

ECONOMICS OF MIDLIFE WOMEN: EMPLOYMENT
AND RETIREMENT ISSUES

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PREFACE

This study was undertaken to investigate and provide descriptive assessment of the employment patterns of midlife women. The research identifies six work history patterns based on labor force participation history. Five employment types of midlife women are constructed from current labor force participation and labor force attachment history. The logit model estimating the likelihood of labor force participation of midlife women is derived from human capital investment predictors and sociodemographic variables. The results of the study are discussed in terms of public concerns for government, business, and household sectors regarding employability of midlife women. The midlife years are an opportunity for women to accumulate pension benefits and accrue savings for the retirement years.

The format of this dissertation deviates from the general thesis style used at Oklahoma State University. The purpose of this deviation style is to provide a manuscript suitable for publication as well as fulfilling the traditional thesis requirements. For the most part the manuscript style of the Journal of Human Resources has been used, although some blending of thesis style with the style of Journal of Human Resources has been made. The cooperation of the Graduate College and Dean Norman Durham in the stylistic adaptations is greatly appreciated.

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MANUSCRIPT FOR PUBLICATION

ABSTRACT

ECONOMICS OF MIDLIFE WOMEN: EMPLOYMENT AND RETIREMENT ISSUES

The purpose of this study was to investigate the effects of sociodemographic characteristics and human capital factors on labor force participation of midlife women. The study was divided into three analytical phases: 1) a descriptive analysis of sociodemographic characteristics, human capital factors, and labor force participation between midlife cohorts--Early-mid (35-44), Middle-mid (45-54), and Late-mid (55-64); 2) identification of work history patterns and employment types of midlife women, where analyses used chi-square and phi statistics to assess effects of sociodemographic and human capital factors; and 3) testing of logit models that estimated the likelihood of labor force participation of midlife women. Data were from the 1983 Survey of Consumer Finances. Comparisons among cohorts of midlife women indicated that youngest women are the best educated. A relatively large percent of women were employed in typical female occupations of clerical, retail sales, and service jobs. Women's educational attainment, husbands' occupation, age, marital status, and race were statistical indicators of work history patterns and employment types. Women with little education were more likely to never have been employed or working part-time than those with higher educational levels. The logit model that best estimated likelihood of labor force participation of midlife women identified five factors which increased labor force participation: completion of high school, some training beyond high school, college degree, unmarried status, and in the Early-mid cohort. Four factors, eight years or less of education, presence of a child less than 6 years, being of white race and in the Late-mid cohort decreased

likelihood of labor force participation. Implications of results involved public policy concerns for improving employability of midlife women with particular attention to Carl Perkins Vocational Act and Job Training Partnership Act.

INTRODUCTION

The extent of labor market activity of women and the form it takes are crucial aspects of financial well-being in the later years. Women of all age groups are entering the work force in increasing numbers. This, according to Waite [25], constitutes a trend continuing from as far back as the 1940s.

Today, approximately 58 percent of all women, 16 years and over, work in paid employment--married women with children as well as single women [4]. Midlife women often reenter the labor market after children are in school or grown. In recent years the number of women over 40 who have entered the work force has increased. This results in many midlife women being employed either for the first time or after many years of absence from the work force. Labor force participation rates vary for midlife age groups. Age 35 represents a transitional stage when many women return to the labor force after staying home with children. By age 65 most women retire from paid employment.

The midlife span of years, 35-64 years, is divided into three cohorts: 1) Early-mid (35-44), 2) Middle-mid (45-54), and 3) Late-mid (55-64). According to the Bureau of Labor Statistics [4] in August, 1985, 76 percent of the Early-mid women were in the labor force. Comparable figures for Middle-mid women was 64 percent and almost 44 percent for the Late-mid group. In 1985, women 45 years of age and over comprised one-fourth (13.5 million) of the female labor force [5].

The historical point in time at which a person is a given age sometimes has an effect on attitudes and life styles during later stages. Opinions toward labor force participation and the labor force

behavior of the mothers of today's midlife women could be an influential factor upon the labor force participation of the midlife cohorts in this study. Social and economic changes in the United States during a given interval affects the labor force participation of each cohort of women differently.

Prior to World War II, the highest rates of labor force participation for women was among young women. Women left the labor force upon marriage and many never returned to employment [2]. The Late-mid group of women were raised during an era when labor force participation rates were highest for women prior to marriage. Since World War II, changes in social attitudes, lifestyles, and economic conditions contribute to increases in the labor force participation rates for women.

Wartime production brought forth a temporary relaxation of social pressures against the employment of married women, and labor force participation rates for wives increased during the early 1940s. In the postwar era, there was a sizable increase in the participation rates of women age 45 to 59 years. This group of women had basically completed childrearing responsibilities [2].

Social and economic changes occurred across the nation in the postwar period. The unexpected expansion of the economy and resulting labor shortage provided not only employment opportunities for married women, but also a sympathetic shift in opinion that enabled them to enter the labor market. The expansion of the economy in the years following World War II provided rapid growth in clerical, sales, and service occupations as federal, state, and local governments provided additional services and expanding production of manufactured goods necessitated the need for an enlarged distribution system. Employers recruited

women to whom low wages could be paid to make up the existing labor deficit in clerical, sales and service related jobs [1].

Since the mid 1960s, the greatest increase in labor force participation among women is among women under age 45. These women often have young children and apparently waited to pursue employment until societal attitudes changed toward working mothers [2].

Following World War II, the pressure to maintain the rising standard of living caused a rapid increase between 1965 and 1975 in the proportion of married women with children to enter the labor force. Most of this increase in labor force participation of women occurred among married women with young children [1]. The majority of women who are now in their midlife years grew up during the 1940s and 1950s, when the increase of married women's labor force participation was beginning.

Approximately half the population of women 45-54 have been in the labor market for more than two decades [5]. The number of employed women between the ages of 25-54 years is expected to increase rapidly in the next 8 to 12 years as the postwar baby-boom generation reaches midlife [8]. Projections by the Bureau of Labor Statistics indicate that 3.9 million more midlife and older women will be added to the labor force by 1995, a total of 17.1 million compared to 13.2 million female workers in 1983, a 29 percent increase over a 12 year period. If these predictions are accurate almost one out of every two workers of the mid-life and older work force will be women in 1995 [8].

According to economic theory, employers value an employee's productivity based on knowledge and the ability to perform the required job duties [17]. A person's human capital--skills and abilities--

deteriorates during lengthy job absence. During periods of nonparticipation, Mincer and Ofek [12] found a worker's wage depreciates three to eight percent per year.

Many of the current generation of midlife women must cope with educational and employment opportunity deficits. This is largely because the social conditions during the formative years of today's midlife women were not conducive to occupational pursuits that lead to financial self-sufficiency and economic well-being. This generation of midlife women did not plan for a life of full-time employment or for possible return to employment after children were grown. Now these women, at midlife, find themselves in a society of unstable marriages where the need to be self-supporting is thrust upon many of them.

Many young women of today will have different characteristics when they reach midlife. They will have more education and years of labor force participation. However, they are more likely to live more years without husbands because of the increased difference in male/female life expectancy and the high divorce rate. Marital disruption due to death of a spouse and divorce means a number of women must find adequate employment to provide for their financial needs.

Marital disruption during the mid years, whether it results from death, separation, or divorce, often leaves many women economically vulnerable at the time following the disruption and upon reaching retirement age. An examination of midlife women compiled from the culmination of hearings conducted by the Subcommittee on Retirement Income and Employment of the Select Committee on Aging [24] concluded that economic security for elderly women builds on women's employment experience in the middle years!

Financial security in the later years often depends on whether an individual is eligible for pension benefits which is contingent on the nature of employment in the middle years [24]. For many women, the cost of living longer than their male counterparts, includes the greater incidence of poverty [16]. Elderly women living alone in 1983 experienced a 33 percent poverty rate. Dependency on Social Security as a source of income among this group ranged from 85-96 percent [23].

Characteristics of labor force participation between midlife and retirement will influence whether women will have a reasonably secure and independent retirement. Previous empirical studies [6, 12, 13] of women's labor force participation have mainly focused on married women. These data sets have collected data on only work history or current labor force attachment.

THE STUDY

This empirical study examines the work history and current labor force attachment of midlife women using a data set which specifically gathered data on individuals' labor force participation history and current labor force attachment. This study is conducted on a relatively new nationally representative data file, the 1983 Survey of Consumer Finances. The data file contains extensive work history, current labor force attachment, pension coverage, and asset accumulation data which has been collected from the same respondents.

Specifically, the following questions are posed regarding midlife women: 1) What are the similarities and differences between midlife cohorts regarding sociodemographic characteristics, human capital factors and labor force participation? 2) What is the nature of the relationship of sociodemographic characteristics to employment patterns

of midlife women? 3) Is there a statistically significant relationship regarding the human capital variable, educational attainment, and employment patterns of midlife women? 4) What is the likelihood of labor force participation of midlife women given certain sociodemographic and human capital factors? The focus of the study is the three cohorts of midlife women for analytical comparative purposes. These questions are important for economic policy implications involving government, business, and household sectors regarding employment of midlife women and retirement income of elderly women.

The study utilizes labor force participation history, current labor force attachment, and current labor force participation, to identify and construct employment patterns of midlife women. From the data gathered by the Survey, employment patterns are constructed for: 1) work history patterns based on labor force participation history and 2) employment types developed from current labor force participation and labor force attachment history.

The results provide descriptive and inferential findings with implications for employment of midlife women and retirement income. As a group apart from women's labor force participation studies in general, studies do not use logit procedures to investigate labor force participation of midlife women. Logit is used to examine empirically the relative influence of predictor variables upon the likelihood of labor force participation. The estimation of labor force participation of midlife women fills a void in the literature regarding women's labor force participation.

THEORETICAL FRAMEWORK

Research on the sequence of human capital accumulation and the resulting growth in earnings suggests that earnings power over the life cycle is largely a function of investment choices. Mincer and Polachek [14], Polachek [19], and Mincer and Ofek [12] propose the theoretical issues surrounding the effect of discontinuous labor force experience on earnings and provide cross-sectional estimates of the empirical importance of investment decisions. Polachek [19] presents evidence that periods of paid employment interspersed with periods of full-time family responsibilities lead to skill depreciation.

Zellner [28] and Polachek [20] are among those who hypothesize that occupational segregation, due to gender, is the result of differences in men's and women's labor force participation decisions and human capital investment decisions occurring early in the life cycle. Polachek [20] provides evidence of a strong relationship between women's labor force participation and occupational choice. Anticipation of time out of the labor force increases the likelihood that women choose occupations that suffer the least amount of atrophy when a worker withdraws from the work force. Consequently those suffering the least atrophy are found in the clerical and service related sectors.

Sandell and Shapiro [21] report that young women who anticipate employment after age 30 invest considerably more in their human capital than those who do not expect to be employed after several years of marriage. Furthermore, Mincer and Polachek [14] hypothesize that wives having strong career aspirations may not want to incur the human capital depreciation that is estimated to accompany periods of nonparticipation. Thus, these women show strong labor force attachment.

Economists Schmidt and Strauss [22] estimate a multinomial logit model of occupational attainment to predict the likelihood of employment in five broadly defined occupations. Gender and race are statistically significant predictor variables for occupation in which employed. Schmidt and Strauss conclude that labor market discrimination is one cause of occupational segregation. They also suggest that logit results may indicate that clustering in certain occupations is the result of different preferences between sexes. The observed clustering might be the result of choices made by persons rather than labor market discrimination.

Brown, Moon, and Zoloth [3] use a multinomial logit model, controlling for the amount of human capital acquired, to compare male and female job distribution across categories. They too, determine the existence of major occupational segregation within a few occupations.

The sequence and timing of family and employment events emerges as an important focus in the study of labor force participation of women in the labor market. Adult women display diverse labor force participation patterns over the life cycle.

Intermittent employment is an important analytical factor in the phenomenon of women's employment patterns. To date several studies [7, 25, 27] identify various employment patterns among ever-married women. Elder and Rockwell [7] conceptualize four employment patterns in regard to various family life stages for a sample of white women born between 1925 and 1929. The patterns identified were: conventional interrupted, double-track, and unstable. Young [27] identifies Australian married women's employment patterns as wives' employment is synchronized with family events. One-third of the women did not

work between the time of marriage and after the children entered school. Almost one-fourth of the sample worked only between marriage and first birth; 11 percent began working when children entered school; another 11 percent worked except for the time children were preschoolers; and 10 percent of the sample are continuous workers. Young differentiates the women as full-time or part-time workers during each stage. Van Velsor and O'Rand [25] suggest that labor force participation during midlife is influenced by participation prior to childbearing years.

Masnack and Bane [11] report timing of childbearing as an indication of early labor force participation particularly for the older cohort of women. More recent cohorts do not display as close a relationship between work and childbearing. These cohorts are more likely to be associated with interrupted or delayed work careers.

Less attachment to the labor force is associated with lower paying jobs, lower occupational status, and limited fringe benefits such as pension coverage [19]. O'Rand and Henretta [15] apply the logit technique to explain the effects of background, work history and pre-retirement status factors on retirement patterns of late middle-aged women. Logit results indicate that having children and delayed career entry, along with pension structures, affect women's retirement schedules. Women who delay career entry until children enter school delay retirement.

THE DATA

Data Source and the Sample

Information on employment history and pension coverage is difficult to obtain in existing data sets. Some data sets contain information on employment history and earnings but are deficient in aspects of pension

coverage information. In the research reported in this article, a new data file is utilized which provides the elements necessary to construct requisite employment patterns using labor force participation and labor force attachment history for three cohorts of midlife women in the sample.

The data set is a subset of the 1983 Survey of Consumer Finances jointly sponsored by a consortium of federal agencies including the Federal Reserve Board, the Department of Health and Human Services, and the Department of the Treasury. The file contains extensive information on current, previous full-time, and part-time employment information for current and previously held jobs of 3,825 respondents. The same data is present for spouses of respondents.

