aspect of women's retirement transition of particular concern is the fact that women tend to be financially unprepared for the many years of retirement living they will experience. Women tend to retire earlier than men and are thus more likely to receive reduced social security benefits (Fonner and Schwab, 1981; Pampel, 1981). Also, the longevity of the population as a whole means that people are living longer after they leave the workplace.

Determined by their record of earnings, the average level of social security benefits in 1981 replaced approximately 55 percent of retired workers' preretirement earnings on which social security taxes were paid (Church, 1982). "Social security provided people over age 65 with a median income of $5,170 in cash income in 1982" (Weinstein, 1984; p. 12). Chart III provides an indication of monthly allocations.

> Unmarried women are more likely than either couples or unmarried men to have no income source other than social security. Sixty percent of these women depend solely on social security, while 46 percent of the men do so. For everyone, however, the importance of social security cannot be overstated. (Women's Studies Program and Policy Center, 1981, p. 8).

Today, American workers tend to be highly mobile. On average, workers are employed by the same employer less than seven years, while about 90 percent of pension plans require 10 years of service to collect any pension benefits (Markman, 1985). Almost twice as many men receive private pension payments as women, and the median dollar

amount of men's pension benefits is almost two times greater than that of women. The median amount of women's benefits was $2,560 in 1982 (Women's Studies Program and Policy Center, 1981). This is partly because women are "heavily concentrated in jobs where occupational pensions are either nonexistent or inadequate" (Goetz, 1980; p. 144), and where there are low wages. Intermittent work histories also contribute to the problem. For an indepth discussion of private pensions, see McGill, 1979. Because women are less likely to be covered by private pensions, average retirement incomes are likely to be lower (Beller, 1980).

To conclude, mid-life women are a potentially "vulnerable majority" of workers. Because they receive low wages (the basis for social security benefits), are not likely to be eligible for private pensions, and have little to set aside for savings, they face retirement with low or poverty level incomes.

Socio-Demographic Characteristics

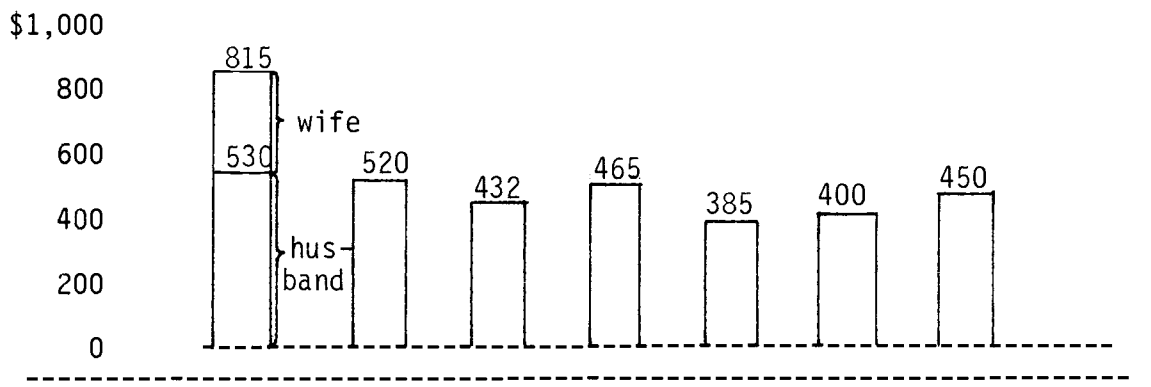
Data from the 1980 Census indicate that there are 226.5 million people in the United States: 116.5 million are women, 86.4 million of whom were of working age (16 years of age and over). Further, of the total female population in the United States counted in the 1980 census, 83 percent were white and 17 percent were black and of other minority races (96.6 million and 19.9 million, respectively) (U.S. Department Commerce, December 1983).

Of a reported 93.1 million women (15 years of age and older), 22.9 percent are never married, 11.7 percent are widows, and 7.5

percent are divorced. The incidence of singleness is most obvious for the relatively young and the relatively old. Of women under 25 years of age, 75.5 percent are single, and of women 55 years of age and older, 46.5 percent are single. For women entering mid-life, ages 30 to 34 years, the proportion who have never married was more than twice as high in 1983 as it was in 1970. (U.S. Department of Commerce, September 1983).

FIGURE III

Average Monthly Social Security Benefits for Couples and for Unmarried Men and Women, 1982.



Source: Social Security Bulletin, Feb. 1985, p. 18

"There is some indication that a general pattern of postponing marriage is an increasingly prevalent norm for young women (Sternlieb, Hughes and Hughes, 1982; p. 36). Glick (1984) projects that a growing percent of women are choosing not to marry, and that, if the figures

are correct, "the proportion of young adults who remain single throughout their lives will be three times as large as in their parents' generation." (Glick, 1984: p. 23). He has also noted an upward trend in second divorces.

A more than tenfold increase in the number of working mothers since 1940 has been well documented. (Women's Bureau, 1982). Labor market issues for women remain constant --- occupational clustering, patterns of employment, and compensation. See Norwood (1984) for a broad description of the problems.

Greenwood (1984) states "in 1979, half of all working women were in 7 percent of the 419 Census occupations, each of those at least 80 percent female" (p. 664). Rytina (1982) analyzed Bureau of Labor Statistics (BLS) data and pointed out that women are more likely to be white collar workers than service, blue collar or farm workers. In 1981, the greatest proportion of women were in clerical positions (39%), followed by professional and technical (19%), operatives (13%), service (12%), and sales (4%).

Sherman (1974) states "having children can affect labor force behavior (and ultimately income) --- not in only one direction, but in a variety of ways" (p. 8). For example, a mother may not be able to enter the labor market when her children are young and need care; however, if she is a single parent, she may need to work in order to support her children.

> The economic situation among single-parent households varies with the sex and race of the parent. In March 1980, for example, a higher proportion of female-headed, single-parent families than male-headed, single parent families were classified as living in poverty (40 and 16 percent, respectively). In 1979, the median income of single-parent

> families maintained by a female was $8,100 compared to $15,300 for families maintained by a male. The median income of single parent families headed by the mother was $6,400 for blacks and $9,200 for whites. (Payton, 1982; p. 11).

Twenty percent of all children under 18 years of age in 1981 lived in one-parent families compared with 12 percent in 1970. Of this 12.6 million children living with one parent, 90 percent lived with their mothers, a proportion unchanged since 1970. (Family Economics Review, 1983; p. 26).

Attention has been focused recently on the intermediary function that adult children assume between aged parents and the health-care system (Sussman, 1977). Children may serve as sources of information and informal referral or as advocates for their parents. It is also becoming widely recognized that children provide a very large amount of direct health and social-service assistance to their parents, accounting for upward of 75 percent of such assistance (Brody, 1978; Tobin and Kulys, 1980). The increasing financial dependence of parents on adult children as a new phase of the life cycle may be a factor which will affect the appropriateness of the LCHo model for predicting savings/dissavings patterns. This factor deserves attention in retirement related research.

Sherman (1974) noted that perhaps the most important factor influencing women's labor force behavior is their health which, if poor, would negatively affect their earning ability. Verbrugge (1979), comparing marital status groups and reports of chronic limitations and disability, identifies married people as the healthiest, followed by the never married, the widowed, the separated and the

divorced, in that order. Howe's (1979) research corroborates this finding for women over age 65 years. The researchers reported that these results are explained by marital status and lifestyles which influence health, and by propensities to take health related actions when feeling ill. In terms of acute health conditions, the married, never married, and widowed had very similar incidence patterns; the divorced and separated, however, reported a higher incidence of disability. (Verbrugge, 1979) From a study related to work disability, it was found that married people had the lowest rates of disability, followed by the never married, the widowed, and the divorced, with the separated having the highest rates. The difference between the never married, widowed and divorced in this category was small --- about one percent (Verbrugge, 1979).

Van Duesen and Sheldon (1976) state that, after World War II, women in secondary schools were often counselled away from academia with the argument that women need not support themselves, that women's work does not require extensive training or educational degrees, and that women will give up their schooling for marriage and family. Other researchers noted, concerning women who are over 40 today, that:

> When they were young, many middle-aged women did not have the educational opportunities that are taken for granted today. (Shaw and O'Brien, 1983: p. 17).

Van Dusen and Sheldon (1976) have documented the rise in educational attainment of women over the past several decades. Howe's (1979) data on older women describe a never married population that had 15.9 years of education, compared with 12.8 years for the married, 11.8 years for the divorced, and 11.9 years for the widowed. This same pattern is

noted by Glenn, Ross and Tully (1974). Further, the black never married woman, like the white never married woman, tends to be better educated than her male counterpart. Women with five or more years of college education were more likely to be never married. (Braito, 1985).

Despite complicating home characteristics, or because of them, women must work. Odendahl and Griffen (1984) identified employment incentives for women:

> In half of all American families the wife contributes to the household income. In some 20 percent of two-earner families women raise the income above the poverty level. Almost 20 million women work to support themselves, and over 8.5 million are single parents (p. 5).

In 1980, Chenoweth and Maret classified work careers into three general participation patterns: continuous labor force participation, interrupted participation (in-and-out of work pattern), and nonparticipation. Women's labor force participation typically has been characterized by in-and-out, or bi-modal, patterns. Clark (1980) commented that in-and-out work patterns of women affect retirement incomes as they slow the progress toward pension vesting and increase the risk of never achieving pension coverage, as well as leading to lower wages upon which retirement incomes are based.

Kahne and Kohen (1975) comment that single women may be particularly disadvantaged in the work force because they have a work commitment that mirrors that of men, but a job environment and, often, home responsibilities that more nearly parallel married women.

Attitudinal, or Outlook, Variables

Sobol (1979) found that individual saving behavior is influenced not only by economic and socio-demographic factors, but also by outlook or attitudinal variables. She stated that even if major factors related to saving are held constant (such as income or education), "different people have different asset patterns" (Sobol, 1979: p. 590), based on various historical vantage points from which an individual develops an outlook toward saving. That is, personal background characteristics may influence individuals' outlook toward saving. In particular, Sobol found that nationality of respondents was correlated with saving behavior.

Research on achievement strivings of young girls by Farmer (1980) and by Topol and Reznikoff (1979) indicated no significant difference between achievers and nonachievers on self-esteem, risk preference, sex role orientation, or attitudes toward women. However, as young females' identities becomes more crystallized with age, women's attitudes diverge into those who continue to be self-reliant versus those who subordinate their needs (Tinsley and Faunce, 1978; Carney and Morgan, 1981). Attitudes nurtured in childhood and adopted by adolescent girls often color women's behavior later in life, according to the socio-psychological literature. If women have a limited perception of their abilities, this may influence their attitude toward self-responsibility in saving for retirement.

Using classifications as 1) a traditional female lifestyle (homemaker), 2) a non-traditional lifestyle (career woman), or 3) a middle ground --- a neo-traditional lifestyle (homemaker and worker),

O'Connell (1980) found that neo- and non-traditional women scored higher on tests measuring dominance, self-acceptance (self-confidence), achievement motivation, psychological-mindedness (self-actualizing) and sociability than did women with traditional lifestyles.

Role modeling is believed to influence an individual's outlook or attitudes. Early work on personal factors in women's employment did point to certain family experiences as possible influences on a girl's aspirations. For example, in their review of the effects of maternal employment, Nye and Hoffman (1963) found higher educational and occupational aspirations among daughters of employed, middle-class mothers. Douvan and Adelson (1966) discovered that adolescent girls aiming for a traditional role took their mothers and female relatives as role models whereas the adolescents geared to occupational achievement took nonfamily members as models. Lipman-Blumen (1972) identified direct achievement modes more frequently in women graduate students pursuing an advanced degree and vicarious achievement modes more frequently in the non-student wives of graduate students.

In a 1978 study, Huth concluded that daughters seem to identify with the mother's balance of needs; that the mother's employment status directly affects the woman's work status (modelling); and that fathers were perceived as sending double messages (encouraging independence, but expecting dependence). She indicated that a woman's work status very strongly related to women's role values, as tested through personality variables.

Birnbaum (1975) found higher self-esteem and sense of competence in employed, married, college graduate women than among the full-time homemakers. However, for women to feel this sense of self-esteem, the conditions of employment are crucial and include such factors as the prestige of a woman's occupation and the conditions under which she enters it. Women in occupations of high prestige have greater psychological health (Barnett, 1975; Ilfeld, 1977). In addition, women who have chosen employment rather than having been forced to take a job as a result of economic necessity, also appear happier (Birnbaum, 1975).

A character portrait of American women in general might look something like this: they are socialized into gender-specific roles (Rakowski and Farrow, 1979; Donelson and Gullahorn, 1977), and are often taught to derive satisfaction through their husbands (Bernard, 1975), at mid-life they may re-evaluate their situations and seek new involvement outside the home (Laws, 1979; Mogul, 1977), but those with traditional backgrounds may have a limited view of what women can do (Donelson and Gullahorn, 1977). Women who lead traditional lives tend to have more structured attitudes towards appropriate women's roles. These traditional women have less education and more children (Farmer, 1980; Topol and Reznikoff, 1979; Carney and Morgan, 1981). Although women may typically be socialized in this way, the adjustment to the reality of "single" status and financial self-responsibility is not well defined or understood.

In summary, the force of social transition can be seen in work related behavior and circumstance, in recent demographic changes, and in retrospective evaluation of values and outlook. All of these

combined have ramifications for pre-retirement age women who must consider their future financial position.

SUMMARY

Assessment of the predictive power of the Life-Cycle Hypothesis using pre-retirement age women could be useful for the formulation of retirement policy as it would enable policy makers to understand how social policies affect saving, retirement, and the economic status of future female retirees. There has been sufficient research to, at minimum, question the Life-Cycle Hypothesis as one which is useful at the micro level and for the economy as a whole. This is especially so at a time when the value of assets at retirement may be small (and getting smaller) relative to potential pension (cash) benefits. The hypothesis is of limited usefulness until more work is done to understand the retirement situation of women.

Women's labor force participation and social interaction has changed since World War II and the erosion of her traditionally dependent status has forced a questioning of theories and research on women's changing social and economic roles. Because today's mid-life women are "less likely to know how to prepare for retirement than are their male counterparts ... (they) face (their) long-range financial future ill equipped and untrained" (U.S. House of Representatives, 1980; p. 15). The development of adequate retirement policy and programs for women depends on understanding the economic, social and attitudinal factors that influence preparation for retirement. There is a need for additional longitudinal and large-scale research on

women and retirement issues.

CHAPTER III: METHODOLOGY

This chapter contains a re-statement of the purpose of the study, description of the sample, description of the instrument, procedures for the collection of the data, identification of variables used in the study, and the proposed statistical analyses.

