DEVELOPMENT AND TEST OF A CAUSAL MODEL OF MIDLIFE WOMEN'S ATTAINMENTS, COMMITMENTS AND SATISFACTIONS

by

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(ABSTRACT)

This study developed and tested a model of midlife women's attainments, commitments and satisfactions under differing conditions of marriage and parenthood. The model proposed that life satisfaction for women is a function of three sets of influences: (1) adult status attainments, (2) home and work commitments, and (3) home and work satisfactions. These three sets of influences, in turn, are a function of three predetermined and correlated conditions: (1) health, (2) early childhood status and (3) educational attainment.

The model was developed using data from a cohort of midlife women drawn from the National Survey of Families and Households. The model was then tested on subsamples from that cohort using LISREL 7.

Tests of the model revealed both similarities and differences in the processes of attainment of life satisfaction for all midlife women, for those with and without husbands, and for those with and without children. In tests of the individual models, health and satisfaction

with one's role at home were the primary factors influencing life satisfaction for women. Work commitment was also a significant, and negative, predictor.

Tests of the model across stacked groups, however, failed to clarify specific structural differences due to marital or parental status. For women with and without husbands, differences in both the measurement and structural models across the groups were found to be statistically insignificant. For women with and without children, however, cross-group comparisons revealed significant differences in the measurement and structural models. Because of measurement differences, however, even statistically significant structural differences could not be considered meaningful estimates of variance in patterns of influence across the groups.

This study provides only a beginning toward understanding the complex relations among midlife women's attainments, commitments and satisfactions. The proposed model fits the data better for women with husbands and for women without children than for other individually or jointly tested samples.

Family formation appears to influence the process of attainments, commitments and satisfactions, but additional research is needed to continue to unravel the complexities of interrelationship. Yet, preliminary conclusions remind

counselors and policymakers that traditional conceptions of status attainments are not the only considerations for career or life planning for women.

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CHAPTER ONE: INTRODUCTION

Emerging feminist theories maintain that life experiences of women are different from those of men (Gilligan, 1990; Mickelson, 1989) and consequently merit different research questions, designs and methods (Cook, 1982; Lott, 1983; Parlee, 1981). Yet the empirical tradition of research on women's attainments, whether defined in terms of education, career status or income (Adelman, 1991; Fagerlind, 1988) is based on male paradigms of social mobility (Long & Porter, 1984; Marshall, 1989). Factors important to these male models of attainment are imported, tested, and interpreted for female samples. Female paradigms are not developed. (Long & Porter, 1984; Mickelson, 1989; Mohney & Anderson, 1988).

The most obvious issue which divides male from female, both historically and currently, is that most women still consider that family formation--marriage and parenthood--will have some impact on their life course (Komarovsky, 1982; Sekaran & Hall, 1989). Public recognition of this gender-based difference, however, was not politically correct during the "fragile early years of the Women's Movement" (Gallos, 1989, p. 110). History aside, family formation for women is again becoming recognized in the literature as important to theoretical and practical writings on the vocational and life counseling of women

(Evens, 1985; Levinson, 1990; Sekaran & Hall, 1989). But empirical input to aid in understanding the process of family impact is still lagging.

Empirically based studies of adult attainment support our theoretical understanding of processes affecting human development (Wagenaar, 1983). Generally speaking, however, these mathematical models of attainment end with hierarchically based, single criterion measures of years of education, career status, or income (England, 1982; (Fagerlind, 1988). Yet, this tradition of representing adult attainment in terms of single criterion components of socioeconomics probably rests more on the historical development of statistical methodologies than on actual attempts at portraying the complexities of adult life.

These complexities have been better portrayed in more developmentally oriented, but less mathematical, perspectives of adulthood. Literature in human development or vocational counseling, for example, portrays successful adult attainment as the on-going, dynamic process of matching goals and achievements to reach satisfactions in life (Barnett & Baruch, 1983; Campbell, 1981; Levinson, 1990). Moreover, in those disciplines where successful adult attainment is defined in terms of satisfaction, rather than socioeconomics, the process is more often seen as individually self-determined, rather than externally

deterministic (Baruch, Barnett & Rivers, 1985; Levinson, 1990). Some of the perceived idiosyncrasies in the process of reaching satisfaction, however, do show patterns which revolve around differing emphases on relationships (Gilligan, 1990), work (Near, 1984), home (Cripps, 1986), school (Schlossberg, 1984), or leisure (Tate, 1984).

When studies of adult processes begin, rather than end, with a focus on women, personal relationships and commitments become a legitimate avenue for inquiry (Belenky, Clinchy, Goldberger & Tarule, 1986; Giele, 1982). For women, therefore, a more broadly conceived, empirically based, adult attainment model might also be developed to go beyond the traditional boundaries of the single criterion measure of socioeconomics to end, rather, with alternative, or additional, measures of personal commitments and satisfactions. Such a model, for example, would render more congruent the traditional literatures on socioeconomic attainment and the new work on women's adult development (Cytrynbaum & Crites, 1989; Levinson, 1990). More attuned to the more feminine issues of balancing multiple needs for achievement and belonging, this new research is seen as contributing understanding to women's life planning (Evens, 1985; Holland & Eisenhart, 1990; Sekeran & Hall, 1989).

Statement of the Problem

Early works undergirding Western psychological tradition emphasized the dual importance of love and work in achieving a successful adult life. For example, the bipartite prescription for adult attainment is readily seen in Freud's (1930/1961) Civilization and its Discontents, and Fromm's (1941/1966) Escape from Freedom. More recently, women's social science literature is beginning to return to these early roots. Both qualitative (Gilligan, 1990; Holland & Eisenhart, 1990) and quantitative (Barnett & Baruch, 1983; Baruch, Barnett, & Rivers, 1985) traditions in women's research are beginning to analyze women's lives in terms of the dual importance of family and career (Friedan, 1963, 1981), romance and career (Holland & Eisenhart, 1990) or "mastery" and "pleasure" (Baruch, Barnett, & Rivers, 1985), all new terms for Freud's love and work.

There is, in fact, new, and sometimes reluctant, recognition in education (Holland & Eisenhart, 1990), counseling (Evens, 1985; Marshall, 1989), career planning (Gallos, 1989), economics (Bergman, 1986), sociology (Blau & Ferber, 1985) and business (Schwartz, 1989) that both work and home commitments form distinct, yet important, components of most American women's life plans. In a sense, the original psychological tradition of achieving a

successful adult balance between love and work, echoed in the very different works of Freud (1930/1962), Fromm (1941/1966), and Friedan (1963, 1981), is becoming recognized again as a basis for both life planning for women (Marshall, 1989; Sekeran & Hall, 1989), and social research on women (Baruch, Barnett & Rivers, 1985).

This dual emphasis on love and work lies in sharp contrast to the enormous body of attainment literature in sociology, economics and education where "work" is the sole focus, and "love" is ignored. Research on attainment in those social science disciplines, especially economics and sociology, derives from the literature on social mobility where questions about the meaning of life are not traditional topics for inquiry (Campbell, 1981; England, 1989; Wong, 1989). The time-honored tradition for analyzing attainment in those disciplines is to measure certain work-related structural conditions of one generation--education, socioeconomic status and a variety of others--and to analyze their effect on similar structural conditions of a second generation (Sewell & Hauser, 1980; Tuijnman, 1989). Effects are often measured on national probability samples with the broadest variance in status, educational levels, and income.

Feminist scholars have branded this research as an example of "patriarchal values and forms of knowledge making" (Marshall, 1989, p. 281). Their criticisms center

on the appreciation that national probability samples of women as compared with men have shown less variance (Jeong, 1988), and, in fact, lower levels of attainment as measured by aspired (Gerstein, Lichtman & Barokas, 1988) or achieved occupational status (Adelman, 1991; Marini, 1980), education (Adelman, 1991), or income (England, 1981). Models of attainment for women have scarcely acknowledged home-related contributions to alternative notions of success in life (Cripps, 1986).

The emerging research on life satisfaction for women is generally focused, not on national samples, but on far more narrow ones, such as two colleges (Holland & Eisenhart, 1990), single geographic areas (Barnett & Baruch, 1983; Cripps, 1986; Levinson, 1990) or a plethora of women in high-status occupations (Barnett & Baruch, 1983; Levinson, 1990). A need remains for a more amplified understanding of "love and work" for a broader base of women.

Just as traditional attainment models have been tested on large samples, across educational levels, occupational levels, and income levels, so extended models of life satisfaction should be. And because family formation--marriage and parenthood--is still the primary condition of most women's lives, researchers of women need to examine those life satisfaction models across various forms of the family structure to understand the impact of family

formation on all forms of adult attainments, including satisfaction (Cripps, 1986; Kierce, 1985). Researchers need to examine the interrelationship of the traditional measures of attainments with other factors, e.g. health and personal commitments, known to be of importance to life satisfaction (Campbell, 1981). In extending models of women's attainments beyond socioeconomics into life satisfaction, researchers might better explain women's continued selection of higher commitments toward home-related activities (Burden & Googins, 1987) and lower status careers (Gerstein, Lichtman & Barokas, 1988). Researchers, for example, might recognize a multi-path process of life satisfaction for women with and without families.

This dissertation, therefore, extends the traditional models of adult attainment to explore alternative concepts of success in life. This study measures life satisfaction and its contributory work and home-related influences. The study goes beyond the traditional measures of education, occupation, and earnings to create a model for adult attainment more consistent with the emerging vocational counseling literature and research on women (Cytrynbaum & Crites, 1989).

Purpose of the Study

There are two interrelated purposes to this research effort:

- The development of an expanded model of women's adult attainment to include home and work-based commitments and satisfactions.
- The test of the proposed model under differing conditions of marriage and parenthood.

Unlike traditional models of attainment which end with educational, occupational or monetary achievement, the model portrayed here broadens the previous definition of adult attainment to include life satisfaction and its contributory domains. Specifically, the model developed in this research combines two, usually disparate, paradigms from the literatures of attainment and satisfaction, and empirically integrates them into a single model for analysis. The model is undergirded by a theoretical framework which is best illustrated in Figure 1, and described in the following section.

The Development of the Expanded Model

Figure 1 portrays the theoretical framework for the study. As such, it specifies that adult status attainments for women are a function of health, status origins, and education. In turn, adult status attainments, together with health, status origins, and education cause various levels of home and work commitments. Home and work commitments, along with adult status attainments, health, status origins,

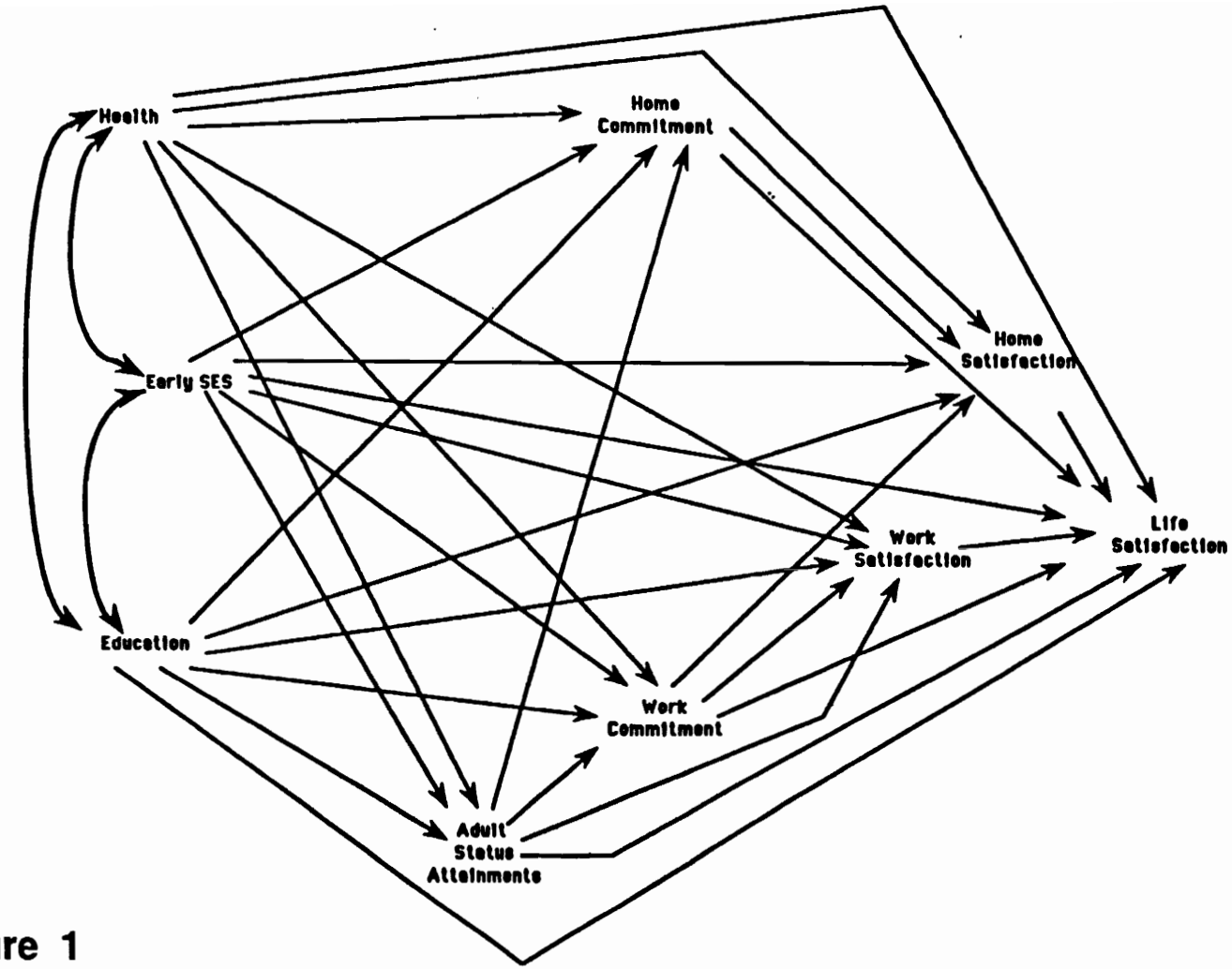

Figure 1
Theoretical model of midlife women's attainments, commitments and satisfactions

and education are, moreover, all assumed to cause both home satisfaction and work satisfaction. Finally, home and work satisfaction, in conjunction with home and work commitments, adult status attainments, health, status origins and education are all causes of life satisfaction among midlife women.

The Model Tested Across Samples

The second purpose of this study is to test the expanded model of attainments, commitments and satisfactions, described in Figure 1, across samples of midlife women with and without husbands, and with and without children. The testing of the model on multiple samples serves two purposes. First, the model is applied to various samples to confirm its validity at this exploratory stage. Second, the model is applied to subgroups of midlife women under various conditions of marriage and fertility to begin to estimate the differences in the process of achieving life satisfaction that may be due to family formation. It might be true, for example, that women with families (either husbands or children) might derive greater life satisfaction from home-based factors, while women with no families (either husbands or children) might derive greater satisfaction from work-based factors.

This dissertation focuses on estimating the extent to which life satisfaction can be predicted by elements in

midlife women's home or work life, and the impact of family formation on that process. These are the substantive goals of this research. The goals are formally expressed by the four research questions listed in the following section.

Research questions

1. What are the effects of background conditions such as health, early (parental) social status, and education on midlife women's attainments, commitments and satisfactions?

2. What are the relative magnitudes of influence of adult status attainments, home and work commitments, and home and work satisfactions on the perception of life satisfaction of midlife women?

3. Does the model of attainments, commitments and satisfactions adequately fit the data from samples of midlife women?

4. Does the proposed causal framework explain the process of attaining life satisfaction equally well for women with and without husbands, and for women with and without children?

The relative influence of individual factors, portrayed by Figure 1, are formally expressed by the first two research questions listed above. These questions divide the effects into their exogenous and their endogenous components.

The third question directs a test of the efficacy of the overall model of attainments, commitments, and satisfactions to estimate whether the model explains women's attitudes and behavior. The fourth question directs the

comparison of contrasting subgroups of interest to specifically test the impact of family formation by estimating whether relationships in the model differ across conditions of family structure.

Definitions of Terms

Because the definitions of terms are specific to data which will be introduced in Chapter 3, their understanding, at this point in the dissertation, is left to common English usage. Origins and operationalizations of measurements are detailed after a complete discussion of the data source.

Significance of the Study

This study adds to the literatures on attainment, life satisfaction, and vocational counseling in four ways. First, the study broadens the traditional definition of attainment beyond the intergenerational mobility models which end with measures of education, occupational status or income. It examines adult status attainments as both outcomes of ascribed and achieved conditions, and as an input to broader goals. The study further examines the extent to which various forms of family formation--marriage and parenthood--do matter in the broader attainment equations.

Second, this dissertation extends the understanding of attainment and satisfaction to an understudied cohort of women. For the attainment literature, this population of midlife women is older than the early adult-aged population to which much of the literature pertains. For the satisfaction literature, this population is younger than the retirement group which forms the basis for examination of this concept.

Third, by looking at women only, this dissertation develops a model specifically applicable to them. By comparing this model of adult attainments, commitments, and satisfactions across women in different family structures, this study goes beyond seeing some hypothetically average women, ceteris paribus, in juxtaposition to some hypothetically average men.

Fourth, this dissertation renders the attainment literature more congruent with the literature on adult development, vocational counseling and life planning by testing quantitatively questions usually asked qualitatively. And for feminist theorists, counselors, and policy makers, this study examines the changes in the process of reaching a satisfying adult life under different family conditions. The differences shown in the processes of life satisfaction for women with and without husbands, and with and without children, remind vocational counselors

and others that status attainment is not the sole consideration for the career planning of women.

Organization of this report

This report, like the study on which it is based, is organized according to the tradition of this discipline. As such, this dissertation comprises the following five chapters:

The context for the study and the development of the specific research problems are presented in Chapter 1. The review of paradigms pertinent to the theoretical framework is presented in Chapter 2. The methodology for the study, including descriptions of the data, the sample, the variables in the model, the data analytic procedures and their limitations are all found in Chapter 3. Results of the analyses are presented in Chapter 4. There, the sample is initially profiled in terms of its demographics, attainments, commitments and satisfactions. Then multiple estimations of the model are described. Finally, in Chapter 5, a discussion of the findings of this study again places this dissertation in the context of the literature from which it was developed.

CHAPTER TWO:
DEVELOPMENT OF THE THEORETICAL FRAMEWORK AND REVIEW OF PARADIGMS IMPLIED BY PREVIOUS RESEARCH

This chapter presents the development of the theoretical framework for the model of attainments, commitments and satisfactions. The chapter is divided into two major sections. The first section reviews the paradigms from the literatures of status attainment and its application to women. The second section presents the life satisfaction literature and its application to women. Together, these two bodies of literature form the bases for the theoretical framework of this study.

The Status Attainment Literature

In their review of the first two decades of the status attainment literature, Sewell and Hauser (1980) note that the analysis of the status attainment process stems from the examination of "the extent to which one's social origins ... have a determining effect on one's aspirations and achievement .... at least up to mid-life" (p. 88). Based on normative theories of democratic ideals, the status attainment literature consistently found that conditions other than merit affected individual outcomes (Fagerlind, 1988; Tuijnman, 1989).

Historical Overview

One of the early, and seminal works on intergenerational mobility in America was Hollingshead's (1949) Elmtown's Youth, a qualitative account of coming of age in a small, mid-Western, industrial city. This elucidation of cross-generational consistency in socioeconomic attainment was followed throughout the 1950s by a series of debates on mobility versus. consistency on the American status scale (Hodge, Siegel & Rossi, 1966; Turner, 1966) and on the relative mobility of American and European society (Lipset & Bendix, 1959).

Duncan and Hodge's (1963) article on trans-generational transmission of socioeconomic status presented a quantitative conceptualization of the process of status attainment. The Duncan and Hodge model, developed on a sample of 1,105 males in Chicago, hypothesized that a father's socioeconomic status transmitted through his son's educational level to his son's early, then later occupational attainment. The Duncan and Hodge model was then refined, and ultimately disseminated, through Blau and Duncan's (1967) version which disaggregated the independent effects of father's education and occupation on son's achievements. The Blau and Duncan model, then, proposed a system whereby the occupational status of the adult son (aged 20-62) was a function of the separate, but correlated,

effects of father's education and occupation, then the son's education and first occupation.

Like Duncan and Hodge (1963), and later Blau and Duncan (1967), the original "Wisconsin models" of Sewell and Hauser (1975, 1980) were based on the transmission of social status through education. But, unlike Blau and Duncan's focus on the individual's educational attainment, Sewell and Hauser's models began to shift the focus of analysis to the context of the educational system, specifically to the nature of community and school (Sewell & Hauser, 1980).

Sewell and Hauser's original Wisconsin study began with a 1957 survey of the post-secondary educational plans of over 30,000 public and private high school seniors in Wisconsin and continued with longitudinal analyses on about one-third of that sample. Through the decades, major modifications to the attainment models included ability (Sewell & Hauser, 1975) and the social-psychological effects of the influence of significant others (Sewell, Hauser & Portes, 1969). Sewell and Hauser's final version of the Wisconsin model hypothesized that one's post-secondary educational attainment was a function of one's social background, ability, performance, curriculum, perceptions of significant others' encouragement, and educational aspirations (Sewell & Hauser, 1980).

Many other researchers (Duncan, Featherman & Duncan, 1972; Jencks, Crouse & Mueser, 1983) continued to modify the status attainment modeling process with alternative or additional predictor variables. Alexander, Eckland, & Griffin (1975), for example, focused on educational aspirations as an important mediator variable in the educational attainment process. Others (Erlich, 1984; Han, 1985) focused on occupational aspirations.

Still other attainment modeling has focused on tangential steps in the status attainment process. Fassinger (1987), for example, looked at factors predicting career choice. LaSalle and Spokane (1987) examined career patterns and their stability. Additional researchers, economists in particular, extended the attainment models to include outcomes beyond educational and occupational attainment, in particular income and earnings (England, 1982; Polachek, 1981).

Application to Women

Although the original versions of the status attainment models pertained uniquely to men (Blau & Duncan, 1967; Duncan & Hodge, 1963; Hodge, Siegel & Rossi, 1966), later researchers added women to their samples, and modified the models to include career contingencies (Duncan, Featherman & Duncan, 1972), plans for marriage and fertility (Falk & Cosby, 1975), and career versus family orientation

(Erlich, 1984). Whether the status attainment process has been essentially the same for men and women has been the subject of some controversy in the literature (Adelman, 1991; Lichtman, 1984; Marini, 1980). Many researchers have concluded that the process does not differ significantly for men and women (Featherman & Hauser, 1976; Parnes & Rich, 1980; Trieman & Terrell, 1975). Others argue that it does. (Alexander & Eckland, 1974; Falk & Cosby, 1975; Mickelson, 1989; Talbot, 1987).

For the past twenty years, researchers have found that women's attainments and the returns to women of various aspects of educational achievement are limited, and different from those of men (Adelman, 1991; Blau & Ferber, 1986; Marini, 1980). In one comparative analysis of the occupational aspirations of high school seniors in 1972 and 1980, Gerstein, Lichtman and Barokas (1988) found that women's aspirations to enter male-dominated, high status fields have increased over time, but still remain below those of men. Researchers attribute women's lower aspirations and achievement to many different sources (Adelman, 1991; Marini, 1980). In both early and contemporary studies, researchers found that teachers and parents underencourage women's educational aspirations (Sewell, 1971; American Association of University Women

(AAUW), 1992). Holland and Eisenhart (1990) found that women need little underencouragement; their educational aspirations are often kept contingent on romantic perspectives.

Researchers are beginning to change the focus of study on women's reduced attainments (Adelman, 1991; Bergman, 1986; England, 1989). Many are clearly beginning to find that women's reduced attainments have little to do with individual inputs in the status attainment process. Rather, women are subtly, or not so subtly, victims of educational, occupational and "societal discrimination" (Blau & Ferber, 1986, p. 183). For example, several researchers of women's status attainment processes have found that the returns to education disadvantage women compared with men, whether occupational status, continued employment or earnings is used as the outcome measure (Adelman, 1991; Marini, 1980). Indeed, Mickelson (1989) maintains that the persistent lack of economic return to education for females ought to result in reduced educational attainment for girls and women. That girls continue to achieve at all is seen as an "anomaly" to the system of maximum utility (Mickelson, 1989). This dissertation proposes to investigate that anomaly by extending the status attainment literature beyond occupation and income into life satisfaction, to examine the relationship of attainments to other factors of importance

to women, and to specifically estimate the relative influence of attainments in predicting those other factors.