Appropriate weighting techniques designed to adjust for differential sampling selection and response rates are used to insure that the data are representative of the general population of midlife women in the United States. The resulting weighted sample consists of 2,535 females aged 35 to 64 years.

METHODS OF ANALYSES AND VARIABLE DEFINITIONS

The study is divided into three analytical phases. The phases are 1) descriptive analysis of sociodemographic characteristics and human capital factors between midlife cohorts using frequencies and percentages to describe the sample, 2) identification of employment patterns of midlife women and analyses using chi-square and phi statistics to assess the linkage between sociodemographic and human capital factors to the patterns, and 3) statistical testing of logit models for estimating the likelihood of labor force participation of midlife women.

Sample Description

Frequencies and percentages are used on sociodemographic characteristics and human capital variables under consideration in this study to describe the sample of midlife women. Focus of the descriptive analysis is the comparison between the three cohorts of women--Early-mid, Middle-mid, and Late-mid.

Employment Patterns

Employment patterns (work history patterns and employment types) are established for midlife women. Chi-square and phi statistics are used to assess the linkage between sociodemographic and human capital factors to the work history patterns and employment types.

Work history patterns of midlife women are established that describe the past labor force behavior of the three cohorts of midlife women. The following work history patterns are identified.

<u>Never Employed</u>	no reported work history
<u>Part-time</u>	only part-time work is recorded in the work history data
<u>Continuous</u>	continuous full-time workers with no interruption(s) lasting one year or more for family responsibilities or personal reasons
<u>Interrupted</u>	full-time worker with a work interruption(s) lasting one year or more
<u>Dual-interrupted</u>	work history consists of both part-time and full-time employment with reported work interruption(s) lasting one year or more
<u>Dual-continuous</u>	combination of both full-time and part-time work with no interruption(s) lasting one year or more

Chi-square and phi statistics are used to analyze the nature of relationships regarding sociodemographic characteristics and human capital variables' relationships to work history patterns.

Employment types of midlife women are constructed from current labor force participation and labor force attachment history. The following five categories are identified to describe the employment types of midlife women.

<u>Part-time</u>	currently working part-time and a history of only part-time work
<u>Continuous</u>	currently employed full-time and a history of continuous full-time employment with no work interruption(s) lasting one year or more
<u>Interrupted</u>	presently working full-time and a history of full-time work with work interruption(s) of one year or more
<u>Dual-interrupted</u>	currently employed either full-time or part-time with a reported history of both full-time and part-time work and work interruption(s) lasting one year or more
<u>Dual-continuous</u>	currently working either full-time or part-time and a history of part-time or full-time employment and no interruption(s) of one year or more

Relationships of sociodemographic characteristics and human capital variables to employment types are evaluated using the analytical procedures of chi-square and phi statistics.

Labor Force Participation Model

An empirical model estimating likelihood of labor force participation is identified for midlife women using sociodemographic and human capital variables. The model developed in this study is derived from the Peck and Nickols [18] multidisciplinary theoretical model which incorporates perspectives of sociodemographic, economic, and human capital components. The following groups of independent variables are incorporated into the model: 1) human capital variables--woman's age and woman's educational attainment; and 2) sociodemographic variables--

marital status, presence of children under 6 years of age, race, husband's education, husband's employment status, husband's occupational group.

The dependent variable for the models have dichotomous outcomes. Either a person achieves or does not achieve the identified outcome. Stepwise logit is chosen for estimating the likelihood of labor force participation. Several authors [9, 22] recommend using logit for computational convenience. The following logit model is used to examine empirically the relative influence of predictor variables upon the likelihood of midlife woman's labor force participation.

$$\log \frac{P_i}{1-P_i} = \alpha + \sum_{j=1}^n B_j X_{ij}$$

P_i = the probability that individual will achieve a certain labor market participation; X_{ij} = sociodemographic and human capital characteristics of woman i ; B_j = coefficient of the j th characteristics; and α = a constant term. The model estimates the likelihood (ratio of probabilities) that a midlife woman will have a certain labor force participation outcome. The logit model specified in this study is estimated by making use of the nonlinear maximum likelihood estimation procedure which can be applied where categorical variables are used in the model [10]. Logit ensures that the parameter estimates are consistent and tests of statistical significance can be performed. Stepwise logit identifies statistically significant predictors at the 0.05 level.

In examining predictors associated with the likelihood of labor force participation, the researcher proposes that human capital investment and sociodemographic factors will be differentially related to labor force participation. From a human capital perspective women who

invest in higher levels of education or specific skill training are likely to participate more continuously in the labor market than women with less education to receive a return on educational investment. The underlying assumption is that factors such as education, presence of young children, marital status and husband's education and occupation have statistically significant relationships to likelihood of labor force participation during midlife. Therefore, various configurations of these relationships are associated with differing likelihood of a midlife woman's labor force participation.

Variable Definitions

A summary of the variables used in the empirical analyses is shown in Table 1. These variables represent labor force participation, human capital and sociodemographic variables identified in the literature.

Insert Table 1 about here

RESULTS AND DISCUSSION

Description of the Sample

Appendix A Table A-1 contains descriptive information on labor force participation, human capital and sociodemographic characteristics of the midlife women sample. These variables are included because of the relationship to women's labor force participation. Three-fourths of the total sample of midlife women are married. Approximately 22 percent are widowed, separated, or divorced. Approximately three percent are never married. A larger percentage of the Late-mid women, 27 percent, are unmarried when compared to the other two cohorts.

Educational attainment for the cohorts steadily increases among the two younger cohorts--Early-mid and Middle-mid women. Twenty-two percent of the Early-mid women have college degrees compared to 12 percent for the Late-mid women. The educational level also steadily increases among the husbands of the Early-mid and Middle-mid group when compared to the Late-mid cohort.

Occupational classification was grouped according to the five-way grouping utilized by Schmidt and Strauss [22]. Over one-fourth of the midlife women are white collar workers which include clerical and sales. Eighteen percent were professional workers which include technical, managers and proprietors. Twelve percent are menial workers (private household and service workers). Only one percent are craft workers. Thirty percent of Early-mid women are homemakers. The percentage of homemakers is greatest among the Late-mid women--almost 55 percent. The overall changes in the kinds of occupations that women hold represent differences in the percentages for the six classifications by the age cohorts of midlife women. The observed differences are due to the younger women who hold a large percentage of professional and white collar jobs. The white collar occupational category can be termed "pink" collar jobs due to the clustering of women in clerical and sales occupations.

It should be noted that an increased number of the Early-mid age group are employed in the menial job category. This category includes such service workers as food service and child care employees. In recent years, there has been a growth in fast food restaurants and child care centers.

Employment Patterns

Work History Patterns. Table A-2 in the Appendix reports the distribution of women within the six work history patterns: never employed, part-time, continuous, interrupted, dual-interrupted, and dual-continuous. More than one-third of all midlife women are classified in the pattern of dual-interrupted. Eighteen percent of the women's work history is of the continuous pattern with no work interruptions which lasted one year or more. Almost eight percent of the total sample report no work history. A larger percent of the Late-mid women, 13 percent, compared to approximately four percent of the Early-mid women, are categorized as the never employed. However, 21 percent of the Late-mid group of women have a work history pattern of continuous employment when compared to the Early-mid and Middle-mid in which 18 and 15 percent, respectively, have continuous employment. The distribution within the interrupted and part-time patterns is nearly the same for each of the cohort groups.

Analyses using summary chi-square and phi statistics to measure the relationship of sociodemographic and human capital variables to work history patterns are shown in Table 2. Results indicate statistically significant relationships between work history patterns and midlife woman's educational level, marital status, husband's educational level, husband's occupational group, and cohort.

Insert Table 2 about here

Women who attain more education tend to work full-time or have either of the two dual work history patterns. Forty-three percent of midlife women with college degrees (expected frequency was 120) have

dual-interrupted work history patterns. Of the women with some training beyond high school, 43 (expected frequency was 19) are dual-continuous workers. Of the 177 women who have never been employed, 61 (expected frequency of 17) have eight years of schooling or less. Women with eight years of schooling or less are less likely to be in the dual-interrupted pattern (19 reported cases and 62 expected frequencies) than those women with more education. These results suggest that education beyond high school provides an individual with employment options and flexibility. Women with more education may have chosen to reduce employment from full-time to part-time during childbearing and childrearing years rather than work interruption. Also, the type of employment may allow flexibility to adjust work hours to fit family responsibilities.

Cross-tabular comparison of marital status to work history patterns indicates a negative relationship with labor force participation for married women. Married women are less likely to have a continuous work history pattern than women who are single. Fifteen percent of the married midlife women (256) in the continuous pattern indicates that the continuous pattern is less than the expected frequency of 298. Women who have never married are likely to work continuously. Forty percent of the 55 never married women in the sample have continuous work history patterns. Nearly one-fourth of the women who are separated, divorced, or widowed have a continuous work pattern. The observed frequency is 112 (the expected is 82).

Husband's educational level is statistically significant regarding his wife's work history pattern. Nearly one-third of the women who have never worked are married to men with eight years or less of education.

Only 23 women (expected frequency was 42) in the never employed pattern are married to men with college degrees, however 36 percent of the women with a dual-interrupted pattern are married to men with college degrees. Husbands' occupational category is statistically significant to wives' work history patterns. A greater number of wives who are married to blue collar workers were observed in the two full-time patterns, continuous and interrupted, than was expected to occur.

Cross-tabular comparisons of midlife cohorts and work history patterns indicate that nearly 13 percent of the Late-mid group of women have never been employed compared to four percent of the Early-mid group of women. The Early-mid women are more likely to have a dual-continuous work history pattern. Eighty-two Early-mid women (expected frequency was 54) are in the pattern of dual-continuous. The Late-mid group is less likely to have either dual-continuous or dual-interrupted work patterns than the other two age groups of women. The Early-mid women have attained more education than the Late-mid women and, as mentioned earlier, education provides more employment options and flexibility.

Employment Types. Employment types are identified and developed from current labor force attachment and labor force participation history. Distribution across the employment types is reported in Table A-3, Appendix. Forty-one percent of the sample is not currently employed. A greater percent of the older cohort are not employed--55 percent--when a comparison is made between cohorts. Approximately 30 percent of the Early-mids are not currently employed. Of those women who are currently employed, less than three percent of the women across the three cohorts are classified as part-time employment type. One of every five Early-mid and Middle-mid women are full-time interrupted

employees. A noticeably lower percentage of Late-mid women are concentrated in the full-time interrupted and dual-interrupted employment types. Table 3 presents summary chi-square and phi statistics for the variables used in the analyses of employment types. See Appendix D for chi-square analyses.

Cross-tabular presentations of educational attainment and socio-demographic factors to employment types are consistent with the cross-tabular presentations of work history patterns. Results show statistically significant relationships between employment types and cohorts, educational attainment of midlife women, race, marital status, husbands' educational attainment and husbands' occupational group.

Women with less education if they are employed are more likely to work part-time than those with higher educational attainment. Of the 507 women with less than a high school diploma, 296 are not currently employed. Nearly one-fourth of the women with college degrees are of the dual-interrupted employment type. Married midlife women are not as likely to be employed full-time as single women. Individuals of the racial category including Blacks, Hispanics, Native Americans, and Orientals had a positive relationship with continuous employment. White women are not as likely to be continuous workers. A summary of the results is shown in Table 3.

Insert Table 3 about here

Cross-tabular comparisons of husband's occupation and employment types indicate if a women is married to a blue collar worker she is likely to be working full-time. Sixty-nine (expected frequency was 41) of the 216 women who are married to blue collar workers are of the interrupted employment type.

The cross-tabular results of the three age groups indicates a negative (less likely) statistically significant relationship for employment type of the Late-mid group of women. In this cohort, women who are employed are less likely to be full-time workers when compared to the Early-mid and Middle-mid group of women. The actual frequency of Early-mid women indicating a dual-continuous employment type is greater than the expected frequency. The distribution of age groups of midlife women across the employment types may indicate several employment barriers for midlife women; less education, obsolete job skills, and age, all occurring as women reach an older age. Cross-tabular frequencies of variables to work history patterns and employment types do not control for other influences; however, the information provides insight and is useful in interpreting the logit results.

Likelihood of Labor Force Participation

A major economic concern is to improve the financial well-being of women during their later years. It is, therefore, important to examine the effect of sociodemographic and human capital variables on labor force participation of midlife women. Nine models were tested (Appendix A-4), each assessing effects of sociodemographic characteristics and human capital variables on the likelihood of labor force participation. Each model focuses on the issues central to understanding the dynamics of midlife women's employment. Models A_1 , A_2 , and A_3 are ordinary logit. All variables are reported in the model except for the omitted variables. All models in the B and C series are stepwise logit. B series is unique in that all midlife women in general are included, as there is no control for cohorts. The C series controls for the effect of midlife cohorts. In each of the model series of A, B,

and C, model 1 includes sociodemographic and human capital variables identified in the literature. The second model in each series is unique because the husband's education variable which is never indicated as being statistically significant is not included in the analysis. Model 3 in each series does not include husband's education and husband's labor force participation. It was decided by the researcher that model C₃ best described the likelihood of midlife women's labor force participation. Model C₃ consists of variables which are the most efficient predictors of the likelihood of labor force participation of midlife women. This model removed variables that had multicollinearity.

The results of the logit model C₃ which best predicts the likelihood of labor force participation are presented in Table 4. Variables in the model having a positive effect on midlife women's labor force participation are the completion of high school, additional training, or completion of college education. Additionally, midlife women who are single have an increased likelihood of being in the labor force. For the Early-mid (35-44 years) group the likelihood of labor force attachment is increased. If a woman's husband is a blue collar worker the likelihood for employment increases.