PURPOSE OF THE STUDY

This study assessed the level of financial preparedness of mature, single women as they approach retirement by examining the relationships of economic, demographic and attitudinal variables to net worth. The variables, and their influence on asset accumulation, were considered within a life-cycle model of saving behavior that included a broad definition of net worth. Data were drawn from the National Longitudinal Surveys: Survey of Work Experience of Mature Women (NLS) for a sample of white and black women who were single at the time of the surveys (1967, 1972, 1977 and 1982), and who were in the labor force in 1967. The objective was to isolate factors related to net worth and to identify factors which might be used in programs and policies designed to facilitate an increase in women's pre-retirement saving behavior.

Definition of Terms

In this research project, the following terms are used and should be interpreted as specified:

assets - items that a person owns, including three traditional measures of liquid wealth plus four measures of less liquid wealth. See discussion of dependent variable for specifics.

attitudinal variables - variables that relate to the respondents' (samples') cultural perspective, outlook toward life, and role model.

black - blacks and Puerto Ricans.

demographic variables - variables that refer to the sample's social characteristics.

economic variables - variables that indicate the respondents' (samples') current or potential financial situations.

employed - in the paid, civilian labor force as part- or full-time workers; does not include those women currently looking for employment.

labor force participants - those individuals who either are employed and at work; employed, but not currently at work; or are looking for employment; does not include the 'discouraged worker.'

liabilities - personal loans and mortgages.

life-cycle model - a theory of household wealth accumulation, in particular the role of savings to maintain consumption over the lifespan.

net worth - (or net family assets) the result of subtracting liabilities from total assets.

personal savings - a stock of assets that serves as a source of capital for consumption.

retirement - the final termination of gainful employment.

single - a marital status classification; includes never married, widowed or divorced.

Hypotheses

Preliminary work is of a descriptive nature, therefore initial information must be obtained prior to more indepth analysis. This descriptive information includes:

(1) description of single women, including marital status and race

(2) type and level of assets and of liabilities in five year increments, 1967 to 1982

(3) level of net worth in five year increments, 1967 to 1982

(4) distribution of dollar amounts held in each category of asset and liability types by marital status and race

(5) rate of change in net worth in five year increments between 1967 and 1982 by marital status and race.

Secondarily, greater meaning can be obtained from the data by addressing a variety of relationships. The following are questions posed in the null form:

Ho1 there is no difference in the net worth in 1982 between:
never married and divorced women
never married and widowed women
divorced and widowed women
white and black women

Ho2 there is no difference in the rate of accumulation of net worth over the 15 year period, 1967 to 1982, for:
never married and divorced women
never married and widowed women
divorced and widowed women
white and black women

Ho3 there is no significant interaction between the following six classifications and net worth:
white, never married women
white, divorced women
white, widowed women
black, never married women
black, divorced women
black, widowed women

Ho4 there is no significant relationship between the independent variables and the dependent variable (net worth), by year

Ho5 there is no significant relationship between the dependent variable (net worth) and selected independent variables (attitudinal) given the inclusion of other independent variables (economic and demographic), by year.

DESCRIPTION OF THE SAMPLE

Beginning in 1967 the National Longitudinal Surveys: Survey of Work Experience of Mature Women (NLS) identified a panel of 5,083 mature women who, at the inception of the study, were 30 to 44 years of age. The original sample was a national probability sample chosen to be representative of all noninstitutionalized, civilian women of that age in the continental United States at the time of the first interview. Low attrition rates in the first ten years mean that, by 1977, the continuing sample (78%) remained reasonably representative of that age group of women in the United States. In addition, black women were oversampled to provide a large enough number for meaningful analysis.

A subsample of this cohort group was used for purposes of this study. Women who were single at the time of the first interview and remained single throughout the 1982 interview were included. Further, the subsample included only those single women who were in the labor force in 1967. There were 182 women who fulfilled the requirements to be included in this study.

DESCRIPTION OF THE INSTRUMENT AND DATA COLLECTION

The data were collected from a panel survey comprised of a series of twelve semi-annual interviews from 1967 to 1982 using various methods: telephone, mail, and face-to-face interviews. The women interviewed gave extensive information about their financial situa-

tions as well as answers to economic, demographic and attitudinal questions.

Contents of the interviews and maintenance of the public-use data tapes are the responsibility of the staff of the Center for Human Resource Research at Ohio State University under contract with the Employment and Training Administration of the U.S. Department of Labor. Interviews are conducted through the U.S. Bureau of the Census.

For a more indepth discussion of the data collection, refer to the NLS Handbook (1983-84, pp. 5-10).

IDENTIFICATION OF VARIABLES

The relationship of selected economic, demographic and attitudinal variables to asset levels was examined. The NLS data set was particularly valuable because it expanded the more traditional definition of assets (liquid assets) to a net worth concept that included most of the resources available to retired workers.

Dependent Variable

The dependent variable in this study was net worth in 1982 as well as its pattern of accumulation over a 15 year period.

Assets. Assets included the three traditional types of liquid wealth:

1. dollar amount of savings (including checking accounts),
2. dollar amount of U.S. savings bonds,
3. market value of bonds, stocks and mutual funds,

plus less liquid wealth:

1. net value of home or apartment,
2. net value of farm home or property,

3. net market value of business assets,
4. net value of other property.

These assets were summed and liabilities such as personal loans and mortgages were subtracted to determine total net family assets, or net worth.

Independent Variables

Independent variables are broadly categorized as economic, demographic, and attitudinal variables. The number of independent variables used in this study far exceeded the number of women in the sample. This situation may weaken the interpretation of regression results. These variables are identified by their code names; defined; indication of missing data given; and, in some cases, a rationale for their inclusion is given below.

Economic Variables. Economic variables are those that contribute directly to saving potential or influence saving.

previous income [prev inc] - net income of the previous year: this provides the most accurate and recent account of the individual's income

pension [pen] - years of credit toward retirement pension with a current employer; these data are available only in 1982: theories suggest that eligibility for pensions bringa to one's mind the need to save for retirement, and the proximity of the retirement event stimulates a change in saving behavior

pension (employer) [pen(e)] - does the current employer "offer" a pension plan other than social security; these data are only available in 1982

social security [ss] - eligibility for social security based on respondent's own work record; these data were available only in 1982; see pension (above)

social security (widow) [ss(w)] - is respondent eligible for social security from husband's account due to widowhood; these data were only available in 1982.

Demographic Variables. Demographic variables are presumed to affect asset levels primarily because they affect income and expenses. Also, there may be a large disparity in asset levels between each type of single women groups and between the two races.

age [age] - chronological age of respondents: age earning curves suggest that age is related to income, and also to the incentive to save for retirement

dependents [dep] - number of dependents, by year; expenditures increase with family size

education [educ] - highest grade completed; data question varies by year: it is believed that education increases one's earning power

health [hlth] - does respondent's health limit her ability to work; these data varied by year: health problems tend to increase with age and to be accompanied by added expense, and perhaps reduced income

labor force participation [lfp] - respondents who are identified as (1) working [work], (2) with a job, but not at work [job], (3) looking for work [look], (4) going to school [sch], (5) keeping house [hshld], (6) unable to work [unable], and (7) other

marital status [mar stat] - single women who are either never married [nm], widowed [w] or divorced [d]

parents [par] - life status of respondent's parents identified as (1) both parents alive [both a], (2) mother alive, father dead [ma,fd], (3) father alive, mother dead [fa,md], (4) neither alive [both d]; these data were not available in 1977

race [race] - white or black: due to subtle and overt discrimination, race is believed to influence earning ability

Standard Metropolitan Statistical Area [SMSA] - identifies type of residence as (1) lives in SMSA, in the central city [city], (2) lives in SMSA, in the suburbs [suburb], or (3) does not live in an SMSA [not SMSA]

tenure [ten] - tenure at one's job, this question varied by year; the number of years at the current job would influence asset accumulation as moving depletes assets and as tenure determines eligibility for some fringe benefits.

Attitudinal Variables. Attitudinal variables may influence propensity to save even when income, age, race and sex are constant. Saving may be related to cultural perspectives, to personal initiative, to role models, and to an overall sense of well-being.

attitude toward women working - a series of questions identified as being acceptable if (1) if it's necessary to make ends meet [att(a)], (2) if she desires and husband agrees [att(b)], (3) if she desires and husband disagrees [att(c)], and (4) a woman's place is in the home [att(d)]: despite the fact that an individual woman works, her attitude towards women's role in the labor market may extend to her perception of necessity to save; attitude (a) not available in 1967

occupation category of current or last job [job cat] - identified according to Census Bureau categories as:
(1) professional, technical, kindred [prof]
(2) managerial, official, proprietor [mgt]
(3) clerical, kindred [cler]
(4) sales worker [sales]
(5) craftsmen, foremen, kindred [craft]
(6) operatives, kindred [oper]
(7) private household workers [hshld]
(8) service workers, except hshld [serv]
(9) farmers and farm managers [farm]
(10) farm laborers, except foremen [farmlab]
(11) laborers, except farm and mine [lab]
(12) armed forces [arm]
people in professional and managerial jobs are thought to be more likely to have higher incomes and a different outlook than people in other classifications

nationality [nat] - ethnic background identified according to broad groups, (1) U.S. or Canada, (2) Northern or Western Europe, (3) Central or Eastern Europe, (4) Southern Europe, and (5) Latin American: individuals raised with a strong cultural emphasis on frugality may be more inclined to save; data available only in 1967

occupation (father) [occ(f)] - occupation of head-of-household (father) when the respondent was 15 years old (see categories identified above for job category): the climate in which one is raised may have an influence on saving behavior; data available only in 1967

occupation (mother) [occ(m)] - occupation of head-of-household (mother) when the respondent was 15 years old (see above); data available only in 1967

Rotter Scale [Rotter] - respondents' average scores on a series of eleven questions used were to determine locus of control: feelings about success and personal control may influence asset accumulation and risk behavior

person with whom the respondent was living at age 15 [lvg] - one of a series of responses (1) father and mother [f,m], (2) father and step-mother [f,sm], (3) mother and step-father [m,sf], (4) father only [f], (5) mother only [m], (6) some other adult male relative [om], (7) some other adult female relative [of], (8) on her own [own], and (9) some other arrangement [other]; data available only in 1967.

The unit of analysis varied by hypothesis and should be explicitly noted. Hypotheses one, two and three used two sub-sample categories. Hypotheses four and five used the sample as a whole.

PROPOSED STATISTICAL ANALYSIS

The data set was large and, at times, cumbersome to analyze. Computer analysis was performed at the Milam Computer Center on the Oregon State University Campus.

Beyond an initial analysis of sample characteristics and asset holdings, the statistical analysis is divided into three parts: (1) analysis of differences between the sub-categories (marital status and race); (2) analysis of relationships among and between the variables; and (3) analysis of the predictive powers of the variables.

The first task of data analysis was to understand basic characteristics of the sample. For descriptive purposes, frequency analyses were performed on all selected independent variables with frequency distributions and central tendencies of variables examined. Additionally, to examine how economic, demographic and attitudinal variables relate to each other, Pearson's Product Moment Correlation, Spearman's rho, cross tabulations and chi squares, and one-way analysis of

variance tests were performed. These test results are not reported in this study, but serve as a source of information to better understand other test results.

Inferential statistics were used so that predictions could be made and become the basis on which hypotheses were accepted or rejected.

For the first hypothesis, a t-test was utilized. The t-test for differences between means is perhaps the best test when using interval level data to determine the significance of differences between means (Champion, 1981). The 0.05 significance level for testing this null hypothesis was chosen. Because a decision to accept or reject a null hypothesis cannot be made with absolute certainty, the decision must be based on probabilities (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). This significance level is the smallest probability that a relationship will be accepted as reasonable when it is not.

To test the second hypothesis, a one-way Analysis of Variance (ANOVA) was performed for the marital status subsample categories. The ANOVA allows the researcher to "statistically test whether the means of subsamples are significantly different from each other" (Nie, et al., 1975; p. 259). Again, a 0.05 significance level was chosen. If the means are not found to be significantly different, then the null hypothesis would not be rejected. In the case of the marital status subsample categories, the testing was done by comparing the actual F value with the known sampling distribution of the F value, found in most statistics books. To validate the ANOVA findings, an estimate of all pairwise comparisons of means using the Tukey's

Procedure for multiple comparisons of means was performed (Steel and Torrie, 1980). Further, means, standard deviations and t-tests were performed for the race category. The t-test was used to determine if any significant difference between the rate of accumulation of net worth of white and black women was evident. That is, the test was performed to assess the probability that any difference was due to chance. In all of these cases, the difference between means was considered significant if the significance level (p) was equal to or less than 0.05.

Hypothesis three was examined using a two-way ANOVA. The two-way ANOVA procedure is a method of ascertaining whether any interaction exists between some dependent variable and two independent variables (Champion, 1981). The F test was used for evaluating interaction and main effects. Although the F test is used to determine whether a significant difference exists between samples (Champion, 1981), a drawback is that it does not reveal where that difference exists. The F test simply says that a difference exists somewhere among the groups. It indicates that the largest and smallest means are significant, but does not indicate whether the largest and second smallest means are significant.

Simple, linear regression analysis was used to test hypothesis four. The basic linear regression model examines the relationship between one independent variable and the dependent variable (Neter and Wasserman, 1974). In this study, in order to consider the relationship significant and to be able to reject the null hypothesis that the relationship between the two variables is zero, a probability equal to

or less than 0.05 was originally required. If the probability of the calculated F ratio was less than 0.05 it was concluded that the independent variable was related to the dependent variable. However, because test results were sparce at this stage, the critical value was relaxed ($p \leq 0.13$) to allow examination of "nearly" significant variables while increasing the probability of error to a small degree.

For the purpose of this study a segmented, step-wise multiple regression analysis was used to estimate the relationship between the net worth and economic, demographic and attitudinal characteristics of the respondents. For each of the four segmented, step-wise multiple regression analyses there were two segments: (1) the inclusion of identified economic and demographic variables from the fourth hypothesis test; and (2) the step-wise addition of attitudinal variables. The step-wise method identifies which independent variable will be included in the regression equation based on the greatest contribution in explaining the variability of the dependent variable. In this study, in order to consider the regression significant and to be able to reject the null hypothesis that there is no relationship between the independent variables and the dependent variable, a probability equal to or less than 0.05 was required. A coefficient of determination (R^2) was calculated for each final segmented, step-wise multiple regression model. The coefficient (R^2) indicates the magnitude of the relationship between net worth and the independent variables. It expresses the proportion of variance in the dependent variable accounted for by the set of independent variables chosen (Kerlinger).