The Life Satisfaction Literature

A careful examination of the literature on life satisfaction reveals that no clearly accepted conceptual or operational definition of life satisfaction exists, despite half a century of serious research of the construct in America. Some researchers measure life satisfaction as a unidimensional construct (Chappell & Badger, 1989; George, Okun, & Landerman, 1985; Guerin, Veroff & Feld, 1960/1980; Spreitzer, Snyder, & Larson, 1979). Some measure it in terms of its multidimensional nature (Barnett & Baruch, 1983; Bradburn, 1969; Redmond, 1990). Separate studies using the same term life satisfaction have operationalized the construct differently; however, studies using different terms all use some of the same definitional measures.

Historical Overview

Perhaps the single most widely used version of the life satisfaction construct is Guerin, Veroff & Feld's (1960/1980) single item measure, "taking all things together, how would you say things are these days?" Developed originally for a 1957 study of 2,460 Americans' mental health, versions of the measure have been used continually over the decades (Guerin et al, 1960/1980;

Campbell, Converse & Rodgers, 1976; Spreitzer & Snyder, 1974; Spreitzer, Snyder, & Larson, 1979), and are still being used in contemporary social science research (Sweet, Bumpass & Call, 1988; Russell & Megaard, 1988).

Many other studies of life satisfaction, however, interpret the life satisfaction construct as a function of multiple factors. In one of the earliest contemporary versions of the concept, Cavan, Burgess, Havighurst and Goldhammer (1949/1979) measured life satisfaction in terms of individual satisfactions with relationships, health, socioeconomic status, happiness and usefulness. A decade later, Neugarten, Havighurst and Tobin's (1961) Life Satisfaction Index measured life satisfaction in terms of "zest," hardiness, aspirations/achievements quotient, self-concept and mood.

Researchers seem confused about appropriate terms for the life satisfaction construct. Studies using different terms for the construct-- "well-being" (Campbell, 1981), "psychological well-being" (Baruch, 1984), "subjective well-being" (Larson, 1978), "general adjustment, satisfaction and happiness" (Guerin, Veroff & Feld, 1960/1980), "affect balance" (Bradburn, 1969) use many of the same measures in their operationalizations. Among them, the Guerin measure, "taking all things together..." is the most common element,

but other components also reappear in various permutations and combinations.

Some researchers (Guerin et al., 1960/1980) interchange the terms "life satisfaction" and "well-being" in their writings. Some (Baruch, 1984; Baruch, Barnett, & Rivers, 1985), however, distinguish carefully among them. Baruch et al. (1985) use "happiness" to cover intense feelings of current pleasure, "satisfaction" to weigh achievements over aspirations, and well-being as the sum of the two.

Researchers do agree, however, that whatever the term used to measure or describe the construct of overall feelings of satisfaction, well-being, happiness, and adjustment, the overall body of research supports the "parallel objective of assessing the general affective experience of ... persons in terms of a positive - negative continuum. Studies using different conceptualizations and measures of this continuum have yielded comparable results" (Larson, 1978, p. 109). The section that follows will examine more closely some of the historical developments in the life satisfaction construct that are important to this study. For a more general review of the historical measures of subjective well-being and their operationalized definitions and comparisons, see Larson (1978).

Major Developments

Life satisfaction, in the view of many researchers (Bryant & Veroff, 1982; Campbell, 1981; Redmond, 1990), is a multifactor concept. Some of those multiple factors probably originated in Cavan, Burgess, Havighurst, and Goldhammer's attitude scales developed for the elderly. In their analysis of personal adjustment in old age (1949/1979), some 90 items measured three broad areas of satisfaction: (1) activities, status and relationships (family, friends, work, recreation, religion, social organizations, health, and economic status); (2) general happiness; and (3) feelings of usefulness (p. 111).

Many researchers, however, credit the origins of the analysis of Americans' subjective well-being to the research of Guerin, Veroff & Feld (1960/1980) stemming from a Congressional mandate for a National Mental Health study in 1957 (Baruch, 1984; Campbell, 1981; Erwalt, 1980). This national probability sample of 2460 American adults was conducted under the direction of A. Campbell at the University of Michigan's Survey Research Center. It provided the baseline data for a series of national probability surveys of psychological well-being (Campbell, Converse & Rogers, 1976) and at least one panel study of well-being with two time points, 1957 and 1978 (Campbell, 1981).

Well-being as a balance

Campbell (1981) defined well-being in terms of the "balance of facilitating and inhibiting conditions within which that person lives, and ... the success of that person's impulse to see his or her world positively" (Campbell, 1981, p. 19). Life satisfaction, then, is described clearly by Campbell in terms of two sets of constructs, the structural or material, and the social-psychological or attitudinal. Moreover, in the Campbell, Converse & Rogers (1976) study, the concept of well-being was extended by incorporating Guerin's (Guerin et al., 1960/1980) single factor, "taking all things together..." with Bradburn's affect balance scales. The newly amalgamated life satisfaction scale became a three part construct with a general affect factor, a domains of satisfaction factor, and a perceived stress factor. Because of its importance in this research, this tripartite concept of "affect, satisfaction and strain" (1981, p. 21) will be described more fully below.

Part 1: Affect. The "affect" portion of Campbell's well-being construct stems from two major strands of earlier research on the construct. The first part of the "affect" index is Guerin's (Guerin et al., 1960/1980), and later Spreitzer and Snyder's (1974; Spreitzer, Snyder & Larson, 1979) question, "taking all things together, how would you

say things are these days? " This most traditional measure of life satisfaction becomes one of the two indicators of life satisfaction in this study.

The second part of Campbell's affect portion is an attempt to capture Bradburn and Caplovitz's (1965) notion of satisfaction being the perceived balance between positive and negative states. In the Campbell (Campbell, Converse & Rodgers, 1976) work, these positive to negative valences appear as a series of ten semantic differentials where respondents describe their life in terms of the following poles: "boring - interesting, enjoyable - miserable, easy - hard, useless - worthwhile, friendly - lonely, full - empty, discouraging - hopeful, tied down - free, disappointing - rewarding, brings out the best in me - doesn't give me a chance" (p. 528). Versions of these same semantic differentials are present in the home satisfaction and work satisfaction constructs measured in the present research.

Part 2: Satisfaction. The "satisfaction" portion of Campbell's tripartite construct is a self report of perceived satisfaction with some 15 domains of life. Campbell (1981) posits that most people "have trouble evaluating the quality of their lives as a whole" (p. 19) and can better describe it in terms of its domains: marriage, family life, friendships, standard of living, work, neighborhood, urbanicity of residence, "the nation,"

housing, education, health and "the self" (p. 44). Of these domains, Campbell found satisfaction with "self, standard of living, family life, marriage, friends, and work [to have] the greatest influence on the level of satisfaction that people feel ..." (Campbell, 1981, p. 49). The constructs, somewhat redefined, appear in the current study.

Part 3: Stress. Campbell's third index of satisfaction was measured in terms of perceived stress or strain. For Campbell, stress is a sense of "being burdened, hemmed in, worried, pressured" (p. 35) Campbell noted surprise at the relative independence of the positive and negative aspects of life. But, other researchers confirmed that independence, both prior to (Bradburn & Caplovitz, 1965), and following (Barnett & Baruch, 1983), Campbell's work. Campbell found this third, or "perceived stress," index to be the weakest of the three elements in his tripartite measure of satisfaction, but a fair portion of the literature in the 1980s on the conditions of women's lives uses some form of stress or strain, often as an inverse of the "satisfaction" outcome measure (Baruch, Barnett & Rivers, 1985; Burden & Googins, 1987).

Application to Women

Many of Campbell's (1981) indices of "affect, satisfaction and strain" are incorporated into Baruch, Barnett and Rivers' (1985) bifurcated concept of the

"psychological well-being" of women. For Baruch et al. "mastery" and "pleasure" are the two overarching yet independent factors of life satisfaction. In the Baruch, Barnett and Rivers' model, mastery consists of "self-esteem, sense of control, low levels of depression and anxiety" (p. 18). Pleasure, the second factor in the well-being construct, consists of "satisfaction, happiness, optimism" (p. 18). The term satisfaction for Baruch, Barnett and Rivers (1985) is that part of the "pleasure" concept which measures "stacking up" what has actually happened in one's life against expectations and desires (p. 17).

"Stacking up" for women often includes estimating the costs and benefits of roles at home and at work (Bergman, 1986; Blau & Ferber, 1985, 1986). In the past few years, the researchers of life satisfaction for women (Baruch, 1984; Burden & Googins; 1987; Long & Porter, 1984) have viewed the home-work roles differently from researchers of even one decade ago (Rapoport & Rapoport, 1980; Safilios-Rothschild, 1976). Current researchers are no longer focusing on paid work for women as a frivolous add-on which creates role conflict (Long & Porter, 1984). Rather they are focusing on the benefits of holding multiple roles (Baruch, Biener, & Barnett, 1987) and on ameliorating sources of difficulties in multiple role maintenance (Sekaran & Hall, 1989).

In one study, Burden & Googins (1987) surveyed all the combined employees at eight individual sites in the Northeast from a "large public utility" and a "Fortune 500 high technology company." Their final sample of 1,165 male and female employees examined "job-family role strain" on a 13 item scale, and related the condition to depression. They found that "high role strain and low salary are predictive of increased depression" (p. 35) in both men and women and in fact could combine to account for the more frequent reports of depression among women. "Women are not more depressed because of their gender per se ... but... women have greater job-family role strain due to primary responsibility for home chores and childcare in addition to working ... [and] women have lower salaries than men (p. 35).

Barnett and Baruch (1983) also examined women's depression resulting from the home and work role commitments of 238 women in the Boston area. They agreed only partly with the Burden and Googins conclusion that role overload was a source of some strain in women's lives. However, where the Burden and Googins study focused on work role sources of strain (and possibilities for reform in the workplace), the Barnett and Baruch study focused on the role of parent, rather than the role of paid worker as the primary source of strain for women. In fact, Barnett and

Baruch cite Long and Porter's (1984) argument that the assumption of work being detrimental to women's psychological health really stems from the underlying view that the role of worker is "necessary and beneficial for men," but "an added on, hazardous" one for women (p. 2). Barnett and Baruch, supporting Long and Porter, noted the "buffering effects" (p. 18.) of employment on stress in women and the little researched finding that the role of parent, not the role of paid worker, causes the most strain for women.

One reason that Barnett and Baruch (1983) and Burden and Googins (1987) reached opposite conclusions on the sources of work and home role strain may have been that their samples were very different. The employed sample of midlife women from the Barnett and Baruch study were selected to equally represent high, medium and low occupational prestige categories (Barnett & Baruch, 1983). The Burden and Googins sample, in contrast, were the actual occupants of jobs in one industrial and one service industry in the Boston area. Given the gender based occupational structure of the United States (Bergman, 1987; Blau & Ferber, 1986), this researcher can only infer that in the Burden and Googins sample, many fewer than one-third of the high prestige categories of the "high-tech" and the "Fortune 500" companies were occupied by women. The Barnett and

Baruch sample, therefore, was, in all probability, far more heavily weighted at the upper end of the occupational scale than was the Burden and Googins sample. It may well be that for women with high occupational attainment, work commitments and work satisfaction predict higher life satisfaction; for women of lower occupational attainment, more conflict, and hence less satisfaction is a result.

Development of the Theoretical Framework

These brief reviews of the attainment and satisfaction literatures in Chapter 2 provided the necessary basis for further investigations of the processes for women. First, a review of the utility functions for social mobility showed that women's models for attainment are different from those of men (England, 1989) on which they were based. Among other differences, two are striking. First, human capital investments for women yield consistently lower returns than they do for men (Adelman; 1991; Mickelson, 1989). Second, family factors are far more influential for women (Komarovsky, 1982; Holland & Eisenhart, 1990) than they are for men. These factors should be considered in further research on women.

Furthermore, a review of the life satisfaction literature shows that perceptions of well-being for women are probably based on a series of balances between positive

and negative factors of (1) affect, satisfaction, stress (Campbell, 1981), (2) or achievements and aspirations (Micholas, 1985), or (3) mastery and pleasure (Baruch, Barnett & Rivers, 1985), or (4) work and home-life (Cripps, 1986). Thus, instead of imploding upon additional factors for predicting women's lower attainments, this dissertation proposes to place attainments in the context of satisfaction. As such, this study investigates the role that attainments and the predictors of attainments play in midlife women's balance between home- and work-related factors influencing life satisfaction.

The present research was designed, in part, to begin to disaggregate the interrelated causes of attainments, commitments and satisfactions, and, thereby, to better understand the multiple interrelationships of the work and family roles of women. The theoretical framework for this dissertation, briefly presented in Chapter 1, is seen as the natural outgrowth of the attainment and life satisfaction literatures described above. That framework and the development of its specific constructs and paths will be described fully in Chapter 3, as will the complete methodology for research.

CHAPTER THREE:
METHODOLOGY

This dissertation developed a model of midlife women's attainments, commitments and satisfactions, and then tested that model on multiply configured samples of women with and without husbands, with and without children. Chapter 3 describes the methodology for developing and testing that model. The first section outlines the selection of the National Survey of Families and Households (NSFH) from among comparable archival data sets. The second and third sections detail the sampling and data collection procedures for the data source. The fourth section describes the theoretical model and details the measures used in the research. The fifth section explains the data analytic procedures. The sixth section warns of the limitations of this study.

Rationale for Selection of NSFH

The NSFH survey was designed specifically to measure factors related to changes in, and impact of, the current American family and its household configurations. As such, the survey measures not only the structural aspects (e.g. education, status, income) of individuals and their family life, but also the psycho-sociological states of adult respondents (Sweet, Bumpass, & Call, 1988). The National Survey of Families and Households (NSFH) is not the first

probability sample of American households to be used for the study of income, occupational attainment, or life satisfaction; it is, however, the most recent and best available for this study. Other widely used archival data sets were examined, but found lacking in the psychosocial measures essential to this study. Details of the limitations of the other available data examined for this research are provided in Appendix A.

The NSFH Sample

The NSFH data represent the completed surveys from a multi-stage probability ("main") sample of 9,643 American adults plus an oversample of 3,374 minorities, single parents, step-parents, newlyweds and cohabiting couples. The final sample was designed as follows:

A national sampling frame was constructed from the Census' 1985 population projections. In the first stage of the clustering process, 100 primary sampling units (PSUs) were constructed by stratifying Standard Metropolitan Statistical Areas (SMSAs), Standard Consolidated Areas (SCAs) and aggregated residual counties into 32 strata based on regional, urban, ethnic, and economic growth rates. From each of the 32 strata formed, two units were randomly selected for further subdivision.

In the second stage, secondary sampling units (SSUs) were based on population size. Some 17,000 enumeration districts or block groups (Sweet, Bumpass & Call, 1988, p. 20) were divided into listing areas of at least 45 households each. In the third stage, one listing area was randomly selected from each SSU. In the fourth stage, 20 houses were randomly selected from each listing area.

The final sample consisted of 33,869 addresses. Of these, a random half of the selected houses formed the main sample, half the oversample. The main sample yielded 9643 (56.9%) successful interviews. Some 4443 households (26.2%) refused outright to be either screened or interviewed; the remainder were either errors (12.9%), physically unavailable during the data collection period (3.1%) or linguistically incompatible (0.9%). The 9643 successful interviews, despite sample attrition, are deemed to represent a probability sample of American households (Sweet, Bumpass & Call, 1988).

In the oversample, different criteria were applied for selection. Only minorities, single parents, step parents, newlyweds and cohabiting couples were eligible to enter the oversample. The oversampling of these selected subgroups of interest would enable researchers to study various alternative American household cultures which would not be

adequately represented in a probability sample of households.

In the oversample, then, 9,950 ineligible respondents were screened out of the 16,928 listed addresses for not meeting the criteria for selection. Of the remaining 6978 eligible candidates, 3374 (48.4%) yielded successful interviews. As in the main sample, many (21.7%) refused outright to be either screened or interviewed. The remainder of the unsuccessful candidates were either errors (25.8%), physically unavailable during the data collection period (3.6%), or linguistically incompatible (0.5%).

As stated above, the main sample, by itself, is representative of American householders. To represent American individuals, however, NSFH enumerated and selected randomly all adult residents within households. Design weights were then calculated and applied to roughly approximate the provisionary 1987 Census estimates of ethnicity in the American population (Sweet, Bumpass & Call, 1990).

The Analysis Samples

For this dissertation, all women between the ages of 35 and 55 were selected for analysis. This range was set by the researcher to maximize the probability of women being married and living with children in the household. Some

researchers of midlife women have chosen the same boundaries (Barnett & Baruch, 1983); some, different ones (Levinson, 1990). Age has been found to predict life satisfaction over the life course (George, Okun & Landerman, 1985; Redmond, 1990). However, within this restricted midlife range, age, was found in past research not to be predictive of differences in perceptions of well-being (Baruch and Barnett, 1983).

Defining the Subsamples

Family structure has been shown to affect life satisfaction. Specifically, marriage enhances perceptions of life satisfaction; parenthood diminishes them (Lee, Seccombe & Shehan, 1991; McLanahan & Adams, 1987). The process by which this occurs is little understood, however (Baruch, Biener & Barnett, 1987). In developing this research, two alternatives were considered for aiding the understanding of the effects of family formation. These two alternatives could have analyzed either the unique main effects of marriage and parenthood, or the combined interaction effects of marriage by parenthood.

According to the first method, two separate analyses would be done, first collapsing across parenthood when marriage is analyzed, then collapsing across marriage, when parenthood is analyzed. This type of analysis would create two sets of two subgroups each. In the first set, all

midlife women with husbands (whether or not they have children) are compared to all midlife women without husbands (whether or not they have children). This provides some measure of the main marriage effect. In a subsequent and independent analysis, all midlife women with children (whether or not they have husbands) are compared to all midlife women without children (whether or not they have husbands). This, then, provides some measure of the main parenthood effect.

The second method of analyzing the marriage by parenthood effects would create four mutually exclusive groups: married women with children, married women without children, single women with children, single women without children. For this study the first method was selected because the research focuses on the main effects of marriage and parenthood rather than on the possible interactions among those effects.

The NSFH Data Collection Procedures

The National Survey of Families and Households (NSFH), was conducted in 1987 and 1988 to provide current information on the structure of American families and their impact on American society. The data, released in final form in March, 1990, were the outcome of a project funded by the Center for Population Research of the National Institute

of Child Health and Human Development (U.S. Department of Health and Human Services, HD21009). The National Survey of Families and Households project was implemented by the Center for Ecology and Demography at the University of Wisconsin. The Survey Center at Temple University subcontracted the actual data collection and sent teams of trained interviewers into the field beginning March, 1987 and ending May, 1988 (Call, 1988).

Part of the NSFH data used in this study was the direct result of these face-to-face interviews. The other part was derived from self-administered questionnaires given to the interviewee during the interview period (Sweet, Bumpass, & Call, 1988). A trained interviewer spent from 40 minutes to over three hours with a randomly selected respondent and his or her family members. For the vast majority (78%) of cases, however, the respondent interviews lasted from 70 to 130 minutes (Bumpass & Sweet, & Call, 1988).

The NSFH main <u>oral</u> interview schedule consists of a possible 671 questions. The self-administered <u>written</u> questionnaire included an additional 60 items. In both cases, of course, skip patterns would result in fewer than the maximum number of questions to be answered by any single respondent.

In its entirety, NSFH included a total of five possible oral interview schedules and written questionnaires for a

single family. Data from two of those instruments, the main interview schedule and the self-administered questionnaire, were used in this study. Other available data not used in this study included the information from the spouse questionnaire, the cohabiting partner questionnaire and the "tertiary" respondent questionnaire (the householder questionnaire for the 5% of cases in which the primary respondent was an adult child of the family rather than a husband, wife or single parent householder).

Items in the NSFH survey were developed by a large team of scholars from many social science disciplines. Thus, the data are not framed within the language or theoretical development from any single discipline (Sweet, Bumpass, & Call, 1988), and are particularly well suited to the type of interdisciplinary research like the study at hand.

The Theoretical Model and Its Measurements

The theoretical model displayed in Chapter 1 is expanded in Figure 2 to illustrate the latent constructs to be tested in this research and their manifest or observed indicators. The elements in the model are further defined in Table 1, which provides a concise crosswalk between the model and the measures. A full examination of the derivation of each measure is provided in Appendix B.

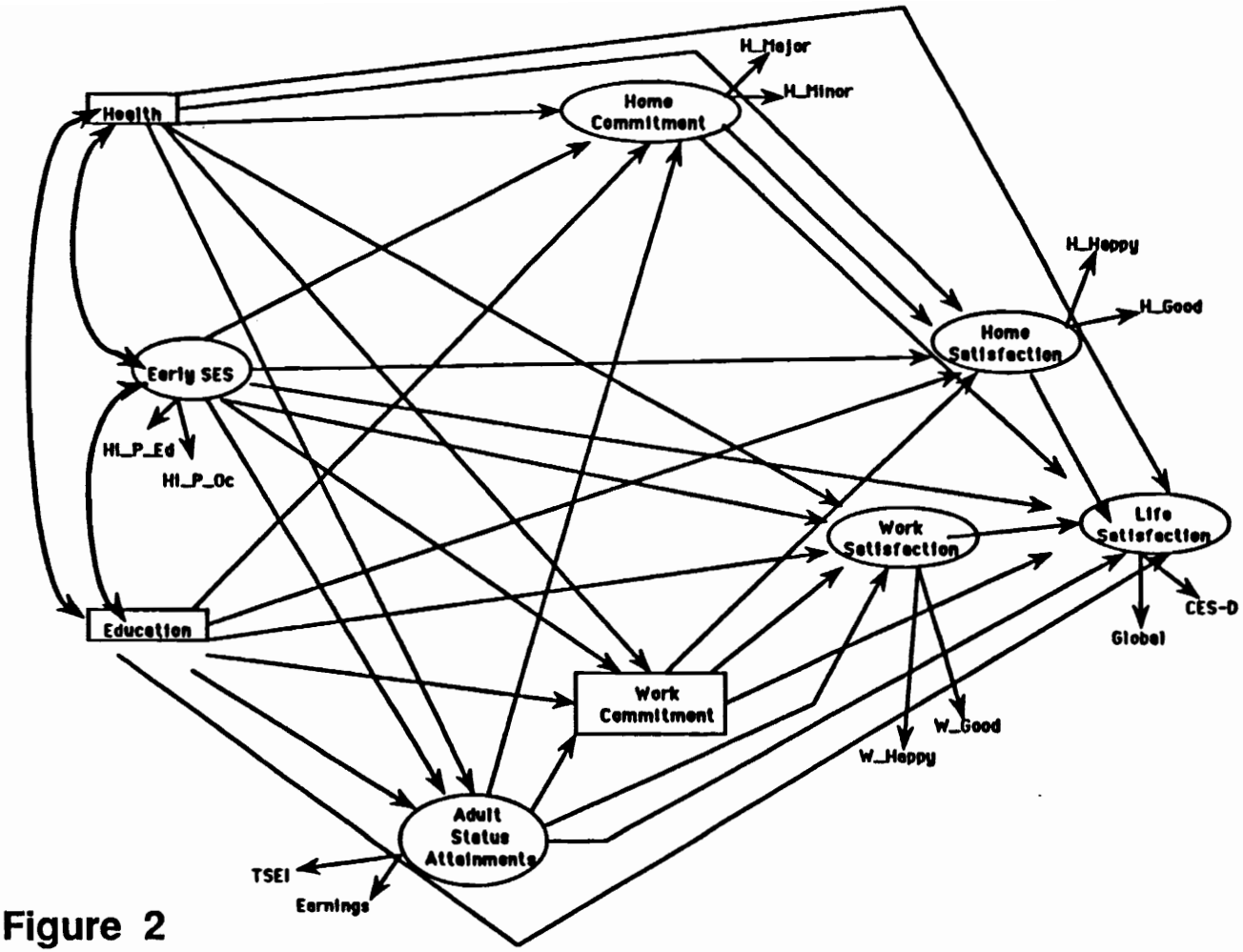

Figure 2
Theoretical model of midlife women's attainments, commitments and satisfactions, showing latent constructs and manifest indicators

Table 1
Latent Constructs, Measured Variables, and Definitions

Exogenous Constructs	Measured variables	Definitions
HEALTH	Health	As "compared with others" their age.
EARLY SES	High parent's education	Higher of either father's or mother's highest grade of school completed.
	High parent's occupation	Higher of mother's or father's occupational status.
EDUCATION	Education	A composite measure of attended and completed years of education.