Insert Table 4 about here

Variables with negative effects are education of less than eight years and for midlife women in the Late-mid (55-64 years) group. If the woman is white her likelihood of being in the labor force decreases when compared to all nonwhite midlife women. Presence of a child under 6 years of age decreases the likelihood of labor force participation. The stepwise logit equation with variables entering only if they meet the 0.05 significance level is as follows.

$$\log \frac{P_1}{1-P_1} = -0.02 - 0.13 \text{ FEDUC8} + 0.15 \text{ FHSGRAD} + 0.19 \text{ FVOCED} \\ + 0.28 \text{ FCOLGRAD} - 0.16 \text{ CHILD5} - 0.09 \text{ WHITE} \\ + 0.18 \text{ OTHMARST} - 0.16 \text{ MOCCUP4} + 0.13 \text{ GROUP35} \\ - 0.10 \text{ GROUP55}$$

Where P_1 equals the probability of labor force participation and $1-P_1$ equals the probability of not being in the labor force.

Fifty-nine percent of the sample is in the labor force and 41 percent are not. Therefore, the estimates of the likelihood of labor force participation shown are the marginal effects of each variable evaluated at the mean. See Table 4 for details.

Midlife women with education of eighth grade or less (FEDUC8) have a decrease in the likelihood of labor force participation of 13 percent. If the woman is a high school graduate (FHSGRAD) the odds are increased by 15 percent that she will be in the labor force, and increased by 19 percent for those with additional training beyond high school such as vocational education or some college (FVOCED). Completing a college degree (FCOLGRAD) increases the likelihood of being employed by 28 percent. The marginal effect of the midlife woman's age (GROUP35) for the Early-mid group is positive--13 percent increased likelihood. Being 55 years of age and over (GROUP55) decreases her likelihood of being in the labor force by 10 percent when all other variables are held constant.

When empirically identified predictors are held constant, marital status of being separated, divorced, widowed, or never married (OTHMARST) increases the likelihood of employment by 18 percent. If a woman is married to a blue collar worker (MOCCUP4) her likelihood of labor force participation increases by 17 percent. Presence of a child under 6

years of age (CHILD5) decreases her employment likelihood by 16 percent. White women (WHITE) are less likely to participate in the labor force by nine percent than a woman who is Black, Hispanic, Native American, Oriental or other.

SUMMARY AND IMPLICATIONS

The substantial number of older women experiencing financial insecurity continues to be the focus of concern and public policy. Women who have not worked full-time on a fairly continuous basis have less opportunity to accumulate pension benefits. Those who are in and out of the labor market due to family responsibilities may not earn vesting rights in a pension plan, thus preventing them from accumulating benefits. The midlife years are an opportunity for women to accumulate pension benefits and accrue savings for the retirement years.

The overall purpose of the study is to investigate the economic considerations of midlife women in regard to employment and retirement implications. The descriptive portion of the study examines the three cohorts of midlife women regarding sociodemographic characteristics and human capital variables. The second phase of the research establishes employment patterns of midlife women. This is accomplished by identifying six work history patterns based on labor force participation history. Also, five employment types are identified from labor force participation history and current labor force attachment. Nature of relationships regarding sociodemographic characteristics and human capital variables to work history patterns and employment types are assessed by using cross-tabulation frequencies. Lastly, nine logit models are developed to explain the relationship of sociodemographic

characteristics and human capital factors to the likelihood of labor force participation of midlife women.

Results of the research addresses several issues central to the employment history and current employment of midlife women and how these issues relate to retirement income of women. Comparison of labor force participation percentages for the three cohorts show that the Early-mid and Middle-mid groups of women have a lower employment rate than national figures released in August, 1985, by the U. S. Bureau of Labor Statistics [4]. Early-mid women have an employment rate of almost 70 percent compared to a 76 percent rate, nationally. In the United States, the labor force participation rate for women 45-54 years, Middle-mid group, is 64 percent. The Middle-mid group of women in the sample have an employment rate of 58 percent. For the Late-mid group of women the rate of labor force participation is 45 percent, the same as reported by the Bureau of Labor Statistics.

Results show that the educational level of the midlife women is increasing with the younger cohorts. A larger percentage of the Late-mid women have attained only eight years or less of education when compared to the Early-mid and Middle-mid women. Occupational classifications of midlife women show that a relatively large percentage of women are employed in the typical female occupations that pay a low wage and have few or no pension coverage. These occupational groups are the white collar category which includes clerical and sales jobs and menial occupations. The menial occupational group includes service related employment such as fast food and child care occupations. Midlife women in the sample are underrepresented in the craftsperson occupation. If women move out of occupations traditionally occupied by

women into the nontraditional female occupational categories of craftsperson and professional classification their level of earnings and pension coverage may increase.

Results of analyses of work history patterns and employment types support the human capital proposition that educational investment through schooling or skill development increases a woman's labor force participation. Because a portion of women are never employed or have a pattern of only part-time work, the first question explored when analyzing work history pattern is why some women never enter the labor force or enter as only part-time workers. Among the never employed work history pattern, the largest percentage is the older cohort of women who have a lower level of educational attainment. Analyses of employment patterns consistently show that midlife women with low educational attainment are more likely to be not working or working part-time than those with more education. Midlife women who are married to blue collar workers are more likely to be working full-time than women married to husbands in the occupational groups of professional, white collar, menial, and other. Married women are not as likely as single women to have full-time or dual employment types. The analysis of labor force participation using logit predicts that women with lower levels of education are less likely to be in the labor force than women who have completed high school, obtained job-related skills from a specialized training program or completed college. Investment in occupational skills is an important determinant of labor force participation of midlife women. Logit results indicate that being over 55 years of age and having less than high school education decreases a woman's likelihood of labor force participation. These findings confirm the

earlier descriptive analyses which showed that a larger portion of women who have less education have a work history pattern of never employed or part-time. Also, a larger percentage of the Late-mid group of women than the two younger cohorts were not currently employed when the five employment types were analyzed.

Logit results show that midlife women who are single have a greater likelihood of labor force participation. Women who experience marital disruption during midlife may face employment barriers because of limited job skills due to low educational attainment or have obsolete skills because of lengthy absence from employment. Such women as displaced homemakers who are confronted with marital disruption may have little or no employment history and have obsolete educational training or skills.

Policy implications of this study relate to midlife women, since the midlife years is an opportunity for women to provide for their retirement income through employment. Part of the retirement income problem relates to the work histories of these women; part-time work, intermittent employment and presence in certain occupational categories each of which contributes to lack of pension coverage and low wages associated with choice of occupation are some of the reasons for low income among elderly women. Policy considerations include economic implications for alleviating the retirement income dilemma of older women.

Never before has a federal education act focused as strongly on the adult learner as does the Carl Perkins Vocational Act of 1984. The Carl Perkins Act addresses the issues of placing more emphasis on 1) access to programs, 2) cooperation between public and private sectors,

3) retraining, 4) upgrading workers' skills, and 5) support services. Title III, Part C of the act provides financial assistance to states to meet the urgent needs of adults for training, retraining and employment opportunities. In Titles II, III, and IV portions of the act, the word "adult" is used directly, and the use of other descriptors such as displaced homemakers, single parents, homemakers, and workers 55 and older identifies target audiences. Title II and III, Parts A, C, and E contain provisions for developing community-based programs for providing adult training, retraining and employment opportunity programs. The incentives established by Congress in this section of the Act indicate Congress' support for the establishment of community-based education involving public and private sectors. Establishment of these programs would help solve some of the employment barriers encountered by midlife women.

Enacted in 1982, the Job Training Partnership Act (JTPA), like the Carl Perkins Vocational Act, expresses a federal commitment to help people who face serious employment barriers to become productive members of the labor force. Title I, Section 124 provides the authority for special training programs for economically disadvantaged older workers 55 and over. The program is designed for older people not currently in the labor force and specifies that three percent of the funds available under JTPA for state and local programs must be spent on older worker training.

To succeed in special training programs many midlife women need special support services. To meet the goals of the Perkins Act and JTPA, the providing institutions will need to prepare instructors and counselors to provide women students with educational and special

support services. Adult vocational education providers can and should use the Perkins Act funds to hire and prepare existing instructors to meet the needs of adult female learners.

What about the midlife woman who wants to become an entrepreneur? For those individuals wishing to operate either a home-based business or a small business, vocational education and the Job Training Partnership Act in coordination with Cooperative Extension need to develop and offer an entrepreneurship program including instruction in accounting, inventory control, and business management.

Special adult programs need to be taken to such areas as community centers, public housing centers, Indian reservations and small rural communities. Mobile units equipped as classrooms would reach those who lack transportation to commute to vocational education institutions or JTPA centers. To meet the obstacles, short term programs using peer groups to deal with self-assessment, confidence building, solving financial problems, career exploration, and stress and time management can help women set and attain occupational goals.

Education for midlife women is often difficult and impractical to obtain because of costs, daytime scheduling, inaccessible location, limited available time, and other factors which have received limited remedial attention. Counseling and other support services are available only to a fraction of the nation's midlife women, and is limited primarily to the middle class. Innovative schedule of short training programs, mobile educational units, and support services would reach more women.

While some progress has been made toward job equality between the sexes, women of all ages still tend to be clustered in a relatively

small number of occupations which have lower pay scales than the male dominated jobs. The Carl Perkins Act and the Job Training Partnership Act speak to the issues of placing more emphasis on access for women to improve their economic position by providing funds for public and private sectors to develop nontraditional training programs.

An implication for policy-makers is that better coordination needs to be developed between training institutions, service agencies and employers if programs for women are to become a reality. Getting good results from coordination is not an easy task, given the differences in missions and perspectives of the various agencies. Expanding communication and the development of better linkages between training programs, employers and service agencies should be a major priority.

The Carl Perkins Vocational Act and Job Training Partnership Act both stress implementation as a reality. Both have a federal and state commitment to help women with serious employment barriers enter the labor force as productive workers with skills to receive comparable worth earnings. The challenge facing policy makers is providing training programs, vocational counseling, and support services so that equal access is available to all who need, want, and will benefit from services and programs.

Cooperative Extension has an important role in providing midlife women with vocational guidance and support services. Cooperative Extension can facilitate guidance and support services to help women succeed in skill development and retraining programs that are coordinated through partnership agreements between vocational education and business and industry.

This research confirms the concerns regarding employment options of midlife women. Now that recent federal legislation has named single parents, displaced homemakers, and workers over 55 years of age, states and local communities should begin to plan and develop programs to reach midlife women. An important role exists for women to take an active role in planning for their own retirement income. Retirement income concerns of elderly women are crucial policy issues involving the public, private, and household sectors.

TABLE 1
SUMMARY OF VARIABLES

DEPENDENT AND CONTROL VARIABLES		
Labor Force Participation of Midlife Woman		
P ₁	1 = in labor force--employed or laid off; 0 = not in labor force--unemployed, homemaker, retired or student.	
Labor Force Participation of the Husband		
MLFP	1 = in labor force--employed or laid off; 0 = not in labor force--unemployed, househusband, retired or student.	
Midlife Women's Cohorts		
GROUP35	1 = 35-44 years of age;	0 = other.
GROUP45	1 = 45-54 years of age;	0 = other.
GROUP55	1 = 55-64 years of age;	0 = other.
HUMAN CAPITAL VARIABLES		
Educational Attainment of Midlife Woman		
FEDUC8	1 = 8th grade education or less;	0 = other.
FSOMEHS	1 = some high school;	0 = other.
FHSGRAD	1 = completed high school;	0 = other.
FVOCED	1 = training or some college;	0 = other.
FCOLGRAD	1 = college graduate;	0 = other.
Occupation of Midlife Woman		
FOCCUP1	1 = professional;	0 = other.
FOCCUP2	1 = white collar;	0 = other.
FOCCUP3	1 = craftsperson;	0 = other.
FOCCUP4	1 = blue collar;	0 = other.
FOCCUP5	1 = menial;	0 = other.
FOCCUP6	1 = homemaker, student, retired;	0 = other.

TABLE 1 (Continued)

SOCIODEMOGRAPHIC VARIABLES		
Race		
WHITE	1 = white;	0 = other.
Marital Status		
OTHMARST	1 = not married--never married, separated, widowed, divorced;	
	0 = currently married.	
Presence of Children Under Six Years of Age		
CHILD5	1 = child less than six years of age;	
	0 = other--no children or older children.	
Husband's Educational Attainment*		
MEDUC8	1 = 8th grade education or less;	0 = other.
MSOMEHS	1 = some high school;	0 = other.
MHSGRAD	1 = completed high school;	0 = other.
MVOCED	1 = training or some college;	0 = other.
MCOLGRAD	1 = college graduate.	0 = other.
Husband's Occupation*		
MOCCUP1	1 = professional;	0 = other.
MOCCUP2	1 = white collar;	0 = other.
MOCCUP3	1 = craftsperson;	0 = other.
MOCCUP4	1 = blue collar;	0 = other.
MOCCUP5	1 = menial;	0 = other.
MOCCUP6	1 = househusband, retired.	0 = other.

*619 midlife women do not have a husband, i.e. are divorced, widowed, separated, or never married. Husband information for these women is coded as zero in these dummy variables.

TABLE 2
 SELECTED SUMMARY STATISTICS FOR WORK HISTORY
 PATTERNS OF MIDLIFE WOMEN

	Chi-Square*	Phi
Cohorts of Midlife Women	84.75	0.20
Educational Attainment	295.99	0.37
Marital Status	61.38	0.17
Race	32.26	0.12
Husbands' Educational Attainment	120.35	0.27
Husbands' Occupational Group	130.48	0.28

*All chi-square statistics are statistically significant at .01 level.

TABLE 3
 SELECTED SUMMARY STATISTICS FOR EMPLOYMENT
 TYPES OF MIDLIFE WOMEN

	Chi-Square	Phi
Cohorts of Women	121.64	0.23
Educational Attainment	178.42	0.28
Race	27.14	0.11
Marital Status	88.57	0.20
Husbands' Educational Attainment	75.00	0.21
Husbands' Occupational Group	142.21	0.29

*All chi-square statistics are statistically significant at .01 level.