CHAPTER IV: FINDINGS

The purpose of this exploratory research was to obtain information about the level of financial preparedness of mature, single women as they approach retirement age. A longitudinal data set was used to analyze saving behavior during a 15 year period prior to retirement as a partial assessment of the Life Cycle Hypothesis model.

The information addressed in this chapter includes the findings of the research project. The findings are divided into two groups: a descriptive analysis of the sample and the results of the null hypotheses testing.

DESCRIPTION OF THE SAMPLE

The sample for this study was drawn from a national probabilistic sample of 5,083 women who were ages 30 to 44 years in 1967. Primary sample definition included that the women be either white or black, that they be single (defined in this study as widowed, divorced or never married) for all 15 years of this study, and that they be labor force participants at the time of the first interview.

Descriptive results are, therefore, for a stable sample of 182 respondents who met all of the sample criteria. The remainder of this section of Chapter Four presents highlights of the sample characteristics based on three organizing categories: economic, demographic and attitudinal characteristics.

TABLE 3

DESCRIPTION OF THE SAMPLE: Basic Demographic Information, 1967 and 1982.

	1967	1982
RACE		
white	115	115
black	67	67
	182	182
MARITAL STATUS		
widowed	32	37
divorced	56	53
never married	94	92
	182	182
LABOR FORCE PARTICIPATION		
working	173	122
with a job	7	16
looking for a job	2	1
school	n/a	1
housework	n/a	21
unable to work	n/a	5
not applicable	n/a	13
	182	182

Economic Characteristics

It should be recalled that the dependent variable, net worth (or net family assets) is calculated using asset and liability information. Hence, the independent variables in the economic characteristics category include only those financial variables not included in calculation of the independent variable: previous income and (in 1982 only) eligibility questions about private and public pensions.

For the sample, the median income (in current dollars) was $5,202 in 1967 and rose to $14,300 in 1982. By race, white women earned more than did their black counterparts ($6,110 versus $3,000 in 1967 and

$19,768 versus $9,524 in 1982, respectively). Marital status groups differed substantially over the 15 year period, with median income figures ranging from $4,020 for widows, $5,201 for divorced, and $5,511 for never married women in 1967 to $11,686 for widows, $15,043 for divorced, and $14,500 for never married women in 1982.

Further descriptive economic characteristics are in Appendices A through D. Additionally, self-reported financial well-being in 1982 indicated that about half (53%) of the sample perceived themselves to be able to "get along financially."

Socio-demographic Characteristics

There are a variety of socio-demographic variables that provide a picture of the sample.

The age distribution of the sample was constant over the period of the study as the sample matured. By 1982, the women's ages ranged from 45 to 59 years. In 1967 a little over half of the respondents (53%) reported having dependents, the great majority of whom were children (71%). In 1981, only 3 percent of the women reported having parents as dependents.

Throughout the 15 year period, the data indicate that the sample participated in the labor force. Of the three labor force participation categories in the NLS data, to be at work was the most prevalent response, although in declining numbers over the years: 95 percent of all respondents were working in 1967, decreasing to 67 percent by 1982. Further, they did not report health problems that might limit their ability to work.

Few women in the sample had pursued studies at colleges or universities (16%), although most had up to 12 years of education (67%) in 1967. Finally, the sample was overwhelmingly an urban/suburban sample over the entire period studied.

Attitudinal Characteristics

The attitudes women have about their roles in life, their values and goals, and their independence are not typically examined in relation to savings behavior. But, from the onset, an objective of this exploratory study had been to evaluate how women's attitudes might influence the propensity to save.

For the sample, 63 percent identified US/Canadian ancestry. Another 21 percent identified Northern or Western European roots.

A particularly interesting set of questions asked over the 15 year period had to do with the respondents' attitudes toward women working. The consensus was that if it is necessary to make ends meet, then it is okay for women to participate in the labor force. Also, if one's husband were to agree that women can work, the respondents indicated that it would again be okay for that woman to work. However, if one's husband were to disagree with the idea of a woman working, then the sample responded that it is not okay for women to work. This belief shifted, however, over the 15 year period --- one might speculate --- due to more liberal attitudes of the 1970's and the reality of the work-place. Finally, women's attitudes toward "a woman's place being in the home" were moderate, with a slight preference for women's freedom to work outside the home.

Rotter scale data showed that the respondents generally had scores that indicated internal or very internal control, that is, they perceived that events in their lives are contingent on their own behavior.

Role models play a part in individuals' achievement orientations and expectations. Sixty-four percent of the respondents reported living with both father and mother at age 15. The respondents said their fathers, as role models, were more commonly operatives or farmers (19% each), and crafts workers (11%). The majority of respondents also said their mothers did not participate in the paid labor force (68%).

Finally, the respondents showed little shift in job categories over the period studied. Rather, they consistently stayed in clerical, professional, operative and service-related positions.

RESULTS OF THE NULL HYPOTHESES TESTING

The inferential research objectives were to analyze factors related to the respondents' net worth, and to determine which factors were most closely related to accumulation of net worth over the 15 year period from 1967 to 1982. The five null hypotheses (with sub-parts) were developed to evaluate those factors.

The null hypotheses were tested by one or a combination of the following statistical methods:

t-test
one-way ANOVA and Tukey's Procedure
two-way ANOVA and F test
simple linear regression
segmented, step-wise multiple regression.

The null hypotheses are stated below and the hypothesis testing results are reported.

Ho1 There is no difference in the net worth in 1982 between:
never married and divorced women
never married and widowed women
divorced and widowed women
white and black women

As a nondirectional hypothesis, a two-tailed t-test was used to determine the significance of difference between mean net worth (1982) values for each sub-sample group pairs described in this hypothesis, and a critical level of $p \leq .05$ used.

TABLE 4

T-TEST SUMMARY: Difference in Net Family Assets, 1982

SAMPLE	N	X	SD	df	T*	T
n. mar.	92	41,988.30	58,243.48	143-	0.3553	1.98
div.	53	45,334.34	54,770.24			
n. mar.	92	41,988.30	58,243.48	143	2.595*	1.98
widow.	37	20,690.00	33,277.35			
div.	53	45,334.34	54,770.24	88	2.649*	2.00
widow.	37	20,690.00	33,277.35			
white	115	51,821.83	60,031.46	180	5.464*	1.98
black	67	15,729.62	28,703.95			

* significant at $p \leq .05$ level

Based on the t-test results, it is possible to reject the hypothesis for three of the four sub-sample categories (never married and widowed; divorced and widowed; and white and black women) and

conclude that there is a significant difference in the net worth in 1982 for three of the four pairs in this analysis.

In this test, the observed value of t for three of the four groups equaled or exceeded the critical value of t. In the case of white and black women, the difference in net worth was significant at the p=.01 level. Mean net worth values (1982) between never married and divorced women were not significantly different.

The conclusion is that there are differences in the 1982 net worths of:

never married and widowed women
divorced and widowed women
white and black women

Therefore, the null hypothesis for these groups can be rejected. The null hypothesis for never married and divorced women, however, must be retained.

Ho2 There is no difference in the rate of accumulation of net worth over the 15 year period (1967 to 1982) for:
never married and divorced women
never married and widowed women
divorced and widowed women
white and black women.

The rate of accumulation, or rate of change, of net worth for the women as a whole in this study was positive for the 15 year period, but slight. From 1967 to 1972 the respondents (N=108) showed a decrease in rate of change of net worth of less than one percent. From 1972 to 1977 the respondents' (N=106) rate of change of net worth increased 22 percent. And from 1977 to 1982, rate of change of net worth increased four percent. This averages to an overall increase for the period studied (see Appendix E).

For the marital status sub-sample categories, a one-way Analysis of Variance (ANOVA) and Tukey's Procedure for multiple comparisons was used with a .05 critical level. For race, a two-tailed t-test was used, also at a .05 level of significance.

In testing whether or not the three marital status subsample categories differed in accumulation of net worth over the 15 year period, the results were uniform.

From 1967 to 1972, the observed F value (F*) did not equal or exceed the critical F (F*=.559; F=3.09), therefore it is concluded that there was not a significantly different rate of change in net worth between the marital status groups. Consequently, the null hypothesis is retained.

TABLE 5

ANALYSIS OF VARIANCE: Rate of Change in Net Family Assets by Marital Status, 1967 to 1972.

SOURCE	SS	df	MS	F*	F	SIGN.
Between	126.91	2	63.459	.557	3.09	.5746
W/in	11962.67	105	113.9302			
Total	12089.58	107				

* significant at $p \leq .05$ level

To verify this result, an estimate of all pairwise comparisons of means using the Tukey's Procedure, and using a family confidence coefficient of 95 percent, was performed.

In this case, the actual value was greater than the tabular value (Tukey* = 7.5474; Tukey = 3.36), so it is concluded that no two groups are significantly different at the .05 level. This verifies the ANOVA results and leads to the conclusion to retain the null hypothesis for 1967 to 1972.

In 1972 to 1977, there were no significant interaction effects between any of the three marital status subsample categories and the rate of change in net worth. This is evident as the observed F value is not equal to, nor does it exceed, the critical value at the .05 level (F*=2.510; F=3.09).

TABLE 6

ANALYSIS OF VARIANCE: Rate of Change in Net Family Assets by Marital Status, 1972 to 1977.

SOURCE	SS	df	MS	F*	F	SIGN.
Between	207,968.46	2	103,984.23	2.510	3.09	.0862
W/in	4,267,251.59	103	41,429.63			
Total	4,475,220.06	105				

* significant at $p \leq .05$ level

Using the Tukey's method for comparison of studentized means, the tabular value for the ranges at the .05 level indicates that no two groups are significantly different (T*=143.9264; T=3.37). Therefore, the null hypothesis is retained.

From 1977 to 1982, again the observed F value did not equal or exceed the critical F (F*=.497; F=3.09), therefore it is concluded

that there was not a significant difference in rate of change in net worth between the marital status groups. Consequently, the null hypothesis is retained.

To verify this result, Tukey's Procedure was repeated. The actual value was greater than the tabular value (Tukey* = 35.7486; T = 3.37), so it is concluded that no two groups are significantly different at the .05 level. This verifies the ANOVA results and leads to the conclusion to retain the null hypothesis for 1977 to 1982.

TABLE 7

ANALYSIS OF VARIANCE: Rate of Change in Net Family Assets by Marital Status, 1977 to 1982.

SOURCE	SS	df	MS	F*	F	SIGN.
Between	2,539.83	2	1,269.91	.497	3.09	.6099
W/in	260,704.83	102	2,555.93			
Total	263,244.66	104				

*significant at $p \leq .05$ level

For the entire 15 year period, there were no significant interaction effects between the three marital status sub-sample categories and the rate of change in net worth. This is evident as the observed F value is not equal to, nor does it exceed, the critical value at the .05 level ($F^* = .427$; $F = 3.11$).

Using the Tukey's method for comparison of means, the tabular

value indicates that no two groups are significantly different (T* = 69.1849; T = 3.37). Therefore, the null hypothesis is retained.

Although the test results for race indicate that a significant difference exists in the variance (standard deviation) in the groups overall (see column two), both the pooled and separate variance estimates indicate the means (either when summed or when examined separately) are not significant (see Table 9).

TABLE 8

ANALYSIS OF VARIANCE: Rate of Change in Net Family Assets by Marital Status, 1967 to 1982 (total years)

SOURCE	SS	df	MS	F*	F	SIGN
Between	8,194.03	2	4,097.02	.428	3.11	.6531
W/in	899,972.06	94	9,573.11			
Total	908,066.10	96				

* significant at $p \leq .05$

Therefore, it can be concluded that rate of asset accumulation for white and black women is not significantly different even though the variance between the two was significantly different.

TABLE 9

T-TEST SUMMARY: RATE OF CHANGE OF NET FAMILY ASSETS, BY RACE AND YEAR

CHARACTERISTICS						POOLED VAR. EST.			SEPARATE VAR. EST.		
group	N	mean	std.dev.	std.E	Fvalue	2-tail prob.	tvalue	df	2-tail prob.	tvalue	df	2-tail prob.
'72 wht	67	- .3122	12.720	1.554	4.69	.000	.54	106	.591	.63	99.96	.529
blk	41	- 1.4509	5.870	.917								
'77 wht	75	3.1108	12.650	1.461	910.28	.000	-1.49	104	.140	-.95	30.03	.34
blk	31	68.3404	381.665	68.549								
'82 wht	70	5.9516	61.497	7.350	76.07	.000	.49	103	.627	.68	72.57	.496
blk	35	.8603	7.051	1.192								
TOT wht	57	16.3265	104.426	13.832	1.52	.167	1.41	95	.163	1.46	92.98	.146
blk	40	-11.7200	84.567	13.371								

Ho3 There is no significant interaction between the following six classifications and net worth:

white, never married women
white, divorced women
white, widowed women
black, never married women
black, divorced women
black, widowed women

A two-way analysis of variance (ANOVA) was used to test these hypotheses for the years 1967, 1972, 1977 and 1982. This test is used to determine the differences among three or more groups. Interaction results indicate the variation in net worth from one group to the next. Residual results indicate variations of members within each group. The F statistic is then used to measure the degree to which differences exist among the sub-group samples. The larger the F value observed (F*), the more significant the difference among the groups. One drawback of the F test is that it does not reveal where significant differences among groups exit.

Results from all ANOVA tests for interaction effect of the variables (race and marital status) on net worth were not significant at the .05 level. The observed F value in each case for each year failed to equal or exceed the critical F value (see Tables 10 through 13).

In other words, there was no significant interplay between independent variables and dependent variable: race made no difference in net worth accumulation, when further compared with marital status, and vice versa. Therefore, the conclusion was not to retain the null hypothesis. This lack of interaction permitted examination of the main effect (residual) variables, that is race or marital status and their independent effects on net worth.