* TSEI = Total Socioeconomic Index (Stevens & Cho, 1985)

Table 1 (continued)

Endogenous Constructs	Measured variables	Definitions (continued)
ADULT ATTAINMENTS	TSEI	Current TSEI if the respondent currently has paid employment, or last TSEI, if the respondent is currently not working for pay.
	Individual earnings	Total individual earnings including wage, salary, self employment, public assistance, investments.
HOME COMMITMENT	Major household routines	Summed scale of hours per week preparing meals, washing dishes, doing outdoor tasks, driving.
	Minor household routines	Summed scale of hours per week cleaning shopping, washing, ironing, paying bills, fixing the car.
WORK COMMITMENT	Work commitment	Just the number of hours in paid employment that respondent "would like" to work.

Table 1 (continued)

Endogenous Constructs (Continued)	Measured variables	Definitions (continued)
HOME SATISFACTION	Home role happy	Sums R's response to "work you do...around the house is... (1) boring to interesting plus (2) lonely to sociable.
	Home role good	Sums R's response to "work you do...around the house is... (1) unappreciated to appreciated plus (2) poorly done to well done.
WORK SATISFACTION	Work role happy	Sums R's response to "work you do...at your paid job is... (1) boring to interesting plus (2) lonely to sociable.
	Work role good	Sums R's response to "work you do...at your paid job is... (1) unappreciated to appreciated plus (2) poorly done to well done.
LIFE SATISFACTION	Global happiness	"Taking all things together, how would you say things are these days?"
	CES-D	Sum of 12 behavioral well-being measures representing the number of days that R felt bothered, slept restlessly, lacked appetite, felt unable to shake the blues or focus, felt depressed, fearful, sad, or lonely, felt everything was an effort, or just couldn't "get going."

This model illustrates the essence of this study. The model is a visual representation of the hypothesis that a midlife woman's general life satisfaction is a function of four sets of constructs: (1) home and work role satisfaction, (2) home and work time and value commitments, (3) occupational status and personal income attainments. These three sets of conditions are all affected by a fourth set of predetermined factors: (4) the on-going and previous health conditions, educational levels, and childhood socioeconomic status of respondents. The first three sets of conditions are considered endogenous to this model, the fourth set, exogenous.

Data Analysis

To accomplish the objectives set forth in Chapter 1, a subfile of relevant data on midlife women was abstracted from the National Survey of Family and Households (NSFH) data tape. All analyses were performed on this subfile using either the Statistical Package for Social Sciences (1990) or LISREL (Joreskog and Sorbom, 1989), both on the mainframe.

Three types of analyses were performed--sample profiling, causal modeling of individual samples, and cross-group analyses. Each of those analyses will be described below.

Sample profiling

Information about a sample is most readily provided by measures of location and dispersion (Lichtman, Barokas, Kaplan & Royeen, 1989). To help describe the populations of interest, means and standard deviations were calculated for all relevant measures of the sample of all midlife women and the four subsamples of interest in this study-- (1) midlife women with husbands, (2) midlife women with no husbands, (3) midlife women with children, (4) midlife women with no children. For all of these calculations, weighted samples were generated to maintain generalizability to a national population. Details on the weighting procedures were described above.

Causal modeling

A causal model is a convenient form for describing the structure or pattern of influence underlying a set of observations (Byrne, 1989). As such, it provides researchers "an active interplay between theory, modeling and estimation" (Heyduk, 1987; p. xv). Analyses which fall under the rubric of causal modeling have gone by many terms: path analysis (Kenny, 1979; Pedhauser, 1983), structural equation modeling (Pedhauser, 1982), covariance structure modeling (Long, 1983; Saris & Stronkhorst, 1984), latent variable analysis (Bentler, 1980), and linear, structural relations models (Byrne, 1989; Heyduk, 1987; Joreskog and

Sorbom, 1989). Distinctions among these terms and especially the differences between path analysis and other forms of causal modeling have been fully discussed elsewhere (Kenny, 1979; Pedhauser, 1982) and will not be further detailed here.

Several software packages facilitate mathematical estimations of a causal model. LISREL, or the analysis of LInear, Structural RELationships (Joreskog and Sorbom, 1989) is only one of those packages. Because it has become the standard, however (Anderson, 1987; Byrne, 1989; Heyduk, 1987; Long, 1983), the term LISREL has replaced many of the other terms for structural equation or covariance structure modeling in the same manner as Kleenex became synonymous with facial tissues, or Scotch became synonymous with transparent tape. The term LISREL will thus be used throughout the following discussion to refer to the type of model as well as the software package used to analyze it.

The LISREL model specifies an hypothesized causal structure among a set of latent variables or hypothetical constructs. These hypothetical or latent constructs in the model serve two functions. First, they are deemed to be the underlying causes of their observed indicators. Second, they are interpreted as unobserved links in some "causal chain" (Sorbom & Joreskog, 1981, p. 180). The links between the latent constructs and their observed indicators

are collectively termed the "measurement model;" the links from one latent construct to another, the "structural model" (Byrne, 1989; Heyduk, 1987; Wolfle, 1982). In a LISREL model, the test of the relationship between the measured or observed variables and their latent constructs (the measurement model) is performed simultaneously with the test of the restrictions placed on the relationships by the implied causal links in the model (the structural model). Some have deemed this feature the major advantage of structural equation modeling (Long, 1983; Martin, 1987).

LISREL's Estimation Procedures

In LISREL's analysis procedure, a matrix of relationships among measured variables in a model (either the covariance or the correlation matrix) is mathematically decomposed through iterative estimations of all elements in the measurement and structural models. Using the measured indicators as the initial basis for the estimated relationships, these estimations apply sets of identifying or "overidentifying restrictions" (Mulaik, 1987, p. 29) on the latent constructs as specified by the hypothesized model. The hypothetical causal model as a whole is then tested to determine whether (Long, 1983) or perhaps, better said, how well the latent constructs generate the hypothesized structure or the observed patterns among the measured variables.

The Model Building Process

Like the algorithm itself, model building in LISREL is accomplished iteratively (Brynner & Romney, 1985). The first iteration involves estimating a tentative version of the model where all error covariances are set to zero (Lomax, 1982). In the following stages, statistical and theoretical modifications to the model are made. Statistically, the model is most easily modified through examination of LISREL's modification indices. These indices actually pinpoint the specific elements for which the inclusion of error covariance terms would yield improvement in model fit (Joreskog & Sorbom, 1989). Theoretically, however, the model is modified by careful attention to change only those elements for which there is legitimate justification. Otherwise, statistical manipulations without theoretical justification are tantamount to capitalizing on chance (Byrne, 1989; Heyduk, 1987). When a model is maximally improved through acknowledgment of legitimate correlated errors, then it is trimmed of its insignificant paths (Bentler & Chou, 1987; Tuijnman, 1989). To do this, estimated path coefficients are compared to their standard errors, and read as t-values. All paths with t-values less than some criterion are deleted. Then the model is reestimated. A final model version of the model is

accepted only when all t-values exceed the criterion measure. (Bentler & Chou, 1987; Tuijnman, 1989).

Goodness of Fit Estimates

Two sets of estimates are provided by the LISREL program. The first set contains the parameter estimations for elements in the measurement and structural models. The second set of estimates contains fit statistics which measure the "goodness of fit" between the hypothesized structural model and the actually measured matrix of observed variables in the model (Tanaka, 1987). The fit of the model tests the adequacy of the model, and hence the individual hypotheses emanating from the theory specified in the model. The model is said to be "confirmed" (Biddle & Marlin, 1987) when the predicted correlations (or covariances) among constructs in the model correspond to the correlations (or covariances) among the variables which form the matrix of measures of the constructs. Multiple measures of goodness of fit enable better estimates of the viability of the model, especially where large sample sizes are concerned (Anderson, 1987; Bentler & Bonnett, 1980).

Application of a Single Model to Multiple Groups

Much research using LISREL has been restricted to the analysis of a single model (Lomax, 1985) or hierarchical versions of a model of relationships for a single sample. LISREL, however, also facilitates the study of group

differences (Joreskog & Sorbom, 1989; Keith, in press). Stacking groups in LISREL permits the joint estimation of models containing multiple interactions between the grouping variable, and the others in the model (Heyduk, 1987). The stacked group analysis in this study enabled an estimation of whether and how the conditions of family formation--marriage and parenthood--affected the nature of measurement and the process of achieving life satisfaction for midlife women.

Cross-Group Tests of Equality of Relationships. In a LISREL model, a test of the equality of covariance structures across samples establishes whether or not there is a difference in the nature of overall relationships across groups. If the test of the null hypothesis of equality of covariance structures is confirmed, the two groups are assumed to be equal in the overall interrelations of variables across the groups (Alwin & Jackson, 1981). However, if the null hypothesis of equality of covariance structures is rejected, then the source of variation between groups can be examined to attribute the differences between groups to either the measurement portion or the structural portion or both (Lomax, 1985).

First, the measurement models are tested across the groups to see whether factor patterns are equal. This hypothesis of invariant factor patterns is deemed a logical

and necessary precursor of the tests of equality of structural models across the groups. According to most researchers (Alwin & Jackson, 1981; Redmond, 1990), a test of the equality of the structural models will probably not be "meaningful" (Alwin & Jackson, 1981, p. 257) when the test for the hypothesis of invariance of factor patterns has been rejected. However, Alwin and Jackson remind researchers that decisions about the meaning of a structural model should not always be based "on statistical grounds alone ... Data from samples of large size will almost always guarantee ... rejection .... While statistical criteria provide one basis for making an interpretation of the fit of a model to the data, substantive considerations and the objectives of the research should also help in the choice of a model" (p. 260).

Summary of the Data Analysis

LISREL 7 on the mainframe provided all estimates in the analysis of the causal model of midlife women's attainments, commitments and satisfactions. The model was initially developed on the entire sample of listwise present midlife women from the National Survey of Families and Households. Then the model was applied individually to the four subsamples of women of interest in this study: (1) women with husbands, (2) women without husbands (3) women with children, (4) women with no children. After the individual

applications of the models to the samples under study, the model was then reapplied to stacked groups of women under differing family structures--marriage and parenthood--to permit the joint estimation of the models across those conditions. By so doing, the multiple interactions were accounted for between (1) marriage and all other constructs, then (2) parenthood and all other constructs (Heyduk, 1987). The stacked group analysis thus enabled further estimation of whether and how the conditions of marriage and parenthood affected the nature of the measurement and the process of achieving life satisfaction for midlife women.

Limitations of the Study

Surveying a large, national, probability sample is generally beyond the reach of a single researcher. Data from such a survey, however, are readily obtainable for secondary analysis. The problems with archival data, however, are well known (Fortune & McBee, 1984). Because the researcher has no control over the instruments used in the initial research design, the measures of complex social or psychological constructs offer only approximations of variables essential to the study at hand. This is both a trade-off and a paradox. A national study cannot be done by an individual without use of an archival national data set. With it, the design of the study needs to be amended to fit the data on hand.

For example, in this study, several of the constructs--health, education and work commitment-- were measured with single manifest indicators. If this researcher had designed the data collection instruments, at least two of those constructs, health and work commitment would have included multiple measures to be able to empirically estimate the reliability of the factors influencing the model. Additionally, somewhat more direct measures of life satisfaction might also have been added to the global happiness scale (Guerin et al., 1960/1980) plus the depression scales (Radloff, 1977) used in this study. However, these NSFH measures indicating the life satisfaction construct have a long history in the measure of the positive and negative aspects of well-being and are considered adequate measures for the satisfaction construct.

Also it would have been ideal to have some measure of intellectual ability to better predict occupational attainment. None, other than its designated proxy, education, is here given. This study is limited to the extent that these measures are restricted indicators of the constructs they measure.

An additional problem with the secondary analysis of a large data set is the unknown effect of missing data. In this study, only 56.9% of the addresses in the main sample and 48% in the oversample provided successful interviews;

the remainder of the occupants refused, were deemed ineligible, or otherwise unable to complete the interview process. First, there is some expected bias from differential characteristics of those who did and those who did not respond. Although details of the process of sample selection were discussed in this chapter, the details of the effect of sample bias remain unknown.

Moreover, in addition to missing cases, data are also differentially missing from some variables within cases. Again, the impact of item-missing data may be quite a serious limitation (Barokas, 1985). In fact, a listwise deletion of cases with missing data resulted in a sample attrition of 73%. To the extent that the remaining women differ from those women who declined to answer items essential to this research, the study is also limited.

Finally, this study, like others of its ex-post facto genre has limitations in the degree to which the model, hypothesized here, can be interpreted as a true representation of causal link between attainments, commitments and satisfactions. The data, here presented, merely imply the theoretical plausibility of the model proposed, they do not, in and of themselves, provide a demonstration of certainty of causation (Cliff, 1983).

CHAPTER FOUR:
RESULTS AND DISCUSSION

Chapter 4 reports the results of the development and test of a model of midlife women's attainments, commitments and satisfactions. This chapter is divided into the following sections:

- Descriptive profile of the sample and contrasting subsamples
- Development and validation of the model on the sample and subsamples
- Cross-group analyses of the effects of marriage and children

Descriptive profiles provide a brief introduction to the populations and measures under study in this research. These introductory descriptions are followed by individual estimations of the model of attainments, commitments and satisfactions, then cross-group estimations.

Profiles of the Samples

Data for this study were drawn from the National Survey of Families and Households (NSFH). As described in Chapter 3, the NSFH data used in this study consist of two merged samples--a main probability sample of 9,643 American householders, plus a supplementary oversample of 3,374 minorities, single parents, step-parents, newlyweds and cohabiting couples. To represent American <u>individuals</u>, rather than householders, weights were applied to analyses,

based on the overall sample design, probability of selection of individuals from different sized households, differential response rates, and finally, the alignment of resultant distributions by age and ethnicity to more closely approximate those estimates in the American population (Sweet, Bumpass & Call, 1990). In the present study, numbers are reported in their natural (unweighted) state. Means and percentages, however, are all calculated using the weights provided by NSFH for generalization to the population of American individuals.

Demographic Characteristics of the Sample

The National Survey of Families and Households included responses from 2612 women between the ages of 35 and 55. Of these women, 1873 were in the NSFH main sample; 739 in the oversample. All 2612 women from the combined samples were selected for analysis in this study of midlife women's attainments, commitments and satisfactions.

Table 2 presents the demographic characteristics of the NSFH sample of midlife women in terms of their marital, parental, racial/ethnic, and regional compositions. Clearly, the overwhelming majority of midlife women in this sample are married and have children. Well over half (58.7%) of all midlife women between 35 and 55 have children under 18 residing in the household. It is this latter definition of children that will be used in further analyses

Table 2
Demographic Characteristics of the NSFH Sample

Racial/ethnic		Regional	
White	81.2	South	33.4
Black	10.7	Northcentral	24.9
Hispanic	6.7	Northeast	22.4
Asian	1.1	West	19.3
Native Amer.	0.1		
Other	0.1		

Marital		Parental	
Married, spouse present	72.2%	All children	90.6%
Single	25.5%	< 18	58.7%
Cohabiting	2.3%	No children	9.7%
Married, spouse absent	0.3%		

of this study. Actual comparisons of the NSFH sample of midlife women to 1988 Census estimates of the American population, as a whole, appear in Appendix D.

Social and Psychological Characteristics

Table 3 presents initial examinations of the relevant social and psychological characteristics of the abstracted NSFH sample and the subsamples of interest. First, the characteristics of the entire sample of midlife women are listed. Scales of the individual measures are given along with weighted means and standard deviations, and naturally occurring numbers of women who responded to each item. Then, this total sample of midlife women is partitioned into two contrasting subsamples of interest: women with husbands versus women with no husbands; women with children versus women with no children. For these latter two contrasting groups, means and standard deviations of individual measures are again presented. The probability of significance of the difference between the means of the subsamples is also listed. The reader should note, however, that probabilities of significance are listed in Table 3 with the understanding that the estimate of significant difference would be true only if each case were independent of all others. The following section highlights only some of the significant differences among women with and without husbands, and with and without children.

Table 3
Socio-Psychological Characteristics of Midlife Women Described in Terms of Sample and Subsample Differences for Measured Variables Loading on Latent Constructs

			Whole Sample		
Latent construct	Manifest variable	Scale	Mean	SD	N
HEALTH	Health	1-5	4.30	1.37	2521
EARLY SES	Hi_P_Ed	0-17	11.09	3.62	2233
	Hi_P_Oc	13-92	34.22	17.85	2341
EDUCATION	Education	1-25	12.83	2.90	2508
ADULT STATUS	TSEI	13-92	38.94	18.73	1763
	Earnings (in 1000s)	0-120	13.38	14.38	2274
HOME COMMITMENT	H_Major	0-100	18.32	11.41	1803
	H_Minor	0-125	15.99	9.85	1745
WORK COMMITMENT	Work Commitment	0-80	24.49	14.09	2401
HOME SATISFACTION	H_Happy	0-14	8.38	2.77	2341
	H_Good	0-14	10.19	2.66	2350
WORK SATISFACTION	W_Happy	0-14	11.49	2.40	1601
	W_Good	0-14	11.87	2.01	1604
LIFE SATISFACTION	Global	1-7	5.39	1.42	2203
	CES-D	0-96	81.99	16.39	2387

Note. Means and standard deviations (SD) are weighted; numbers (N) are unweighted.

Table 3 (continued)

Latent construct	Manifest variable	With husbands Mean	SD	N	Without husbands Mean	SD	N	Prob.*
HEALTH	Health	4.32	1.29	1448	4.23	1.56	1073	.152
EARLY SES	Hi_P_Ed	11.20	3.53	1315	10.74	3.86	918	.011
	Hi_P_OCc	34.56	17.65	1371	33.19	18.39	970	.125
EDUCATION	Education	12.93	2.87	1441	12.53	2.99	1067	.004
ADULT STATUS	TSEI	39.11	18.63	973	38.51	18.98	790	.568
	Earnings (in 1000s)	12.17	13.72	1311	16.80	15.61	963	.000
HOME COMMITMENT	H_Major	19.50	11.26	982	15.32	11.24	821	.000
	H_Minor	16.78	9.76	895	14.22	9.82	850	.000
WORK COMMITMENT	Work Commitment	22.71	13.83	1386	29.59	13.61	1015	.000
HOME SATISFACTION	H_Happy	8.40	2.67	1360	8.35	3.04	981	.730
	H_Good	10.08	2.63	1369	10.51	2.72	981	.001
WORK SATISFACTION	W_Happy	11.54	2.35	880	11.36	2.53	721	.199
	W_Good	11.87	1.98	883	11.88	2.11	721	.991
LIFE SATISFACTION	Global	5.55	1.32	1275	4.92	1.58	928	.000
	CES-D	83.20	15.26	1376	78.48	18.89	1011	.000

* Probability that mean differences between the groups are due to chance variation.

Table 3 (continued)

Latent construct	Manifest variable	With children Mean	With children SD	With children N	Without children Mean	Without children SD	Without children N	Prob.*
HEALTH	Health	4.36	1.37	1642	4.22	1.37	879	.016
EARLY SES	Hi_P_Ed	11.30	3.64	1457	10.78	3.56	776	.002
	Hi_P_Oc	34.55	17.88	1514	33.74	17.80	827	.302
EDUCATION	Education	12.88	2.96	1632	12.76	2.82	876	.314
ADULT STATUS	TSEI	38.22	18.60	1120	39.89	18.86	643	.079
	Earnings (in 1000s)	11.81	12.81	1500	15.71	116.16	774	.000
HOME COMMITMENT	H_Major	20.72	11.86	1134	15.15	9.94	669	.000
	H_Minor	17.87	10.48	1089	13.65	8.44	656	.000
WORK COMMITMENT	Work Commitment	23.56	13.97	1560	25.80	14.16	841	.000
HOME SATISFACTION	H_Happy	8.28	2.71	1528	8.53	2.85	813	.049
	H_Good	9.91	2.60	1537	10.60	2.70	813	.000
WORK SATISFACTION	W_Happy	11.42	2.41	1033	11.59	2.39	568	.188
	W_Good	11.80	1.93	1035	11.98	2.11	569	.089
LIFE SATISFACTION	Global	5.37	1.38	1434	5.41	1.48	769	.594
	CES-D	81.52	16.52	1561	82.67	16.19	826	.112

* Probability that mean differences between the groups are due to chance variation.

Contrasts of women with and without husbands

Table 3 shows that midlife women without husbands have parents who have completed about one-half years more education than women with husbands. Yet women with no husbands, themselves, have completed almost one half year less schooling. Despite lower educational attainment, women with no husbands earn 38% more than women with husbands.

As expected, women with no husbands show less home commitment but more work commitment than women with husbands. Interestingly enough, however, women with no husbands derive greater satisfaction from that aspect of their role at home which focuses on their valuing of the work they do (Home Role Good). Finally women with no husbands report significantly less global happiness and well being (CES-D) days than women with husbands.

Contrasts of women with and without children

Contrasts between women with and without children are more striking than those between women with and without husbands. Women with no children report feeling significantly less healthy than women with children. They report less parental education, although no difference in personal education or occupational attainments. They do, however, report significantly higher individual earnings.

As expected, women with no children report significantly less home commitment and more work commitment

that those with children. Interestingly enough, however, women with no children report feeling greater satisfaction from both measured aspects of satisfaction with their role at home.

The Model as Test of Theory

Theory is not developed from the estimation of a single model. Rather, theory is grounded in past research and tested on multiple models, ideally across multiple samples. In this dissertation, the model of attainments, commitments and satisfactions was developed on a sample of midlife women and tested on several subsamples of that sample: (1) midlife women with husbands, (2) midlife women with no husbands, (3) midlife women with children and (4) midlife women with no children. The multiple tests served two purposes. First, they enabled increased validation of the model by testing it across multiple samples of women. Second, the multiple applications also enabled testing for differences by family structure.

Development and Validation of the Model

Zero-order correlations

The matrices of correlations among the 15 variables in the model of attainments, commitments, and satisfactions appear in Appendix E. The interested reader can note that

there are many significant zero-order correlations among variables. While the magnitudes of these relationships are interesting in and of themselves, the decomposition of these relationships into their significant components of influence is of even greater interest. Product-moment correlation coefficients only give a first indication of how fluctuations in one variable may affect fluctuations in another; they give no estimation of the common relationships with third variables. Partial correlations (Kenny, 1979) or path coefficients (Loehlin, 1987) are necessary to estimate these conditioned associations among variables, holding constant the influences of other variables. Such path coefficients are estimated by LISREL in this study. Each of the correlation matrices served as input to LISREL 7 (Joreskog & Sorbom, 1989), the analysis procedure which facilitated estimation of the model.

The Estimation Process

Early Difficulties

In one form or another, the developmental phases of the model presented various difficulties in estimation, common to LISREL modeling. These problems included non-positive definite matrices, negative variances, unidentified parameters and error messages indicating the program's inability to provide even untenable estimates or otherwise

converge on any legitimate solution (Bentler & Chou, 1987; Byrne, 1989; Heyduk, 1987; Rindskopf, 1984).

Hierarchical Model Development

As described in Chapter 3, the successfully estimated models are the result of an iterative, multistage model development process. The interested reader can refer to Appendix F for details of the results of this model development process.

Development of the Measurement and Structural Components

LISREL's analytic procedures were outlined cursorily in Chapter 3 and fully elsewhere (Byrne, 1989; Heyduk, 1987; Joreskog & Sorbom, 1989; Wolfle, 1982). Briefly, the LISREL model specifies an hypothesized causal structure among a set of latent variables or hypothetical constructs. These hypothetical or latent constructs in the model serve two functions. First, they are deemed to be the underlying causes of their observed indicators. Second, they are interpreted as unobserved links in some "causal chain" (Sorbom & Joreskog, 1981. p. 180). The links between the latent constructs and their observed indicators are collectively termed the "measurement model." The links from one latent construct to another are termed the "structural model" (Byrne, 1989; Heyduk, 1987; Wolfle, 1982).