TABLE 4
LOGIT EQUATION ESTIMATING LIKELIHOOD OF LABOR
FORCE PARTICIPATION OF MIDLIFE WOMEN

Independent Variables	Logit Coefficient	Marginal Effects ^a
Intercept	-0.09	
Female's Education Level		
FEDUC8	-0.54 (0.17)	-0.13
FHSGRAD	0.59 (0.13)	0.15
FVOCED	0.79 (0.16)	0.19
FCOLGRAD	1.23 (0.16)	0.28
Presence of Children Under Six Years		
CHILDS	-0.69 (0.16)	-0.16
Race		
WHITE	-0.35 (0.13)	-0.09
Marital Status		
OTHMARST	0.73 (0.11)	0.18
Husband's Occupation		
MOCCUP1	-----	
MOCCUP2	-----	
MOCCUP3	-----	
MOCCUP4	0.65 (0.16)	0.16
MOCCUP6	-----	
Age Group of Midlife Women		
GROUP35	0.52 (0.11)	0.13
GROUP55	-0.41 (0.11)	-0.10
N = 2,489 ^c		

^aThe marginal effect of a change in an independent variable, X_i , is $B_i [P(1-P)]$, where B_i is a logistic regression coefficient, and $[P(1-P)]$ is the average likelihood of participation. Actual calculation of the marginal effect of each independent variable on the likelihood of participation is $P_1 = \left[\frac{e^{\alpha_0 + B_i X_i}}{1 + e^{\alpha_0 + B_i X_i}} \right] + \left[\frac{e^{\alpha_0}}{1 + e^{\alpha_0}} \right]$

$$\text{where } \left[P_1 (1 - P_1) \right] = \frac{e^{\alpha_0}}{1 + e^{\alpha_0}} = .4775$$

^bVariables did not meet 0.05 significance level for entry.

^cThere were 39 missing responses.
Standard errors are in parentheses.

APPENDIX A: SUPPORTIVE DATA FOR THE STUDY

APPENDIX TABLE A-1
 SUMMARY OF LABOR FORCE PARTICIPATION, HUMAN CAPITAL AND
 SOCIODEMOGRAPHIC VARIABLES PERCENTAGE DISTRIBUTION

	All Midlife Women %	Early-Mid 35-44 %	Middle-Mid 45-54 %	Late-Mid 55-64 %
Labor Force Participation				
Midlife Women's Labor Force Participation				
In the labor force	59.1	69.7	58.1	45.4
Not in the labor force	40.9	30.3	41.9	54.6
Husband's Labor Force Participation				
In the labor force	80.6	91.7	86.2	57.7
Not in the labor force	19.4	8.3	13.8	42.3
Human Capital Variables				
Midlife Women's Educational Attainment				
8th grade or less	10.3	4.8	11.0	17.4
Some high school	13.9	12.9	12.7	16.6
Completed high school	41.9	44.4	40.7	39.7
Vocational training or some college	16.3	16.5	17.3	14.8
College graduate	17.6	21.5	18.3	11.6
Midlife Women's Occupation				
Professional	18.5	22.3	19.3	12.6
White collar	20.8	24.4	21.6	15.2
Craft	1.3	2.2	0.4	1.1
Blue collar	6.6	7.3	6.2	6.1
Menial	11.6	13.5	10.5	10.2
Homemaker	41.3	30.4	42.0	54.9

TABLE A-1 (Continued)

	All Midlife Women %	Early-Mid 35-44 %	Middle-Mid 45-54 %	Late-Mid 55-64 %
Sociodemographic Variables				
Race				
White	84.0	83.8	82.4	85.9
Nonwhite	16.0	16.2	17.6	14.1
Marital Status				
Married	75.7	76.4	77.5	72.7
Other marital status ^a	21.7	20.0	20.2	25.9
Never married	2.6	3.6	2.3	1.4
Presence of Children Six Years or Less				
Yes	9.1	17.2	4.0	3.3
No	90.9	82.8	96.0	96.7
Husbands' Education				
Grade school or less	14.0	4.9	17.9	22.7
Some high school	12.3	10.6	12.1	14.9
Completed high school	32.2	34.9	30.1	30.5
Vocational training or some college	14.9	17.1	12.1	15.0
College graduate	26.7	32.3	27.9	17.0
Husbands' Occupation				
Professional	35.0	40.9	39.6	21.1
White collar	7.2	9.4	3.8	8.0
Craft	20.3	21.6	23.5	14.4
Blue collar	12.8	14.2	14.2	9.3
Menial	4.9	5.2	5.2	4.0
No occupation listed Retired or other	19.8	8.8	13.8	42.9
N*	2,528	1,010	793	725

^aIncludes widowed, divorced, and separated.

*Missing data. Percentage based on those who responded to questions. Weighting of sample may cause percentages to vary slightly from 100 percent.

TABLE A-2
WORK HISTORY PATTERNS PERCENTAGE DISTRIBUTION

Work History Pattern	All Midlife Women %	Early-Mid 35-44 %	Middle-Mid 45-54 %	Late-Mid 55-64 %
Never Employed	8.0	3.6	9.3	12.8
Part-Time	4.0	4.5	3.4	4.0
Continuous	17.6	17.7	14.8	20.8
Interrupted	35.0	33.4	37.0	35.0
Dual-Interrupted	29.3	31.7	31.3	23.7
Dual-Continuous	6.0	9.2	4.1	3.7
N*	2,222	895	702	625

*Missing data. Percentage based on those who responded to questions. Weighting of sample may cause percentages to vary slightly from 100 percent.

TABLE A-3
EMPLOYMENT TYPES PERCENTAGE DISTRIBUTION

Employment Types	All Midlife Women %	Early-Mid 35-44 %	Middle-Mid 45-54 %	Late-Mid 55-64 %
Currently Not Working	41.0	29.9	42.6	55.0
Part-Time	2.3	2.9	1.4	2.6
Continuous	12.8	15.2	10.3	12.2
Interrupted	18.7	21.9	19.5	13.3
Dual-Interrupted	20.3	22.5	22.5	14.7
Dual-Continuous	4.9	7.6	3.7	2.2
N*	2,222	895	702	625

*Missing data. Percentage based on those who responded to questions. Weighting of sample may cause percentages to vary slightly from 100 percent.

TABLE A-4
LOGIT COEFFICIENTS^a FOR THE LABOR FORCE PARTICIPATION OF MIDLIFE WOMEN

Independent Variables	Ordinary Logit Models			Stepwise Logit Models					
	A ₁	A ₂	A ₃	B ₁	B ₂	B ₃	C ₁	C ₂	C ₃
Intercept	0.854	0.849	-0.029	0.723	0.723	0.118	-0.088	-0.088	-0.088
Female's Education Level									
FEDUC8	-0.575*	-0.548*	-0.539	-0.673	-0.673	-0.665	-0.543	-0.543	-0.543
FSOMEHS	(omitted) ^b								
FHSGRAD	0.595*	0.567*	0.574*	0.596	0.596	0.600	0.592	0.592	0.592
FVOCED	0.825*	0.744*	0.752*	0.746	0.746	0.751	0.790	0.790	0.790
FCOLGRAD	1.344*	1.184*	1.191*	1.232	1.232	1.235	1.234	1.234	1.234
Husband's Education Level									
MEDUC8	0.187	XXX ^c	XXX	--- ^d	XXX	XXX	---	XXX	XXX
MSOMEHS	(omitted)	XXX	XXX	(omitted)	XXX	XXX	(omitted)	XXX	XXX
MHSGRAD	0.050	XXX	XXX	---	XXX	XXX	---	XXX	XXX
MVOCED	-0.132	XXX	XXX	---	XXX	XXX	---	XXX	XXX
MCOLGRAD	-0.353	XXX	XXX	---	XXX	XXX	---	XXX	XXX
Presence of Children Under Six Years									
CHILDS	-0.665*	-0.689*	-0.687*	-0.417	0.417	-0.418	-0.685	-0.685	-0.685
Race									
WHITE	-0.366*	-0.370*	-0.357*	-0.411	-0.411	-0.402	-0.350	-0.350	-0.350
Marital Status									
MARRIED	(omitted)	(omitted)							
OTHMARST	-0.231	-0.177	0.686*	---	---	0.594	0.726	0.726	0.726
Husband's Occupation									
MOCCUP1	0.237	0.029	-0.001	---	---	---	---	---	---
MOCCUP2	0.360	0.239	0.210	---	---	---	---	---	---
MOCCUP3	0.007	-0.023	-0.052	---	---	---	---	---	---
MOCCUP4	0.643*	0.643	0.615*	0.620	0.620	0.619	0.654	0.654	0.654
MOCCUP5	(omitted)	(omitted)							
MOCCUP6	-1.061	-0.998	-0.153	-0.990	0.990	-0.408	---	---	---

TABLE A-4 (Continued)

Independent Variables	Ordinary Logit Models			Stepwise Logit Models					
	A ₁	A ₂	A ₃	B ₁	B ₂	B ₃	C ₁	C ₂	C ₃
Husband's Labor Force Participation									
MLFP	-0.985	-0.891	XXX	-0.595	-0.595	XXX	---	---	XXX
Age Group of Midlife Women									
GROUP35	0.535*	0.511*	0.507*	XXX	XXX	XXX	0.521	0.521	0.521
GROUP45	(omitted)	(omitted)	(omitted)	XXX	XXX	XXX	(omitted)	(omitted)	(omitted)
GROUP55	-0.396*	0.399*	-0.397	XXX	XXX	XXX	-0.413	-0.413	-0.413

^aThe estimates shown are the marginal effects of each variable evaluated at the mean [i.e. (.59)(.41)] of the probabilities.

^b(omitted) Dummy variable not included in the model.

^cXXX Variable was not included in the model.

^d--- Variable did not meet 0.05 significance level for entry.

*Significant at the 0.05 level

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APPENDIXES

APPENDIX A
LITERATURE REVIEW

LITERATURE REVIEW

The literature was reviewed to examine the employment patterns of mid-life women arising from the effects of 1) labor force participation history, 2) occupational clustering, 3) sociodemographic factors and 4) reentry into the labor market at midlife. Because work history prior to midlife and employment patterns during the midlife years have directly affected financial security of women during the retirement years, a brief survey of literature related to economic status of older women is included.

The theoretical foundation for examination of the employment patterns of workers has been grounded in the human capital theory. Human capital theory is an analytical tool that has interpreted the acquisition and development of human skills.

MIDLIFE WOMEN WORKERS

Labor Force Participation of Women

Prior to World War II, women typically worked outside the home only before they were married. The work of married women was household production for the family; if they worked outside the home, it was only in times of family economic crises or when they became widows. Women who are now in their midlife years grew up during the 1940s and 1950s when the increase of married women's labor force participation was beginning. Earnings, employment patterns, earned pensions, have been determined on the assumption that men were the primary wage earners. In 1950, 70 percent of American households were headed by men whose income

was the sole source of family income. Within the last few years, less than 15 percent of the households were of the traditional model [59].

After World War II, there was an increase in women's labor force participation. Immediately following World War II the women who were employed during the war years remained in the labor force. Midlife women whose children were grown entered the labor force for the purpose of providing extra income for family needs. By the 1970s mothers with young children entered the labor force. The labor force participation rate for all women, 16 years and older, rose from 34 percent in 1950 [67] to 58 percent in 1985 [66]. Waldman [70] attributed such factors as later marriages, lower fertility rates, high divorce rate, and the aging population as reasons for the increased labor force participation of women.

During 1985, labor force participation rates for middle-aged and older women ranged from 64.2 percent at age 45-54, to slightly over 43 percent at age 55-64 [66]. For women, being in the labor force does not necessarily mean working full-time continuously. Masnick and Bane [27] reported that high labor force participation rates among women can mask wide fluctuations in work schedules to accommodate family responsibilities. Although over 50 percent of women below age 60 work at some time during the year, the percentage who were employed full-time was a smaller percentage [51]. Women work fewer hours on a job than men. Generally, participation patterns have shown that women are two and one-half to three times likely to work part-time (less than 35 hours per week) [24]. In 1985, the number of female part-time workers was 28 percent [64] of the total number of employed female workers.

According to Sehgal [50], women have histories of shorter job tenure than men. Young men and women have shown similar years of job tenure, however, tenure for women became significantly shorter at ages 35 and older. In the 55-64 age group, median tenure for women was 10.3 years compared to 16.9 years for men. Sehgal summarized, "longer attachment to a job usually provides wage increases and greater employment security as well as pension benefits" [50, p. 19].

Studies of labor force participation of women have reported great differences in participation among married women. Stephan and Schroeder [55] found high earnings of husbands were statistically significant and negatively related to labor force participation of noncareer oriented women. However, the researchers found that high earnings of husbands were not statistically significant to labor force participation of women with a strong career commitment.

The subject of labor force participation of women has received great attention during the last decade. The increased employment of women changed the character of the work force. However, the patterns and conditions of employment and retirement benefits for women has not reflected the realities of their labor force participation [65].

Employment Patterns

Discontinuous employment and occupational self-selection have been important analytical factors in the phenomenon of women's work patterns. A crucial aspect of married women's employment has been the synchronization of labor force participation with family events. A large number of women are employed before marriage and continue to work between marriage and first birth when family responsibilities are minimal. Among this group of employed women, some continue employment during and

after childbirth, while others interrupt their labor force participation for childbearing and childrearing. Another segment of women delay initial entry into the labor market until midlife when childbearing and childrearing obligations decrease. Still another group schedule part-time employment to coordinate with family responsibilities.

Several studies have identified various lifetime employment patterns among married women [18, 37, 54, 69, 72]. Elder and Rockwell [18] identified employment patterns for a sample of white women born between 1925 and 1929. The study distinguished employment patterns in the labor force regarding the family life stages. The researchers identified four employment patterns: conventional, interrupted, double-track, and unstable. Among the cohort of women interviewed in 1970 at ages 40-45, one-third of the women followed the conventional patterns of either never working at anytime or working only until marriage or birth of the first child. One-third were employed prior to first birth and returned to paid employment at a later stage (interrupted). Almost 30 percent followed a double-track pattern of employment, working prior to and after marriage, but leaving the labor force for childbirth and reentering after each birth. The final category of women was referred to as unstable workers who had left and entered the labor force several times after they had married.