TABLE 10

ANALYSIS OF VARIANCE: Net Family Assets (1967) by Race and by Marital Status

SOURCE	SS	df	MS	F*	F	SIGN.
Race	.142E+10	1	.142E+10	.698	3.94	.4050
MarStat	.129E+10	2	.643E+ 9	.316	3.09	.7300
Between	.220E+10	2	.110E+10	.539	3.09	.585
W/in	.226E+12	111	.204E+10			
Total	.234E+12	116	.202E+10			

* significance at $p \leq .05$ level

TABLE 11

ANALYSIS OF VARIANCE: Net Family Assets (1972) by Race and by Marital Status

SOURCE	SS	df	MS	F*	F	SIGN.
Race	.312E+10	1	.312E+10	4.121	3.92	.044*
MarStat	.426E+ 9	2	.213E+ 9	.282	3.07	.755
Between	.176E+ 8	2	.880E+ 7	.012	3.07	.988
W/in	.945E+11	125	.756E+ 9			
Total	.986E+11	130	.758E+ 9			

* significant at $p \leq .05$ level

TABLE 12

ANALYSIS OF VARIANCE: Net Family Assets (1977) by Race and by Marital Status

SOURCE	SS	df	MS	F*	F	SIGN.
Race	.410E+10	1	.410E+10	4.817	3.94	.030*
MarStat	.701E+ 9	2	.350E+ 9	.411	3.09	.664
Between	.158E+10	2	.791E+ 9	.929	3.09	.398
W/in	.971E+11	114	.852E+ 9			
Total	.105E+12	119	.886E+ 9			

* significant at $p \leq .05$ level

TABLE 13

ANALYSIS OF VARIANCE: Net Family Assets (1982) by Race and by Marital Status

SOURCE	SS	df	MS	F*	F	SIGN.
Race	.202E+11	1	.202E+11	7.579	3.94	.007*
MarStat	.317E+10	2	.159E+10	.597	3.09	.552
Between	.635E+10	2	.317E+10	1.193	3.09	.307
W/in	.303E+12	114	.266E+10			
Total	.347E+12	119	.291E+10			

* significant at $p \leq .05$ level

The 1967 ANOVA indicated no significant result for either race ($F^* = .689 \leq 3.94 = F$) or marital status ($F^* = .316 \leq 3.09 = F$), therefore the null hypothesis is retained. Neither race nor marital status contributed to variation in net assets in 1967.

However, for the 1972 ANOVA, the observed F value for race did exceed the critical value of F ($F^* = 4.121 \geq 3.92$), which is a significant variation by race for net worth at the .05 critical level. Therefore, the null hypothesis is rejected for race and there is a difference in net worth based on race in 1972. The conclusion is that race acts upon net worth scores as a significant main effect. The racial group to which one belongs appears to make a difference in net worth. However, the ANOVA in 1972 for marital status was not significant. Therefore, the null hypothesis is retained for marital status. Marital status does not effect net worth.

Similar results are reported in 1977 and in 1982. In these two years, race was significant at the .05 level ($p = .030$ for 1977; and $p = .007$ for 1982), therefore the null hypothesis is retained for race and there is a difference in net worth depending on race. Whereas, the main effect of marital status on net worth was not significant for either 1977 nor 1982.

Ho4 There is no significant relationship between the independent variables and the dependent variable (net worth) by year.

This null hypothesis was tested four times for each year studied (1967, 1972, 1977, 1982) using a simple linear regression analysis. Each independent variable (see below) was examined in relation to values of the dependent variable (net worth).

Simple linear regression analysis is a method for studying the effect and the magnitude of the effect of an independent variable on a dependent variable. Ultimately, one wants to predict values of the dependent variable (within an identifiable range of error) given values of the independent variable.

In 1967, the variables considered for the regression analysis were (grouped by independent variable categories):

ECONOMIC	ATTITUDINAL
previous income	nationality
	attitude (a)
DEMOGRAPHIC	attitude (b)
	attitude (c)
age	Rotter scale
race	occupation (f)
marital status	occupation (m)
labor force participation	with whom living
dependents	job category
parents	
health	
education	
tenure	
SMSA	

There were a total of 20 independent variables for 1967.

Of the 20 independent variables, only two were significantly related to net worth in 1967. In order for further analysis to be performed (in hypothesis five) it was necessary to include the economic variable(s). However, in 1967, income was not significantly related to net worth ($p = .6891$) At that time in the analysis it appeared as though few variables would be significant. Consequently, the decision was made to include previous income in the analysis, and hereafter to include any variable that had a significance of $p \leq .1300$. The results of these five regressions are shown on the following page.

The values of the regression coefficients (B) are instructive in that they indicate the relative importance of the different independent variables in making a prediction of, or describing the variance in, net worth. The sign of the regression coefficient indicates the direction of the variable's influence. The significance of B is tested by evaluating the F ratio. If the computed F value (F*) is greater than the critical value of F at the .05 level of significance, then the null hypothesis is rejected.

Looking at the two significant variables for 1967, it appears that education is positively related to net worth. The respondent's job category also had an effect on net worth, with the effect varying depending on the job category. Having a management position appears to have the greatest positive effect; and having a craft person position the greatest negative effect. Consequently, the null hypothesis can be rejected for two independent variables. Also, the five independent variables included in Table 14 would be included in the segmented, step-wise multiple regression analysis.

There were 21 variables tested in 1972. In 1972 an additional attitudinal variable -- attitude (d): a woman's place is in the home -- was introduced. Of these 21 variables, four were significantly related to net worth as a result of simple linear regression analysis. However, due to the criteria established for the 1967 data, six variables are presented below in Table 15.

The regression analysis results explained more variance in 1972 than in 1967. Previous income was highly significant this year (p = .0000) as might be expected. Also, two demographic variables were

TABLE 14

SIMPLE LINEAR REGRESSION ANALYSIS: Net Worth (1967) by Independent Variables.

VARIABLE	B	DF	F*	F	SIGN.
prev income	.488391	1,118	.1609	3.94	.6891
constant	5,478.36				
par.-both a	-8,037.54	3,136	2.09	2.68	.1039
-ma,fd	-7,220.55				
-fa,md	19,823.00				
constant	11,413.00				
education	2,333.18	1,138	4.36	3.92	.0386*
constant	-19,000.80				
occ(f)-prof	-5,029.62	12,128	1.70	1.83	.0739
-mgt	-6,224.39				
-cler	57,670.10				
-sales	15,316.80				
-craft	-1,512.12				
-oper	-8,115.61				
-hshld	-9,258.19				
-serv	-4,019.91				
-farm	-8,073.02				
-farmlab	-10,150.7				
-labor	-5,697.82				
constant	10,003.02				
jobcat-prof	10,032.10	8,132	4.16	2.01	.0002*
-mgt	100,053.00				
-cler	2,779.52				
-sales	3,200.00				
-craft	- 585.00				
-oper	3,200.00				
-hshld	81.67				
-serv	- 9.95				
constant	605.00				

* significant at $p \leq .05$ level

TABLE 15

SIMPLE LINEAR REGRESSION ANALYSIS: Net Worth (1972) by Independent Variables.

VARIABLE	B	DF	F*	F	SIGN.
prev income	1.68188	1,128	19.0899	3.92	.0000*
constant	-3,059.25				
race - white	5,440.67	1,160	7.2601	3.91	.0078*
- black	-5,440.67				
constant	8,436.69				
education	2,197.08	1,159	12.3457	3.91	.0006*
constant	-15,556.5				
att (a)-not	-10,278.5	4,155	3.2976	2.43	.0126*
-prob	28,785.9				
-undec	-11,862.1				
-prob	-5,553.71				
-okay	-1,091.59				
constant	12,002.1				
att (b)-not	16,485.3	4,155	2.3213	2.43	.0592
-prob	1,162.92				
-undec	-11,336.6				
-prob	-6,178.90				
-okay	-129.72				
constant	11,406.6				
jobcat -prof	9,887.12	8,152	1.5915	2.00	.1316
-mgt	7,389.12				
-cler	5,253.37				
-sales	11,637.0				
-craft	-7,222.38				
-oper	-4,775.86				
-hshld	-7,857.32				
-serv	-5,713.72				
constant	8,597.38				

* significant at $p \leq .05$ level

identified as significant: race and education. Both had a positive effect on net worth. Of the attitudinal variables, attitude (a) -- okay to work to make ends meet -- met the criteria for significance, attitude (b) -- okay to work if she wishes and husband agrees -- was nearly significant, and job category was within the liberal standard for further analysis. Tentatively, it was concluded that previous income, race, education and attitude (a) were significantly related to net worth in 1972.

In 1977 there were, again, 21 independent variables considered for regression analysis. The results of the linear regression indicated seven independent variables warranted further analysis, however nine are presented. Table 16 shows the results of that analysis.

Again, the economic variable (previous income) was significantly related to net worth. Race, education and SMSA also showed an effect on net worth, all but SMSA being positive. Nationality was the only attitudinal variable that had a critical level in excess of $p = .05$. This finding supports other researchers who found that nationality (ancestry) was positively related to net worth for those respondents whose parents were from Northern Europe. Attitude a -- okay to work to make ends meet -- Rotter scale and job category were all significant in this year. The null hypothesis is rejected for seven independent variables and nine variables were identified for inclusion in the segmented, stepwise multiple regression analysis.

Finally, 1982 data differed from that of previous years by the addition of four economic questions. They were:

TABLE 16

SIMPLE LINEAR REGRESSION ANALYSIS: Net Worth (1977) by Independent Variables

VARIABLE	B	DF	F*	F	SIGN.
prev income	1.86313	1,108	33.6947	3.49	.0000*
constant	-5,750.25				
race	7,888.22	1,144	11.7889	3.92	.0008*
constant	13,225.7				
education	2,959.34	1,142	14.7530	3.92	.0002*
constant	-19,948.3				
SMSA - urban	-7,754.22	2,143	3,4737	3.07	.0336*
-urbpl.	418.732				
constant	16,715.3				
nation -US	-3,294.93	5,135	1.8648	2.29	.1046
-NE	7,624.05				
-C	-9,288.53				
-SO	26,471.50				
-LATIN	-5,468.53				
constant	16,068.50				
att(a) -not	-6,155.51	3,141	2.6585	2.68	.0507*
-prob	230.508				
-prob	9,637.16				
constant	13,230.5				
att(b) -not	10,261.3	4,140	2.3354	2.44	.0585
-prob	18,772.4				
-prob	-12,802.0				
-okay	-8,394.76				
constant	21,405.3				
rotter	-1,156.45	1,135	7.7154	3.92	.0063*
constant	42,422.5				
job cat -prof	15,611.9	8,136	3.2389	2.01	.0021*
-mgt	21,711.3				
-cler	4,344.18				
-sales	-1,919.52				
-crafts	417.311				
-oper	-9,016.41				
-hshld	-10,1-3.4				
-serv	-8,219.0				
constant	12,816.0-				

* significant at $p \leq .05$ level

(1) years of credit toward a pension (pen)

(2) pension available from an employer (pen-e)

(3) eligibility for social security based on own work (ss)

(4) eligibility for social security due to widowhood (ss-w)

Consequently 24 variables were tested, of which 15 were significantly related to net worth.

Of the fifteen variables presented, nine are statistically significant at the p = .05 level. For 1982, two economic variables were statistically significant at the p = .05 level: previous income and years of credit toward a pension. There were more demographic variables that met the generous criteria for examination ($p = \leq .13$), but few that met the more stringent critical value. Race and labor force participation were significant at the $p = \leq .05$ level. Finally, seven attitudinal variables were identified in the analysis: five that were significant at the $p = \leq .05$ level (attitude (a) -- okay to work to make ends meet -- attitude (b) -- okay to work if she desires and husband agrees -- attitude (d) -- a woman's place is in the home -- occupation of respondent's father, and job category); and two that were not. The null hypothesis is rejected for five independent variables, and retained for the others.

Following the simple linear regression analysis, a segmented step-wise multiple regression analysis was used to test the last null hypothesis.

Ho5 There is no significant relationship between the dependent variable (net worth) and selected independent variables (attitudinal) given the inclusion of other independent variables (economic and demographic), by year.

TABLE 17

SIMPLE LINEAR REGRESSION ANALYSIS: Net Worth (1982) by Independent Variables

VARIABLE	B	DF	F*	F	SIGN.
prev income	2.25291	1,124	70.1304	3.04	.0000*
constant	-4,615.31				
pension	1,674.67	1,71	9.9124	3.98	.0024*
constant	6,874.88				
race	16,950.8	1,148	17.8885	3.92	.0000*
constant	27,961.5				
lfp -work	-4,593.67	7,142	2.1484	2.08	.0423*
-job	2,248.02				
-look	17,827.5				
-school	-29,272.5				
-hshld	-17,836.4				
-unable	-37,150.5				
-other	88,636.8				
constant	36,672.5				
# dependents	-9,139.26	1,148	2.4163	3.92	.1222
constant	34,946.4				
parents-both	23,734.1	3,145	2.3706	2.63	.0730
-mafd	-16,814.7				
-mdfa	-1,658.42				
constant	38,562.1				
education	-1,400.14	1,101	3.3481	3.94	.0702
constant	106,734.0				
tenure	24,915.1	1,123	2.6216	3.94	.1080
constant	11,064.3				
nation -US	-5,297.78	5,138	1.7116	2.29	.1350
-NE	23,955.8				
-C	-20,165.9				
-SO	10,456.8				
-LATIN	-998.224				
constant	32,198.2				
att(a) -def	-39,943.3	3,146	3.9831	2.68	.0092*
-prob	89,431.7				
-prob	-29,405.3				
constant	53,968.3				

TABLE 17 (continued)

VARIABLE	B	DF	F*	F	SIGN.
att(b) -def	-20,734.7	4,145	2.7645	2.44	.0298*
-prob	-23,432.2				
-undec	90,621.3				
-prob	-26,789.5				
constant	52,778.7				
att(d) -def	11,929.3	4,145	3.1386	2.44	.0165*
-prob	-24,749.0				
-undec	30,371.1				
-prob	-16,811.0				
constant	42,624.9				
occ(f) -prof	21,987.3	12,137	3.6434	1.83	.0001*
-mgr	16,292.1				
-cler	28,957.6				
-sales	105,507.0				
-craft	-4,723.05				
-oper	-28,233.6				
-hshld	-35,196.7				
-serv	-24,507.6				
-farmer	-23,844.1				
-farm	-10,168.4				
-labor	-25,655.6				
-aforces	-2,855.36				
constant	42,493.4				
occ(m) -prof	57,045.0	8,141	1.7951	2.01	.0827
-mgr	16,009.1				
-cler	19,209.1				
-sales	-20,658.7				
-craft	-20,627.0				
-oper	-8,040.86				
-hshld	-30,240.9				
-serv	-15,443.4				
constant	31,040.9				
jobcat -prof	-19,920.8	7,121	5,8789	2.10	.0000*
-mgr	-17,787.2				
-cler	-56,065.7				
-craft	-11,570.0				
-oper	-76,662.1				
-hshld	-60,972.2				
-serv	-78,661.2				
constant	85,990.0				

* significant at $p \leq .05$ level

Multiple regression allows determination of the net worth values that are predicted from a linear function involving several independent variables. A step-wise multiple regression analysis systematically enters the most significant variables first into the regression model. In this case, a segmented, step-wise multiple regression analysis forces entry of significant economic and demographic variables, then allows the stepwise addition of attitudinal variables. Independent variables considered at this stage of analysis are those identified as significant or approaching significance in the linear regressions.