The theoretical model presented in Figure 1 was translated into an analytic process by manipulating a series

of matrices that define each element in the measurement and structural portions of LISREL's analysis models. These matrices that form the framework of the LISREL analysis will be referred to, by name, in the sections that follow. Because of those by-name references, the following two sections include descriptions of the individual LISREL matrices. Some of these matrices carry standard abbreviations which are used in the tables that follow in this chapter and in the Appendixes. Where appropriate, these two-letter abbreviations are be listed in the matrix descriptions. The discussions of the matrices follow similar presentations in Byrne (1989), Heyduk (1987) and Wolfle (1982).

The measurement model. The measurement portion of a LISREL model comprises six matrices which link the hypothesized latent constructs (KSIs and ETAs) to their measured, or observed, indicators (Xs and Ys). The measurement model consists of the following:

o Exogenous links:

KSI is a vector of exogenous latent constructs

LAMBDA X (LX) is the factor loading matrix that relates each of the latent exogenous constructs, or KSIs, to each of the measured variables (Xs) which informs it.

THETA DELTA (TD) is a variance-covariance matrix among the errors of measurement from the exogenous variables (Xs) specified in LAMBDA X.

o Endogenous links:

ETA is a vector of endogenous latent constructs

LAMBDA Y (LY) is the factor loading matrix that relates each of the latent endogenous constructs, or ETAs, to each of the measured variables (Ys) which informs it.

THETA EPSILON (TE) is a variance-covariance matrix among the errors of measurement of the endogenous variables (Ys) specified in LAMBDA Y.

The measurement model comprises the estimates of the most likely solution for each parameter in the six matrices, described above. Figure 2 presented the hypothesized latent constructs, the measured variables, and the structural relationships for the LISREL model of attainments, commitments and satisfactions. That figure was further defined by Table 1 which listed the elements of the measurement model. Appendix G lists the LISREL estimates of the measurement model for the sample and subsamples in this study.

The structural model. The structural model is estimated by calculating the most likely solution for each parameter in the model, given the presence of all other parameters in the model and their specified paths of influence. The structural portion of a LISREL model comprises a set of five matrices that reflect the hypothesized system of causal influences:

GAMMA (GA) is matrix of regression coefficients that defines the paths, or causal relationships, between the exogenous factors (KSIs) and the endogenous factors (ETAs)

BETA (BE) is similarly the matrix of regression coefficients that defines the paths, or causal relationships among the endogenous factors (ETAs)

PHI (PH) is the variance-covariance matrix of relationships among the exogenous factors (KSIs)

ZETA is a vector of errors of prediction of the hypothesized causal model

PSI (PS) is the variance-covariance matrix of among the ZETAs, the residual errors of prediction in the structural model of endogenous relationships.

The Estimated Models

Parameter Estimations

Diagrams of the estimated models, displayed in the following sections, begin to show the essential results of this study. These figures show significant paths (in bold) and their standardized coefficients. Direct, indirect and total effects of constructs in their chains of influence can be inferred from these models. The direct effects (DE) are measures of influence of an independent, or predetermined, construct on a dependent, or otherwise determined construct, with no transmission through other intervening constructs. Indirect effects (IE) are those parts of the effects of predetermined constructs on determined constructs that specifically intervene through other constructs. Indirect effects are equal to the products of their direct effects. The total effects (TE) of a construct are equal to the sum

of its direct and indirect effects (Keith, 1988). Because the parameters are marked in their standardized forms, constructs within a model can be legitimately compared to determine relative influence in the system of effects (Kim & Mueller, 1976).

Summary Measures of Goodness of Fit

In addition to the estimation of structural parameters, the diagrams of the individual models (in the sections that follow) show multiple measures of goodness of fit. Each of these fit indices provides somewhat different information about the fit of the model to the data. Multiple indices of fit enable a fuller and more accurate description of an hypothesized model against some baseline of comparison. The section below explains the goodness of fit measures used to describe the fit of the model of attainments, commitments and satisfactions estimated individually and jointly for the multiple samples of data in this study.

The likelihood-ratio chi-square statistic, reported by LISREL, tests the difference between the unconstrained matrix of relationships (the input correlation or covariance matrix) and the matrix constrained by the hypothesized causal implications of the model (LISREL's maximum likelihood covariance matrix). Because the goal is to establish that the proposed model provides "a plausible representation of the data ... a nonsignificant chi-square

is desired" (Bentler & Bonnet, 1980, p. 591). In and of itself, however, chi-square "is not valid in most applications" (Joreskog & Sorbom, 1989, p. 43). For one, chi-square is highly dependent on sample size. With small samples, even a poorly fitting model may fail to be rejected. By contrast, with large samples, truly trivial deviations in tests of similarities of distributions would be statistically significant (Bentler & Bonnet, 1980; Loehlin, 1987; Marsh, Balla & McDonald, 1988).

Like chi-square, the Goodness of Fit (GFI), the Adjusted Goodness of Fit Index (AGFI) and the root mean square residual (RMSR) are reported by LISREL (Joreskog & Sorbom, 1989). GFI or AGFI measures the relative amount of variance and covariance jointly accounted for by the model. Values close to one are associated with a good fit to the model (Byrne, 1989; Marsh, Balla & McDonald, 1988).

The root mean square residual (RMSR) indicates the average of the fitted residuals (Joreskog and Sorbom, 1989). RMSR is most often reported when models are estimated with standardized variables, as in the figures that follow. Low RMSR indicates good fit. A quantity less than 0.05 has been suggested as a benchmark indicator of good model fit (Byrne, 1989).

Bentler and Bonnet's (1980) incremental or normed fit index (Loehlin, 1987) or simply, BBI (Keith, in press;

Marsh, Balla & McDonald, 1988) is another common index, not reported by the LISREL program, but often included with model fit statistics. Based on a concept of comparing an estimated model to one with an hypothesized independence of all measurements (Tucker and Lewis, 1973), BBI is often used to measure the fit of a model estimated for large sample. Values of BBI range from 0 to 1, with values approaching one indicating a good model fit.

The Model for All Midlife Women

Parameter Estimations

The diagram in Figure 3 depicts the model of attainments, commitments and satisfactions estimated for a sample of 689, listwise present, midlife women. As can be seen, satisfaction with one's role at home provides the strongest influence on life satisfaction for this cohort of women (B = .42). Adult status attainments rank second in direct influence on life satisfaction (B = .31) and begin a series of interesting chains of effects on other constructs of interest, all aborted before significantly affecting life satisfaction. Health is the third major direct influence on life satisfaction for this cohort of women. Its total effects, however, are both direct (B = .25) and indirect through home satisfaction (B = .08).

Education begins an interesting chain in the model of attainments, commitments and satisfactions. Its total

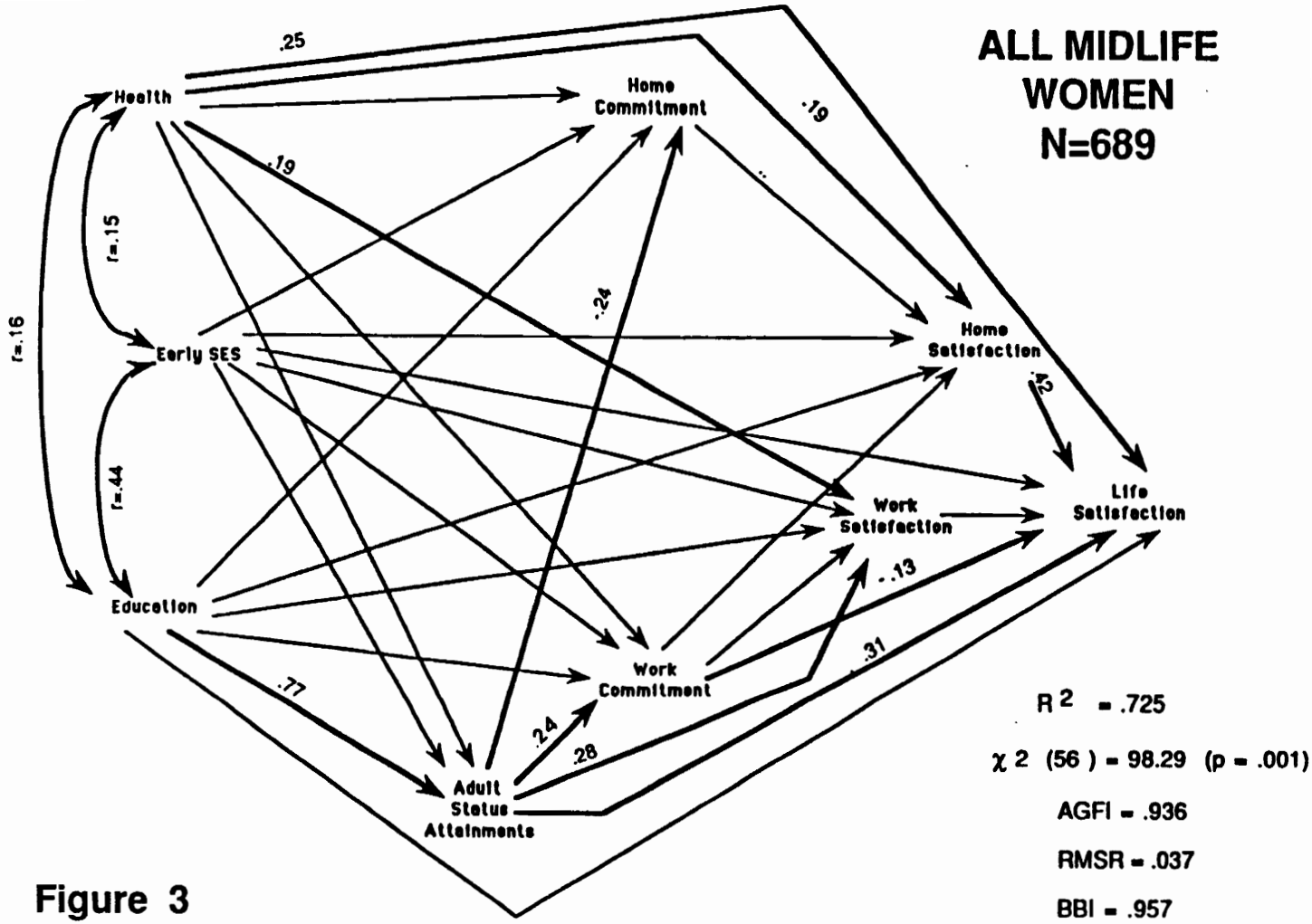

Figure 3
Block recursive model of attainments, commitments and satisfactions showimg significant parameters in standardized form

effect on life satisfaction is not significant, but it strongly affects intervening constructs in the model. Its effect on adult status is strong (B = .77), and through status it significantly affects work commitment (B = .18) and work satisfaction (B = .22). Because education's total effect on life satisfaction is the sum of almost equally strong positive and negative effects, however, its total effect is nearly zero (B = .04)

In sum, this model shows that life satisfaction for this cohort is mostly influenced by home satisfaction (Total Effect, or TE = .42), then, in descending order, adult status attainments (TE = .31), health (TE = .30) and work commitment (TE = -.13).

Fit Statistics

Examination of the statistical evidence suggests an adequate, but not a good fit of the model to these data from the entire sample of midlife women. The model, as a whole, accounts for 73% of the variance in the structural equations, considered jointly (Joreskog & Sorbom, 1989). AGFI (.936), BBI (.957), and RMSR (.037) all suggest an adequate fit. Yet, chi-square reveals a significant difference between the estimated output matrix and the actually measured input matrices of relationships (p = .001).

The Model for Subsample 1: All Midlife Women with Husbands

Parameter Estimations

The diagram in Figure 4 depicts the model of estimated for a sample of 359, listwise present, midlife women with husbands. With this subsample, satisfaction with one's role at home again provides the strongest influence on life satisfaction (*B* = .52). But unlike the previous estimation of the model (where individual status attainments were the second most influential factor), health is the second most direct influence on life satisfaction in this model. As before, its effects are both direct (*B* = .25) and indirect through home satisfaction (*B* = .08).

Work commitment is the third most influential predictor of life satisfaction, showing again, a negative influence on life satisfaction (*B* = -.19). Education's paths of influence are slightly different from that in the previous model estimation, but its effects on life satisfaction are equally insignificant. As in past research, education firmly predicts adult status attainment (*B* = .83). And through adult status it indirectly predicts work commitment (*B* =.60). At the same time that education has an indirect positive effect on work commitment, it also has a similarly strong negative direct effect (*B* = -.64). Thus education's total effect on work commitment (*B* = .04) and, through work commitment, on life satisfaction is almost nil.

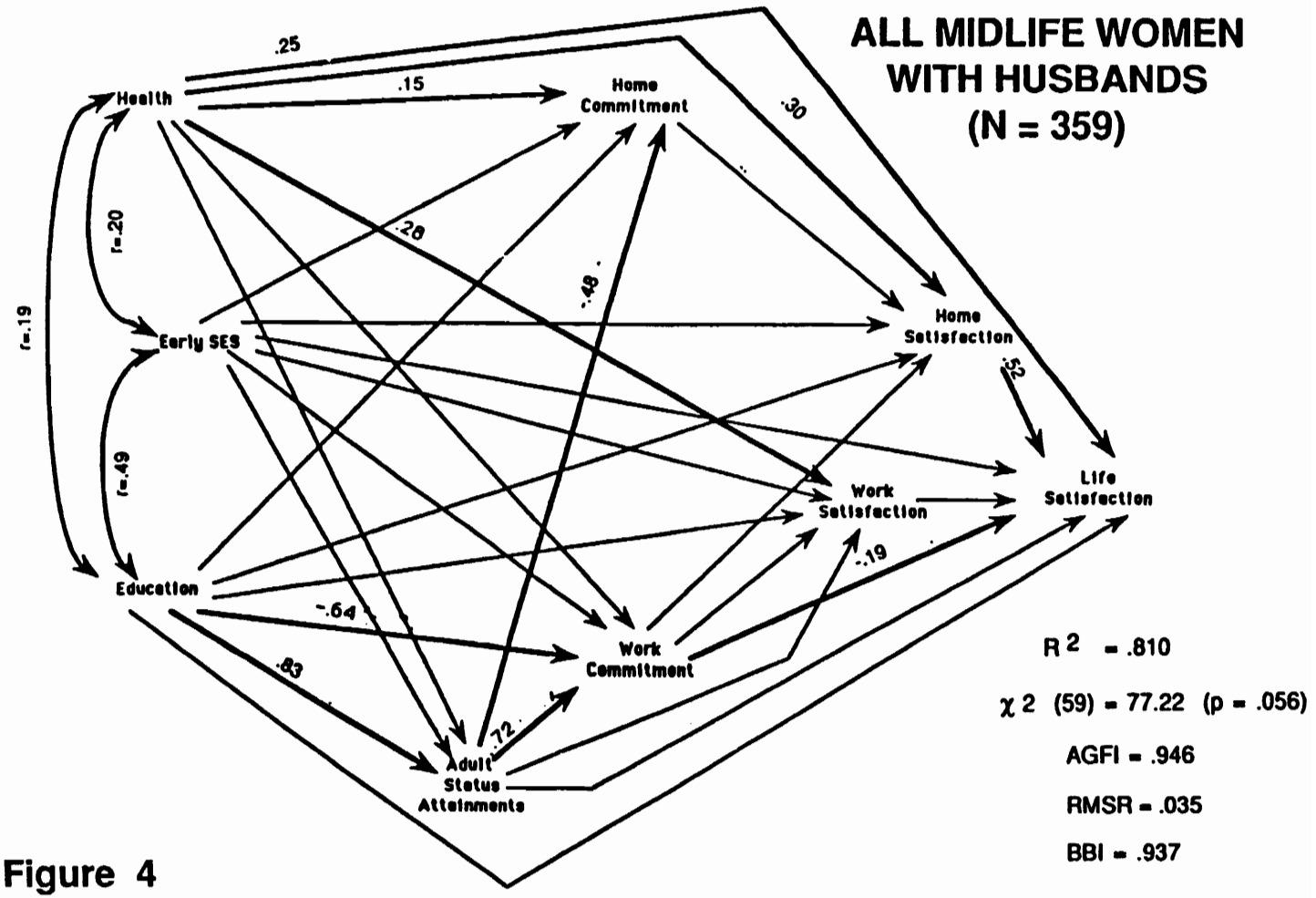

Figure 4
Block Recursive Model of Attainments, Commitments and Satisfactions Showing Significant Parameters in Standardized Form

The effects of adult status attainments are also different from that in the model estimated for all midlife women. In this model adult status attainments have no direct effect on life satisfaction.

In sum, life satisfaction for this subsample of midlife women with husbands is mostly influenced by home satisfaction (TE = .52), health (TE = .33), and work commitment (TE = -.19).

Fit Statistics

An examination of the fit statistics for this model reveals a very good fit. The model accounted for 81% of the variance in the jointly estimated latent constructs in the model. The insignificant chi-square (p = .056) suggests only chance differences in the distributions of the actually measured relationships among the variables and the hypothesized relationships, constrained by the model. AGFI (.946), BBI (.937), and RMSR (.035) all suggest a very good fit for the model of midlife women with husbands.

The Model for Subsample 2: All Midlife Women with No Husbands

Parameter estimations

The diagram in Figure 5 depicts the model estimated for a listwise present sample of 330 midlife women with no husbands. As in the previous two models, satisfaction with one's role at home provides the strongest direct influence on life satisfaction (B = .30), but only the second

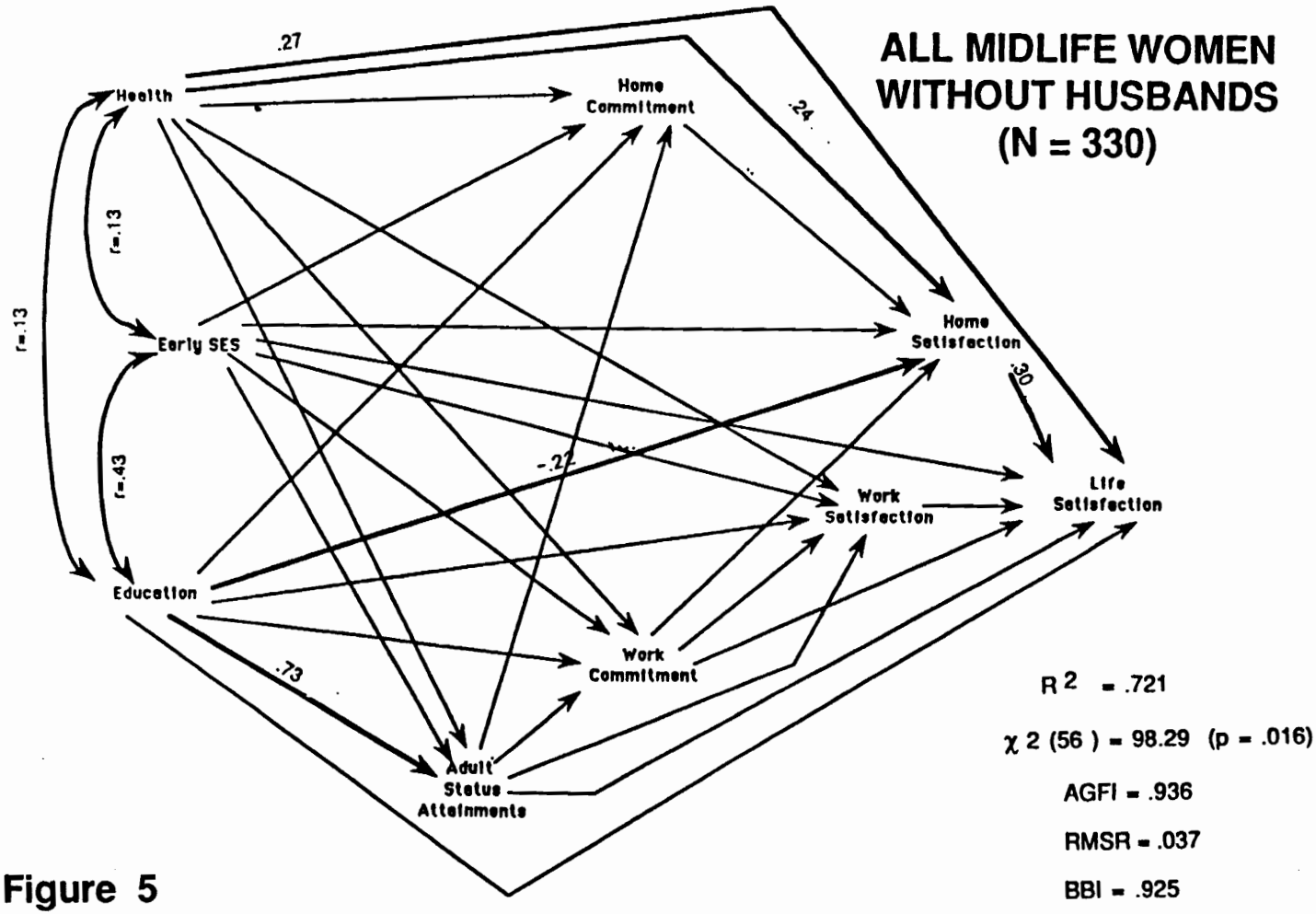

Figure 5
Block Recursive Model of Attainments, Commitments and Satisfactions Showing Significant Parameters in Standardized Form

strongest total effect. Health is the second most important direct influence, but its combined direct (B = .27) and indirect effects through home satisfaction (B = .07) exceed that of home satisfaction.

Education again has an insignificant influence on life satisfaction. It strongly affects adult status, but adult status, surprisingly enough, has no significant effect on life satisfaction for this subsample.

Fit statistics

Fit statistics for this model reveal only a marginally good fit. In this case, the model accounted for 72% of the variance in the jointly estimated endogenous constructs. As for the entire sample of midlife women, chi-square is significant (p = .016), indicating a difference between the distributions of the actually measured relationships among the variables and the hypothesized relationships constrained by the model. At the same time, AGFI (.936), BBI (.925), and RMSR (.037) all suggest an adequate fit.

The model for subsample 3: All midlife women with children

Parameter estimations

The diagram in Figure 6 depicts the model estimated for a listwise present sample of 422 midlife women with children. This model reveals that satisfaction with one's role at home and health provide the two strongest influences

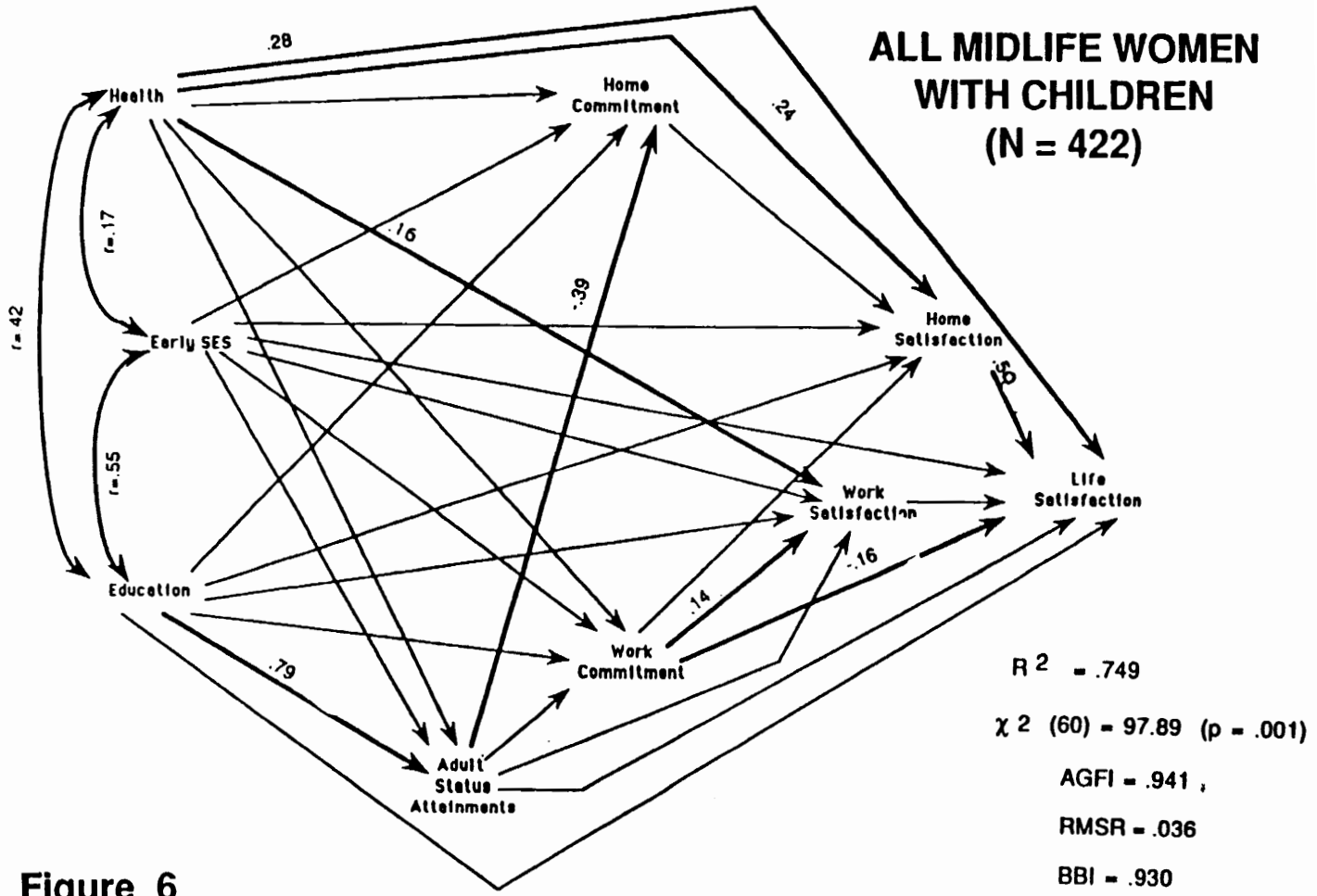

Figure 6
Block Recursive Model of Attainments, Commitments and Satisfactions Showing Significant Parameters in Standardized Form

on life satisfaction for this sample. Home satisfaction alone provides the most influential direct influence (B = .50), but its total effect is equal to that of health which affects life satisfaction both directly (B = .28) and indirectly through home satisfaction (B = .12).