Young [72] identified the main employment patterns during the first three life cycles of a cross-sectional sample of Australian married women. These women were generally found to be concentrated in five of the eight possible employment patterns defined by Young. Within these five patterns, Young differentiated the women according to whether they worked full-time or part-time during each family life cycle stage. The

research found a limited number of employment patterns. Of the women who worked continuously they were either consistently full-time workers or had a pattern of full-time work during one or more stages and part-time employment during other times. Young noted that women having greater years of schooling were more likely to have continuous work patterns. On the other hand, women with low educational attainment were most often never employed or began employment after all children entered school.

Sorensen [54] used Elder and Rockwell's classification of employment patterns for a cohort of Wisconsin women born ten years later than the sample used by Elder and Rockwell. Sorensen constructed ten different employment patterns by further dividing each of the four classifications of Elder and Rockwell by including the time the women with children left the labor force. Sorensen reported that there was a noticeable decline in the likelihood of women to follow a conventional pattern. The pattern of reentry following each childbirth (double-track) was more common for the younger sample of women. To enhance the understanding of why a woman follows a particular employment pattern, Sorensen used multivariate analysis to ascertain whether effects of such factors as age at marriage, education, number of children, and husband's education affect work patterns. Three groups of variables were constructed by Sorensen and were introduced as independent variables into the logit analysis.

Comparison of employment patterns by Sorensen to that used by Elder and Rockwell showed there was a decline in the proportion of women who followed a conventional pattern. The study also reported an increase in the proportion of women reentering the labor force after the birth of

each child. In Sorensen's study the only indicator of family economic status was the measure of the husband's educational attainment. This variable had a significant positive effect on the likelihood that a woman followed a conventional path by leaving the labor force at the first birth and was also positively associated with the woman reentering following the birth of each child. Thus, women married to men with high educational attainment choose two different patterns of employment. One was to take advantage of the economic support provided by the husband to cease employment and the other was continued employment pursuit.

Sorensen's study did not consider the effects of age of youngest child under 18 years and number of children under 18 years. Furthermore, Sorensen's sample was restricted to ever-married women and did not examine employment patterns of women who were single because of widowhood, separation, or divorce and never-married women.

Van Velsor and O'Rand [69] identified wage differentials across four employment timing patterns for midlife women from six waves of the National Longitudinal Survey of Labor Market Experiences of Older Women. The sample analyzed white married mothers who had married only once and the marriage was still intact. The four employment patterns of relevance in the study included: 1) all stage, employed during each of the early life-cycle, 2) interrupted, employed before and after the childbirth stage, 3) childbearing women entered the labor force during the childbearing stage, and 4) midlife, women beginning employment after the childbearing stage has ended. In the study wives' wages at midlife were seen as a function of background and family history characteristics, employment characteristics and characteristics of the current job. Women whose careers were interrupted for childbearing and childrearing

responsibilities earn less, on the average, than women employed continuously. However, they earn more than wives with delayed labor force entry. Wage effects of education, employment continuity, female concentration in occupation, full-time and part-time status of employment differed significantly across patterns.

Occupational Clustering and Earnings

Literature documents the extent of sex based occupational segregation (clustering) in the labor market. Tangri [57] defined occupational segregation as "occupations where the work force in that occupation does not contain a representative distribution of persons on the major demographic variables according to their proportions in the adult population" (p. 84). Sawhill [46] adopted the classification for dictating which occupations with 80 percent or more of all workers being male were classified as traditional male and occupations where 30 percent or less were male were categorized as traditional female.

A review of occupations held by women revealed similarities and differences between midlife and younger women. According to Shaw [51], women of all ages are heavily concentrated in the stereotypic female occupations of clerical, nursing, teaching, retail sales, and service-related jobs. However, compared with younger women, aged 25-44, older women were less likely employed in the better paid professional occupations. The lower concentration of older women in the professions reflects the lower educational attainment of older women [51].

In 1980, Bianchi and Spain [11] found that women constituted 44 percent of all workers, but they represented 81 percent of clerical, 97 percent of private household and 61 percent of other service occupations.

Women's representation in professional and sales occupations, 46 percent and 49 percent, respectively, was roughly proportional to their overall representation in the labor force during 1980. Women were underrepresented in managerial occupations (28 percent), among operatives (34 percent) and in crafts, 6 percent [11].

Evidence by Walshok [71] indicated that some occupational desegregation has occurred. However, a disproportional amount of attention and research has been devoted to earnings differences and occupational clustering within the professions--higher education, science, engineering, medicine, and law. Women entering skilled blue-collar jobs are underrepresented [71]. Although the number of employed women that have moved into higher paying jobs has increased, the actual number engaged in these occupations has been relatively small [25].

Theories have been advanced to explain the degree of occupational clustering of females in the labor market. Reagon and Blaxall stated that occupational segregation of the sexes "results from the interaction of a well-entrenched and complex set of institutions that perpetuates the inferior position of women in the labor market . . ." [43, p. 2]. They contended that family, economics, and cultural and historical events within society support occupational clustering and, therefore, an interdisciplinary approach is necessary to successfully reduce sex clustering in the labor force.

According to Bernard [8], since the range of female occupational choices is limited with respect to the choice for males, women are forced to compete with each other for jobs that are confined to a few occupations, thus, reducing female wages.

Blau and Jusenius [12] claimed that a number of reasonable inferences can be drawn incorporating human capital theory to explain occupational clustering. First, women accumulate less human capital as a result of fewer years of work experience. Second, once the value of the female's time in household production is evaluated, the female's decision to invest in less labor force human capital is rational. Hence, human capital theorists would expect women to enter occupations which do not penalize workers for discontinuous employment. According to Blau and Jusenius [12], the human capital theory incorporates the idea of choice to explain the observed patterns of occupational clustering. However, according to Peck and Webster [40]

This theory has been challenged by studies that attribute the sex earnings ratio more to employment policies and labor market discrimination and less to the choices made by women. The rationale is that employers may structure jobs for women with their labor force participation patterns in mind and provide less opportunity for on-the-job training, advancement, or pension participation (p. 11).

Earnings. Brown, Moon, and Zoloth [13] established the importance of occupational clustering by sex as a major determinant in explaining observed female earnings. Ofek and Santos [34] studied the economic attainment of women, and found nearly 80 percent of employed women hold clerical, service, or light factory jobs offering lower wages and fewer pension benefits.

Pozdena [42] stated that the explanation for disparity between men and women wages lies within the employment patterns of female workers: occupational choice and discontinuous labor force participation. According to the latest Current Population Survey (CPS), median earnings for women who worked year round, full time was \$13,014 in 1982. Sixty-five percent of all women with full-time jobs earned less than \$12,000

yearly compared with 25 percent of all men with full-time jobs of the same wage [58]. Families maintained by women with no spouse present had median weekly earnings of \$207. Among families maintained by white women, weekly earnings were approximately 21 percent greater than for blacks [65]. Research on earnings differences [53] reported that midlife women generally have a low earning level partially due to the fact that many of the women reentered the labor market after a lengthy absence. Because of their lower levels of education and greater concentration in lowest paying jobs of sales and service-related occupations, older women have generally earned less than younger women [51].

Labor Force Reentry

Family responsibilities have been an important reason for irregular employment patterns of women. According to Appelbaum [2], by the mid 1960's two distinct patterns of labor force participation over the life cycle for women who assumed the multiple roles of wife, mother, and worker were readily observable. The first pattern which emerged from the 1950s was one in which married women withdrew entirely from the labor force early in marriage to engage in full-time unpaid housework, returning to the labor force at a much later date as a full-time or part-time worker. Generally, the longest period of withdrawal lasted from birth of first child, with reentry occurring when the youngest child entered school. The second pattern emerged in the mid 1960s and gained importance throughout the 1970s. Women withdrew from the labor force only briefly or not at all, following marriage or birth of the first child [2].

The economic costs to women of a lengthy withdrawal from the labor market has been investigated by researchers. A finding by Mincer and

Polachek [33] was that the more educated the woman, the higher the rate of depreciation of her skills when she left the labor force. The wage for all women upon reentry fell one percent per year of nonlabor force participation, whereas the wage for women with higher levels of education fell approximately four percent per year. In a later study by Mincer and Ofek [31], the researchers found that a worker's wage is reduced three to eight percent per year during periods of nonparticipation. However, Shaw's [52] analysis of a sample of women who returned to employment after being out of the labor market for at least five years indicated that the length of time away from paid employment had no adverse effect on wages upon reentry.

Although researchers [16] have found that women who have been out of the labor force for a considerable time do have lower wages when they first return to employment, the women quickly regained their former wage scales. The researchers were uncertain whether the initial low wage could be attributed to depreciation of job skills or lack of information about existing job opportunities.

According to Bernard [9] reentry into the labor market usually occurred when the woman successfully adjusted the time balance between family, parenting, and household responsibilities with work commitments, or was forced to support herself and her children following marital disruption. In Bernard's study of reentry women, another consideration was the woman's evaluation of her former skills in light of the abilities demanded of the job being considered. The women in the study decided on what job or occupation to seek upon reentry based on job skills from past employment experiences.

Appelbaum [2] addressed the issue of successful reentry into the labor market from the analyses of the National Longitudinal Survey of Mature Women (30-44 years of age). The sample of women experienced varied degrees of success in reentering the labor market. These degrees of success were related to the preparations the women made for an occupation such as years of schooling, completion of training programs, and the kind of jobs held prior to leaving paid employment. Additional education or vocational training beyond high school helped re-entrants to obtain better jobs [2].

Pension Plan Participation

Private pensions and Social Security represent mechanisms for accomplishing the same goal--the provisions of an adequate retirement income. Social security has provided the advantage of providing universal coverage, portability, and benefits that keep pace with inflation. During the last four decades private pensions have expanded throughout the United States' economy.

Private Pension System. Coverage by the private pension system has grown from 32.4 percent of the full-time labor force in 1958 [55] to approximately 50 percent of the labor force in 1979 [8]. The private pension system has become recognized as a crucial role in providing retirement income.

Many studies have indicated that not only do women have lower earnings from employment than men, they are also less likely to have pension benefits other than Social Security during retirement. Several reasons have been offered to explain why women experience difficulty in accruing private pension benefits. According to Cohen [14], particular institutional and operational elements of the private pension system

have made it difficult for women to achieve benefit status. These include vesting requirements, age and service eligibility requirements, full-time employment eligibility requirements, and industrial coverage rates.

Because of interrupted work careers due to childrearing responsibilities, many of today's midlife women consequently have accumulated fewer years of consecutive service to meet minimum vesting requirements established by the Employment Retirement Income Security Act of 1974 (ERISA) [40]. Private pension plans have rewarded continuous employment with essentially one employer. Previous employment patterns of women have shown that labor force participation peaks during the early twenties and declines from ages 25 and 34, the period of time when childrearing responsibilities are the greatest. At age 45, many women returned to the labor force as full-time workers [66]. Sehgal [50] reported, for women 25 years and over, the range of job tenure was the lowest, with medians for most occupational groups being closely clustered around 4.8 years for all women in this age group.

Other potential barriers to pension benefit attainment by women have been age and service eligibility requirements. Up until January, 1985 [26], women were ineligible to join a pension plan until age 25 and completion of one year of service. ERISA revisions of 1984 [48] provided a provision designed to benefit women, who usually start work earlier than men. The provision enabled women to join a pension plan at the age of 21, and if they started employment at 18, the three years before age 21 until they can join a plan counted toward vesting. Employment reports have shown that women between ages of 20 and 24 participate more heavily in the labor force than women of any other age group.

In 1985, 73 percent [66] of all women in this age group were in the labor force.

Another reason women have received few private pension benefits is that part-time and part-year workers are excluded from private pension plans. In July 1985, the Bureau of Labor Statistics [64] reported that 28 percent of the total number of women employed in that month worked part-time, either voluntarily or for economic reasons, thus indicating the effect part-time work has played in excluding women from pension coverage.

The receipt of private pension benefits has been affected by the kind of industry in which a worker is employed and the extent of private pension coverage within that industry. Women have been employed in those industries such as retailing and services, in which private pension coverage has not been extensive [38]. Bell [6] reported that union status and size of firm were determinants of pension coverage.

Many women qualify for no or very low pension benefits. Twenty-one percent of women are eligible for private pension coverage, but only 13 percent actually receive benefits [36]. A study [4] of recipients from employee benefit plans covered by ERISA concluded that of the women who attained private pension coverage, the median annual pensions paid to women were 56 percent lower than benefit payments to men. The study found that pensions paid to women who retired in 1978 amounted to \$2,240 annually versus \$5,050 for men. The four factors--vesting, eligibility requirements, part-time employment exclusion, and industry coverage have been proposed to be barriers to the accumulation of private pension benefits by women [15].

The Retirement Equity Act of 1984 established provisions for private pensions and divorce settlements. It stated that courts can

award a wife part of her former husband's pension as part of the settlement. An additional revision established that a married man may not rule out a survivor's pension without written agreement from his wife. Pension plans have been based on the assumptions that men provided the family's sole economic support and that marriages lasted a lifetime.

Social Security. When the Social Security Act was passed, the assumption was made that in every household, the male would be the provider of family income. Originally designed as a base to which savings and pensions would be added, Social Security has become the sole source of income for the majority of women over 65. The National Advisory Commission on Working Women [35] found that the average Social Security payment to retired women workers in 1981 was below \$4,000 per year.

Full-time homemakers have assumed they would live comfortably in their retirement, but two factors may negate that assumption, 1) no survivor benefits, and 2) divorce. Women who have chosen not to work have experienced income problems during the later years. According to the 1982 Select Committee on Aging [61], displaced homemakers whose former husbands were in civil service or military service retirement systems failed to receive any part of the former husband's retirement benefits unless ordered by court. Under Social Security if the marriage lasted less than 10 years, the former wife received no benefits. Although women have access to an ex-husband's Social Security benefits if they had been married for 10 years, rights of the former wife to most private pension benefits have not existed if the marriage dissolved [35].