1967 Segmented Step-Wise Multiple Regression

Four steps were taken in the segmented step-wise multiple regression for 1967. The objective of this analysis was to determine the influence of attitudinal variables, controlling for the inclusion of economic and demographic variables. The final segmented, step-wise multiple regression model for 1967 is shown below. Each step is shown in Appendix G.

Step one was the addition of the demographic variables (parents and education) as they were more significantly related to the dependent variable than was the economic variable. Combined, they were significant at the $p = .0244$ level.

Next the economic variable was included. Although simple linear regression analysis indicated that previous income was not significant at the .05 level, the decision was made to include it in this test.

It did represent the one and only economic variable for this year. Included in the model, it was not significant (p = .5939).

Job category was added to the segmented, step-wise multiple regression and resulted in a significant relationship with net worth (p = .0077).

The final variable to be added was occupation of the respondent's father. Although the occupation of father was nearly significant in the simple linear regression analysis (p = .0739), it proved to explain no additional variance in this analysis, so was dropped.

The resulting segmented step-wise multiple regression was significant at the .05 level. It included one economic variable

TABLE 18

SEGMENTED, STEP-WISE MULTIPLE REGRESSION ANALYSIS: Net Family Assets (1967) by Economic and Demographic Independent Variables, then by Attitudinal Independent Variables.

VARIABLES	B	F*	F	SIGN.
prev income	.943336	2.7896	2.03	.0077*
par - both a	-10,327.80			
- ma,fd	4,507.90			
- fa,md	16,819.50			
education	3,093.59			
jobcat- prof	- 6,832.29			
- mgt	79,593.40			
- cler	- 9,338.47			
- sales	-10,089.50			
- oper	- 3,974.86			
- hshld	- 6,193.87			
- serv	-12,507.50			
constant	-13,861.80			

df = 8,105
* significant p $\leq$ .05 level
R^2 = .25

(previous income) and two demographic variables (parents living status and education), to which the sole attitudinal variable was added.

Analysis of steps two and three in particular indicated a substantial influence of job category on the respondents' net worth in 1967. Further the coefficient of determination (R^2) indicates that 25 percent of the variation in net worth is explained by the four independent variables jointly included in the regression equation. Therefore, the null hypothesis is rejected. There is a significant relationship between net worth and job category, given the inclusion of economic and demographic variables.

1972 Segmented Step-Wise Multiple Regression

Five steps were taken in the segmented step-wise multiple regression analysis for the 1972 data. These steps are shown in Appendix G. The criteria for inclusion in this analysis was stated previously regarding the 1967 data. The independent variables entered the regression model according to the degree of the relationship between them and the dependent variable.

In this case, step one was the addition of the economic variable, previous income. The economic variable was significantly related to net worth ($p = .0000$).

Step two was the addition of the demographic variables that had been identified as being significantly related to the dependent variable in the simple linear regression analysis. In 1972, the demographic variables were race and education. In this step, addition

of the demographic variables resulted in a significance level greater than the pre-determined critical level (.1663 > .05).

The remaining three steps concerned the addition of each of the significant attitudinal variables. Attitude (a) -- okay to work to make ends meet -- was the first variable included (p = .0089) and attitude (b) -- okay to work if she desires and husband agrees -- was the second (p = .0089).

The final step in the segmented step-wise multiple regression was the addition of job category into the equation. This variable was not significant at the .05 level in the simple linear regression, but (as with the economic variable used in 1967), it was tried nonetheless. The resulting equation yielded a significance level of p = .7698, so job category was dropped.

The final model for 1972 included economic and demographic variables, to which attitudes (a) and (b) were added. The final segmented, step-wise multiple regression equation model had an R^2 of .3024, indicating that 30 percent of the variation in net worth in 1972 was explained by five independent variables jointly included in the equation.

1977 Segmented Step-Wise Multiple Regression

For 1977, nine independent variables were identified in the simple linear regression analysis that might provide information about net worth for the sample.

TABLE 19

SEGMENTED, STEP-WISE MULTIPLE REGRESSION ANALYSIS: Net Family Assets (1972) by Economic and Demographic Independent Variables, then by Attitudinal Independent Variables.

VARIABLES	B	F*	F	SIGN.
prev income	1.22655	4.0469	2.70	.0089*
race	1,816.90			
education	1,635.09			
att(a) -not	-15,517.5			
-probnt	26,474.7			
-probok	-6,317.87			
att(b) -not	21,640.6			
-probnt	-8,999.42			
-probok	-8,319.56			
constant	-9,959.51			

df = 3,119
* significant at $p \leq .05$ level
$R^2 = .30$

There were four steps in the segmented, step-wise multiple regression analysis. Step one was inclusion of the economic variable, previous income, which resulted in a significance level of p= .0000. Step two was the addition of the three demographic variables: race, education and SMSA. At this step, p = .0052.

Having completed that segment of the analysis, the attitudinal variables were systematically analyzed and added to the model based on their contribution to the model. Consequently, step three was the addition of attitude (b) -- okay to work if she desires and husband agrees -- (p = .0069), and step four added attitude (a) -- okay to

TABLE 20

SEGMENTED, STEP-WISE MULTIPLE REGRESSION ANALYSIS: Net Family Assets (1977) by Economic and Demographic Independent Variables, then by Attitudinal Independent Variables.

VARIABLES	B	F*	F	SIGN.
prev income	1.65714	3.1857*	3.11	.0462*
race	2,297.60			
education	836.317			
SMSA - city	-5,782.33			
- suburb	-7,840.78			
att(a) -not	-2,478.87			
-prob nt	7,929.93			
att(b) -not	-77,543.00			
-prob nt	44,314.00			
-prob ok	14,214.90			
constant	-29,374.80			

df = 2,88
* significant at $p \leq .05$ level
R2 = .46

work to make ends meet -- (p. = .0462). The remaining three attitudinal variables (nationality, Rotter scores and job category) raised the significance level of the regression equation above the critical level of p = .05, and so were not included in the final model.

The regression model explained 46 percent of the variation in net worth as indicated by the coefficient of determination (R^2). Therefore, the null hypothesis was rejected for the six independent variables and it is concluded that attitudes (a) and (b) are significantly related to net worth given the existence of economic and demographic

TABLE 21

SEGMENTED, STEP-WISE MULTIPLE REGRESSION ANALYSIS: Net Family Assets (1982) by Economic and Demographic Independent Variables, then by Attitudinal Independent Variables.

VARIABLES	B	F*	F	SIGN.
prev income	1.67616	14.6910	2.88	.0000*
pension	-479.456			
race	5,659.60			
lfp -work	9,080.28			
-job	34,391.50			
dep	-518.146			
par -both a	36,180.10			
-mafd	-13,664.30			
-famd	-8,592.16			
education	-1,269.04			
tenure	9,780.77			
att(a)-def nt	-23,095.70			
-prob nt	146,538.00			
-prob ok	-69,307.80			
constant	112,106.00			

df = 3,34
* significant at $p \leq .05$ level
$R^2 = .73$

variables in the model. Each step for the 1977 segmented, step-wise multiple regression is shown in Appendix G.

1982 Segmented Step-Wise Multiple Regression

The final model for 1982 contained economic variables (previous income and pension) and demographic variables (race, labor force

participation, parents, education and tenure) and a sole attitudinal variable (attitude (a) -- okay to work to make ends meet). Appendix G shows each step of this analysis.

It is noted that on completion of this analysis, the sample size was quite small (n=49), therefore, one can draw only tentative conclusion. Because many attitudinal variables were significant in the simple linear regression analysis, it was possible to add any one of them first, and then the others would have been deleted due to low level of significance.

Three steps were taken in the segmented, step-wise multiple regression analysis for 1982. Step one was the addition of the two economic variables, previous income and pensions. Previous income and pensions were significant in the simple linear regression equations. Combined and entered into this segment of the regression, they were significant at $p = .0005$ level.

The next step was to enter the demographic variables. Individually, race and labor force participation were the only demographic variables that were significant at the $p \leq .05$ level for the simple linear regressions ($p = .0000$ and $p = .0423$, respectively). The other demographic variables ranged in significance from $p = .0702$ (education) to $p = .1222$ (dependents) and were included in the segmented regression because of the precedent set for the 1967 data of accepting variables with a significance level of $p \leq .1300$. With the addition of the demographic variables, the p value was .7844.

Step three was the addition of the first of the attitudinal variables. Each of the seven eligible variables were individually

added to the existing regression model, their significance level noted, and then dropped from the model. The attitudinal variable with the lowest p-value was then added to the segmented, step-wise multiple regression equation first. In this case it was attitude (a) -- okay to work to make ends meet, so step three was the addition of this variable.

Following step three, the addition of any other attitudinal variable resulted in a p-value greater than the critical value established earlier. Therefore, attitude (a) was the only attitudinal variable entered into the equation.

The overall power of the prediction equation is reflected in the R^2 value. For the 1982 data, R^2 was .73, indicating that the independent variables explained 73 percent of the variation in net worth. Therefore, the null hypothesis is rejected and it can be concluded that attitude (a) is significantly related to net worth.

SUMMARY OF HYPOTHESES FINDINGS

The following three tables provide a summary of the hypotheses findings.

TABLE 22

Summary of Findings for Hypotheses One, Two, and Three

HYPOTHESES			STATISTICAL PROCEDURE	RESULT
H_o1	There is no difference in net worth in 1982 between:			
	Never married and divorced		T-test	N.S.
	Never married and widowed		$\overline{T}$-test	.05
	Divorced and widowed		$\overline{T}$-test	.05
	White and Black		$\underline{\overline{T}}$-test	.05
H_o2	There is no difference in rate of accumulation of net worth over the 15 year period for:			
	Nev. mar., wid., div.,	67-72	ANOVA	N.S.
	Nev. mar., wid., div.,	72-77	ANOVA	N.S.
	Nev. mar., wid., div.,	77-82	ANOVA	N.S.
	Nev. mar., wid., div.,	67-82	ANOVA	N.S.
	White and Black	67-72	T-test	N.S.
	White and Black	72-77	$\overline{T}$-test	N.S.
	White and Black	77-82	$\overline{T}$-test	N.S.
	White and Black	67-82	$\underline{\overline{T}}$-test	N.S.
H_o3	There is no significant interaction between the following six classifications and net worth by year:			
	INTERACTION EFFECT			
	White, never married		ANOVA	N.S.
	White, divorced		ANOVA	N.S.
	White, widowed		ANOVA	N.S.
	Black, never married		ANOVA	N.S.
	Black, divorced		ANOVA	N.S.
	Black, widowed		ANOVA	N.S.
	MAIN EFFECT			
	Race	1967	ANOVA	N.S.
	Marital status	1967	ANOVA	N.S.
	Race	1972	ANOVA	N.S.
	Marital status	1972	ANOVA	N.S.
	Race	1977	ANOVA	.05
	Marital status	1977	ANOVA	N.S.
	Race	1982	ANOVA	.05
	Marital status	1982	ANOVA	N.S.

TABLE 23

Summary of Findings for Hypothesis Four

H_o4 There is no significant relationship between the independent variables and the dependent variable (net worth), by year.

Variables highlighted by the simple, linear regression analysis, by year and significance.

VARIABLES	YEARS 1967	1972	1977	1982
Previous income	N.S.	.00*	.00*	.00*
Pension	N.A.	N.A.	N.A.	.00*
Race		.00*	.00*	.00*
L. F. participation				.04*
Dependents				N.S.
Parents life status	N.S.			N.S.
Education	.03*	.00*	.00*	N.S.[1]
Tenure				N.S.
SMSA			.03*	
Nationality			N.S.	N.S.
Attitude (a)		.01*	.05*	.01*
Attitude (b)		N.S.	N.S.	.03*
Attitude (d)				.02*
Rotter scale			.00*	N.A.
Occupation (f)	N.S.			.00*
Occupation (m)				N.S.
Job category	.00*	N.S.	.00*	.00*

* significant at $p \leq .05$
N.A. = not asked in the given year

[1]Education questions varied from year to year and, thus, are a limitation of the data and the inferences to be drawn.

TABLE 24

Summary of Findings for Hypothesis Five

H_o5 There is no significant relationship between the dependent variable (net worth) and selected independent variables (attitudinal), given the inclusion of other independent variables (economic and demographic), by year.

Economic, demographic, and attitudinal factors included for each year of the segmented, step-wise multiple regression analysis (final models).

	YEARS			
VARIABLES	1967	1972	1977	1982
ECONOMIC				
Previous income	+	+	+	+
Pension	N.A.	N.A.	N.A.	+
DEMOGRAPHIC				
Race			+	+ +
L. F. participation		+	+	+
Dependents				+
Parents life status	+			+
Education	+	+	+	+
Tenure				+
SMSA				+
ATTITUDE				
Attitude (a)		+	+	+
Attitude (b)		+	+	
Job category	+			
Significance of final model:	.01	.01	.05	.00
R^2 of final model:	.25	.30	.46	.73

N.A. = not asked in given year

CHAPTER V: SUMMARY, IMPLICATIONS, AND RECOMMENDATIONS

Prior research has adequately documented that women are more frequently at or below the poverty level during the retirement years than are men. Research about retirement and retirement planning, moreover, has historically focused on the male experience. Only recently has there been an interest in understanding the factors contributing to women's post-retirement financial well-being.

This research examined the relationships of economic, demographic and attitudinal variables to net worth for a sample of pre-retirement age women. The objective was to isolate factors related to net worth and to identify factors for use in programs and policies designed to facilitate women's pre-retirement saving behavior.

It is recognized that the ages of the women in the longitudinal sample used for this 15 year analysis (ages 30-44 in 1967 and 45-59 in 1982) represent only one segment of their life cycle, so that a full life cycle analysis of savings behavior is not possible. However, the value of a longitudinal data set can be seen, and the period of time that is analyzed is a critical one in terms of peak earnings and potential for asset accumulation. On the other hand, from 5-15 years still remains before age 65 for this sample, and additional years of data will allow greater insights into a LCHo approach to asset accumulation and dispersion.

SUMMARY OF THE RESEARCH

The sample for this research was 182 women from the National Longitudinal Surveys: Survey of Work Experience of Mature Women (NLS). The women were either white or black, and were either never married, widowed or divorced for the fifteen year period under examination. Additionally, everyone in the sample participated in the labor force at least the first year of the 15 year period.