Education in this model, as in models cited above and in decades of past research (Blau & Duncan, 1967; Falk & Cosby, 1975, Ethington, 1991), strongly predicts adult attainment (B = .79). But individual adult attainments in this model are not a significant predictor of life satisfaction.

Work commitment provides the third strongest influence on life satisfaction (B = -.16) for this sample. As before, the more hours per week a women chooses to work, the lower her self-reported life satisfaction.

Fit statistics

Fit statistics for this model again suggest only a marginally good fit. The model accounted for 75% of the variance in the jointly estimated constructs. Chi-square indicates a significant (p = .001) discrepancy between the matrices of actually measured variables in the model and the variables constrained by the hypotheses of causal inference. But AGFI (.941), BBI (.930), and RMSR (.036) all suggest an adequate fit.

The model for subsample 4: All midlife women with no children

Parameter estimations

The diagram in Figure 7 depicts the model estimated for a sample of 267 listwise present midlife women with no children. For this model, health provides the strongest total influence on life satisfaction. Its effects on life satisfaction are both direct (B = .24) and indirect through home satisfaction (B = .10). As before, however, satisfaction with one's role at home still provides the strongest direct influence on life satisfaction (B = .30) for this subsample.

Education again begins aborted chains of effects. In this model, education has a large negative effect on home commitment (B = -.32) and thus, a small negative effect on life satisfaction <u>through</u> home commitment and home satisfaction (B = .03).

Home commitment is, interestingly enough, a <u>significant</u> predictor of home satisfaction for this sample of midlife women with no children (B = .29). As such, it also indirectly affects life satisfaction through home satisfaction (B = .09).

As with past estimations of the model, work commitment shows a negative influence on life satisfaction (B = -.12). Even for women with no children, the greater the number of

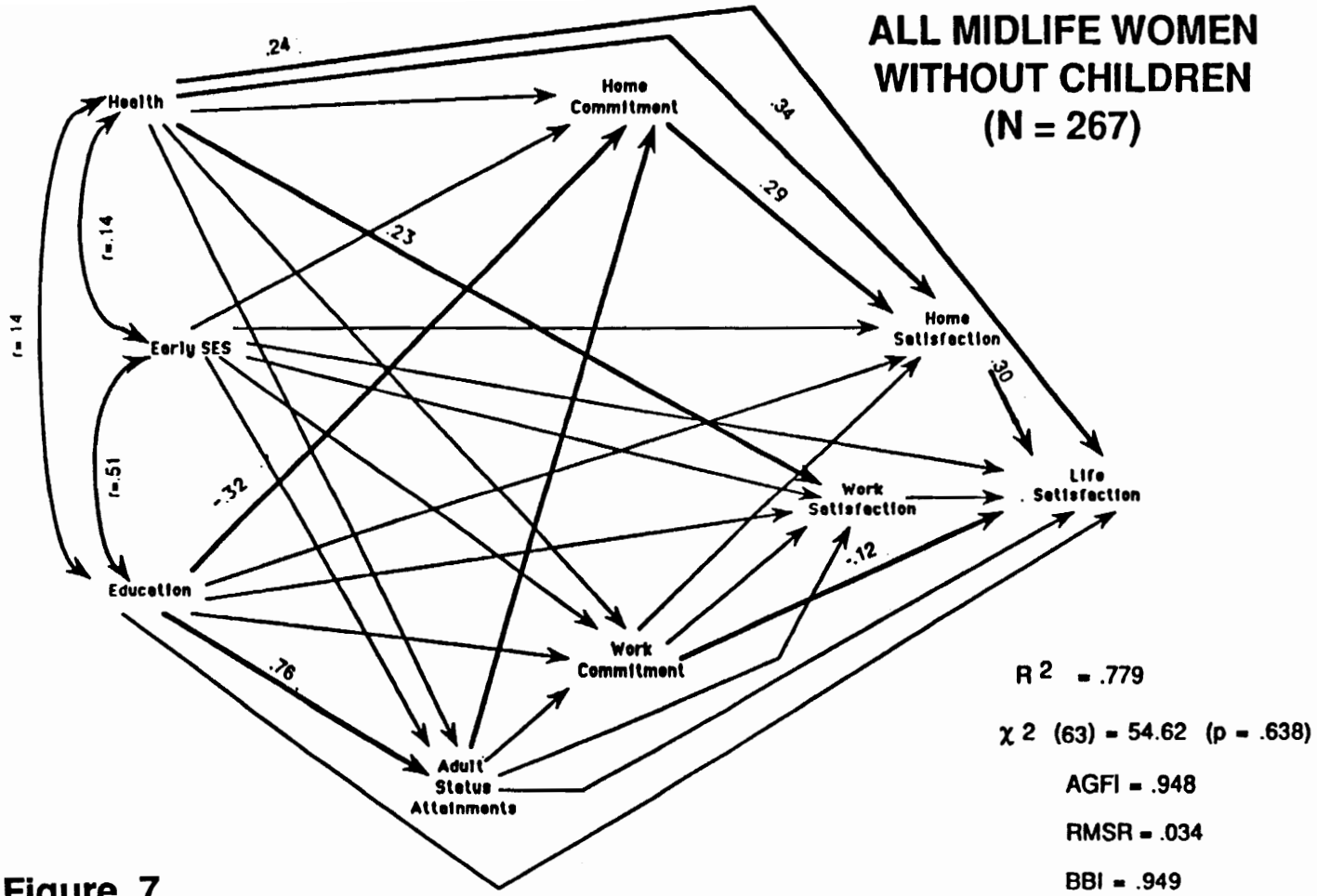

Figure 7
Block Recursive Model of Attainments, Commitments and Satisfactions Showing Significant Parameters in Standardized Form

hours a woman would choose to work, the less she would report herself as well and happy.

Fit statistics

An examination of the fit statistics for the model again reveals a very good fit. The model accounted for 78% of the variance in jointly estimated, latent, endogenous constructs. The insignificant chi-square ($p = .638$) suggests only chance differences in the distributions of the actually measured relationships among the variables and the hypothesized relationships constrained by the model. AGFI (.948), BBI (.949), and RMSR (.034) all suggest a very good fit of the model to the data.

Summary of Individual Models

A brief examination across the individual models revels that health and satisfaction with one's role at home are the two factors which best predict life satisfaction for midlife women. Work commitment, for most subsamples, is the third most significant factor, but its effects are negative.

The previous section presented the model of attainments, commitments and satisfaction, individually estimated for a cohort of midlife women and four subsamples of that cohort. The next section will visually present the results of the cross-group analyses of the individually estimated subsamples of contrast to begin to attribute sources of cross-group differences. One of the primary

purposes of this research was to analyze the hypothesized model across subgroups of women defined by family characteristics. Specifically the independent effects of marriage and parenthood on the model were to be estimated by a series of comparisons. The next section describes the first set of those comparisons, the visual presentation of the individually estimated models of (1) women with, compared to women without, husbands; then (2) women with, compared to women without, children.

Cross-Group Analyses: Visual Comparisons

The first set of cross-group analyses involved visual comparisons of the model of attainments, commitments and satisfactions applied individually to contrasting subgroups. Because only significant parameters were drawn in bold, differences in the model estimation for contrasting groups could be readily grasped, visually.

The marriage effect

Figure 8 shows the model of attainments, commitments and satisfactions, individually estimated for women with and without husbands. Even a cursory glance reveals several interesting comparisons. There are four readily apparent similarities across these contrasting models--the direct path from home satisfaction to life satisfaction, the direct path from health to life satisfaction, and the indirect path

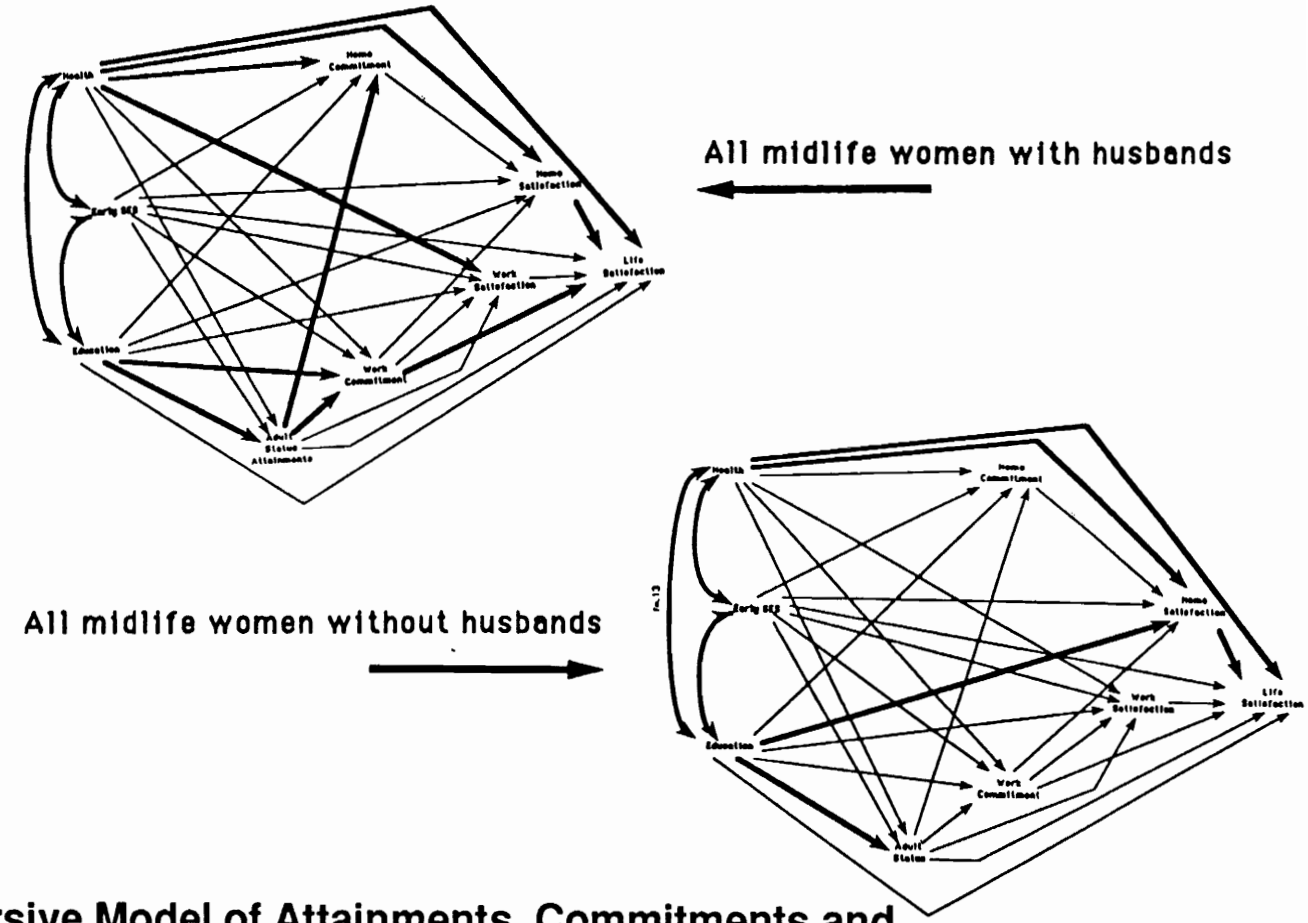

Figure 8
Block Recursive Model of Attainments, Commitments and Satisfactions Showing Significant Parameters in Standardized Form: Midlife Women With and Without Husbands

from health through home satisfaction to life satisfaction. The influence of education on adult status is also visible in both models.

The differences between the models are also readily discernible. In the model estimated for all midlife women with husbands, the paths from health to home commitment and to work satisfaction show significant relationships, as do the paths from education to work commitment and from work commitment to life satisfaction. In the model estimated for all midlife women without husbands, the path from education to home satisfaction is uniquely significant.

The parenthood effect

A similar glance at Figure 9 also reveals interesting comparisons and contrasts. This portrayal of the models estimated for women with and without children again shows similarities in the effects of home satisfaction and health. Additionally in these models, the paths from health satisfaction to work satisfaction show significance, as does the path from adult status attainments to home commitment. Again, as for the previous models, the influence of education on adult status is visible. In this set, however, the path from work commitment to life satisfaction is also significant across models.

As before, the differences between the models are also readily discernible in this format. In the model

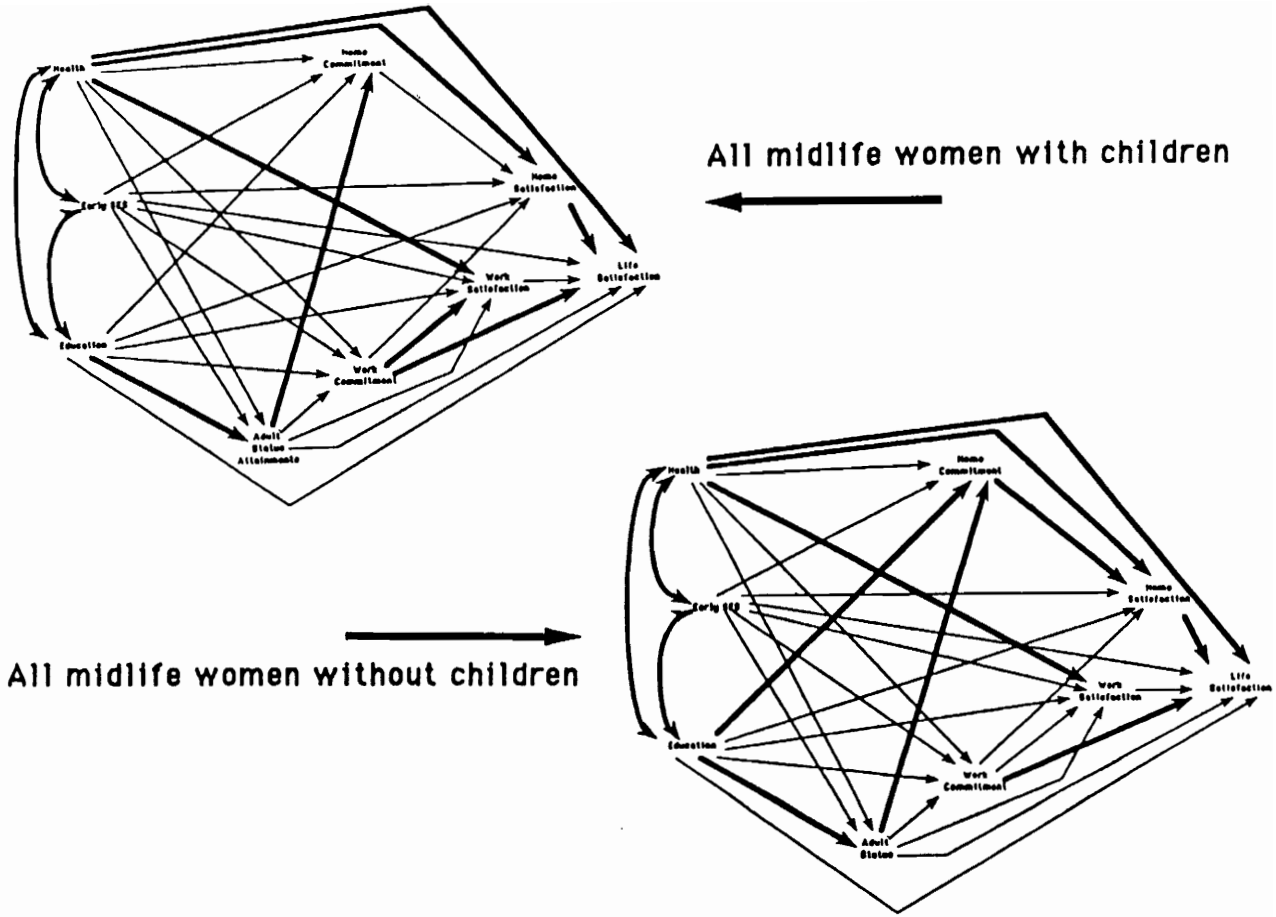

Figure 9
Block Recursive Model of Attainments, Commitments and Satisfactions Showing Significant Parameters in Standardized Form: Midlife Women With and Without Children

estimated for all midlife women with children, the path from work commitment and to work satisfaction shows a uniquely significant influence. In the model estimated for all midlife women without children, the path from education to home commitment is uniquely significant.

While the visual displays of cross-sample, individually estimated models are immediately graspable and informative, the statistical analyses of difference in jointly estimated models are more reliable estimates of true sample differences among relationships in the model. The next section describes the results of the statistical analysis of the models applied to the two sets of contrasting subgroups of midlife women: (1) women with and without husbands; and (2) women with and without children.

Cross-Group Analyses: The Statistical Comparisons

The use of multi-sample, or stacked-models in LISREL to estimate cross-group differences involves the simultaneous estimation of model parameters, whether individually or in sets, across mutually exclusive subgroups of interest (Lomax, 1985; Joreskog & Sorbom, 1989). Separate statistical analyses were performed in this study to test for the independent effects of marriage and parenthood on the model of attainments, commitments and satisfactions. In the first analysis, the effects of marriage were tested by

comparing midlife women with husbands to midlife women without husbands. In the second, and independent, analysis, the effect of parenthood was tested by comparing women with children to women without children.

Two specific questions of interest to this study were answered by these analyses: (1) Were the differences across contrasting subgroups due to differences in the measured relationships (i.e. the factor structures) of the constructs in the model across the groups; or (2) Were differences across contrasting subgroups due to the theoretical causal system of influences on life satisfaction? In other words, can the differences between the contrasting subgroups be attributed to the measurement model, the structural model, both or neither?

Table 4 presents the results from the multi-stage analysis of cross-sample differences of women with and without husbands; Table 5, women with and without children. In each table, the first stage (Model 1) tested whether the estimated parameters, as a whole, were essentially equivalent across contrasting subgroups of interest (Lomax, 1985). The second stage (Models 2-4) tested for sources of those differences in the measurement or the structural models. The third stage (Models 5-6) compared the models generated in the second stage to determine whether

Table 4

Stacked Model Fit Statistics: Women With and Without Husbands

HYPOTHESIS	χ^2	DF	Prob
1. Relationships among variables equal?	169.64	120	.002
2. Factor loadings equal; causal paths equal?	214.09	149	.000
3. Factor loadings free; causal paths equal?	204.32	143	.000
4. Factor loadings equal; causal paths free?	168.69	116	.000
5. Equal factor structure (3 vs. 2)?	9.77	6	.135
6. Equal causal structure (4 vs. 2)?	45.40	33	.074

Table 5

Stacked Model Fit Statistics: Women With and Without Children

HYPOTHESIS	χ^2	DF	Prob
1. Relationships among variables equal?	307.57	120	.000
2. Factor loadings equal; causal paths equal?	226.57	149	.000
3. Factor loadings free; causal paths equal?	207.95	143	.000
4. Factor loadings equal; causal paths free?	157.56	116	.005
5. Equal factor structure (3 vs. 2)?	18.61	6	.005
6. Equal causal structure (4 vs. 2)?	67.75	33	.000

discovered differences were due to chance variation or to actual, non-chance, differences in the two samples.

Each of the models represented in those tables illustrates the specific fit of a model jointly estimated for both samples under the following hypothesized conditions: Model 1 tests the fit of the model given the equality of covariance matrices. Model 2 tests the fit given the equality of measurement and structural models. Model 3 tests the fit given equal structural models, but freely estimated measurement models. Model 4 tests the fit given equal measurement models, but freely estimated structural models. By testing the relative fits of models with constrained and freely estimated sets of parameters (as in Models 5 and 6), inferences are made about the specific contributions of the parameters tested (Alwin & Jackson, 1981; Joreskog & Sorbom, 1989; Lomax, 1985). These comparisons of relative fits are made by subtracting the chi-square associated with the freely estimated model from the chi-square associated with the constrained model. Degrees of freedom are also subtracted. The resulting distribution is then tested as a chi-square with degrees of freedom equal to the difference between the two (Redmond, 1990).

The marriage effect

Table 4 presents the results of the marriage effect on the model of attainments, commitments and satisfactions. The significant chi-square test of equivalence of covariance matrices (Model 1) shows that overall relationships among measured variables are probably dissimilar for these groups. Therefore tests of the measurement and the structural models were made to determine the sources of those differences. Tests of the invariance in factor structures were made in Model 5. This comparison reveals that allowing the factor loadings (LAMBDA-Xs and LAMBDA-Ys) to be freely estimated for each of these subgroups reduced the overall chi-square by 9.77, while using 6 degrees of freedom ($p = .135$). Therefore, the comparison shows that differences in the measurement of factors between the subgroups of women with and without husbands were insignificant and probably due to chance.

Similarly, tests of equality of patterns of causal influence are made in Model 6. This comparison shows that allowing the causal structure (BETAs and GAMMAs) to be freely estimated reduced the overall chi-square by 45.40 for 33 degrees of freedom ($p = .074$). Thus, the cross-group comparison of causal structure indicated that differences between the patterns of influence in the model of attainments, commitments and satisfaction jointly estimated

for women with and without husbands were not significant, and probably due to chance.

In sum, cross-sample evaluation of the measurement and the structural portions of the model of attainments, commitments and satisfactions together suggested that both the factor structure and the causal patterns of influence could be considered statistically equivalent for the women with and without husbands. Therefore, apparent differences in the individually estimated models for women with and without husbands will not be further analyzed statistically in the cross-group analyses.

The parenthood effect

Table 5 presents the results of the sequential analyses of the effects of parenthood on the model of attainments, commitments and satisfactions. Because the process is identical to that of estimating differences due to marriage, only the results will be presented here.

The significant chi-square test of equivalence of covariance matrices shows that overall relationships among measured variables across subgroups of midlife women with and without children are probably dissimilar. Therefore tests of the measurement and the structural models were made to determine the sources of those differences. The test of the hypothesis of invariance of factor structures across the two groups of midlife women with and without children (Model

5) reveals significant differences. Allowing the factor loadings (LAMBDA-Xs and LAMBDA-Ys) to be freely estimated for each subgroup decreased the overall chi-square in this comparison by 18.61 while using 6 degrees of freedom (p= .005).

Similarly, tests of equality of patterns of causal influence (Model 6) also revealed significant differences between these groups. Allowing the causal structure (BETAs and GAMMAs) to be freely estimated reduced the overall chi-square by 67.75 for 33 degrees of freedom (p = .000). Thus, the cross-group comparison of causal structure indicated that differences between the patterns of influence in the model of attainments, commitments and satisfaction, jointly estimated for women with and without children, were technically significant (Model 6). However, Alwin and Jackson (1981), among others (Lomax, 1985; Wolfle, 1985), emphasize that testing for differences in structural patterns will probably not be "meaningful" (Alwin & Jackson, 1981, p. 257) unless the invariance of the factor patterns across groups has been established. Becasue such invariance in the factor patterns could not be established for women with and without children, no further examination of structural differences was made in this study.