Economics and Older Women

The economic plight of elderly women has been a topic of concern and study for a decade. Elizabeth Heidbreder [24] noted that the incidence of poverty among widows and other aged single women was high in the early 1970s--about half of white single elderly women and four-fifths of black single older women were poor. Heidbreder stated that public and private pension programs failed to provide adequate income for older women. Similarly, Merton Bernstein [11] wrote in 1974 that "almost one quarter of old people are poor; a majority are women. The older they are, the poorer they are and the greater the proportion of women" (p. 1).

While the economic condition of older Americans has improved over the past 20 years [17], the financial security of elderly women is still a major concern. The special problems of income security faced by elderly women have occurred because of institutionalized and structural constraints, plus, the accumulative effect of individual decision-making [18]. Some of these problems stemmed from demographic and labor force participation trends that occurred during the century. For example, the differential life expectancy gap has continued between the sexes, with women the numerical majority in the 65-and-older population segment. While older women constituted 59 percent of the noninstitutionalized elderly population in 1982, they accounted for 71 percent of the elderly poor [62].

Statistics have shown that the older the woman, the least likely her chances of having a husband. Higher male mortality rates, plus the tendency of men marrying younger women, increased the likelihood that she remain single in her later years. According to Rix and Stone [47]

seven of every ten men aged 75 and older were living with a spouse, while seven of every ten women (67 percent) in the same age group were widows. In a study of widowhood, Goldman and Lord [21] found that women have a 62 percent chance of outliving their husbands. They became widowed at a mean age of 62.5 and have an even chance of living 18.5 years as widows.

Although the financial position of women living alone has improved in recent years, it is still a fact that substantial numbers continued to live in or near poverty. In 1983, more than 2.6 million older women had incomes below the official poverty level for one person. Dependency on Social Security among this group ranged from 85-95 percent [61]. The poverty rate for all older women was 17 percent. This rate was higher than the rate of 15.2 percent for the total United States population [61].

Originally designed as a base to which savings and pensions would be added, Social Security has become the only source of income for the majority of women over 65. The National Advisory Commission on Working Women [37] reported that the average single employed woman retires with less than \$1,000 in a savings account. In 1981, the average Social Security payment to retired women workers was less than \$4,000 per year. The combination of low wages, employment in positions with no pension coverage, and low lifetime earnings causes limited retirement benefits for women.

In 1983, the median income for single women age 65 and older was \$5,600, only \$800 above the official poverty level. One-third of elderly widows living alone had incomes below the poverty line. For older minority women and those of advanced years the poverty rate exceeded 40 percent [60].

Demographics has indicated that the question of income security for older women will not be solved in the future. The ratio of Americans 65 and older has moved from one in 25 in 1900, to one in nine in 1980 and is predicted to be one in five by 2030 [1]. Faber and Wilkin [19] have projected that there will be 14 million widows in the year 2000 and 19 million by 2040. If the current life span of women remains the same, Glick [20] predicted that by the year 2000, 50 percent of women 65 and over will live alone. Upp [68] projected that as people live longer, they also have more years over which to spread their financial resources, but many have not planned for living longer. Upp did not find that people were making changes in spending and savings patterns to correspond to the longer time frame.

Retirement income has been primarily earned by generating entitlement to benefits over an individual's working life. Earnings and pension benefit accumulation over a lifetime for women have reflected differences in education, employment in lower paying occupations, part-time employment and intermittent work histories [61]. Consequently, large numbers of elderly single women, usually widowed, who have never been attached to the work force in a sustained way have continued to constitute a significant portion of the elderly population [3, 38, 56]. Because retirement income is related to level of earnings over an employed life, women are more likely than men to be poor in the later years [3].

Widows are more likely than married women to face income security problems during later years. Many widows find they are too young to collect survivor benefits at the time they are widowed. Approximately 13 percent of women in their fifties are widows, and widows do not qualify for Social Security survivor benefits until age 60 [3].

In addition to death of a spouse, substantial increases in divorce and separations have occurred adding to the further likelihood that a woman will be single in her older years. Economic change was documented as one of the most predictable consequences when a woman's marriage was dissolved either by divorce, separation, or death [15]. According to Shaw [52] women who experienced marital disruption after long marriages (displaced homemakers) may have obsolete job skills, lack recent employer references, and lack adequate job search information and self-confidence to seek employment. Displaced homemakers are women aged 35 to 64 who chose homemaking as a full-time job and who, either because of separation, divorce or death of a husband, have found themselves in need of employment outside of the home. Women who made the choice to be full-time homemakers generally assumed that their economic security throughout life would come as a result of their marriages [3]. When marital disruption occurred in midlife these women were thrust into the labor market lacking marketable job skills.

The assumption that full-time homemakers will live comfortably during retirement years is negated by divorce. More women than in any other time period are divorced during mid or later years. It is estimated that approximately 40 percent of first marriages of women now 25 to 35 years of age will end in divorce. It is estimated that there are two to three million displaced homemakers [62].

Sawhill [46] contended that in an intact marriage, the wife was willing to forego investment in her own career because she anticipated sharing her husband's future increased earnings. Following divorce the husband obtained the full benefit of his increased earning power and the wife sustained the full burden of loss of earning power due to years

spent in nonlabor force participation. With outdated job skills, these women found it difficult, if not impossible, to become self-supporting and their standard of living was reduced from that of their former married years [46].

Human Capital Theory

Empirical studies investigated determinants of earnings patterns for workers. The theoretical foundation of the studies were drawn from the theory of investment in human capital. Human capital theory, like any theory, is an analytical tool that interprets rather complex economic phenomena--the acquisition and development of human skills. Fundamental to human capital theory has been the notion that the acquisition and development of human skills were viewed as a form of investment, an investment that in turn yielded a return in terms of increased productivity and earnings power over time [5].

The basic ideas of human capital theory are found rather early in the literature with the work of Mincer [29] and Schultz [48]. Schultz provided a significant stimulus to the development of human capital theory as well as the first textbook [49] exclusively devoted to human capital theory.

However, it was Becker [6] who provided a systematic integrated theoretical treatment, a human capital theory with empirical estimates. The evolution of Becker's work has resulted in emphasis being shifted away from short-run earnings to life cycle earnings that result from investments in human capital. Becker's approach to human capital investment involved individual deterministic decision-making. Individual investment behavior was viewed as a key variable that determines an individual's earnings reflecting differential amounts of human capital

investments [5]. Investments in human capital, which take the form of investment in education, on-the-job training, health, and acquisitions of job related knowledge increase labor productivity and, in turn, the earnings and job related benefits of individuals who invested in human capital. Training, or any type of investment in human resources, takes time to obtain skills or knowledge and benefits are obtained over the individual's life span.

Mincer [30] made substantive contributions particularly in the area of applying econometric analysis, via earning functions, to the human capital model. The relationship between the sequence of human capital accumulation and the resulting growth in earnings was formalized into the human capital earnings function by Mincer and Polachek [33]. They theorized the following

To the extent that earnings in the labor market are a function of the human capital stock accumulated by individuals gives rise to growing earning power over the life cycle. When net investment is negative, that is, when market skills are eroded by depreciation, earning power declines (p. S78).

Women and the Human Capital Model

Observation of the labor market experiences of men and women revealed differences in several dimensions. These included occupational choice, incidence of unemployment, likelihood of part-time employment and difference in earnings.

Mincer and Polachek [33] stated the following findings for comparative earnings profiles for men and women using the human capital earnings function.

Greater investment ratios imply a steeper growth of earnings, while declining investment profiles imply concavity of earnings profiles. Hence, earnings profiles of men are steepest and concave, those of mothers are double peaked with least overall growth (p. S86).

An explanation for the flat profile of women made by human capital theorists, Mincer and Polachek [33], was that women anticipated periods of withdrawal from the labor force for childbearing, and selected occupations where penalties for withdrawal were low and the resulting lifetime earnings growth was relatively small. According to Mincer and Polachek [33, p. S80], "After marriage, women spend less than half their lifetime in the labor market, on average." Never married women and women without children, however had rather constant labor force attachment that approximated the participation pattern of men. Mincer and Polachek [32] examined the work histories of approximately 5,000 women included in the 1967 National Longitudinal Surveys of Labor Market Experience (NLS) data set. From the data set a general pattern of labor force participation of married women beginning from the end of schooling to the period of time after the childbearing and childrearing stage emerged. However, the work history after the childbearing and childrearing stage was only partially revealed since the maximum age in this cohort was 44 years.

Women had periods of paid labor force work with periods of withdrawal for family responsibilities. This pattern influenced women's earnings in four ways. First, women accumulated less total work experience, job tenure, and seniority. Second, women's human capital depreciated during periods of withdrawal from the labor force. Third, women who planned to leave the labor force for family duties deferred on-the-job training until reentry into the labor force after family duties decreased. Fourth, women's past pattern of movement in and out of the labor market caused employers to be reluctant to invest in training for women employees [33]. A later study by Mincer and Ofek [31]

used panel data from the National Longitudinal Survey on earnings of married women and established the existence of the phenomena more firmly.

A later study by Polachek [41] showed a strong relationship between labor force participation and occupational choice. Anticipation of time out of the labor force increased the probability of women being in occupations that suffer the least amount of atrophy. Consequently, women expecting periods of time at home for family responsibilities are hypothesized to choose occupations with the least atrophy--those jobs being in the low-paying clerical and service-related occupations. According to Polachek [41], those occupations with the most atrophy, professional and managerial positions, are least adaptable to intermittent labor force participation.

In summary, this chapter has reviewed the economic characteristics of women in the labor market. Women workers have been channeled into relatively few occupations in which women have predominated. The occupation context in which women work affected their employment patterns and financial security in later years.

Basic tenets of the human capital theory have been applied by researchers to explain variation in peoples' employment and earnings patterns. Women's employment histories differed from those of men's. Studies based on human capital theory have conceptualized major life-time choices of women as a series of interrelated decisions about the basic principles of the investment decision.

APPENDIX B
RESEARCH METHODOLOGY

RESEARCH METHODOLOGY

The analyses of employment patterns of women in this study provide a unique contribution to research on characteristics of employment patterns and labor force participation of midlife women. The study is planned to provide descriptive data of the effects of sociodemographic characteristics and human capital investments on labor force participation history and current employment patterns of midlife women.

Established methodological procedures estimating the likelihood of labor force participation will yield analyses about the midlife women's labor market position. The description of the data set, sample selection, variables of interest, method of analysis, and statistical procedures are described in this chapter.

DATA SET

The data set that is analyzed in this study is from the 1983 Survey of Consumer Finances. The survey was jointly sponsored by a consortium of federal agencies including the Federal Reserve Board, the Department of Health and Human Services, and the Department of the Treasury. The data set contains information on earnings, current employment history, pension coverage, vesting and entitlements, and Social Security benefits. The survey includes 3,825 completed interviews from a nationally representative sample of households. The respondent was either male or female and was not defined as household head. Appropriate weighting techniques designed to adjust for differential sampling selection and

response rates are used to insure that the data are representative of the general population of midlife women in the United States.

The Survey of Consumer Finances is a current comprehensive source of information on the present and prior occupations and pension participation of workers and the industries in which they presently work and have been employed. In addition to economic data, data is provided on personal characteristics of the population, such as age, sex, race, marital status, family structure, and educational background. The principal advantage imposed by the use of the Survey data is the presence of work histories and current employment with which to provide descriptive analyses of employment patterns. For married women with children, labor force participation is characterized by intermittency. The work history data includes information about work intermittency associated with family responsibilities. As a result of lengthy absence from the labor force, Mincer and Polachek [36, p. S78] state that, "Direct information on work histories of women is, therefore, a basic requirement for the analysis of their earnings."

In summary, the use of Survey of Consumer Finances data, which is national in scope, will enable the major hypotheses of this study to be evaluated in an empirically effectual manner. The nature of the statistical analysis will provide information necessary for policy decisions for government, business, and household sectors regarding financial security of older women.

SAMPLE SELECTION

For a statistical profile of today's midlife women, a variety of sources tend to use different age spans to define midlife. The spans vary from 35-44, 40-60, or 45-64 years. Because this study is designed to

identify and measure labor force participation profiles and historical employment patterns of midlife women, it is necessary to select a sample of women between the ages of 35 to 64 years.

From the original survey of 3,824 respondents, a sample of 1,687 women between the ages of 35 and 64 is obtained. From the survey of respondents, women respondents and female spouses are deleted who were not between the ages of 35 and 64. The sample of women is selected on the basis of being a female respondent or a spouse of a male respondent. Sample units include married women and unmarried women. In the sample of 1,687 women, 1,013 are respondents. Of these 593 are married women with spouse present and 420 are single women with no spouse present. Six hundred and seventy-four women in the sample are spouses of male respondents. If the respondent is a married male, the information obtained about the female spouse was given by the male respondent. For limitations of the study refer to page 89.

Data for the sample was weighted so that results might be generalized to the national population of midlife women. Weighting is necessary to obtain a representative distribution of the United States' population. The sample was weighted using whole numbers; therefore, $N = 2,535$. The sample proportions are adjusted using composite weight and population weight factors. The composite weight incorporates factors for nonresponse, selection probability and post-stratification. The population weight incorporates an equal probability sample of all households in the 48 coterminous states. The population or selection weight factor is viewed as the number of United States' households represented by each sample household. The resulting weight factor in this study is obtained by removing the population or selection weight

factor from the composite weight by dividing the composite weight by the population.

In the weighted sample of 2,535 women, 1,528 are respondents. Of these, 909 are married women with spouse present and 619 are single women with no spouse present. One thousand and seven women in the sample are spouses of male respondents.

Before beginning the analysis to describe the sample, seven individuals are dropped from the analyses due to missing responses, resulting in a weighted sample of 2,528 women.

For comparative analysis the sample of 2,528 midlife women is subdivided into three cohorts: 1) Early-mid years, 35-44; 2) Middle-mid years, 45-54; and 3) Late-mid years, 55-64 years. The number of women within each cohort is 1,010, 793, and 725, respectively.