The women responded to a series of questions obtained through mail, phone or face-to-face interviews over a fifteen year period (1967 to 1982) from which a total of 122 questions were utilized in this analysis. The questions were related to assets and liabilities (to determine net worth), and more generally related to economic, demographic and attitudinal information.

Frequency distributions were used to analyze the demographic characteristics of the sample. Self-reported financial well-being in 1982 indicated that a simple majority of the sample perceived themselves to be able to get along financially (53% reported that they generally have savings at the end of the month). White women appeared to have greater net worth than black women, and widows to have fewer net assets than either never married or divorced women (see Appendices A through D). Demographic variables varied with the sample, but overall the women participated in the labor force, few had health problems, few attended college, and most lived in urban/suburban settings. Attitudinal variables were generally consistent for the sample.

Summary of the Hypothesis Findings

Five null hypotheses with sub-parts were developed for the purpose of this exploratory study, and the level of significance was set at $p \leq .05$. Analysis of Variance (ANOVA), t-tests, simple linear and segmented, stepwise regressions were the statistical analyses used to evaluate the hypotheses.

As a result of this study it is concluded, overall, that a significant relationship does exist between selected independent variables and the net worth of pre-retirement age women. However, due to small sample size, difficulties manipulating the data, and potential statistical effects due to the longitudinal nature of the study, the research findings are tentative. Nonetheless, because of the paucity of research focused specifically on women and the ways they prepare for retirement (particularly their saving behavior) and the ways those behaviors differ from those of men, this research project has met a special need and provides a base and direction for further inquiry.

The first hypothesis test indicates that a difference existed between the sample subgroups, specifically that both never married and divorced women had levels of net assets (1982) significantly different from (and greater than) widowed women. Also, white and black women differed in net asset holdings.

The second hypothesis indicates that there was no significant difference in the rate of accumulation of net worth for any of the sample subgroups over the 15 year period analysis. This hypothesis was tested using one-way ANOVAs for the marital status group comparisons and a t-test for the racial group comparisons. Marital status

groups did not differ in the rate of accumulation of net worth either per 5-year period nor over the entire 15-year period. There was considerable dispersion of values around the mean and considerable difference between the means in any one year, but the rate at which net assets changed with time did not differ by marital status group. This finding also held for the racial group analysis. (See Appendix E.)

The third hypothesis test pointed to a homogeneity of the population group. Net worth did not appear to be influenced by the race and marital status subgroups to which one belonged. The exception was that, overall, race did influence net worth (which substantiates the highly significant results in hypothesis one), but not for every five year comparison in this longitudinal study. Race and marital status were used as criteria on which to base a frequency analysis of net worth in the initial stages of this research. Appendices A through D show the results of this analysis. The data indicate that, for the sample as a whole, the women did not own a diverse portfolio of assets, nor did they have diverse liabilities. Over this short period of the life cycle, this sample of women did not allocate funds to those investments that are high risk or high yield. All respondents put their money into typically "safe" investments: savings accounts and home ownership. One notable difference is that white women appeared more likely to invest in stocks than their black counterparts.

Hypothesis testing using regression analysis was revealing. For the fourth hypothesis tested, education was consistently related to

net worth over each of the four years examined. Job category was also examined, and was not always significant at the 0.05 level although it was significant in 1967. Another variable that was evident throughout the years examined was previous income, although this was not significant in 1967. Overall, the number of independent variables that were either significantly related to net worth or that were generally related to net worth ($p \leq 0.13$) increased over the 15 year period.

For attitude (a), the regression results indicate that if women hold an attitude that for women to work to make ends meet is definitely not okay, net worth is affected in a negative way.

The surprising finding is that the moderate responses to the attitude (a) question -- to believe that it's probably not okay to work -- results in a positive effect on net worth. For attitude (b) the effect on net worth changed over one five-year period of time. One might question the impact of the social behavior of the 70s on this reversal. Further analysis of attitude/behavior relationship results may be warranted.

The fifth hypothesis test utilized a segmented, step-wise multiple regression analysis. Economic and demographic variables were forced into the equation as the first segment. In all years, previous income was the significant economic variable, although in 1982 years of credit towards a pension (a new variable in 1982) did enter the model. Demographic variables varied, but those most frequently significant were: education, race, and parents' life status. Most consistent of the attitudinal variables to be included was attitude

(a), or the respondents' attitude toward women working in the labor force if it is necessary to make ends meet. The respondents' attitude toward women working so long as the husband agreed (attitude (b)) was present in two of the four years studied.

IMPLICATIONS OF THE RESEARCH

The general idea of the Life Cycle Hypothesis is the assumption that people save when they are rich relative to their own standard for income. They then use those savings to ease times when they are less well-off. People are supposed to behave rationally in this respect. And retirement is supposed to be that time in peoples' lives when they will need savings most, that is, retirement is assumed to motivate saving behavior.

If this is true, then in any group of pre-retirement age people, one ought to observe a general pattern of asset accumulation during their working lives in preparation for that time when their flow of funds will diminish. Documenting this pattern for single women is the general thrust of this research project. From this study, several implications can be drawn. These are organized based on the general research objectives initially presented in Chapter one.

The first objective of the study was:

> To ascertain the level of current net worth of the sample of prospective female retirees.

The net worth of the sample was low when compared to all single female householders in 1982. Examination of the tables of asset and liability holdings of the sample based on marital status and on race over the 15-year period (see Appendices A through D) indicate that the

sample as a whole did not hold a diverse selection of assets or liabilities. By 1982 the median net worth for the sample as a whole was $10,002.00 as compared with Bureau of the Census data on median net worth for single female householders of $13,885.00. It is evident that the respondents in this study did not seem to fare as well on average as single female households across the nation.

It was reported earlier that retirees often identify their home equity as a major component of wealth. Sherman (1985) indicated that in 1982 median net worth of unmarried women was $30,100 for those with home equity; but was $5,100 for women who owned no homes. The latter is predominately the case for the women in this study.

Finally, a possible reason why the net worth of the sample was low is the over-representation of blacks in the sample. As stated in Chapter Two, approximately 17 percent of the total female population in the United States is black (U. S. Dept. of Commerce, 1982), but nearly 40 percent of the women in this study were black. This contributes to the lower overall net worth values observed in this research.

The second general objective was:

> to investigate differences in net worth of women based on two sub-categories: marital status (never married, widowed and divorced) and race (white and black).

As indicated in the research findings of hypothesis one, there were differences in net worth for the groups identified. In accord with the literature, race typically affects not only net worth, but income, access to credit, employment, and a host of other conditions which may affect financial well-being. Also, marital status was a factor in net

worth accumulation. The research findings suggest that widows may not be as "merry" as suggested in popular legend as their net worth values were lower than either never married or divorced women. Appendix F shows mean and median values of net worth for the two sample sub-categories over the 15-year period. Small sample size prohibited examination of factors related to net worth levels for each of the sample sub-categories.

However, this remains a factor that may warrant study in the future. As family definition and composition continues to evolve, such analysis might be beneficial in guiding retirement income policies to account for individuals and families who are outside traditional family unit definitions.

The third general objective was:

> to determine whether or not the women in the sample exhibit behavior in keeping with predictions of the LCHo over a 15 year period.

There is not sufficient evidence to suggest that the sample in this study was accumulating assets in any form in preparation for retirement, or for any other motive, for that matter. Hypothesis two indicated that there was no difference in the rate of accumulation of any of the sub-sample groups; further, examination of the asset and liability holdings of the group over the 15 year period does not indicate growth in net assets which would be adequate for more than one year of retirement.

Appendix E provides information on the rate of change of net worth for the marital status and racial sub-categories. Except for those few cases when one or two women experienced large gains in net

worth (for example from 1972-1977 one black widow experienced a substantial gain), the standard deviation for the rate of change was small and/or consistent throughout the study.

Although there was a gain in net worth in constant dollars for all the women, it cannot be said that the sample to date was able to accumulate assets sufficient to provide more than a small percentage of their total retirement income needs 5 to 15 years in the future. The opposite, however, also cannot be said. It may be that the sample is just entering that stage of the life cycle when proximity to retirement illicits a change in saving behavior much as the theory would suggest. The evidence provided here is incomplete.

The fourth general research hypothesis was:

> to determine which financial, demographic and/or attitudinal variables are related to highest levels of net worth for women.

Of the factors identified in the literature review, income and health are the two most prevalent factors influencing individual's decision to retire. Income for the sample was related to net worth in all years except 1967. This is in keeping with the literature. Health, however, was assumed to influence saving behavior, but was not evident in the research findings. Perhaps the sample is not old enough to have serious health problems; or it could be that because women are typically more inclined to take action regarding health problems, health was not a significant factor.

Education was another important variable related to net worth. It is known that education is a primary means of raising an individual's earning power (Cox, 1981). Education may be overlooked as a

kind of saving behavior regarding human capital, but certainly should not be overlooked in policy implication formation.

Age did not appear significant in any of the regression analyses. It could be that the women are not yet old enough to worry about retirement financing, although one would hope that the 59 year olds have made some preparations. Nonetheless, age was not significantly related to net worth. Asset accumulation can continue until retirement, and analysis of the women in the next 5 to 15 years may "shed light" on any shifts in asset accumulation related to age. This will also be the case for future survey questions related to pension rights and projected pension benefit amounts which were not present in this data.

The sample was small, therefore occurrence of other variables with potential to influence net worth accumulation could not be analyzed. Of particular interest may have been, for example, life status of the respondents' parents and the parents' dependence on adult children (only 3% of the sample indicated that their parents lived with them). The number of variables that did explain variance in net worth, in 1982 particularly, may also mitigate the effect of other demographic variables.

General research objectives five and six will be discussed together. They were:

> to determine which variables have the greatest influence on saving behavior in addition to the financial and demographic variables, and,
>
> to gain insight into the possibility that women can attain high levels of net worth through educational programs directed toward attitudinal variables.

In this study, few attitudinal variables were significantly related to net worth accumulation over the 15 year period. Attitude variable (a) -- an opinion about whether or not it is okay for women to work to make ends meet -- yielded frequency data that showed the respondents overwhelmingly thought it was "okay" for women to work under these circumstances. Similar frequency results were obtained for attitude (b) -- if she desires and the husband agrees. The regression analyses for these variables gave curvilinear results. It may be expected that a respondent's feelings that it was not okay to work despite current circumstances or (a fictitious) husband's opinions, would relate to lower net worth amounts than if there were no ambivalent feelings. However, the regression results were not consistent.

Given the limited measures of attitudes in this study, the fact that two attitudinal variables were significantly related to asset accumulation is an important finding and may be a fertile area of research should more attitudinal questions more directly related to savings behavior be included in future waves of the survey.

Of note is that attitudes were present in the segmented, stepwise multiple regression analysis. Thus, attitudes of women toward saving may be one area that can be addressed in educational forums aimed at improving women's chances for financial satisfaction in retirement.

The final general research objective was:

to draw policy implications from the research findings.

The policy implications of these findings relate to single, older women not only because of the sample definition in this research, but

also because single, older women have the greatest incidence of poverty among the aged (O'Rand and Henretta, 1982).

It is important to recognize that for a variety of reasons in the larger, societal framework, women are a financially disadvantaged group when compared with men. Changes in saving behavior will not solve the larger issues affecting women's financial well-being. Nonetheless, educational programs could be developed to address lack of savings as a contributing factor to older women's financial plight. If implemented, these educational programs must reflect women's current financial position while encouraging women to take more responsibility for their own financial well-being. Additionally, legislation should provide an economic incentive for them to do so.

Because attitudes towards self-responsibility may be a maleable factor, programs might be directed at young women to ensure enough time to influence their saving behavior and thus influence their retirement situation.

RECOMMENDATIONS

This study concludes with a number of recommendations for future research studies based, partially, on the inconclusive evidence presented here.

(1) Race was a significant variable in net worth accumulation, but was not explored extensively in this research. It may be enlightening to repeat the study comparing two samples based on race. The difficulty, however, will be the small sample size that would be encountered; however, doing so might provide greater insight into asset accumulation behavior.

(2) One could not help but wonder how men and women differ in terms of attitudes toward work and, further, private saving. Therefore, it would be interesting to delve into the attitudinal data

for a sample of single men and women. This recommendation is limited, however, until the collection of attitudinal data improves in the database.

(3) In line with Recommendation Two, further research might be conducted using male and female samples and focusing predominately on rate of asset accumulation over the 15 year period, or some longer period, if available.

(4) Because data exist, and due to the significance in 1967 and 1982 of the occupation of respondents' fathers to net worth when the respondents were 15 years of age, it would be interesting to use the youth cohort of the NLS data base and the mature men cohort to further explore this relationship.

(5) Based on information from this study, and utilizing the framework presented by Duncan, Mitchell and Morgan (1984) for calculating savings needed to meet retirement goals, it would be instructive to project the financial future for this sample of women based on a variety of alternative assumptions about the economic environment.