In sum, the cross-sample evaluation of the measurement and the structural models of attainments, commitments and

satisfactions for women with and without children suggested that neither the factor structure, nor the patterns of influence could be considered equal. However, when factor patterns are dissimilar, the differences in causal structures are not taken seriously. Therefore the apparent differences in the visual contrasts shown in Figure 9 were not further examined statistically.

CHAPTER FIVE:
SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Chapter 5 includes three major sections. The first section, Summary, reviews the purpose of the research and the methods for achieving that purpose. The second section, Conclusions, opens with a discussion of the results of individually estimated models, emphasizing the relative roles of predictors of satisfaction for midlife women. The Conclusions section then continues with a review of findings from the jointly estimated models and closes with the implications of those analyses. The third section, Recommendations, evaluates the practical applications of the results of the study, and describes the needs for further development.

Summary

Feminist theorists across the disciplines have called for new research to expand knowledge about the nature of women's lives and the impact of women's choices on their life outcomes (England, 1989; Gilligan, 1990; Mickelson, 1989). Previous knowledge about women's choices, attitudes, and behaviors were often based on research that originated with samples of men and, therefore, did not apply fully to the conditions of *women's* lives. In attainment research, for example, women's occupational lives were first ignored (Sewell & Hauser, 1980), then plugged into male-

based models (England, 1989). While plans for marriage or fertility (Erlich, 1984; Falk & Cosby, 1975) later oriented attainment research to young women, the actual, resulting effects of marriage and parenthood on the relationship among attainments, commitments and satisfactions, were not examined.

In life satisfaction research, moreover, the disaggregation of women's home and work lives often led to undervaluing the importance of one or another of those realms for women (Baruch, Barnett & Rivers, 1985; Cripps, 1986). Where the integration of work and family was studied, then women became victims of dual careers. In the research of the 1970s, women's home-based roles were considered central, their work-based roles, supplementary (Sekaran & Hall, 1989). By the 1980s, women's paid work had become a given, and family research centered on women managing two roles, one at work, and one at home (Blau & Ferber, 1986; Burden & Googins, 1987; Crockenberg, 1988; Leader, 1987). The possible benefits to women of multiple obligations, and gratifications are just beginning to be studied (Baruch, Biener & Barnett, 1987; Long & Porter, 1984).

To begin to examine how women's family structure may influence the interrelationship of work and home lives, this study developed and tested a model of midlife women's

attainments, commitments and satisfactions under differing conditions of marriage and parenthood. The model, developed from a logical union of the literatures on attainment and life satisfaction, proposed that life satisfaction for women is a function of three sets of influences: (1) adult status and income attainments, (2) home and work commitments, and (3) home and work satisfactions. These three factors, in turn, are a function of three predetermined, and intercorrelated conditions: (1) health, (2) early childhood status and (3) educational attainment.

Data for this study were drawn from the National Survey of Families and Households (Sweet, Bumpass & Call, 1990), a 1987 probability sample of over 13,000 Americans which included a cohort of 2612 women from 35 to 55 years of age. To highlight the impact of family formation on midlife women, this cohort was partitioned for analysis into two sets of contrasting subsamples. The first set compared women with husbands to those without husbands; the second set compared women with children to those without children.

Descriptive analyses of the sample and the two contrasting sets of subsamples provided the first major focus on the similarities and differences among the attainments, commitments and satisfactions of these midlife women. The second major focus was provided by the development and multiples tests of the model of

interrelationships among attainments, commitments and satisfactions. LISREL 7 enabled the estimation of these structural equations models for individually estimated, and jointly estimated, listwise present groups.

Individually estimated, the multiple tests of the model provided three advantages. First, repeated estimations of interrelationships among the constructs added to plausibility of this newly developed model. Specifically, the multiple tests of the model revealed that a midlife woman's health and her satisfaction with her role at home are the most stable and the most influential predictors of life satisfaction during this life stage. Second, these individual tests of the model across subsamples of women in different family structures revealed some possible similarities and differences in the processes of attainment of life satisfaction for women with and without husbands; and for women with and without children. For example, in all models, except that estimated for midlife women with no husbands, work commitment was a significant, and a negative, predictor of life satisfaction for midlife women. For midlife women with no husbands, work commitment was not a significant influence on life satisfaction.

Stacked model analyses, however, were specifically designed to pinpoint the interactions of conditions of family structure with the relationships among factors in the

model. Determining the specific differences in the model due to marriage or parenthood proved impossible, however. In the cross-group comparisons of women with and without husbands, the estimated differences in the causal influences of factors in the model were found to be probable consequences of chance variation. By contrast, in the cross-group comparison of women with and without children, significant differences in the structural patterns of the relationships could not be considered meaningful, since the invariance of the factor structures across those two subgroups could not be conservatively established. Therefore the conclusions about specific variables in the models, described in the next section, derive from the individual estimations.

Conclusions

Four research questions were posed at the beginning of this study. This section directly addresses each of those questions in turn, and discusses the results of this study as fitting in the context of former research.

Background effects

The first question addressed the effects of background conditions such as health, early (parental) social status, and education on midlife women's attainments, commitments and satisfactions. The present study resulted in some

interesting findings, some of which supported, some contradicted, findings from past research. Health

Health, as in past research on life satisfaction (Larson, 1978; Redmond, 1990), was consistently important in the current model of attainments, commitments and satisfactions. In the five individual tests of the model, health was either the primary or the secondary predictor of life satisfaction for midlife women.

Early SES

Early (or parental) social status was conspicuous in its absence of significant direct or indirect effects on life satisfaction. At first blush, this finding seems to contradict some earlier research on the importance of ascribed status to individual achievements for men (Blau & Duncan, 1967; Tuijnman, 1990), and even more so for women (Marini, 1980, Sewell & Hauser, 1980). However, a closer view at the current study and at the past research on attainments reveals that findings from this study actually support others in the literature (Husen & Tuijnman, 1991). Early status, in this study, plays a somewhat different role from its usual configuration as a predetermined factor causing some level of educational achievement. In this study, early status is one of three exogenous factors whose interrelationships are, by definition, not explained by the model (Kenny, 1979; Loehlin, 1987). As can be seen in the

and expectations, education's net effect from an increase in both, is minimal (Micholas, 1985; Tuijnman, 1990).

While the present study specifies intervening behavioral and attitudinal constructs, somewhat different from the models tested in past research, education's effect on life satisfaction is similar. In this study, where education's effects on the intervening variables of home commitment, work commitment, or home satisfaction are significant across the models, its total effect on life satisfaction is the sum of positive paths, through attainment, and negative paths through commitments or satisfactions. Consequently, as before, education's total effects on life satisfaction sum to near zero.

Model effects

The second research question posed in Chapter 1 inquired about the relative magnitudes of the influence of socioeconomic attainments, home and work commitments, and home and work satisfactions on the perceptions of life satisfaction for midlife American women. For this question as well, the present study revealed new data, some of which is in consort, some different from past research.

Estimations of the model across individual subsamples of women in different family structures revealed some similarities and some differences in the processes of attainment of life satisfaction for midlife women with and

estimated models of attainments, commitments and satisfactions, however, early SES correlated highly with education (Pearson's r ranges from .44 to .55 across the models), and its effects can be viewed as dependent on this correlationship. Also, according to past research, the effects of early, or parental social status diminish over time (Jeong, 1988; Tuijnman, 1990). Therefore, its effect at midlife may indeed no longer be a significant predictor of current achievement for midlife women.

Education

The effects of education on the factors in this model are more interesting. As in past research, education is clearly a strong predictor of adult attainments (Tuijnman, 1990; Sewell & Hauser, 1980), although, again, a stronger predictor of early attainment, rather than midlife attainment for women (Adelman, 1990; Marini, 1980). In past research, as in the current study, however, education has been shown to be a weak predictor of life satisfaction. Other researchers (Campbell, 1981; Micholas, 1985; Schuessler & Fisher, 1985), with differentially specified models, have attributed education's lack of effect on life satisfaction to its strong and positive effects on increasing both achievements and aspirations. Because life satisfaction is regarded as the balance between achievements

without husbands; and with and without children. Specifically, the multiple tests of the model across family structures revealed that a midlife woman's health and her satisfaction with her role at home are the most stable and the most influential predictors of life satisfaction during this life stage. In addition, in all models, except that estimated for midlife women without husbands, work commitment was also a significant, and a negative, predictor of life satisfaction for midlife women. The following sections will specifically address the influence of attainments, commitments and home and work satisfactions on the life satisfaction of midlife women.

Attainments

Only in the estimation of the model for all midlife women did individual attainments in social status and income significantly predict life satisfaction. The lack of significant relationship in the four subsample models rests in marked contrast to the early research on life satisfaction where psychological well-being was often equated with economic well-being (Guerin et al, 1960/1980). In early works, cross-tabulations of the relationships between economic well-being and life satisfaction showed significant associations (Campbell, 1981). Later research, however, using regression, instead of cross-tabulation showed mixed effects (Keirce, 1985; Hoyt, Kaiser, Peters &

Babchuck, 1980). In this study, only individual attainments of women were measured to maximize generalizability of the constructs across the subgroups with and without husbands. It may well be that family income and status, unmeasured constructs in this research, may contribute more to the life satisfaction of women with husbands than individual attainments do. This question is left to future research.

Commitments

Researchers of life satisfaction have agreed that personal commitments are an important part of life satisfaction (Knapp, 1976; Wong, 1989). Throughout the literature, researchers have conceptualized these attachments differently. Some have interpreted these attachments in terms of family or social relationships (Knapp, 1976; Levinson, 1990) some in terms of work (Baruch, 1984; Levinson, 1990) or even leisure (Tate, 1984). Some researchers have noted the importance of work commitment to both job satisfaction (Agho, 1989; Culver, 1987); and life satisfaction (Baruch, Barnett & Rivers, 1985). In this study, however, work commitment was negatively related to life satisfaction in all cases except for midlife women with husbands. This finding probably indicates that women's work commitments, defined here in terms of ideal work weeks, have far more to do with their appreciation of need to support families than any perceptions of discretionary time on their

part. Supporting this argument, further, this study also revealed that the relationship between work commitment and work satisfaction was insignificant except for the case of midlife women with children. How this factor operated is not fully understood in this model. Generally, the relationships between work commitment and work satisfaction, and work satisfaction and life satisfaction were insignificant in this study. Again, it is left to future research to more fully estimate these influences.

Satisfactions

Campbell (1981) originally conceptualized the notion that individuals had great difficulty in expressing their own estimations of general life satisfaction. Because of this, Campbell thought that people could better perceive a global sense of satisfaction only as the sum of some specific areas, or domains, in which they were satisfied, or dissatisfied, with their lives. However, after Camppbell, much of the research on domains of satisfaction has centered specifically in the measurement of the relationship between job satisfaction and life satisfaction (Agho, 1989; Michalos, 1986; Near, 1984). In general, that research has pointed to job satisfaction as a component of life satisfaction. But the primary importance of job satisfaction (Near, 1984) and the unidirectionality of the

relationship (Cripps, 1986) has begun to be questioned, especially for women.

Recently, in fact, researchers have begun to study the interrelationship and the balance between the home and work domains of satisfaction (Barokas & Croan, 1988; Cripps, 1986). For women, at least, that interrelationship may lead to "different truths" (Gallos, 1989; p. 111) that belie traditional (or male) models stipulating that work satisfaction is a major component of life satisfaction. The specific conditions of the interrelationship may be less global for women than for men, and may indeed have more to do with non-work components (Benin & Neinstadt, 1985; Sekeran & Hall, 1989).

One of the problems with generalizing knowledge about the effects of non-work contributions to life satisfaction for women has been the variety of definitions of non-work contributions. Past research has concentrated on marital and parental relationships defining women's home experiences (McLanahan & Adams, 1987; Lee, Seccombe, & Shehan, 1991). This study, however, broadened that concept to apply to all women, inside and outside of marital and parental relationships. Specifically, in this study, a woman's satisfaction with her role at home provided the operational definition for the non-work domain under study. Indeed, for all groups of women, with and without husbands, and with and

without children, satisfaction with one's role at home was the primary or secondary predictor of life satisfaction, a finding bypassed in past research which tested more narrow marital or parental relationships.

Model adequacy

The third research question asked if the model of proposed effects of occupational and income attainment, home and work commitments, and domains of home and work satisfaction adequately explained perceptions of life satisfaction of midlife American women. Although the definition of "adequate" in the LISREL literature varies, several criteria are used to judge the plausibility of a LISREL model (Biddle & Martin, 1987). Among the many are three which will be further discussed here: explained variance, sample comparisons, and measures of fit.

Explained variance

While differing over subsamples of women, some 72 to 81 percent of variance in the endogenous constructs was accounted for by the model; from 35 to 50% in the life satisfaction construct alone. In past research, regression (or path analytic) models rarely explained more than 18% (Keirce, 1985) to 45% of the variance in life satisfaction (Near, 1984). Constructs measuring self-reports of satisfaction and its predictors were plagued with high measurement error. This study attempted to correct previous

underestimations of relationahips by providing more error-free measures for error laden constructs. In fact, increased reliability via multiple indicators of important constructs did produce fairly high coefficients of determination for the model studied in this research.

One advantage to the multiple estimations of the model in this research is the generalization of cross-application results. Although differing somewhat by family structure, the midlife women in these multiple samples showed many similarities. Specifically, the positive influence of home role satisfaction, and health were consistent in all replications of the model. The negative influence of work commitment (except for women without husbands) was also an interesting finding, multiply confirmed. That similarities exist across samples adds a measure of credence to the plausibility of the model. Such plausibility could not be assumed from a single estimation of the model.

Goodness of fit

The cross-model comparisons of the goodness of fit measures are another measure of the adequacy of the model. AGFI ranged from .936 to .948 across the individually estimated models; GFI from .922 to .996 in the jointly estimated models. BBI ranged from .925 to .949.

In addition to the goodness of fit measures cited in the figures and tables of Chapter 4, an additional measure that is used frequently for cross-model comparisons is the ratio of chi-square per degree of freedom. Estimations for adequacy, here again show a broad range. The more conservative among researchers cite "an expected value of 1.0 ... for... well-fitting" models" (Tanaka, 1987); others from 2.0 to 5.0 (Marsh & Hocevar, 1985; Wolfle, 1985). In this study chi-square per degree of freedom ranged from .93 to 1.69 for the individually estimated models; and remained at 1.36 for the jointly estimated.

Most of the discussions of chi-square (and chi-square per degree of freedom) in the literature center on the problem of impact of sample size on the reliability of a stated probability of significance to determine real versus insignificant differences in input and output matrices. Again, because this model was tested across multiple samples of multiple sizes, this research can make some tentative conclusions about the substantive as opposed to the statistical relationships of chi-square to sample size for this model.

In the estimation of the model for all 689 midlife women, chi-square, viewed alone, revealed a significant difference between the sample matrix of observed relationships and LISREL's estimated matrix. However, when

359 women with husbands were compared to 330 women without husbands (in individual models), chi-square was insignificant for the former, and significant for the latter, but comparably sized sample. Thus, the reader can fairly well assume that the data fit the model better for the sample of midlife women with husbands, than for the sample without husbands. Sample size difference is slight, and would probably not account for the large difference in the probability of significance of chi-square. Thus, substantive differences in the nature of the interrelationships among constructs can safely be deemed to account for the differences in fit.

In the case of the second comparison, midlife women with and without children, the conclusions are less clear, because the sample size difference is greater. In this comparison, the model, individually estimated for 422 parents showed significant differences between distributions of relationships of observed and estimated matrices; for the sample of 267 midlife women without children, no such differences were found. Future research will reestimate these models with artificially equal sample sizes to assess the actual impact of size differences versus substantive differences in the interrelationships among constructs.

Group differences

The fourth research question asked whether the proposed causal framework explains the process of attaining life satisfaction equally well for women with and without husbands; and for women with and without children. Results in this area, as described above, were somewhat perplexing. In the tests of the model, individually applied to the subsamples of women with and without husbands, the hypothesized constructs appeared to account for the observed data far better in the case of women with husbands than in the case of women with no husbands. However, in the contrasting cases of women with and without husbands, tested jointly, no significant differences were found in the measurement or the structural portions of the model.

Similarly, in the tests of the model, individually estimated for women with and without children, the model appeared to fit the data for women with no children far better than for women with children. However, when the samples of women with and without children were tested cojointly, the comparative predictive influences of the individual constructs were questioned because the factor structures of the constructs were found to be significantly different. These statistical anomalies certainly point to the need for further research. The following section proposes recommendations for such further investigations.

Recommendations

Methodologically, this model should be tested on new samples from other data sources to test whether future research can further substantiate the model, and thus lend more general support for the tentative conclusions reached in this exploratory study. Further investigations specifically need to be made into the measurement of factors relating to predictors of life satisfaction for women with and without children. For example, measures such as home and work commitment, home and work satisfaction may be somewhat redefined in other studies to give greater credence to the general theoretical underpinnings of the model. This study specifically aimed at generalizability of a model across the subsamples in question, but other models, applicable to only some women, might be posited to fit those samples more closely by specifying the constructs differently. Specifically, marital satisfaction and parental satisfaction can be added to the home satisfaction construct to test thier sample specific influence on life satisfaction. Alternative models, testing for non-recursive elements in the commitments/satisfactions clusters should also be tested.

Additionally, because of the relationship between chi-square and sample size, some researchers have proposed

testing comparative models on artificially constructed samples of equal sizes (Hoetler, 1983; Keith, in press).

Substantively, findings from this study point to the great importance of home and health related factors for all midlife women, not merely those midlife women with husbands or children. In view of these findings, several recommendations should be made to policymakers, to representatives of mainstream feminist organizations, to schools of women's studies, to the mass media and to the counseling community.

To policymakers, representatives of mainstream feminist organizations, and to schools of women's studies, this research would imply the need for greater championing of health and home-related support systems for women. These promotions of local and national policy change would certainly include support for health insurance reform, housing, child care, and child support enforcement regulations, as well as social security reform (Barbara Bergman, 1986; Blau & Ferber, 1986). To the mass media and to the counseling community, the consistent findings across the models regarding the relationship between home role satisfaction and life satisfaction would imply that high status attainment is not the sole consideration for career or life planning for women.

The women's movement, to date, focused, primarily, on inequities in the workplace (and state control of women's bodies). As this study shows, these inequities are not the only, or even the primary arena on which satisfaction with life depends for midlife women. Fully a decade ago, Betty Friedan (1982), challenged the women's movement to look toward integrating the "feminine mystique" (of women gua mother) with the "feminist mystique" (of women gua worker). The women's movement has been slow to foster this integration. As this study shows, however, home-related elements are still more important to midlife women's life satisfaction than are work-related elements. Mainstream feminist organizations should not consider emphasis on home-related factors to be either heretical or anachronistic. Rather, they should work with policymakers, industry leaders and educators to increase awareness of promoting a balance between work-related and home-related supports to advocate positive contributions to enlightened social change.

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APPENDIXES

APPENDIX A:

Rationale for Selection of NSFH

The NSFH survey was designed specifically to measure factors related to changes in, and impact of, the current American family and its household configurations. As such, the survey measures not only the structural aspects (e.g. education, status, income) of individuals and their family life, but also the psycho-sociological states of adult respondents (Sweet, Bumpass, & Call, 1988). The National Survey of Families and Households (NSFH) is not the first probability sample of American households to be used for the study of income, occupational attainment, or life satisfaction; it is, however, the most recent and best available for this study. The limitations of other available data for this study will be outlined below.

The Current Population Survey (CPS) is perhaps the best known of national probability samples of adults detailing occupational and income attainment. However well CPS measures the public spheres of women's achievement, nonetheless, it is deficient in the private measures of life satisfaction or its domains. According to Kathy Creighton (personal communication, November 13, 1990), former Chief of CPS at Census, the Current Population Survey is limited to obtaining "measures of general demographics and labor force

characteristics" (personal communication, November 8, 1990).

The Survey of Income and Program Participation (SIPP), another source of national family and income data, is also funded and administered by the Census Bureau. In effect, it is a longitudinal supplement to CPS's cross sectional data collection effort. SIPP follows a probability sample of 20,000 persons over a thirty month period (monthly for four months, skipped for eight months, again monthly for four months, etc.). The SIPP items measure marriage and fertility, but again rest on demographics, and ignore psycho-social characteristics.

The National Longitudinal Surveys of Labor Market Experience have also served as data sources for many researchers of attainment. While these data include excellent measures of many variables necessary for this study, they also have serious limitations for the purpose of this dissertation. First of all, the baseline data are 23 years old. In 1967, when these data were first collected (Center for Human Resource Research, 1988), the women's movement was in its infancy. For the most part, women were just beginning to expand their labor market experience. Second, these data, like those from CPS, concentrate on the "public sphere" (Ostrander, 1989) of a woman's life. Measurements of the "private sphere" (Ostrander, 1989) are

far more scarce in the National Longitudinal Surveys of Labor Market Experience than they are in NSFH. In the former, for example, the measurement of life satisfaction is confined to a single question applicable to only some subsamples of the population surveyed (Center for Human Resource Research, 1988). NSFH, on the other hand, utilizes multiple measures of life satisfaction and its domains, essential factors for this study.

In educational research, the U.S. Department of Education and especially its Office of Educational Research and Improvement (OERI) has promoted the study of high school students and their transitions to adulthood. The National Longitudinal Study of the Class of 1972 (NLS-72) and its companion piece, High School and Beyond (HS&B) have been used extensively for the measurement of educational and early occupational attainment. OERI's newest study, the National Educational Longitudinal Study (NELS) might be available for interesting attainment research in the far future. The 1990 cohort, however, only included 8th and 10th graders (Ingels, Abraham, Karr, Spencer, Frankel & Owings, 1990).

Although some researchers have examined family plans (Wagenaar, 1983) during the early adult period examined by the OERI series, none has measured the full impact of actual family formation on women during the middle years. Follow-

up samples of high school students in the National Longitudinal Study extend to only 14 years beyond high school. NLS-72's fifth follow-up participants are thus only 32 years old and just entering the middle years. Thus, all three of the OERI data sources would prove inadequate for this study.

The Institute for Social Research maintains the data used in Campbell's Quality of American Life Survey of 1971 and its replication in 1978 (Campbell, 1981). Like the data sources mentioned above, these data are also in the public domain. But the Quality of Life data are over 10 years old and are lacking in the home and work commitment measures essential to this model.

The National Opinion Research Center has collected, in many ways, the most interesting social information on national probability samples of Americans. In addition to some questions which they ask annually, they have focused, in various years, on topical areas such as race relations, feminism, abortion, the military, or the role of government. The 1988 survey, in fact, focused on the impact of family on labor force participation (Davis & Smith, 1991). This survey, therefore, might have been an interesting data source for this study. However, each year NORC collects only 1,400 to 1,600 interviews (Russell & Megaard, 1988).

Considering that women between the ages of 35-54 constitute about 12.3% of the population (Bureau of the Census, 1990), the probable sample size for this study would have been too small for the type of intended subgroup analyses performed here.

In sum, the National Survey of Families and Households was selected because it is current, comprehensive, and covers the essential items in sufficient numbers to answer the research questions proposed by this study.

APPENDIX B:

The Model Defined by its Measurements

The following section defines and explains constructs in the model of attainments, commitments and satisfactions. This section lists the constructs, defines them as manifest or latent, and if latent, describes them in terms of their manifest indicators. Constructs exogenous to the model are listed first, then the endogenous. Since all of the variable descriptions are taken from the NSFH codebook (Sweet, Bumpass & Call, 1988), no citations are made. Rather, interested readers can refer to Appendix C for NSFH variable names and tape locations.

Constructs Exogenous to the Model

HEALTH, especially in its absence, has been shown to affect perceptions of life satisfaction (Campbell, 1981; Larson, 1978, Redmond, 1990). Moreover, HEALTH is considered not only to affect life satisfaction directly, but indirectly through intervening variables. HEALTH in this study was measured by the respondents' self-reported rating of their health as "compared with others" their age. Valid responses ranged from 1 to 5.

Early Social Status (EARLY SES), along with education, is hypothesized to affect life satisfaction primarily through its effect on adult status attainments. In this study, EARLY SES is a latent construct which includes two

manifest indicators: parent's occupational status and parent's educational achievement. These educational and occupational indicators are common to virtually all classic (Blau & Duncan, 1967; Falk & Cosby, 1975) and contemporary (Ethington, 1991; Jeong, 1988) studies of attainment. The EARLY_SES construct in this study was formed as follows: All non-missing cases of father's education and mother's education were selected for possible inclusion. Then the higher measure of either father's or mother's education (Hi_P_Ed) became the selected variable to enter. Similarly, the higher of mother's or father's occupational status (Hi_P_Oc) became the occupational status of choice to enter into the EARLY_SES construct.