VARIABLES OF INTEREST

The variables in this analysis come from a more comprehensive list of variables surveyed in the 1983 Survey of Consumer Finances. Inclusion of the selected variables into this study is based on previous multi-disciplinary research by Peck and Nickols [38] relating these items to labor force participation of women.

Data is analyzed on each of the following categories of variables:

Sociodemographic	woman's marital status race presence of children under 6 years husband's occupation husband's education
Human capital	woman's age cohort woman's education occupation of midlife woman

Labor force participation	labor force participation of midlife woman labor force participation of husband
---------------------------	--

Title of occupation variables are grouped into five categories according to census titles used to classify occupations by Schmidt and Strauss [47]. They include:

Professional	Professional, technical and kindred workers, managers, officials, and proprietors except farm;
White collar	Clerical and kindred workers;
Craft	Craftsmen, foremen, and kindred workers farm managers and farmers;
Blue collar	Operatives and kindred workers, laborers, except farm and mine;
Menial	Private household workers, service workers, except private household farm laborers and foremen.

A sixth category, homemaker, is added to the categories to describe the sample's occupational distribution on the current job. For husband's occupational classification the sixth category includes husbands who listed no occupational title because of not being in the labor force due to retirement, disability, or other reasons.

METHOD OF ANALYSIS

The study is divided into three analytical phases. The phases are 1) descriptive analysis of sociodemographic characteristics, human capital factors and labor force participation between midlife cohorts using frequencies and percentages to describe the sample, 2) identification of employment patterns (work history patterns and employment types) of midlife women and analyses using chi-square and phi statistics to assess the linkage between sociodemographic and human capital factors

to the work history patterns and employment types, and 3) testing of logit models for estimating the likelihood of labor force participation of midlife women.

Descriptive Analysis

Frequencies and percentages are used on sociodemographic characteristics and human capital variables and labor force participation under consideration in this study to describe the sample of midlife women. Focus of the descriptive analysis is the comparison between the three cohorts of women--Early-mid, Middle-mid, and Late-mid.

Employment Patterns

Women's employment is patterned in several ways. Married women's employment is generally discontinuous in that they usually enter and leave the work force several times over a lifetime. Intervals of full-time employment, part-time work or nonemployment form many of the employment patterns. Women's labor force participation traditionally follows a curve with peaks prior to childbearing and in the middle years after the launching of the youngest child into school. O'Rand and Van Velsor [37] suggest existence of a relationship between family characteristics and the employment pattern, with women balancing labor force participation and home responsibilities. These are important issues in women's employment. Many women generally leave the work force several times over a lifetime. Intervals of full-time employment, part-time or nonemployment form employment patterns.

Work History Patterns. The construction of the work history patterns are based on data available in the survey. The initial stage of constructing the work history patterns begins by categorizing the

women into categories of 1) never worked, 2) has worked, and 3) currently working. The options are based on the variable FEVWKPY (Have you ever done any work for pay?). Seven individuals are deleted from the sample due to missing data on the qualifying question, resulting in a sample size of $N = 2,528$.

Data in the Survey for employment lasting one year or more was gathered on the following jobs: 1) current job, 2) job from which retired or disabled, 3) last paid job, and 4) longest prior job. Individuals in the survey did not respond to all questions. Data on the four jobs was gathered as indicated below.

Labor Force Status of Respondent or Spouse	Current Job	Retired Job	Last Paid Job	Longest Prior Job
Retired and working less than 20 hours per week	X	X	0	?
Retired, not in labor force	0	X	0	?
Housewife and employed	X	0	0	?
Housewife, not employed	0	0	X	?
Worker only	X	0	0	?

X answered questions

0 did not answer questions

? may have answered questions because current, retired and last job questions had lead-in questions for answering longest prior job.

To classify women in terms of work history patterns, the women respondents (or male spouses answering the questionnaire as respondent) had to respond to four summary employment history variables.

FNEMPT Number of employers worked for in a full-time job lasting one year or longer.

FWKINTP Is there any time you did not work for a year or longer on a full-time job because of home and childrearing duties, illness, unemployment, or years spent in retirement?

FWKFTM Excluding times for work interruptions lasting more than one year, about how many years in total have you worked full-time for pay?

FNYRPRT How many years in total have you worked part-time for pay, counting only part-time jobs that lasted a year or longer?

Current knowledge of female labor force attachment suggests that the following employment patterns can be adapted from previous studies [18, 37, 54, 69, 72] for this analysis of midlife women's work history patterns. A certain portion of women are never employed at anytime and are not currently working. These women are classified as Never Employed if there is no reported work history and their answer is no on the variable FEVWKPY. The Part-Time pattern captures the worklives of women who report they have been only part-time workers. These individuals have reported no full-time work history. Some women work continuously throughout their adult lives as full-time workers with no interruptions lasting one year or more for family responsibilities or personal reasons. This pattern is termed Continuous. To categorize the women who are employed continuously full-time throughout their lives, except for taking time out for childbearing and childrearing, the term Interrupted is applied to this group. Absence from the labor force is reported for one year or more from a full-time job with return to full-time work status.

The labor force participation behavior of approximately 67 percent of the sample is captured using the above four patterns. Most of the remaining women are unclassified due to the restrictions of the work history variables (i.e. requiring women to be either part-time or full-time workers). Some women report work histories showing a combination of part-time and full-time employment with some reporting interruptions, and still others reporting no interruptions.

Two additional patterns are scrutinized to define the combination worker. The addition of the combination patterns results in classification of 93.3 percent of the sample. The Dual-Interrupted pattern captures the worklives of women who hold both part-time and full-time employment with reported interruptions lasting more than one year from a full-time job. The sixth pattern is comprised of women who are classified in Dual-Continuous. These individuals report combinations of both part-time and full-time employment except that they are continuous workers with no interruptions lasting one year or more.

One hundred-seventy (6.7 percent) women did not meet the criteria for any of the patterns because of inconsistent answers to the variables used to identify these patterns. The data stated they never held a full-time job and never worked in part-time employment. However, some information is available on hours worked on current job, prior job, and longest held job indicating they have an employment history. The contradicting answers do not allow these women to fall into a particular pattern.

The inconsistent answers to the survey questions result for several reasons. Male respondents may have been unable to provide accurate information about their spouses. Also respondents or spouses may have misunderstood the question and responded with an inappropriate answer. Incorrect coding by the interviewers at the time the interview was conducted may cause inaccuracy. Missing data problems involve missing values on the four identifying employment history variables (FNEMPT, FWKINTP, FWKFTM, and FNYRPRT). This problem occurs because the respondent may not be able to provide the information requested ("don't knows"). These women did not meet the qualifiers for a pattern.

See Table 1, Appendix, for the criteria to create the effective sample for statistical analysis.

The work history patterns and the identifying variables are as follows:

Never Employed	FEVWKPY = no
Part-Time	FNEMPT = never worked full-time and FNYRPRT = number of years at part time work
Continuous	FWKINTP = no. FNYRPRT = never had a part-time job and FNEMPT = number of full-time employers
Interrupted	FWKINTP = yes. FNYRPRT = never had a part-time job; FWKFTM = number years worked full-time excluding interruptions and FNEMPT = number of full-time employers.
Dual Interrupted	FWKINTP = yes. FNYRPRT = number of years of part-time work; FNEMPT = number of full-time employers and FWKFTM = number of years of full-time work.
Dual-Continuous	FWKINTP = no. FNEMPT = number of full-time employers and FNYRPRT = number of years of part-time work.

After categorizing the women into work patterns, assessment was made of each ID number to determine if the individual properly qualified for the program statement of that particular categorical pattern. The assessment resulted in dropping 136 individuals from the analyses due to inconsistencies of answers for questions pertaining to hours worked per week and weeks worked per year.

Employment Types. Current employment types are constructed by analyzing current employment status and combining with work history patterns. Employment types are constructed from the created variable FWORKING (never worked, has worked, currently working).

Five distinct employment types are found to describe the current worklives of those women now employed. The Part-Time type describes the women who are currently working part-time (less than 35 hours per week or less than 50 weeks per year) and have a history of part-time work. Those women who are employed full-time on a current job and have reported a history of full-time employment with no work interruptions lasting one year or longer are classified as Continuous. A number of women are employed full-time and have reported a history of full-time employment with work interruption(s) lasting one year or more. These women are grouped into the Interrupted type. The fourth and fifth types are comprised of women who are currently employed full-time or part-time and have a reported history of either part-time or full-time work. The Dual-Interrupted are those women who reported a work interruption lasting one year or more from a full-time job. The Dual-Continuous types captured the women who are either working part-time or full-time and have the combination work history with no reported work interruption(s).

Labor Force Participation Model

An empirical model estimating likelihood of labor force participation is identified for midlife women using sociodemographic and human capital variables. The model developed in this study is derived from Peck and Nickols [39] multidisciplinary theoretical model which incorporates perspectives of sociodemographic, economic, and human capital components. The following groups of independent variables are incorporated into the model: 1) Human capital variables--woman's age and woman's educational attainment; and 2) Sociodemographic variables--marital status, presence of children under 6 years of age, race, husband's education,

husband's employment status, husband's occupational group.

The dependent variables for the models have dichotomous outcomes. Stepwise logit is chosen for estimating likelihood of labor force participation. Several authors [7, 21] recommend using logit for computational convenience. The following logit model is used to examine empirically the relative influence of predictor variables upon the likelihood of midlife woman's labor force participation.

$$\log \frac{P_i}{1-P_i} = \alpha + \sum_{j=1}^n B_j X_{ij}$$

P_i = the probability that individual will achieve a certain labor market participation; X_{ij} = sociodemographic and human capital characteristics of woman i ; j = coefficient of the j th characteristic; and α = a constant term. The model estimates the likelihood (ratio of probabilities) that a midlife woman will have a certain labor force participation outcome. The logit model specified in this study is estimated by making use of the nonlinear maximum likelihood estimation procedure which can be applied where categorical variables are used in the model [23]. Logit ensures that the parameter estimates are consistent and tests of statistical significance can be performed. Stepwise logit identifies statistically significant predictors at the 0.05 level.

In examining predictors associated with the likelihood of labor force participation, the researcher proposes that human capital investment and sociodemographic factors will be differentially related to labor force participation. From a human capital perspective women who invest in higher levels of education or specific skill training are likely to participate more continuously in the labor market than women

with less education to receive a return on educational investment. The underlying assumption is that factors such as education and occupation have significant relationships to likelihood of labor force participation during midlife. Therefore, various configuration of these characteristics should be associated with differing likelihood of midlife woman's labor force participation.

Variable Definitions

A summary of the variables used in the empirical analyses is shown in Table 1. These variables represent labor force participation, human capital and sociodemographic variables identified in the literature.

It is hypothesized that the human capital factors of woman's age and educational attainment effect the likelihood of labor force participation of midlife women. Furthermore other predictors of labor force attachment are marital status, presence of young children in the household, husband's educational attainment and husband's occupation. Since married women and/or women who have young children tend to work less continuously than other women, they should have a decreased likelihood of labor force participation. Also, is there a statistical significance between husband's occupation and labor force participation of married women? Finally, an observed indication is that marital disruption during the middle years increases the likelihood of an individual's labor force participation.

STATISTICAL ANALYSIS

The initial statistical analysis involve descriptive statistics such as frequencies and percentages. Further analysis is performed using cross tabulations, chi-square tests, phi and stepwise logistic (logit) regression.

TABLE 1 (Continued)

SOCIODEMOGRAPHIC VARIABLES		
	Race	
WHITE	1 = white;	0 = other.
	Marital Status	
OTHMARST	1 = not married--never married, separated, widowed, divorced;	
	0 = currently married.	
	Presence of Children Under Six Years of Age	
CHILD5	1 = child less than six years of age;	
	0 = other--no children or older children.	
	Husband's Educational Attainment*	
MEDUC8	1 = 8th grade education or less;	0 = other.
MSOMEHS	1 = some high school;	0 = other.
MHSGRAD	1 = completed high school;	0 = other.
MVOCED	1 = training or some college;	0 = other.
MCOLGRAD	1 = college graduate.	0 = other.
	Husband's Occupation*	
MOCCUP1	1 = professional;	0 = other.
MOCCUP2	1 = white collar;	0 = other.
MOCCUP3	1 = craftsperson;	0 = other.
MOCCUP4	1 = blue collar;	0 = other.
MOCCUP5	1 = menial;	0 = other.
MOCCUP6	1 = househusband, retired.	0 = other.

*619 midlife women do not have a husband, i.e. are divorced, widowed, separated, or never married. Husband information for these women is coded as zero in these dummy variables.

The cross tabulations are used along with chi-square statistics to establish the significance of frequency distributions. Chi-square is especially valuable in examining the significant relationships existing between each independent variable and work history patterns. Chi-square tests are performed to test for statistically significant relationships between the predictor variables and the work history pattern, as well as the current employment types. This statistical method is chosen in accordance with the nominal nature of the data. The test is used when a researcher is interested in the number of responses or people that fall in two or more categories. The chi-square statistic refers to whether a significant difference exists between an observed number and the expected number of responses of people falling in each category established by the study. The expected number is what the study expects by chance or according to a null hypothesis.

The relationship between likelihood of labor force participation and the factors of human capital and sociodemographic characteristics is analyzed using stepwise logistic (logit) regression. Stepwise logit identifies statistically significant independent variables at the 0.05 significance level. The dependent variables for the logit model has a dichotomous outcome. Several researchers [22, 47] recommend using logit for analysis. The logit model examines empirically the relative influence of predictors upon the likelihood of a woman's labor force participation. The logit model specified in this study makes use of the maximum likelihood estimation procedure which can be applied where categorical and continuous variables are used in the same model [23].

Limitations of the Study

Existing data source rarely fit exactly the empirical specifications

implied by theory. The use of the 1983 Survey of Consumer Finances to examine current and past employment behavior of individuals is no exception. With resource constraints that prohibit field collection of data, the researcher has to evaluate the trade-offs in terms of sample size versus level of detail in information collected and thus the degree of tailoring that can be accomplished in the empirical design of a theoretical model.