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APPENDICES

APPENDIX A

Asset Holdings by Race, 1967

Asset Holdings by Race, 1972

Asset Holdings by Race, 1977

Asset Holdings by Race, 1982

ASSET HOLDINGS BY RACE, 1967

Amount	SAVE		BOND		STOCKS		HOUSE		FARM		BUSINESS		OTHER	
	B	W	B	W	B	W	B	W	B	W	B	W	B	W
None	45	30	60	75	64	79			1		67		62	103
$1-1,999	13	47	7	30	2	13	2							1
2,000-4,999	2	12		4		2	2	2					3	1
5,999-9,999	3	7		2		6	3	9					1	2
10,000-14,999		1					5	10						1
15,000-19,999						1	1	7						1
20,000-24,999						1	1	4				1		2
25,000-49,999						1	1	3				1		2
50,000+										1		2		1
NA	4	18		4	1	12	52	80	66	114		112	1	3
Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	67	115	67	115	67	115	67	115	67	115	67	115	67	115
Median ($)	301.00	998.13	52.75	494.64	955	1056.00	9768.75	12,375.00		90,000		60,000	2500	12,005
Mean ($)	1373.11	1693.13	101.39	1096.31	950	4744.50	10,471.67	13,938.57		90,000		293,333.33	4250	76,111.11
Standard Deviation	2236.29	1952.77	85.10	1597.98	777.82	7609.82	8619.62	7995.53				439,241.77	3840.57	196,617.93

ASSET HOLDINGS BY RACE, 1972

Amount	SAVE		BOND		STOCKS		HOUSE		FARM		BUSINESS		OTHER	
	B	W	B	W	B	W	B	W	B	W	B	W	B	W
None	41	33	62	86	66	78								
$1 - 1,999	19	40	4	21		12								1
2,000-4,999	3	11		2		4		1						3
5,000-9,999		12		2	1	8	3	6					1	
10,000-14,999		7				3	4	7					1	1
15,000-19,999		1				1	5	13						
20,000-24,999		1				1	2	6						2
25,000-49,999							1	10				1		2
50,000+						1	1	2		1		1		
NA	4	10	1	4		7	51	70	67	114	67	113	65	106
Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	67	115	67	115	67	115	67	115	67	115	67	115	67	115
Median	201.50	1499.67	87.50	450	5000	2220	14,916.67	17,968.75		250,000		62,500	7900	10,000
Mean	702.64	3318	106.25	1059	5000	6624.67	17,093.75	20,022.22		250,000		62,500	7900	14,011.11
Standard Deviation	955.22	4281.80	68.85	1846.46		11,252.54	12,022.57	11,242.02				53,033	4101.22	12,874.15

ASSET HOLDINGS BY RACE, 1977

Amount	SAVE		BOND		STOCKS		HOUSE		FARM		BUSNESS		OTHER	
	B	W	B	W	B	W	B	W	B	W	B	W	B	W
Refusal	1	15		5		10								
None														
$1 - 1,999	14	34	7	18		13						1		1
2,000-4,999	3	17		4		5	1						2	3
5,000-9,999	2	13		1		4	2	4						4
10,000-14,999	1	6		2		3	2	5						
15,000-19,999		2					6	4						3
20,000-24,999		1					6	5	1					
25,000-49,999		2				4	2	27						5
50,000+						1	2	10		4		1	1	1
NA	46	24	60	84	67	74	46	59	66	110	67	112	64	97
Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	67	114	67	114	67	114	67	114	67	114	67	114	67	114
Median	497.75	1000.50	100	750		1017	18,125	30,225	21,000	75,166.67		500,048.50	4000	13,000
Mean	1797.48	3562.63	377.71	1812.60		7073.83	23,642.88	32,289.09	21,000	87,755		500,048.50	28,833.33	17,444.12
Standard Deviation	3068.68	5607.57	517.43	3733.54		13,632.29	21,600.43	16,777.42		75,500		707,033.95	44,317.98	15,419.14

ASSET HOLDINGS BY RACE, 1982

Amount	SAVE		BOND		STOCKS		HOUSE		FARM		BUSINESS		OTHER	
	B	W	B	W	B	W	B	W	B	W	B	W	B	W
Refusal	3	10		3	2	3		1		1		1	1	2
None														
$1 - 1,999	17	22	2	7	1	8	1							1
2,000-4,999	3	7		4	1	2						1	1	
5,000-9,999	2	11				3	1	1						3
10,000-14,999		13		1		1		2						2
15,000-19,999		4				3	2	1						
20,000-24,999	1	4				2	6	2						2
25,000-49,999		5				2	12	23						2
50,000+		5				5	3	35	1			1		6
NA	41	34	65	100	63	86	42	50	66	114	67	112	65	97
Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	67	115	67	115	67	115	67	115	67	115	67	115	67	115
Median	500	5000	50	998.50	499	5004.25	25,333.33	49,257.14	115,000	-1		3000	1249.50	20,000
Mean	1906.39	11,858.99	50	1690.20	749.50	26,090.28	36,960	53,746.14	115,000	-1		234,332	1249.50	56,277.67
Standard Deviation	4043.32	22,828.13		2614.70	957.95	45,447.16	37,845.61	28,787.93				576,484.75	1768.47	115,010.44

APPENDIX B

Asset Holdings by Marital Status, 1967

Asset Holdings by Marital Status, 1972

Asset Holdings by Marital Status, 1977

Asset Holdings by Marital Status, 1982

ASSET HOLDINGS BY MARITAL STATUS, 1967

Amount	SAVE			BONDS			STOCKS			HOUSE			FARM			BUSINESS			OTHER		
	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM
None	22	24	29	30	43	62	28	50	65				31	55	94	31	55	93	30	53	82
$1 - 1,999	8	19	33	2	12	23	2	3	10	1		1									1
2,000-4,999		3	11			4			2	2	2								1	2	1
5,000-9,999	2	3	5		1	1		2	4	3	4	5									2
10,000-14,999			1							4	5	6									2
15,000-14,999									1	1	3	4									1
20,000-24,999									1	1	3	1						1	1	1	
25,000-49,999									1		1	3									
50,000+															1	1		1			1
NA		7	15			4	2	2	10	20	38	74	1								4
Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	32	56	94	32	56	94	32	56	94	32	56	94	32	56	94	32	56	94	32	56	94
Median	310	440	999.36	1050	95.33	500	544	1500	1100	8000	12,083.33	12,250		90,000		60,000	20,000	800,000	12,500	7125	6500
Mean	1250.60	1390.80	1817.60	1050	480.85	1037.70	544	2636	5342.11	9208.33	13,194.44	14,828.75		90,000		60,000	20,000	800,000	12,500	8666.67	81,375
Standard Deviation	1989.06	1907.29	2073.18	777.82	1371.06	1591.29	79.20	2680.96	8393.98	6235.74	7536.46	9476.90						14,84.24		10,680.98	20,9611.84

ASSET HOLDINGS BY MARITAL STATUS, 1972

Amount	SAVE			BOND			STOCKS			HOUSE			FARM			BUSINESS			OTHER		
	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM
None	19	26	29	28	50	70	28	51	65												
$1 - 1,999	10	21	28	3	5	17	2	3	7												
2,000-4,999		3	11		1	1			4		1										1
5,000-9,999	1	2	9			2		1	8	5	3	1									3
10,000-14,999		1	6					1	2	3	2	6								1	
15,999-19,999			1						1	2	9	7								1	1
20,000-24,999			1						1	3	3	2									
25,000-49,999										1	4	6					1			1	1
250,000+									1		1	2		1		1					2
NA	2	3	9	1		4	2		5	18	33	70	32	55	94	31	55	94	32	53	86
Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	32	56	94	32	56	94	32	56	94	32	56	94	32	56	94	32	56		32	56	94
Median	200	700	1701	175	87.50	500	837.50	900	4988	12,250	16,875	18,000		250,000		100,000	25,000		10,800	3250	
Mean	964.36	1716	3525.25	141.67	495.83	1175	837.50	4265	7530.83	13,714.29	18,326.09	23,375		250,000		100,000	25,000		12,266.67	13,137.50	
Standard Deviation	1745.57	2699.56	4510.12	80.36	982.91	1999.10	477.30	5430.57	12,233.04	6930.19	9796.35	13,573.47							8700.21	13,474.84	

ASSET HOLDINGS BY MARITAL STATUS, 1977

Amount	SAVE			BONDS			STOCKS			HOUSE			FARM			BUSINESS			OTHER		
	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM
Refusal	4		12	1		4	2		8												
None																					
$1 - 1,999	10	15	23	5	6	14	2	5	6								1				1
2,000-4,999	2	4	14			4	2	1	2			1							1	2	2
5,000-9,999		6	9			1			4	1	3	2								1	3
10,000-14,999		4	3		1	1			3	4	3								2	1	
15,000-19,999	1		1							3	3	4									
20,000-24,999			1							2	3	6			1				1	2	2
25,000-49,999			2					1	3	6	7	16								1	1
50,000+								1			5	7		1	3			1			
NA	19	23	28	30	45	69	30	44	67	20	28	57	36	50	90	36	51	92	32	45	84
Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	36	52	93	36	52	93	36	52	93	36	52	93	36	52	93	36	52	93	36	52	93
Median	100.67	1200	1003	62.50	150	900	93.50	775	1217	17,250	24,450	34,233.33	111,000		50,000	999,997		100	15,500	16,500	5900
Mean	1429.65	3603.69	3531.39	220.67	1995.57	1738.71	1210	11,363.75	7107.24	19,531.25	31,287.50	33,583.33	11,000		50,000	999,997		100	15,250	26,142.86	15,450
Standard Deviation	4316.87	4092.29	5873.44	385.61	4431.39	2836.86	1645.55	20,364.92	12,613.51	9182.35	22,549.87	17,281.49	12,7279.22						9403.01	27,683.80	18,279.02

ASSET HOLDINGS BY MARITAL STATUS, 1982

Amount	SAVE			BONDS			STOCKS			HOUSE			FARM			BUSINESS			OTHER		
	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM
Refusal	3	2	8	1		2	1		4			1			1			1			3
None																					
$1 - 1,999	7	14	18	1	4	4		2	7			1							1		
2,000-4,999	3	1	6			4		1	2								1			1	
5,000-9,999	1	4	8						3		1	1							1	1	1
10,000-14,999		4	9			1			1	1	1								1		1
15,000-19,999		2	2				1		2	2		1									
20,000-24,999		3	2					1	1	3	2	3									2
25,000-49,999		1	4						2	7	12	16							1		1
50,000+		1	4					1	4	4	12	22			1			1		1	5
NA	23	21	31	35	49	81	35	48	66	20	25	47	37	52	91	37	52	90	33	50	79
Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
N	37	53	92	37	53	92	37	53	92	37	53	92	37	53	92	37	53	92	37	53	92
Median	313.50	1612.50	4000	24.50	53	1000	8499.50	2000	4008.50	30,000	35,500	47,000		115,000	-1		3000	499,998	7000	7000	21,250
Mean	1163.57	8,826.50	11,662.39	24.50	526.50	2115	8499.50	39,580	20,950.65	38,352.94	54,910.71	99,511.09		115,000	-1		3000	499,998	12,750	26,500	68,076.69
Standard Deviation	1764.36	16,597.39	23,873.18	36.06	550.22	2953.05	1,2021.52	7,6152.43	37,334.69	27,333.45	39,322.52	28,557.30					707,105.37		15,283.43	37,739.24	133,955

APPENDIX C

Liabilities by Race, 1967

Liabilities by Race, 1972

Liabilities by Race, 1977

Liabilities by Race, 1982

LIABILITIES BY RACE, 1967

AMOUNT	HOUSE		BUSINESS		FARM		REAL ESTATE		MORT/LOANS		OTHER	
	B	W	B	W	B	W	B	W	B	W	B	W
None	7	8	67	112	67	114	64	111	N/A		28	77
$1 - 1,999	4	4					1	2			38	34
2,000-4,999	1	4		1			1				1	2
5,000-9,999	1	13						1				
10,000-14,999	2	5										1
15,000-19,999	1	2										
20,000-24,999	1			1								
25,000-49,999												
50,000+				1				1				
NA	50	79				1	1					1
Percent	100	100	100	100	100	100	100	100	100	100	100	100
N	67	115	67	115	67	115	67	115	N/A		67	115
Median	4850	7050		23,000			2773.50	3550			200	400.67
Mean	7100	7084.50		175,266.67			2773.50	106,875			401.31	806.68
Standard Deviation	7341.36	4569.71		281,408.62			1734.53	208,771.13			422.78	1658.71

LIABILITIES BY RACE, 1972

AMOUNT	HOUSE		BUSINESS		FARM		REAL ESTATE		MORT/LOANS		OTHER	
	B	W	B	W	B	W	B	W	B	W	B	W
None	5	12					1	7	N/A		36	66
$1 - 1,999	2							1			28	41
2,000-4,999	2	10					1	1				5
5,000-9,999	4	7		1		1						
10,000-14,999	2	12										
15,000-19,999	2	3										
20,000-24,999		2										
25,000-49,999				1								
50,000+												
NA	50	69	67	113	67	114	65	106			3	3
Percent	100	100	100	100	100	100	100	100	100	100	100	100
N	67	115	67	115	67	115	67	115	N/A		67	115
Median	7000	9050		19,000		5000	4500	2800			301.50	299.40
Mean	7920.83	9191.18		19,000		5000	4500	2800			450.52	614.85
Standard Deviation	5943.88	5104.45		18,384.78				1697.06			375.60	683.58

LIABILITIES BY RACE, 1977

AMOUNT	HOUSE		BUSINESS		FARM		REAL ESTATE		MORT/LOANS		OTHER	
	B	W	B	W	B	W	B	W	B	W	B	W
Refusal		2								1	N/A	
None	4	21	1	2	1	3	3	15				
$1 - 1,999	2	1							1	4		
2,000-4,999	2	3		1				1		2		
5,000-9,999	2	5						1		1		
10,000-14,999	4	16										
15,000-19,999	2	8						1				
20,000-24,999	1							1				
25,000-49,999		2				1						
50,000+				1								
NA	50	56	66	110	66	110	64	96	66	106		
Percent	100	100	100	100	100	100	100	100	100	100	100	100
N	67	114	67	114	67	114	67	114	67	114	N/A	
Median	10,000	11,914.29		501,248.50		25,000		5000	300	430		
Mean	9523.85	11,552.81		501,248.50		15,000		8574	300	1904.88		
Standard Deviation	6191.07	7171.91		705,336.89				6432.61		2187.12		

LIABILITIES BY RACE, 1982

AMOUNT	HOUSE		BUSINESS		FARM		REAL ESTATE		MORT/LOANS		OTHER	
	B	W	B	W	B	W	B	W	B	W	B	W
Refusal	1	3				1			1	2	N/A	
None	12	28		1	1	1	3	15				
$1 - 1,999	1	2								2		
2,000-4,999	2	5		1					1	2		
5,000-9,999	2	9						1	1			
10,000-14,999	5	8										
15,000-19,999	4	6						1				
20,000-24,999	1											
25,000-49,999		4						2		1		
50,000+		2		1						2		
NA	39	48	67	112	66	113	64	96	63	106		
Percent	100	100	100	100	100	100	100	100	100	100	N/A	
N	67	115	67	115	67	115	67	115	67	115		
Median	12,000	9933.33		76,500		-1		19,500	1999	2000		
Mean	10,512.44		13,681.05		76,500		-1		20,000	2999.50	34,515.11	
Standard Deviation	6571.95	14,656.45		103,944.70				9626.35	3880.23	66,810.96		

APPENDIX D

Liabilities by Marital Status, 1967

Liabilities by Marital Status, 1972

Liabilities by Marital Status, 1977

Liabilities by Marital Status, 1982

LIABILITIES BY MARITAL STATUS, 1967

AMOUNT	HOUSE			BUSINESS			FARM			REAL ESTATE			MORT/LOANS			OTHER		
	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM
None	4	3	8	31	55	93	32	55	94	30	56	89	N/A			12	21	72
$1 - 1,999	2	5	1							1		2				20	32	20
2,000-4,999	1		4		1							1					3	
5,000-9,999	3	7	4							1								
10,000-14,999	1	2	4															
15,999-19,999	1	1	1															1
20,000-24,999			1	1														
25,000-49,999																		
50,000+						1						1						
NA	20	38	71					1				1						1
Percent	100	100	100	100	100	100	100	100	100	100	100	100				100	100	100
N	32	56	94	32	56	94	32	56	94	32	56	94	N/A			32	56	94
Median	7000	5200	8505	23,000	2800	500,000				4123.50		2200				310.50	401.25	200
Mean	6961.25	5744.40	8500.67	23,000	2800	500,000				4128.50		106,200				412.20	593.83	784.29
Standard Deviation	5684.52	4637.67	5759.66							3643.72		209,206.88				360.34		2131.30