Choosing the higher of mother's or father's educational attainment, rather than either father's alone (Blau & Duncan, 1967) or both mother's and father's, serves two purposes: First, from a theoretical perspective, the advantages of socioeconomic status, well documented in the literature (Featherman & Hauser, 1978; Sewell & Hauser, 1980) can be viewed as accruing from either parent who occupies the higher of the two statuses. Either can provide a level of "family background" to benefit the children in the family. Second, from a statistical point of view, choosing the higher of educational or occupational levels eliminates missing data from such attainment measures

(Keith, in press). In this study, education is measured in natural years; occupation is measured in "Total Socioeconomic Index (TSEI) Scores" (Stevens & Cho, 1985).

The TSEI are predicted prestige scores for the 1980 Census Occupational Classification scheme. They are the most recent revision of the rankings of occupations by their educational and economic dimensions. TSEI differs from other occupational rankings in two important ways. First, women, as well as men, are considered occupants of the occupational structure (Blau & Duncan, 1967). This is in contrast to the classic prestige rankings which were based on only masculine occupants of the occupational structure whether or not the rankings were applied to women occupants (Rothschild, 1981).

The second way in which TSEI differs from other occupational prestige rankings is that TSEI is based on the Census Bureau's new 1980 Census Occupational Classificatory Scheme. This scheme includes many positions which did not exist in former systems and in other ways differs "significantly" (Stevens & Cho, 1985) from prior Census Bureau classifications. As with prior prestige rankings, however, TSEI could not incorporate all occupations. All military personnel as well as retired and unemployed civilians remained uncodeable. Uncodeable categories, along with no occupation reported, were treated as missing data

and eliminated from these analyses. Housewives, however, were coded in the occupational code of their last job, and included as indicated below.

In this study, the parental occupational and educational measures which were used to indicate EARLY SES derived from the National Survey of Families and Households' measures of father's and mother's education, and father's and mother's occupation. The indicators was calculated as follows:

Father's education and mother's education are the respondent's report of her father's and mother's highest grade of school completed. Valid responses range from 0, for no schooling, to 17 for graduate or professional school.

Father's occupational status is obtained from respondent's report of her "father's work" when she was "about age 16." Mother's occupational status derives from respondent's report of mother's "last paid job" before respondent turned 18. Valid TSEI responses range from 13.98 to 90.45 (Stevens & Cho, 1985).

The next construct measuring respondent's own educational attainment (EDUCATION) was obtained from a composite measure of attended and completed years of education. Valid responses range from 0 for no formal education, to 20 for Doctorate or Professional Degree. Although this variable has been the criterion variable for

most studies of attainment in educational research, it is proposed here as antecedent to the model of current attainments, commitments and satisfactions for the following two reasons. First, education's primary contribution to the model is through occupational attainments. Second, by age 35 most women have completed their education, and, thus, education's influence on the model may no longer be a current contributory factor to life satisfaction.

Constructs Endogenous to the Model

The first latent construct in the endogenous portion of the model of attainments, commitments and satisfactions is ADULT STATUS ATTAINMENTS. This construct depends on two manifest indicators: TSEI, and Individual Earnings.

Respondent's occupational attainment is a TSEI score (Stevens & Cho, 1985) derived from the respondent's current TSEI if the respondent was working for pay at the time of the data collection. TSEI derives from the respondent's last occupational code if the respondent was not working for pay at the time of the data collection. One of the problems of past research on women's occupational attainments is that most samples include only women who are currently employed (Marini, 1980). This study included all women who reported ever having worked.

For this first category of women who are currently working for pay, current TSEI denotes the responses to the

following three questions: (1) "What kind of work are you doing in your current job? (2) What is your job title?" (3) What are your main activities or duties at this job?

For women who are not currently working, but have worked in the past, former TSEI derives from responses to a similar set of three questions: (1) "What kind of work were you doing in your most recent job? (2) What was your job title?" (3) What were your main activities or duties at this job?

In this study, 26% of eligible women did not have either a current or a former occupational index code and were listed as missing.

Individual earnings, the second manifest indicator of the ADULT STATUS ATTAINMENTS construct, indicates the respondent's total earnings including "wage and salary, and self employment" income (p. R-25), as well as public assistance and interest income where applicable. Individual earnings were measured in dollars per year.

HOME COMMITMENT, the next construct in the model, is included to estimate the behavioral underpinnings of possible home-related alternative paths to a feminized version of life satisfaction. Research on life satisfaction emphasizes the importance of commitments (Redmond, 1990; Wong, 1989), sometimes called involvement to life satisfaction. Commitments are usually measured in the work

related sphere. This study has added a home related sphere to measure the possible importance of home related involvements for midlife women.

HOME COMMITMENT includes two manifest indicators representing (1) those home centered activities which involve major amounts of daily time expenditures and (2) those which involve only minor daily expenditures. The first indicator Home Major is the summed scale of self-reported hours per week spent doing the following four home centered tasks: preparing meals, washing dishes, doing outdoor tasks, driving. The second indicator, Home Minor, by contrast, is the summed scale of self-reported hours per week spent doing the following five, more irregular, home centered tasks: cleaning house, shopping, washing and ironing, paying bills, fixing the car. Scores, in hours per week, for each individual task were considered valid if less than or equal to 25. Thus possible scores on Home Major range from 0 to 100; on Home Minor from 0 to 125.

WORK COMMITMENT is a more traditional measure predicting job satisfaction (Culver, 1987) and life satisfaction (Rush, 1981; Sekaran, 1983). Researchers of life satisfaction have emphasized the positive effects of interactions of individuals with organizations and colleagues (Knapp, 1976; Wong, 1989). In fact, much of the research on life satisfaction and its relationship to job

satisfaction emphasizes the importance of commitments (Larson, 1978; Wong, 1989) to well-being. In this study, the WORK COMMITMENT construct is formed from a single manifest indicator which measures "just the number of hours in paid employment" that respondent "would like" (E-247) to work.

Two constructs in the current models form the "domains of satisfaction" (Campbell, 1981) series in this study--HOME SATISFACTION and WORK SATISFACTION. Both involve sets of variables which measure respondents' satisfaction with the various roles in their lives. The latent construct HOME SATISFACTION depends on two manifest indicators: Home Role Happy and Home Role Good, both derived from responses to items in the following semantic differential: "How would you describe the work you do ... around the house? . Would you say it is: interesting-boring; appreciated-unappreciated; overwhelming-manageable; complicated-simple; lonely-sociable; poorly done-well done" (p. E-27). Home Role Happy sums the responses to two parts of the semantic differential series: (1) interesting to boring plus (2) lonely to sociable. Home Role Good sums the responses to another two items in the semantic differential series (1) appreciated to unappreciated plus (2) poorly done to well done.

Scores on each of the semantic differentials range from 0 to 7. A 0 indicates no work done in this domain; a 1

indicates the least satisfying; a 7, the most. In this study, therefore, the semantic differentials yielded a single summed score ranging from 0 to 14 for both Home Role Happy and Home Role Good .

The latent construct WORK SATISFACTION similarly depends on two manifest indicators: Work Role Happy and Work Role Good. Work Role Happy and Work Role Good derive from NSFH semantic differentials measuring the respondent's satisfaction with her role as a worker. Specifically, these two measures derive from the respondent's answer to the question: "How would you describe the work you do ... at your paid job? ... Would you say it is: interesting-boring; appreciated-unappreciated; overwhelming-manageable; complicated-simple; lonely-sociable; poorly done-well done" (p. E-27). Work Role Happy sums the responses from interesting to boring plus lonely to sociable. Work Role Good sums the responses from appreciated to unappreciated plus poorly done to well done.

Scores on each of the semantic differentials comprising Work Role Happy and Work Role Good range from 0 to 7. Zero indicates no work done in this domain; a 1 indicates the least satisfying; a 7, the most. In this study, therefore the semantic differentials yielded a single summed score for Work Role Happy and Work Role Good ranging from 0 to 14.

LIFE SATISFACTION in the literature is sometimes coterminous with (Guerin et al., 1960/1980; Larson, 1978), and sometimes differentiated from, global happiness and general psychological well-being (Baruch, Barnett & Rivers, 1985; Campbell, 1981). In this study LIFE SATISFACTION is a latent construct measured by one attitudinal measure of global happiness and one summed scale of 12 behavioral measures of well-being.

The single item attitudinal measure of global happiness is a traditional measure of life satisfaction stemming from the original work done by Guerin, Veroff & Feld (1960/1980) in the late 1950s. The item, "taking all things together, how would you say things are these days?" (Guerin et al., 1960/1980, p. 19) measures "respondents' over-all evaluation of their emotional and psychological states" (Guerin et al., 1960/1980, p. 19). The global happiness measure has been used consistently in the literature for three decades (Russell & Megaard, 1988; Speitzer & Snyder, 1974, 1979). In Guerin and in Russell & Megaard (1988), however, responses fell on a three point scale, "very happy, pretty happy, or not too happy" (p. 19). In NSFH, responses range from "1 = very unhappy" to 7 = very happy" (p. E-21).

The second part of the LIFE SATISFACTION construct in this study derives from a modified form of the Center for Epidemiological Study's Depression Scale, the CES-D (Ross,

Milowsky & Huber, 1983). The scale was designed to identify depressive symptoms in the general, non-clinical, population (Radloff, 1977; Schonfeld, 1990). Reliability studies (Weissman, Sholomkas, Rottenger, Prusoff and Locke, 1977) indicated that the scale is a "useful index for the study of association between depressive symptom and factors of interest" (p. 213). Modified forms of the scale have been used to measure the depressive symptoms of individuals (Burden & Googins, 1987; Ross & Huber, 1985) and of members of couples in various marriage patterns and states of economic hardship (Ross, Milowsky & Huber, 1983).

In this study CES-D is a summed scale of 12 items representing the respondent's answers to the question "how many days during the past week did you...

- feel bothered by things that usually don't bother you?
- not feel like eating, your appetite was poor?
- feel that you could not shake off the blues even with help from your family or friends?
- have trouble keeping your mind on what you were doing?
- feel depressed?
- feel that everything you did was an effort?
- feel fearful?
- sleep restlessly?
- talk less than usual?
- feel lonely?
- feel sad?
- feel you could not get going?" (p. E-21-26).

Thus the summed CES-D scale in the present research has a theoretical range of 0 to 96. To become a measure of well-being and, thereby, an input to LIFE SATISFACTION,

CES-D is recoded from the NSFH data to indicate the relative absence of depressive symptoms.

APPENDIX C:

VARIABLE NAMES AND TAPE LOCATIONS

INDIVIDUAL VARIABLES

NAME	NSFR NAME	TAPE LOCATION	
AGE	/* M23P01 */	0022-0023	
SEX	/* M20P01 */	0025	
ETHRCE	/* M484 */	2606-2607	
FADCC	/* M500B */	2655-2658	(2)
FAED	/* M501 */	2663-2664	
MAED	/* M502 */	2665-2666	
MADCC	/* M504B */	2673-2676	(2)
WORKNOW	/* M528 */	2862	
WRKEVER	/* M529 */	2863	
WRKFTPT	/* M533 */	2976	
WRKHR	/* M535 */	2978-2979	
WRKUSU	/* M538 */	2982-2983	
WRKSELF	/* M539 */	2984	
RSEI	/* M504B */	2988-2991	(2)
WEEKSWR	/* M583A */	3280-3281	
WEEKSNOL	/* M583C */	3284-3285	
RSEIOLD	/* M586B */	3292-3295	(2)
MEALS	/* E1A1 */	4190-4191	
DISHES	/* E1B1 */	4198-4199	
CLEANH	/* E1C1 */	4206-4207	
OUTDOOR	/* E1D1 */	4214-4215	
SHOP	/* E1E1 */	4222-4223	
WASHIRON	/* E1F1 */	4230-4231	
PAYBILL	/* E1G1 */	238-4239	
AUTOFIX	/* E1H1 */	4246-4247	
DRIVE	/* E1I1 */	4254-4255	
LIFEHAP	/* E201 */	4263	
BOTHER	/* E202A */	4264	
NOAPP	/* E202B */	4265	
BLUES	/* E202C */	4266	
MINDON	/* E202D */	4267	
DEPRESS	/* E202E */	4268	
EFFORT	/* E202F */	4269	
FEARFUL	/* E202G */	4270	
SLEEP	/* E202H */	4271	
TALK	/* E202I */	4272	
LONELY	/* E202J */	4273	
SAD	/* E202K */	4274	
NOTGO	/* E202L */	4275	
HWBORE	/* E203A */	4276	
HWAPP	/* E203B */	4277	
HWMAN	/* E203C */	4278	
HWCOMP	/* E203D */	4279	
HWLONE	/* E203E */	4280	
HWPOOR	/* E203F */	4281	
JBORE	/* E204A */	4282	
JAPP	/* E204B */	4283	
JMAN	/* E204C */	4284	

```
      JCOMP      /*  E204D   */   4285
      JLONE      /*  E204E   */   4286
      JPOOR      /*  E204F   */   4287
      PBORE      /*  E205A   */   4288
      PAPP       /*  E205B   */   4289
      PMAN       /*  E205C   */   4290
      PCOMP      /*  E205D   */   4291
      PLONE      /*  E205E   */   4292
      PPOOR      /*  E205F   */   4293
      WBORE      /*  E206A   */   4294
      WAPP       /*  E206B   */   4295
      WMAN       /*  E206C   */   4296
      WCOMP      /*  E206D   */   4297
      WLONE      /*  E206E   */   4298
      WPOOR      /*  E206F   */   4299
      HEALTHCO   /*  E207    */   4300
      HEAKWORK   /*  E11C    */   4316
      HEAKTASK   /*  E211D   */   4317
      MARTROUB   /*  E715    */   4909
      MARNOW     /*  E716    */   4910
      MARSP      /*  E717    */   4911
      MARDIV     /*  E718    */   4912
      WRCHOS     /*  E1356   */   5287-5288
      TURNOUT    /*  E1359C  */   5295
      WORTH      /*  E1359L  */   5304
      SE_FSAT    /*  E1360E  */   5310
      CHILDLES   /*  E1360L  */   5316
      ABLE       /*  E1360M  */   5317
      PARFREE    /*  E1360N  */   5318
      JOBSAT     /*  E13600  */   5319

   --------COMPOSITE-VARIABLES-----------------------------

   ---NSFH-NAME--DEFINITON--LOCATION------

      REGION                          7310
      SAMPLE                          7311
      WEIGHT                          7339-7343 (4)
      MARCOHAB                        7360-7361
      K1          /*  B<18    */     7362
      K2          /*  B<18NS  */     7373
      K3          /*  STEP<18 */     7364
      K4          /*  ADOP<18 */     7365
      K5          /*  FOSTER  */     7366
      K6A         /*  NBIO    */     7367
      K6B         /*  RELAT   */     7368
      K7A         /*  NRELA T */     7369
      K7B         /*  NRELNP  */     7370
      K8          /*  BIO>18    */   7371
      K9          /*  STEP>18   */   7372
      K10         /*  K<18NH    */   7373
      K11         /*  KS<18NH   */   7374
      K12         /*  K>18    */     7375
      K13         /*  STP>18NH  */   7376
      K14         /*  KCOLL   */     7377
      EDUCAT                          7397-7398
      COMPLED  /*  COMPLED  *        7395-7396
      INDEARN  /*  IRTOT2   */       7466-7473
      FAMEARN  /*  IHTOT2   */       7657-7664
SAVE  OUTFILE=NSFHDATA  /
FINISH
```

APPENDIX D

Table D-1:
Racial/ethnic characteristics of the NSFH sample of all women age 35 - 55 compared to U.S. population estimates

	NSFH sample	Census estimates
White	81.2	76.7
Black	10.7	12.0
Hispanic*	6.7	8.1
Asian	1.1	2.5
Native Amer.	0.1	0.6
Other	0.1	

Census data are calculated from enumerations of the U.S. population on July 1, 1988 provided by the Bureau of the Census, U.S. Department of Commerce (1990). U.S. Population Estimates by Age, Sex, Race & Hispanic Origin. Suitland, MD: Bureau of the Census, Series P-25, No. 1057.

* Hispanic is not defined as a race by the 1988 CPS. Hispanic racial distribution is imputed according to the 1980 Census estimates of 95% white, 2% black, 3% other

Table D-2:
Regional characteristics of the NSFH sample of all women age 35 - 55 compared to those of the U.S. population in 1988

	NSFH sample	Census estimates
South	33.4	34.3
Northcentral*	24.9	24.2
Northeast	22.4	20.7
West	19.3	20.8

Note. Census data are reprinted from Bureau of the Census (1991). U.S. Department of Commerce NEWS Suitland, MD: Bureau of the Census, CB 91-289.

* Current census name is Midwest

Appendix E-1
Product-Moment Correlations among Measured Variables: All Midlife Women (N=789)

	HLTH	P_ED	P_OC	ED	TSEI	EARN	HMAJ	HMIN	WCOM	HHPY	HGD	WHPY	WGD	GLOB	CESD
HLTH	--														
P_ED	0.162	--													
	(.01)														
P_OC	0.136	0.525	--												
	(.01)	(.01)													
ED	0.166	0.462	0.366	--											
	(.01)	(.01)	(.01)												
TSEI	0.143	0.351	0.271	0.635	--										
	(.01)	(.01)	(.01)	(.01)											
EARN	0.071	0.219	0.201	0.360	0.396	--									
	(NS)	(.01)	(.01)	(.01)	(.01)										
HMAJ	0.020	-0.112	-0.068	-0.102	-0.127	-0.141	--								
	(NS)	(.01)	(NS)	(.01)	(.01)	(.01)									
HMIN	-0.046	-0.106	-0.097	-0.204	-0.183	-0.192	0.629	--							
	(NS)	(.01)	(.01)	(.01)	(.01)	(.01)	(.01)								
WCOM	-0.020	-0.004	-0.015	-0.023	0.033	0.072	-0.073	-0.044	--						
	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)							
HHPY	0.130	-0.116	-0.037	-0.167	-0.152	-0.114	0.139	0.112	-0.066	--					
	(.01)	(.01)	(NS)	(.01)	(.01)	(.01)	(.01)	(.01)	(NS)						
HGD	0.143	-0.033	-0.021	-0.092	-0.101	-0.025	0.020	0.014	0.055	0.432	--				
	(.01)	(NS)	(NS)	(.05)	(.01)	(NS)	(NS)	(NS)	(NS)	(.01)					
WHPY	0.183	0.108	0.109	0.120	0.188	0.056	-0.040	-0.033	0.052	0.246	0.210	--			
	(.01)	(.01)	(.01)	(.01)	(.01)	(NS)	(NS)	(NS)	(NS)	(.01)	(.01)				
WGD	0.145	0.074	0.053	0.043	0.052	0.041	-0.043	-0.024	0.061	0.175	0.272	0.577	--		
	(.01)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(.01)	(.01)	(.01)			
GLOB	0.257	0.057	0.039	0.084	0.108	0.072	0.032	0.033	-0.113	0.251	0.263	0.247	0.235	--	
	(.01)	(NS)	(NS)	(.05)	(.01)	(NS)	(NS)	(NS)	(.01)	(.01)	(.01)	(.010	(.01)		
CESD	0.312	0.117	0.105	0.125	0.142	0.075	-0.034	-0.078	-0.011	0.157	0.173	0.165	0.171	0.479	--
	(.01)	(.01)	(.01)	(.01)	(.01)	(.05)	(NS)	(.05)	(NS)	(.01)	(.01)	(.01)	(.01)	(.01)	

Appendix E-2
Product-Moment Correlations among Measured Variables: All Midlife Women With and Without Husbands

	HLTH	P_ED	P_OC	ED	TSEI	EARN	HMAJ	HMIN	WCOM	HHPY	HGD	WHPY	WGD	GLOB	CESD
HLTH	--	0.128	0.119	0.134	0.143	0.054	-0.048	-0.140	0.017	0.126	0.110	0.112	0.108	0.234	0.310
P_ED	0.162	--	0.532	0.437	0.347	0.262	-0.112	-0.105	0.041	-0.137	0.013	0.087	0.066	0.069	0.174
P_OC	0.136	0.525	--	0.351	0.267	0.185	-0.073	-0.089	0.025	-0.021	0.024	0.122	0.124	0.048	0.127
ED	0.166	0.462	0.366	--	0.610	0.427	-0.101	-0.196	0.031	-0.179	-0.077	0.084	0.004	0.111	0.141
TSEI	0.143	0.351	0.271	0.635	--	0.460	-0.094	-0.165	-0.011	-0.102	-0.061	0.155	0.014	0.167	0.148
EARN	0.071	0.219	0.201	0.360	0.396	--	-0.043	-0.161	-0.069	-0.111	-0.017	0.059	0.032	0.144	0.126
HMAJ	0.020	-0.112	-0.068	-0.102	-0.127	-0.141	--	0.669	-0.065	0.146	0.012	-0.030	-0.072	-0.023	-0.077
HMIN	-0.046	-0.106	-0.097	-0.204	-0.183	-0.192	0.629	--	-0.024	0.115	-0.024	0.037	-0.042	0.010	-0.120
WCOM	-0.020	-0.004	-0.015	-0.023	0.033	0.072	-0.073	-0.044	--	-0.074	0.110	-0.001	0.022	-0.079	0.043
HHPY	0.130	-0.116	-0.037	-0.167	-0.152	-0.114	0.139	0.112	-0.066	--	0.421	0.295	0.225	0.206	0.146
HGD	0.143	-0.033	-0.021	-0.092	-0.101	-0.025	0.020	0.014	0.055	0.442	--	0.242	0.321	0.232	0.168
WHPY	0.183	0.108	0.109	0.120	0.188	0.056	-0.040	-0.033	0.052	0.190	0.176	--	0.585	0.265	0.139
WGD	0.145	0.074	0.053	0.043	0.052	0.041	-0.043	-0.024	0.061	0.117	0.218	0.566	--	0.238	0.163
GLOB	0.257	0.057	0.039	0.084	0.108	0.072	0.032	0.033	-0.113	0.260	0.300	0.220	0.226	--	0.511
CESD	0.312	0.117	0.105	0.125	0.142	0.075	-0.034	-0.078	-0.011	0.137	0.179	0.190	0.171	0.394	--

Note 1. Correlations below the diagonal are for women with husbands (n=350); above the diagonal, for women without husbands (n=339).

Note 2. Details of the significance of these correlations are listed in Appendix D-2 and D-3.