The procedural construction of women's employment patterns and analysis of the data provides a background for understanding the limitations of the data. Confidence is placed in the results provided, however, it is necessary to state limitations of the data.

The principle limitation imposed by the use of the Survey of Consumer Finances data is the lack of complete work histories for all women respondents and spouses of male respondents. For example, this problem occurs in two circumstances. First, the respondent may not have been able to provide the information requested ("don't know"). Secondly, the values on individual work history variables (i.e. number of years on longest job) may be inaccurate, therefore, causing some noticeable inconsistencies. The data for married women in the sample who were spouses of male respondents is to be questioned as to the accuracy of the information given at the time of the interview. At the time of the interview, male respondents may have been unfamiliar with their spouse's work history (i.e. number of hours worked per week). This limitation presents the problem of validity for measures of labor market experience of women who were spouses of male respondents.

The fact that not everyone answered all work history questions is cause for some concern when defining and constructing employment history

patterns. For example, a housewife who is not currently in the labor force may have answered not only the question about the last job held prior to currently not being employed. She may or may not have answered the question concerning the job that lasted for the longest duration of time. Refer to explanation earlier in this chapter.

It is assumed that virtually all women respondents and married male respondents were able to provide reasonably reliable information pertaining to periods of employment, both in the early life stages and more recently. As discussed earlier in this chapter, approximately 10 percent of the sample is unclassifiable in terms of employment types, mainly as a result of missing or inconsistent data. There are 39 women who are recorded as missing on the race variable because no racial classification is available. Missing and inconsistent data presented no problem in the assessment of relationships between sociodemographic characteristics and human capital variables to the employment patterns and for the predictor variables used in the logistic models to estimate the likelihood of labor force participation of midlife women.

Summary

This study uses data from a national representative data file, the 1983 Survey of Consumer Finances, to investigate the influence of sociodemographic and human capital variables upon work history patterns and current employment types of midlife women. Six work history patterns for midlife women are constructed from work history data provided by the respondents. Five employment types of midlife women using labor force attachment and labor force participation history are

identified. The primary focus of the analyses is to test several binominal logistic models designed to estimate the likelihood of labor force participation of midlife women.

APPENDIX C
SUPPORTIVE DATA

TABLE 1-C
ELIGIBILITY CRITERIA USED TO CREATE THE SAMPLE

	Marginal Loss of Sample Size	Resulting Sample Size
Actual Sample N = 1,687		
Total Weighted Sample N = 2,535		
1. Identifying Employment Types		
Missing information on the following work history question: Have you ever done any work for pay?	7	2,528
2. Constructing Work History Patterns		
2.1 Profile = 0 excluded those individuals who did not fit into the established profile because of inconsistent answers to criteria questions.	48	2,480
2.2 Profile = .*excluded those individuals who had missing data on the work history summary questions.	122	2,358
2.3 Establishment of six work history patterns. Assessment of each individual in sample to determine if hours worked per week and weeks per year were consistent with criteria for each work history pattern. Individuals dropped with inconsistent responses.	136	2,222

*Missing data for questions.

TABLE 2-C
 CROSS-TABULATION OF EDUCATIONAL ATTAINMENT AND WORK
 HISTORY PATTERNS OF MIDLIFE WOMEN

Midlife Women's Educational Attainment	Work History Patterns					
	Never Employed	Part-Time	Continuous	Interrupted	Dual- Interrupted	Dual- Continuous
	%	%	%	%	%	%
8th grade or less N = 210	29.1	6.7	18.6	32.9	9.1	3.8
Some high school N = 297	11.8	6.1	19.5	43.4	16.2	3.0
High school graduate N = 935	6.4	3.9	20.1	34.9	30.5	4.3
Vocational training or some college N = 372	4.8	3.5	13.4	33.3	33.3	11.6
College graduate N = 408	0.7	2.0	14.0	31.9	43.1	8.3

Chi-square = 295.992
 df = 20
 Phi = 0.365

TABLE 3-C
 CROSS-TABULATION OF MARITAL STATUS AND WORK
 HISTORY PATTERNS OF MIDLIFE WOMEN

Midlife Women's Marital Status	Work History Patterns					
	Never Employed %	Part-Time %	Continuous %	Interrupted %	Dual- Interrupted %	Dual- Continuous %
Married N = 1,698	9.1	4.4	15.1	36.0	30.2	5.2
Never Married N = 55	5.5	1.8	40.0	27.3	18.2	7.3
^a Other Marital Status N = 467	4.3	2.8	24.0	32.3	27.6	9.0

Chi-square = 61,384

df = 10

Phi = 0.166

^aIncludes widowhood, separated and divorced.

TABLE 4-C
 CROSS-TABULATION OF HUSBANDS' EDUCATIONAL ATTAINMENT AND
 MIDLIFE WOMEN'S WORK HISTORY PATTERNS

Husbands' Educational Attainment	Work History Patterns					
	Never Employed %	Part-Time %	Continuous %	Interrupted %	Dual-Interrupted %	Dual-Continuous %
8th grade or less *N = 229	21.8	4.4	17.0	34.9	16.6	5.2
Some high school *N = 216	10.7	6.9	17.6	41.7	19.4	3.7
High school graduate *N = 538	8.0	6.0	14.9	36.8	28.3	6.1
Vocational training or some college *N = 250	6.0	2.8	16.4	32.8	39.2	2.8
College graduate *N = 464	5.0	2.4	12.5	34.7	39.4	6.0

Chi-square = 120.353

df = 20

Phi = 0.266

*Missing data. Percentage based on those women who are now married. Six hundred nineteen women do not have husbands.

TABLE 5-C
 CROSS-TABULATION OF HUSBANDS' OCCUPATIONAL GROUP
 AND WORK HISTORY PATTERNS

Husbands' Occupational Group	Work History Patterns					
	Never Employed	Part-Time	Continuous	Interrupted	Dual- Interrupted	Dual- Continuous
	%	%	%	%	%	%
Professional *N = 602	6.5	3.2	14.8	31.6	37.7	6.3
White collar *N = 125	3.2	1.6	5.6	45.6	40.8	3.2
Craftsman *N = 347	12.4	3.5	15.0	34.9	28.5	5.8
Blue collar *N = 216	7.4	7.9	15.3	41.7	23.2	4.6
Menial *N = 87	5.8	12.6	11.5	26.4	42.5	1.2
House-husband (retired and students) *N = 320	14.7	4.4	20.3	40.6	15.3	4.7

Chi-square = 130.484

df = 25

Phi = 0.277

*Missing data. Percentage based on those women who are married. Six hundred nineteen women do not have husbands.

TABLE 6-C
 CROSS-TABULATION OF COHORTS OF MIDLIFE WOMEN
 AND WORK HISTORY PATTERNS

Midlife Cohorts	Work History Patterns					
	Never Employed	Part-Time	Continuous	Interrupted	Dual-Interrupted	Dual-Continuous
	%	%	%	%	%	%
Early-mid (35-44) N = 895	3.6	4.5	17.7	33.4	31.7	9.2
Middle-mid (45-54) N = 702	9.3	3.4	14.8	37.0	31.3	4.1
Late-mid (55-64) N = 625	12.8	4.0	20.8	35.0	23.7	3.7

Chi-square = 84.749
 df = 10
 Phi = 0.195

TABLE 7-C
 CROSS-TABULATION OF EDUCATIONAL ATTAINMENT AND
 EMPLOYMENT TYPES OF MIDLIFE WOMEN

Midlife Women's Educational Attainment	Employment Types					
	Never Employed	Part-Time	Continuous	Interrupted	Dual- Interrupted	Dual- Continuous
	%	%	%	%	%	%
8th grade or less *N = 210	68.1	2.9	7.6	12.4	6.2	2.9
Some high school *N = 297	51.5	3.4	13.8	19.2	9.4	2.7
High school graduate *N = 935	39.7	1.9	15.0	18.8	21.3	3.3
Vocational training or some college *N = 372	37.1	3.0	10.2	18.8	22.6	8.3
College graduate *N = 408	26.0	1.7	12.0	21.3	31.1	7.8

Chi-square = 178.416

df = 20

Phi = 0.283

*Missing data. Percentage based on those who responded to questions.

TABLE 8-C
 CROSS-TABULATION OF MARITAL STATUS AND
 EMPLOYMENT TYPES OF MIDLIFE WOMEN

Midlife Women's Marital Status	Employment Types					
	Never Employed	Part-Time	Continuous	Interrupted	Dual- Interrupted	Dual- Continuous
	%	%	%	%	%	%
Married N = 1,698	44.4	2.7	10.4	19.1	19.7	3.7
Never Married N = 55	40.0	0.0	30.9	18.4	12.7	7.3
^a Other Marital Status N = 467	29.1	1.3	19.1	9.1	23.3	8.8

Chi-square = 88.572

df = 10

Phi = 0.20

^aIncludes widowhood, separated and divorced

TABLE 9-C
 CROSS-TABULATION OF RACE AND EMPLOYMENT
 TYPES OF MIDLIFE WOMEN

Midlife Women's Race	Employment Types					
	Never Employed %	Part-Time %	Continuous %	Interrupted %	Dual- Interrupted %	Dual- Continuous %
White *N = 1,862	41.3	2.4	11.6	18.7	21.5	4.5
Nonwhite (Blacks, Native Americans, Hispanics, Orientals, Other) *N = 323	37.5	1.9	19.8	19.5	14.2	7.1

Chi-square = 27.136

df = 10

Phi = 0.111

*Missing data. Percentage based on those who responded to questions.

TABLE 10-C
 CROSS-TABULATION OF HUSBANDS' OCCUPATIONAL GROUP AND EMPLOYMENT TYPES

Husbands' Occupational Group	Employment Types					
	Never Employed %	Part-Time %	Continuous %	Interrupted %	Dual- Interrupted %	Dual- Continuous %
Professional *N = 602	37.5	3.0	11.3	17.6	26.4	4.2
White collar *N = 125	35.2	1.6	4.8	28.8	26.4	3.2
Craftsman *N = 347	50.1	1.7	9.2	17.6	17.0	4.3
Blue collar *N = 216	31.9	5.1	11.6	31.9	16.2	3.2
Menial *N = 87	51.7	5.8	11.5	4.6	26.4	0.0
House-husband (retired and students) *N = 320	60.9	1.3	10.9	15.0	8.1	3.8

Chi-square = 142.206

df = 25

Phi = 0.289

*Missing data. Percentage based on those women who are married. Six hundred nineteen women do not have husbands.

TABLE 11-C
 CROSS-TABULATION OF AGE GROUPS OF MIDLIFE WOMEN
 AND EMPLOYMENT TYPES

Midlife Cohorts	Employment Types					
	Never Employed %	Part-Time %	Continuous %	Interrupted %	Dual- Interrupted %	Dual- Continuous %
Early-mid (35-44) N = 895	29.9	2.9	15.2	21.9	22.5	7.6
Middle-mid (45-54) N = 702	42.6	1.4	10.3	19.5	22.5	3.7
Late-mid (55-64) N = 625	55.0	2.6	12.2	13.3	14.7	2.2

Chi-square = 121.638
 df = 10
 Phi = 0.234

TABLE 12-C
 CROSS-TABULATION OF MIDLIFE WOMEN COHORTS AND
 OCCUPATIONAL GROUP FOR CURRENT JOB

Midlife Cohorts	Professional %	White Collar %	Craft- Person %	Blue Collar %	Menial %	Homemaker %
Early-mid (35-44)	22.3	24.4	2.2	7.3	13.5	30.4
Middle-mid (45-54)	19.3	21.6	0.4	6.2	10.5	42.1
Late-mid (55-64)	12.6	15.2	1.1	6.1	10.2	54.9

Chi-square = 118.951
 df = 10
 Phi = 0.217

TABLE 13-C
 PERCENTAGE OF MIDLIFE WOMEN IN OCCUPATIONAL GROUP
 FOR LONGEST HELD PRIOR JOB AND CURRENT JOB

Occupational Group	Longest Held Prior Job	Current Job
	%	%
Professional	15.4	18.6
White Collar	25.9	20.9
Craftsperson	1.8	1.3
Blue Collar	10.8	6.6
Menial	9.8	11.6
Homemaker	36.4	41.1

N = 2,528
 Chi-square = 1166.891
 df = 25
 Phi = 0.679

TABLE 14-C
 CROSS-TABULATION OF MIDLIFE WOMEN'S EDUCATIONAL ATTAINMENT
 AND HUSBANDS' EDUCATIONAL ATTAINMENT

Midlife Women's Educational Attainment	Husbands' Educational Attainment				
	8th Grade or less	Some High School	High School Diploma	Vocational Training or Some College	College Graduate
	%	%	%	%	%
8th Grade or Less *N = 167	59.3	15.0	16.2	7.2	2.4
Some High School *N = 234	26.5	32.1	30.3	9.8	1.3
High School Diploma *N = 792	9.3	12.9	46.2	14.8	16.8
Vocational Training or Some College *N = 301	4.0	4.7	29.9	24.6	36.9
College Graduate *N = 324	2.2	3.4	9.0	12.7	72.8

Chi-square = 986.323

df = 16

Phi = 0.737

*Missing data. Percentage based on those women who were married. Six hundred nineteen women do not have husbands.

TABLE 15-C
HOURS PER WEEK EMPLOYED ON CURRENT JOB
OF COHORTS OF MIDLIFE WOMEN

Midlife Cohort	Hours Per Week Employed*			
	(0 hours)	Part-Time (1-34 hours)	Full-Time (35-40 hours)	(Greater Than 40 hours)
Total ^a *N = 2,528	41.5	18.0	34.2	6.3
35-44 years *N = 1,010	30.9	22.8	38.7	7.6
45-54 years *N = 793	42.5	15.1	36.7	5.6
55-64 years *N = 725	55.2	14.6	25.0	5.2

*Missing data. Percentages based on those who responded to questions. Weighting of sample may cause percentages to vary slightly from 100 percent due to rounding of number.

^aTotal includes all midlife women in sample, 35-64 years of age.

APPENDIX D

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