LIABILITIES BY MARITAL STATUS, 1972

AMOUNT	HOUSE			BUSINESS			FARM			REAL ESTATE			MORT/LOANS			OTHER		
	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM
None	4	7	6								2	6	N/A			17	20	65
$1 - 1,999	2											1						
2,000-4,999	2	6	4								1	1				13	30	26
5,000-9,999	4	3	4			1		1									2	3
10,000-14,999	1	6	7															
15,000-19,999	2	2	1															
20,000-24,999			2															
25,000-49,999				1														
50,000+																		
NA	17	32	70	31	55	94	32	55	94	32	53	86				2	4	
Percent	100	100	100	100	100	100	100	100	100	100	100	100				100	100	100
N	32	56	94	32	56	94	32	56	94	32	56	94	N/A			32	56	94
Median	6000	8000	10,000	32,000	6000			5000			4500	2800				585	299.80	280
Mean	7459.09	8617.65	9944.44	32,000	6000			5000			4500	2800				616.31	502.81	579.21
Standard Deviation	6241.83	4880.99	5134.80									1697.06				408.02	506.83	736.62

LIABILITIES BY MARITAL STATUS, 1977

AMOUNT	HOUSE			BUSINESS			FARM			REAL ESTATE			MORT/LAONS			OTHER		
	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM
Refusal			2										1				N/A	
None	7	7	11		2	1		1	3	3	6	9						
$1 - 1,999		2	1												5			
2,000-4,999	2	1	2		1							1		1	1			
5,000-9,999	2	2	3								1			1				
10,000-14,999	1	9	10							1								
15,000-19,999	3	1	6															
20,000-24,999		1																
25,000-49,999		1	1					1										
50,000+						1												
NA	21	28	57	36	49	91	36	50	90	32	45	83	35	50	87			
Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100			
N	36	52	93	36	52	93	36	52	93	36	52	93	36	52	93		N/A	
Median	8250	11,925	11,849.63		2500	999,997		25,000		16,000	5000	4722	-1	5000	420			
Mean	10,612.50	11,385.65	10,771.92		2500	999,997		25,000		16,000	5000	4722	-1	5000	923.33			
Standard Deviation	6073.70	6960.75	7427.75												1047.62			

LIABILITIES BY MARITAL STATUS, 1982

AMOUNT	HOUSE			BUSINESS			FARM			REAL ESTATE			MORT/LOANS			OTHER		
	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM	W	D	NM
Refusal	2		2						1					1	3		N/A	
None	8	11	21		1			2		3	2	13						
$1 - 1,999	1	1	1											2				
2,000-4,999		4	3		1								1	1	1			
5,000-9,999	2	3	6							1					1			
10,000-14,999	3	3	7															
15,000-19,999	3	5	2									1						
20,000-24,999			1															
25,000-49,999		2	2								1	2			1			
50,000+		1	1			1									2			
NA	18	23	46	37	51	91	37	51	91	33	50	77	36	49	84			
Percent	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100			
N	37	53	92	37	53	92	37	53	92	37	53	92	37	53	92		N/A	
Median	10,000	10,125	10,000		3000	150,000			-1	8000	25,000	23,500	2000	207.50	6000			
Mean	9199.82	14,829.68	12,751.92		3000	150,000			-1	8000	25,000	23,500	2000	1409.50	39,374.63			
Standard Deviation	6914.02	14,108.52	13,908.71									9192.39		1855,18	69,781.41			
		6960.75																

APPENDIX E

Rate of Change in Net Worth (Current Dollars) by Race and Year

Rate of Change in Net Worth (Current Dollars) by Marital Status and Year

RATE OF CHANGE IN NET WORTH (CURRENT DOLLARS)
BY RACE AND YEAR
(in percent)

	N	MEAN	STD. DEV.	STD. ERROR
1967-72				
White	67	-.3122	12.720	1.554
Black	41	-1.4509	5.870	.917
1972-77				
White	75	3.1108	12.650	1.461
Black	31	68.3404	381.665	68.549
1977-82				
White	70	5.9516	61.497	7.350
Black	35	.8603	7.051	1.192
1967-82				
White	57	16.3265	104.426	13.832
Black	40	-11.7200	84.567	13.371

RATE OF CHANGE IN NET WORTH (CURRENT DOLLARS)
BY MARITAL STATUS AND YEAR
(in percent)

1967-72	N	MEAN	STD. DEV.	STD. ERROR
Widowed	21	-2.1234	7.6539	1.6702
Divorced	37	.6845	10.6908	1.7576
Nev Married	50	-1.2228	11.6728	1.6508
TOTAL	108	-.7445		
1972-77				
Widowed	17	123.4769	515.6738	125.0693
Divorced	36	.8420	8.5426	1.4238
Nev Married	58	4.1971	13.8580	1.9035
TOTAL	106	22.1874		
1977-1982				
Widowed	16	.9826	1.6753	.4188
Divorced	38	-1.0947	5.5201	.8955
Nev Married	51	9.2667	72.0466	10.0885
TOTAL	105	4.2545		
1967-82				
Widowed	17	-14.9595	69.8502	16.9412
Divorced	37	7.3441	96.0248	15.7864
Nev Married	43	10.3347	107.9969	16.4694
TOTAL	97	4.7610		

APPENDIX F

Net Worth of Sample, by Year (in Current Dollars)

Net Worth of Sample by Race and Year (in Current Dollars)

Net Worth of Sample by Marital Status and Year (in Current Dollars)

NET WORTH OF SAMPLE, BY YEAR (IN CURRENT DOLLARS)

	MEAN	MEDIAN	STD. DEV.	N
TOTAL RESPONDENTS				
1967	$ 7,427.72	$ 500.00	$41,020.19	141
1972	9,914.40	1,004.00	25,210.58	162
1977	15,170.69	3,253.50	27,885.75	146
1982	31,351.64	10,002.00	50,745.67	150
WHITES				
1967	13,172.80	3,350.00	57,230.74	115
1972	15,707.34	8,000.00	31,738.35	115
1977	23,431.24	14,152.50	31,253.26	114
1982	51,821.83	37,000.00	60,031.46	115
BLACKS				
1967	2,435.65	-10.50	5,740.74	67
1972	4,419.13	82.50	10,572.51	67
1977	7,725.24	102.00	23,220.62	67
1982	15,729.62	6,867.00	28,703.95	67
WIDOW				
1967	2,626.26	1,321.00	3,672.45	32
1972	7,414.00	1,046.00	15,478.18	32
1977	9,026.78	4,600.00	10,782.36	36
1982	20,690.00	10,050.00	33,277.35	37
DIVORCED				
1967	4,505.22	306.00	7,624.25	56
1972	14,592.91	2,005.00	41,826.70	56
1977	20,798.62	7,000.00	40,532.87	52
1982	45,334.34	31,000.00	54,770.24	53
NEVER MARRIED				
1967	15,135.70	3,000.00	66,157.83	94
1972	12,389.90	6,200.00	17,860.25	94
1977	20,623.43	8,502.00	25,804.24	93
1982	41,899.30	20,210.00	58,243.48	92

NET WORTH OF SAMPLE, BY RACE AND YEAR
(IN CURRENT DOLLARS)

TOTAL	N	MEAN	MEDIAN	STD. DEV.
1967	141	7427.72	500.00	41020.19
1972	162	9914.40	1004.00	25210.58
1977	146	15170.69	3253.50	27885.75
1982	150	31351.64	10002.00	50745.67

NET WORTH OF SAMPLE, BY MARITAL STATUS AND YEAR
(IN CURRENT DOLLARS)

WHITES	N	MEAN	MEDIAN	STD. DEV.
1967	115	13172.80	3350.00	57230.74
1972	115	15707.34	8000.00	31738.35
1977	114	23431.24	14152.50	31253.26
1982	115	51821.83	37000.00	60031.46
BLACKS				
1967	67	2435.65	10.50	5740.74
1972	67	4419.13	82.50	10572.51
1977	67	7725.24	102.00	23220.62
1982	67	15729.62	6867.00	28703.95

APPENDIX G

Segmented, Step-Wise Multiple Regression Analysis for Hypothesis Five, 1967

Segmented, Step-Wise Multiple Regression Analysis for Hypothesis Five, 1972

Segmented, Step-Wise Multiple Regression Analysis for Hypothesis Five, 1977

Segmented, Step-Wise Multiple Regression Analysis for Hypothesis Five, 1982

SEGMENTED, STEP-WISE MULTIPLE REGRESSION ANALYSIS FOR HYPOTHESIS FIVE, 1967

STEP 1:

Variable	B	Fobs	Ftab	Sign.
Parents - both a	- 9688.01	2.9148	2.46	.0244*
ma, fd	- 6933.42			
fa, md	22492.4			
Education	3179.16			
Constant	-23720.7			

df = 4,114
*significant ($p \leq .05$)

STEP 2:

Variable	B	Fobs	Ftab	Sign.
Previous income	- .703124	.2859	3.94	.5939*
Parents - both a	- 9637.28			
ma, fd	- 6824.75			
fa, md	22377.9			
Education	3504.75			
Constant	-23563.5			

df = 1,113
*significant ($\leq .05$)

STEP 3:

Variable	B	Fobs	Ftab	Sign.
Previous income	- .943336	2.7896	2.03	.0077*
Parents - both a	-10327.8			
ma, fd	4507.90			
fa, md	16819.5			
Education	3093.59			
Job Category				
- Professional	- 6832.29			
- Managerial	79593.4			
- Clerical	- 9338.47			
- Sales	-10089.5			
- Craft	-35165.9			
- Operator	- 3974.86			
- Household	- 6193.87			
- Services	-12507.5			
Constant	-13861.8			

df = 8,105
*significant ($p \leq .05$)

SEGMENTED, STEP-WISE MULTIPLE REGRESSION ANALYSIS
FOR HYPOTHESIS FIVE, 1972

STEP 1:

Variable	B	Fobs	Ftab	Sign.
Previous income	1.68380	19.0190	3.92	.0000*
Constant	-2976.23			

df = 1,127
*significant ($p \leq .05$)

STEP 2:

Variable	B	Fobs	Ftabs	Sign.
Previous income	1.35375	1.8199	3.07	.1663
Race	2578.84			
Education	1057.01			
Constant	-13324.1			

df = 2,125
significant ($p \leq .05$)

STEP 3:

Variable		B	Fobs	Ftab	Sign.
Previous income		1.28373	4.0374	2.70	.0089*
Race		2061.80			
Education		1276.53			
Att (a)	- def n	- 9759.74			
	- prob n	24905.5			
	- prob	- 9236.03			
Constant		- 9464.84			

df = 3,122
*significant ($p \leq .05$)

STEP 4:

Variable		B	Fobs	Ftab	Sign.
Previous income		1.22655	4.0469	2.70	.0089*
Race		1816.90			
Education		1635.09			
Att (a)	- def n	-15517.5			
	- prob n	26474.7			
	- prob	- 6317.87			
Att (b)	- def n	21640.6			
	- prob n	- 8999.42			
	- prob	- 8319.56			
Constant		- 9959.51			

df = 3,119
*significant ($p \leq .05$)

SEGMENTED, STEP-WISE MULTIPLE REGRESSION ANALYSIS
FOR HYPOTHESIS FIVE, 1977

STEP 1:

Variable	B	Fobs	Ftabs	Sign.
Previous income	1.88595	29.2855	3.96	.0000*
Constant	-5360.59			

df = 1,97
*significant ($p \leq .05$)

STEP 2:

Variable		B	Fobs	Ftabs	Sign.
Previous income		1.64764	3.9610	2.48	.0052*
Race		3161.25			
Education		1447.97			
SMSA	- city	-5970.74			
	- suburb	-6283.71			
Constant		-19110.3			

df = 4,93
*significant ($p \leq .05$)

STEP 3:

Variable		B	Fobs	Ftab	Sign.
Previous income		1.55888	4.3129	2.72	.0069*
Race		2584.			
Education		862.			
SMSA	- city	-4932.			
	- suburb	-7492.			
Att (b)	- def n	-54941.			
	- prob n	41184.5			
	- prob	7629.11			
Constant		-19880.			

df = 3,90
*significant ($p \leq .05$)

STEP 4:

Variable		B	Fobs	Ftab	Sign.
Previous income		1.65714	3.1857	3.13	.0462
Race		2297.			
Education		826.			
SMSA	- city	-5782.			
	- suburb	-7840.			
Att (b)	- def n	-77543.			
	- prob n	44314.			
	- prob	14214.			
Att (a)	- def n	-2478.			
	- prob	7929.			
Constant		-29374.			

df = 2,88
significant ($p \leq .05$)

SEGMENTED, STEP-WISE MULTIPLE REGRESSION ANALYSIS
FOR HYPOTHESIS FIVE, 1982

STEP 1:

Variable		B	F-ratio	F	Sign.
Previous income		1.80450	9.0786	3.20	.0005*
Pension		901.665			
Constant		-15398.3			

df = 2,46
*significant ($p \leq .05$)

STEP 2:

Variable		B	F-ratio	F	Sign.
Previous income		2.20263	.6052	2.15	.7844*
Pension		- 146.260			
Race		5622.51			
Lfp	- work	11104.9			
	- job	28366.6			
# dependents		3822.06			
Parent -	both a	25854.8			
	ma, fd	-13612.9			
	fa, md	-13884.2			
Education		- 1936.24			
Tenure		18850.3			
Constant		56304.8			

df = 9,37
*significant ($p \leq .05$)

STEP 3:

Variable		B	F-ratio	F	Sign.
Previous income		1.67616	14.6910	2.88	.0000*
Pension		- 479.456			
Race		5659.60			
Lfp	- work	9080.78			
	- job	34391.5			
# dependents		- 518.146			
Parent -	both a	36180.1			
	ma, fd	-13664.4			
	fa, md	- 8592.16			
Education		- 1269.04			
Tenure		9780.77			
Att (a)	- def n	-23095.7			
	- prob n	146538.			
	- prob	-69307.8			
Constant		112106.			

df = 3,34
*significant ($p \leq .05$)