Appendix E-3
Product-Moment Correlations among Measured Variables Showing Probability of Significance: All Midlife Women With Husbands (N=350)

	HLTH	P_ED	P_OD	ED	TSEI	EARN	HMAJ	HMIN	WCOM	HHPY	HGD	WHPY	WGD	GLOB	CESD
HLTH	--														
P_ED	0.194 (.01)	--													
P_OC	0.153 (.01)	0.517 (.01)	--												
ED	0.193 (.01)	0.487 (.01)	0.381 (.01)	--											
TSEI	0.136 (.01)	0.355 (.01)	0.274 (.01)	0.656 (.01)	--										
EARN	0.113 (.05)	0.184 (.01)	0.223 (.01)	0.309 (.01)	0.352 (.01)	--									
HMAJ	0.091 (NS)	-0.113 (.05)	-0.064 (NS)	-0.105 (.05)	-0.161 (.01)	-0.245 (.01)	--								
HMIN	0.042 (NS)	-0.112 (.05)	-0.107 (.05)	-0.218 (.01)	-0.206 (.01)	-0.215 (.01)	0.588 (0.1)	--							
WCOM	-0.032 (NS)	-0.040 (NS)	-0.049 (NS)	-0.060 (NS)	0.085 (NS)	0.184 (.01)	-0.077 (NS)	-0.049 (NS)	--						
HHPY	0.116 (.05)	-0.106 (.05)	-0.057 (NS)	-0.166 (.01)	-0.211 (.01)	-0.095 (NS)	0.130 (.05)	0.097 (NS)	-0.031 (NS)	--					
HGD	0.174 (.01)	-0.083 (NS)	-0.066 (NS)	-0.108 (.05)	-0.142 (.01)	-0.027 (NS)	0.028 (NS)	0.049 (NS)	0.012 (NS)	0.442 (.01)	--				
WHPY	0.254 (.01)	0.128 (.05)	0.095 (NS)	0.151 (.01)	0.217 (.01)	0.064 (NS)	-0.053 (NS)	-0.111 (.05)	0.118 (.05)	0.190 (.01)	0.176 (.01)	--			
WGD	0.180 (.01)	0.080 (N.S)	-0.024 (NS)	0.079 (NS)	0.086 (NS)	0.061 (NS)	-0.014 (NS)	-0.010 (NS)	0.113 (.05)	0.117 (.05)	0.218 (.01)	0.566 (.01)	--		
GLOB	0.253 (.01)	0.026 (NS)	0.025 (NS)	0.044 (NS)	0.032 (NS)	0.061 (NS)	0.084 (NS)	0.030 (NS)	-0.087 (NS)	0.260 (.01)	0.300 (.01)	0.220 (.01)	0.226 (.01)	--	
CESD	0.296 (.01)	0.028 (NS)	0.078 (NS)	0.099 (NS)	0.123 (.01)	0.058 (NS)	0.015 (NS)	-0.051 (NS)	-0.025 (NS)	0.137 (.01)	0.179 (.01)	0.190 (.01)	0.171 (.01)	0.394 (.01)	--

Appendix E-4
Product-Moment Correlations among Measured Variables Showing Probability of Significance: All Midlife Women Without Husbands (N=339)

	HLTH	P_ED	P-OC	ED	TSEI	EARN	HMAJ	HMIN	WCOM	HHPY	HGD	WHPY	WGD	GLOB	CESD
HLTH	--														
P_ED	0.128	--													
	(.05)														
P_OC	0.119	0.532	--												
	(.05)	(.01)													
ED	0.134	0.437	0.351	--											
	(.05)	(.01)	(.01)												
TSEI	0.143	0.347	0.267	0.610	--										
	(.01)	(.01)	(.01)	(.01)											
EARN	0.054	0.262	0.185	0.427	0.460	--									
	(NS)	(.01)	(.01)	(.01)	(.01)										
HMAJ	-0.048	-0.112	-0.073	-0.101	-0.094	-0.043	--								
	(NS)	(.05)	(NS)	(NS)	(NS)	(NS)									
HMIN	-0.140	-0.105	-0.089	-0.196	-0.165	-0.161	0.669	--							
	(.05)	(NS)	(NS)	(.01)	(.01)	(.01)	(.01)								
WCOM	0.017	0.041	0.025	0.031	-0.011	-0.069	-0.065	-0.024	--						
	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)						
HHPY	0.126	-0.137	-0.021	-0.179	-0.102	-0.111	0.146	0.115	-0.074	--					
	(.05)	(.05)	(NS)	(.01)	(NS)	(.05)	(.01)	(.05)	(NS)						
HGD	0.110	0.013	0.024	-0.077	-0.061	-0.017	0.012	-0.024	0.110	0.421	--				
	(.05)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(.05)	(.01)					
WHPY	0.112	0.087	0.122	0.084	0.155	0.059	-0.030	0.037	-0.001	0.295	0.242	--			
	(.05)	(NS)	(.05)	(NS)	(.01)	(NS)	(NS)	(NS)	(NS)	(.01)	(.01)				
WGD	0.108	0.066	0.124	0.004	0.014	0.032	-0.072	-0.042	0.022	0.225	0.321	0.585	--		
	(NS)	(NS)	(.05)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(.01)	(.01)	(.01)			
GLOB	0.234	0.069	0.048	0.111	0.167	0.144	-0.023	0.010	-0.079	0.206	0.232	0.265	0.238	--	
	(.01)	(NS)	(NS)	(.05)	(.01)	(.01)	(NS)	(NS)	(NS)	(.01)	(.01)	(.01)	(.01)		
CESD	0.310	0.174	0.127	0.141	0.148	0.126	-0.077	-0.120	0.043	0.146	0.168	0.139	0.163	0.511	--
	(.01)	(.01)	(.05)	(.05)	(.01)	(.05)	(NS)	(.05)	(NS)	(.01)	(.01)	(.05)	(.01)	(.01)	

Appendix E-5
Product-Moment Correlations among Measured Variables:
All Midlife Women With and Without Children

	HLTH	P_ED	P_OC	ED	TSEI	EARN	HMAJ	HMIN	WCOM	HHPY	HGD	WHPY	WGD	GLOB	CESD
HLTH	--	0.164	0.087	0.144	0.164	0.166	-0.002	-0.126	0.049	0.174	0.163	0.250	0.190	0.234	0.323
P_ED	0.162	--	0.638	0.517	0.419	0.311	-0.251	-0.215	0.076	-0.154	0.021	0.148	0.123	0.035	0.091
P_OC	0.170	0.463	--	0.384	0.286	0.269	-0.182	-0.130	0.080	-0.099	0.009	0.107	0.103	0.002	0.036
ED	0.182	0.432	0.356	--	0.673	0.346	-0.287	-0.309	0.018	-0.225	-0.106	0.135	0.112	0.074	0.105
TSEI	0.129	0.316	0.261	0.612	--	0.391	-0.172	-0.236	0.032	-0.224	-0.117	0.235	0.146	0.137	0.186
EARN	-0.012	0.164	0.150	0.377	0.398	--	-0.134	-0.143	0.051	-0.094	-0.026	0.051	0.061	0.081	0.110
HMAJ	0.031	-0.065	-0.015	-0.016	-0.091	-0.120	--	0.598	-0.027	0.200	0.122	-0.167	-0.069	0.111	0.007
HMIN	-0.020	-0.084	-0.089	-0.178	-0.159	-0.207	0.610	--	-0.061	0.235	0.126	-0.085	-0.011	0.029	-0.067
WCOM	-0.067	-0.046	-0.075	-0.049	0.026	0.076	-0.063	-0.007	--	-0.112	-0.065	-0.001	0.014	-0.136	-0.023
HHPY	0.095	-0.094	0.006	-0.126	-0.099	-0.133	0.114	0.069	-0.032	--	0.415	0.282	0.193	0.238	0.116
HGD	0.132	-0.061	-0.043	-0.088	-0.106	-0.049	0.028	0.026	0.113	0.456	--	0.191	0.209	0.184	0.069
WHPY	0.129	0.082	0.111	0.110	0.155	0.062	0.022	-0.019	0.093	0.217	0.233	--	0.592	0.290	0.239
WGD	0.112	0.047	0.019	-0.002	-0.017	0.017	-0.018	-0.018	0.087	0.163	0.313	0.567	--	0.235	0.202
GLOB	0.275	0.073	0.063	0.090	0.084	0.058	0.011	0.055	-0.105	0.262	0.315	0.214	0.233	--	0.481
CESD	0.307	0.133	0.147	0.136	0.109	0.042	-0.035	-0.070	-0.011	0.187	0.233	0.115	0.148	0.477	--

Note 1. Correlations below the diagonal are for women with children (n=422); above the diagonal, for women without children (n=267).

Note 2. Details of the significance of these correlations are listed in Appendix E-2 and E-3.

Appendix E-6
Product-Moment Correlations among Measured Variables Showing Probability of Significance: All Midlife Women With Children (N=422)

	HLTH	P_ED	P_OC	ED	TSEI	EARN	HMAJ	HMIN	WCOM	HHPY	HGD	WHPY	WGD	GLOB	CESD
HLTH	--														
P_ED	0.162	--													
	(.01)														
P_OC	0.170	0.463	--												
	(.01)	(.01)													
ED	0.182	0.432	0.356	--											
	(.01)	(.01)	(.01)												
TSEI	0.129	0.316	0.261	0.612	--										
	(.01)	(.01)	(.01)	(.01)											
EARN	-0.012	0.164	0.150	0.377	0.398	--									
	(NS)	(.01)	(.01)	(.01)	(.01)										
HMAJ	0.031	-0.065	-0.015	-0.016	-0.091	-0.120	--								
	(NS)	(NS)	(NS)	(NS)	(NS)	(.05)									
HMIN	-0.020	-0.084	-0.089	-0.178	-0.159	-0.207	0.610	--							
	(NS)	(NS)	(NS)	(.01)	(.01)	(.01)	(.01)								
WCOM	-0.067	-0.046	-0.075	-0.049	0.026	0.076	-0.063	-0.007	--						
	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)							
HHPY	0.095	-0.094	0.006	-0.126	-0.099	-0.133	0.114	0.069	-0.032	--					
	(NS)	(NS)	(NS)	(.01)	(.05)	(.01)	(.05)	(NS)	(NS)						
HGD	0.132	-0.061	-0.043	-0.088	-0.106	-0.049	0.028	0.026	0.113	0.456	--				
	(.01)	(NS)	(NS)	(NS)	(.05)	(NS)	(NS)	(NS)	(.05)	(.01)					
WHPY	0.129	0.082	0.111	0.110	0.155	0.062	0.022	-0.019	0.093	0.217	0.233	--			
	(.01)	(NS)	(.05)	(.05)	(.01)	(NS)	(NS)	(NS)	(NS)	(.01)	(.01)				
WGD	0.112	0.047	0.019	-0.002	-0.017	0.017	-0.018	-0.018	0.087	0.163	0.313	0.567	--		
	(.05)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(.01)	(.01)	(.01)			
GLOB	0.275	0.073	0.063	0.090	0.084	0.058	0.011	0.055	-0.105	0.262	0.315	0.214	0.233	--	
	(.01)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(NS)	(.05)	(.01)	(.01)	(.01)	(.01)		
CESD	0.307	0.133	0.147	0.136	0.109	0.042	-0.035	-0.070	-0.011	0.187	0.233	0.115	0.148	0.477	--
	(.01)	(.01)	(.01)	(.01)	(.05)	(NS)	(NS)	(NS)	(NS)	(.01)	(.01)	(.05)	(.01)	(.01)	

Appendix E-7
Product-Moment Correlations among Measured Variables Showing Probability of Significance: All Midlife Women Without Children (N=267)

	HLTH	P_ED	P_OC	ED	TSEI	EARN	HMAJ	HMIN	WCOM	HHPY	HGD	WHPY	WGD	GLOB	CESD
HLTH	--														
P_ED	0.164 (.01)	--													
P_OC	0.087 (NS)	0.638 (.01)	--												
ED	0.144 (.05)	0.517 (.01)	0.384 (.01)	--											
TSEI	0.164 (.01)	0.419 (.01)	0.286 (.01)	0.673 (.01)	--										
EARN	0.166 (.01)	0.311 (.01)	0.269 (.01)	0.346 (.01)	0.391 (.01)	--									
HMAJ	-0.002 (NS)	-0.251 (.01)	-0.182 (.01)	-0.287 (.01)	-0.172 (.01)	-0.134 (.05)	--								
HMIN	-0.126 (.05)	-0.215 (.01)	-0.130 (.05)	-0.309 (.01)	-0.236 (.01)	-0.143 (.05)	0.598 (.01)	--							
WCOM	0.049 (NS)	0.076 (NS)	0.080 (NS)	0.018 (NS)	0.032 (NS)	0.051 (NS)	-0.027 (NS)	-0.061 (NS)	--						
HHPY	0.174 (.01)	-0.154 (.05)	-0.099 (NS)	-0.225 (.01)	-0.224 (.01)	-0.094 (NS)	0.200 (.01)	0.235 (.01)	-0.112 (NS)	--					
HGD	0.163 (.01)	0.021 (NS)	0.009 (NS)	-0.106 (NS)	-0.117 (NS)	-0.026 (NS)	0.122 (.05)	0.126 (.05)	-0.065 (NS)	0.415 (.01)	--				
WHPY	0.250 (.01)	0.148 (.05)	0.107 (NS)	0.135 (.05)	0.235 (.01)	0.051 (NS)	-0.167 (.01)	-0.085 (NS)	-0.001 (NS)	0.282 (.01)	0.191 (.01)	--			
WGD	0.190 (.01)	0.123 (.05)	0.103 (NS)	0.112 (NS)	0.146 (.05)	0.061 (NS)	-0.069 (NS)	-0.011 (NS)	0.014 (NS)	0.193 (.01)	0.209 (.01)	0.592 (.01)	--		
GLOB	0.234 (.01)	0.035 (NS)	0.002 (NS)	0.074 (NS)	0.137 (.05)	0.081 (NS)	0.111 (NS)	0.029 (NS)	-0.136 (.05)	0.238 (.01)	0.184 (.01)	0.290 (.01)	0.235 (.01)	--	
CESD	0.323 (.01)	0.091 (NS)	0.036 (NS)	0.105 (NS)	0.186 (.01)	0.110 (NS)	0.007 (NS)	-0.067 (NS)	-0.023 (NS)	0.116 (NS)	0.069 (NS)	0.239 (.01)	0.202 (.01)	0.481 (.01)	--

APPENDIX F:

THE HIERARCHICAL MODEL DEVELOPMENT PROCESS

As was described in Chapter 3, the diagrams represented by Figures 3 through 7 are the result, in each case, of a multistage model development process. The iterations of this process are detailed in Tables 10-14. In each case, the first iteration (Model 1) is an estimate of the model with all measurement error covariances set equal to zero (Lomax, 1982; Tuijnman, 1989). In two of the cases--women with no husbands (Table 12) and women with children (Table 13)--this first iteration resulted in a matrix (THETA EPSILON) that was not positive definite. In those two cases the variance in the Home Minor variable was less than zero, and the coefficient of determination for Home Minor was greater than one. Because of these empirical impossibilities, no chi-square was reported for the first iteration in these two cases (Long, 1983).

Therefore an intermediate step (Model 1′) was added to the two problem cases to improve the estimation process. In that additional step, the variances in the residuals of the two HOME COMMITMENT indicators--Home Major and Home Minor--were equated. By equating the residuals in further model estimations for these cases, two major indications of problems in the model-- Heywood cases (Wolfle, 1982) and coefficients of determination greater than one-- were both eliminated from the next iteration (Bentler & Chou, 1987).

From a theoretical standpoint, there is no reason to believe that the interaction of these two measures of home related activities would be differentially related to the measures which predict them in the model. Empirically, however, the residuals initially carried opposite signs.

In the next iteration of the model fitting process (Model 2), the model was reestimated with covariances allowed between the errors of measurement of similarly worded items of the WORK SATISFACTION and HOME SATISFACTION constructs. As was reviewed thoroughly in Chapter 3, the Home Role Happy and Work Role Happy in the first case, and the Home Role Good and Work Role Good in the second case were based on the same series in the semantic differentials. Systematic variance in the errors of measurement would then be likely and, in LISREL, not only acknowledged, but incorporated into the analysis to improve the "error free" relationships among the latent constructs (Wolfle, 1982). The fit of the model was improved significantly in all cases by allowing these two errors of measurement to correlate in the process of model modification.

The third iteration in the model fitting process (model 3) then eliminated from the model the paths of trivial importance (Bentler & Chou, 1987; Tuijnman, 1989). In this study, these paths are defined as those with t-values less than unity.

As can be seen in Tables 10 through 14, at each stage of the model fitting process the chi-squares (the most standard measures of goodness of fit) were contrasted. Differences in the chi-squares of the two contrasts are distributed as a difference chi-square with degrees of freedom equal to the differences in the degrees of freedom of the two measures. These sequential evaluations in improvement of the fit of the model actually determined the subsequent states of the model fitting process.

Table F-1
Hierarchical development of model of adult attainments, commitments and satisfactions for all midlife women

Model or contrast	X2	d.f.	X2/d.f.	prob
1. Random errors	112.34	57	1.97	.000
2. Model 1 with correlated errors*	98.16	55	1.78	.000
2′. Models 2 vs.1	14.18	2		.008
3. Model 2 with trivial paths eliminated*	98.29	58	1.69	.001

* TE(9,7) = TE(8,6)
** BE(5,2)=BE(6,2)=BE(4,3)=0

Table F-2
Hierarchical development of model of adult attainments, commitments and satisfactions for all midlife women with husbands

Model or contrast	X2	d.f.	X2/d.f.	prob
1. Random errors	81.38	57	1.43	.019
2. Model 1 with correlated errors*	75.48	55	1.37	.035
3. Model 2 with trivial paths eliminated**	77.22	59	1.31	.056

* TE(9,7) = TE(8,6)
** BE(4,2)=BE(5,2)=BE(6,2)=BE(4,3)=0

Table F-3
Hierarchical development of model of adult attainments, commitments and satisfactions for all midlife women with no husbands

Model or contrast	X2	d.f.	X2/d.f.	prob
1. Random errors	N/A*			
1′. Model 1 with equated errors of measurement	97.22	58	1.68	.001
2. Model 1′ with correlated errors	88.23	56	1.58	.004
2′. Models 2 vs.1′	8.99		____	.012
3. Model 2 with trivial paths eliminated	89.53	63	1.42	.016

* TE(3,3) = TE(4,4)
** TE(9,7), TE(8,6) freed
*** BE(2,1)=BE(4,1)= BE(5,2)=BE(6,2)= BE(4,3)=BE(5,3)= BE(6,3)=0

Table F-4
Hierarchical development of model of adult attainments, commitments and satisfactions for all midlife women with children

Model or contrast	X2	d.f.	X2/d.f.	prob
1. Random errors	N/A*			
1′. Model 1 with equated errors of measurement	103.33	58	1.78	.000
2. Model 1′ with correlated errors	95.51	56	1.71	.001
2′. Models 2 vs.1′	5.9	2	____	.053
3. Model 2 with trivial paths eliminated	97.89	60	1.63	.016

* TE(3,3) = TE(4,4)
** TE(9,7), TE(8,6) freed
*** BE(4,1)=BE(4,2)=BE(5,2)=BE(6,2)=0

Table F-5
Hierarchical development of model of adult attainments, commitments and satisfactions for all midlife women with no children

Model or contrast	X2	d.f.	X2/d.f.	prob
1. Random errors	56.03	57	0.44	.511
2. Model 1 with correlated errors*	53.31	55	0.97	.539
3. Model 2 with trivial paths eliminated**	54.62	59	0.93	.638

* TE(9,7) = TE(8,6)
** BE(2,1)=BE(3,1)=0

APPENDIX G:

THE MEASUREMENT MODEL

The tables that follow show the measurement models which underlie the estimation of structural parameters in the model of attainments, commitments and satisfactions. Of the nine constructs specified in the model, only six were measured with more than one variable. Errors for those six multi-indicator constructs (elements in THETA DELTA or THETA EPSILON) were estimated by the LISREL program . However, errors for the three single indicator constructs were supplied by the researcher according to norms set by previous research. Variance of the errors of education and health were estimated to be ten percent, each. This estimate is consistent with findings on educational estimations made by others (Heyduk, 1987; Wolfle & Ethington, 1986). The measurement error in work choice, however, was assumed to be greater than that in the education construct. For this construct, measurement error was estimated at twenty-five percent.

The tables that follow show estimates of the measurement models for the whole sample of midlife women (Table G-1), for midlife women with and without husbands (Table G-2), and for midlife women with and without children (Table G-3).

Appendix G-1
LISREL Estimates of the Measurement Model for the Whole Sample of Midlife Women

Latent constructs (KSIs or ETAs)	Manifest variables (Xs or Ys)	Factor loadings (LAMDAs)	Predicted variance (R-SQUARE)	Predicted variance (ETAs or composite)
HEALTH	Health	1.000	.900	
EARLY SES	Hi_P_Ed	1.000	.661	
	Hi_P_Oc	0.794	.416	
EDUCATION	Education	1.000	.900	
ADULT STATUS ATTAINMENTS	TSEI	1.000	.677	.660
	Earnings	0.585	.232	
HOME COMMITMENT	H_Major	1.000	.458	.068
	H_Minor	1.375	.864	
WORK COMMITMENT	Work Commitment	1.000	.750	.022
HOME SATISFACTION	H_Happy	1.000	.496	.131
	H_Good	0.864	.374	
WORK SATISFACTION	W_Happy	1.000	.743	.098
	W_Good	0.771	.448	
LIFE SATISFACTION	Global	1.000	.564	.414
	CES-D	0.849	.407	
		LINEAR COMPOSITE		.725

Appendix G-2
LISREL Estimates of the Measurement Model for Midlife Women With and Without Husbands

Latent constructs (KSIs or ETAs)	Manifest variables (Xs or Ys)	Factor loadings		Predicted variance (R-SQUARE)		Predicted variance (ETAs or composite)	
		(h)*	(nh)**	(h)	(nh)	(h)	(nh)
HEALTH	Health	1.000	1.000	0.900	0.900		
EARLY SES	Hi_P_Ed	1.000	1.000	0.664	0.665		
	Hi_P_Oc	0.779	0.800	0.403	0.426		
EDUCATION	Education	1.000	1.000	0.900	0.900		
ADULT STATUS ATTAINMENT	TSEI	1.000	1.000	0.664	0.643	0.701	0.649
	Earnings	0.535	0.715	0.190	0.329		
HOME COMMITMENT	H_Major	1.000	1.000	0.519	0.668	0.147	0.050
	H_Minor	1.134	1.004	0.667	0.670		
WORK COMMITMENT	Work Commitment	1.000	1.000	0.750	0.750	0.159	0.021
HOME SATISFACTION	H_Happy	1.000	1.000	0.448	0.566	0.179	0.112
	H_Good	0.986	0.744	0.437	0.314		
WORK SATISFACTION	W_Happy	1.000	1.000	0.778	0.709	0.173	0.054
	W_Good	0.723	0.817	0.410	0.477		
LIFE SATISFACTION	Global	1.000	1.000	0.473	0.553	0.503	0.350
	CES-D	0.836	0.925	0.331	0.473		
				LINEAR COMPOSITE		0.810	0.721

* Husbands
** No husbands

Appendix G-3
LISREL Estimates of the Measurement Model for Midlife Women With and Without Children

Latent constructs (KSIs or ETAs)	Manifest variables (Xs or Ys)	Factor loadings		Predicted variance (R-SQUARE)		Predicted variance (ETAs or composite)	
		(c)*	(nc)**	(c)	(nc)	(c)	(nc)
HEALTH	Health	1.000	1.000	0.900	0.900		
EARLY SES	Hi_P_Ed	1.000	1.000	0.491	0.817		
	Hi_P_Oc	0.843	0.729	0.436	0.499		
EDUCATION	Education	1.000	1.000	0.900	0.900		
ADULT STATUS ATTAINMENT	TSEI	1.000	1.000	0.580	0.568	0.675	0.779
	Earnings	0.649	0.518	0.274	0.269		
HOME COMMITMENT	H_Major	1.000	1.000	0.542	0.763	0.087	0.166
	H_Minor	1.005	0.960	0.759	0.469		
WORK COMMITMENT	Work Commitment	1.000	1.000	0.750	0.750	0.064	0.017
HOME SATISFACTION	H_Happy	1.000	1.000	0.378	0.629	0.081	0.307
	H_Good	1.213	0.665	0.549	0.274		
WORK SATISFACTION	W_Happy	1.000	1.000	0.514	0.664	0.064	0.149
	W_Good	0.848	0.706	0.626	0.528		
LIFE SATISFACTION	Global	1.000	1.000	0.683	0.679	0.481	0.396
	CES-D	0.851	0.897	0.341	0.341		
				LINEAR COMPOSITE		0.756	0.853

* Children
** No children

In each case the KSIs or ETAs are estimates of constructs which underlying common properties of the manifest variables (either Xs or Ys) which have been cleansed of error (Keith, in press). Factor loadings for each construct consist of a reference indicator equal to 1, and where applicable, additional measures. The squared multiple correlation for each observed variable (R-square) is only one of standard for adequacy of the indicators in measuring the latent constructs. Another measure is the predicted variance in the latent constructs. A third measure is the coefficient of determination for the model as a whole. In the words of one researcher, R-square for the model is "an indication of how well the observed variables, in combination, serve as measuring instruments for all the latent variables jointly; it is a general indicator of reliability for the entire measurement model (Byrne, 1989, p. 54).

VITA

Judy Barokas, born Ellen Judy Uhr in 1947, graduated from Barnard College with a B. A. in Sociology in 1970. She spent most of the next decade in Latin America and the Middle East, raising a family, teaching English as a Second Language, and writing for Business International, Inc. Upon returning to the United States in 1978, she began graduate studies. Barokas completed an M. A. in Counseling and Student Personnel at Virginia Tech in 1981.

During the following decade, Barokas worked as an internal and external consultant in research and human service institutions. She founded Consulting Research and Information Services in 1989. Her interweaving of school, work and family throughout her adult life gave new meaning to the term "life-long learning."